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

December 8, 2022

Board of Land
and Natural Resources
Honolulu, Hawaii

Request for Authorization and Approval to Issue a Papahanaumokuakea Marine National Monument Conservation and Management Permit to the Monument Co-Trustees: the U.S. Department of the Interior, U.S. Fish and Wildlife Service; U.S. Department of Commerce, National Oceanic and Atmospheric Administration (inclusive of the Hawaiian Monk Seal Research Program's (HMSRP) Management and Recovery Activities) and the Office of Hawaiian Affairs, for Access to State Waters to Conduct Conservation and Management Activities
and
Authorize General Conservation and Management Activities by the Department of Land and Natural Resources, Divisions of Aquatic Resources & Forestry and Wildlife.

SUMMARY
The Papahanaumokuakea Marine National Monument (Monument) program hereby requests approval from the Board of Land and Natural Resources (BLNR) for issuance of a Monument conservation and management permit to the Monument Co-Trustees:

- the U.S. Department of the Interior, U.S. Fish and Wildlife Service;
- the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, (NOAA); and
- the Office of Hawaiian Affairs (OHA)

for access and authorization to continue general conservation and management activities under State jurisdiction in the Monument. The State of Hawai'i, Department of Land and Natural Resources (DLNR), also seeks authorization to participate under the joint Co-Trustee Monument conservation and management permit to the extent any Co-Trustee agency seeks or grants logistical or other support from the State of Hawai'i for activities on Midway or other parts of the Monument not under the State's jurisdiction.

Separately, the State of Hawai'i, Divisions of Aquatic Resources & Forestry and Wildlife request authority and permission to conduct their own continuing conservation and management activities in Monument areas under state jurisdiction.

BACKGROUND
The Board of Land and Natural Resources, by its DLNR Divisions of Aquatic Resources & Forestry and Wildlife, permits certain otherwise prohibited or regulated activities on or in its lands and waters,

pursuant to Hawaii Revised Statutes (HRS) § 187A-6, 183D-6, and 195D-4; Hawaii Administrative Rules (HAR) § 13-60.5-5, 13-60.5-6, 13-126-9 and 13-126-10, and all other applicable laws and regulations.

The permit, as described below, would allow entry for general conservation and management activities to occur in the Papahānaumokuākea Marine National Monument (Monument), including the Northwestern Hawaiian Islands (NWHI) State Marine Refuge and the lands and waters (0-3 nautical miles) surrounding the following sites to the extent within the jurisdiction of the State of Hawai'i:

- Nihoa Island
- Necker Island (Mokumanamana Island)
- French Frigate Shoals (Lalo)
- Gardner Pinnacles (Pūhāhonu)
- Maro Reef (Kamokuakamohoali'i)
- Laysan Island (Kamole)
- Lisianski Island (Kapou)
- Pearl and Hermes Atoll (Manawai)
- Midway Atoll (Kuaihelani)
- Kure Atoll (Hōlanikū)

The activities covered under this permit would occur from January 1, 2023 through December 31, 2024.

The proposed activities are a renewal of conservation and management work previously permitted and conducted in the Monument. This permit request is substantively the same as prior BLNR approved Co-Trustees' permits to conduct general conservation and management activities under the direction of Co-Trustee agencies and representatives. A list of authorized conservation and management activities to be approved under this permit is drawn from permitted activities conducted in years past.

PROPOSED OR INTENDED ACTIVITIES

The Co-Trustee applicants jointly propose to conduct coordinated management activities for the conservation and management of the Hawaiian Islands National Wildlife Refuge, Midway Atoll National Wildlife Refuge[1], Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, Northwestern Hawaiian Islands State Marine Refuge, and Kure Atoll portions of the Hawai'i State Wildlife Sanctuary.

This submittal only addresses the facet of the joint permit for activities under State jurisdiction, but includes a request for approval for State (DLNR) personnel to conduct or assist in collaborative actions in other parts of the Monument with appropriate Co-Trustees, as specified, and activities in which a State agency may continue to conduct conservation and management activities consistent with this permit. The general conservation and management activities described for approval, and the agencies which intend to conduct the activities, are indicated in Attachment A.

[1] Although Midway is not a part of the State of Hawai'i, Midway is generally considered a central base of operations support, refueling station, or Monument port of call necessary to the Co-Trustees' conservation and management mission and actions.

In the future, certain activities that were previously approved as specific Monument permits, if having a conservation or management purpose, may be included under this general conservation and management permit if deemed appropriate by the applicant and BLNR.

Permit applicant personnel are listed to promote accountability and responsibility in permitted activities and help to assess the impacts of human participation in the activities. DLNR staff and their agents, who are anticipated to conduct or assist in activities as indicated, are also as named. While some leeway for minor changes is expected in the specific personnel lists proposed for each activity, the personnel roster for all Co-Trustees is listed in Attachment B.

NOAA, U.S. Fish and Wildlife Service, and the Office of Hawaiian Affairs, along with DLNR, perform coordinated management of the Papahanaumokuakea Marine National Monument to ensure proper care, protection and preservation of historic, cultural, and scientific resources. Applicant representatives, for purposes of coordination and direction of Monument activities under this permit, include the Superintendent of the Monument for NOAA, Superintendent for the Monument for U.S. Fish and Wildlife Service, and the Papahānaumokuākea Program Manager for OHA, together with the State's Co-Manager to the Monument. The Co-Managers will collaborate and coordinate on activities that support the management of the Monument.

For purposes of permitting under the various jurisdictions exercised by the Co-Trustees, these permit applications are intended to cover all joint activities necessary to effectively co-manage Papahānaumokuakea Marine National Monument. Applicants describe the scope of activities in their applications for general management/conservation as follows:

1. **Entrance**: Entrance into the Monument authorized to the permittees, their designated agency staff, contractors, Midway Atoll National Wildlife Refuge (MANWR) residents, news media and VIPs necessary for conservation and management activities described herein;

2. **Operations**: Activities to maintain and support field stations of the National Wildlife Refuge System (NWRS) and the State of Hawai‘i Kure Atoll State Wildlife Sanctuary, necessary for meeting mission and purposes of refuges and the Monument in support of on-site management and resource conservation including, but not limited to, maintenance of Monument facilities, field camp supply and support activities, entrance and maintenance of aircraft and operation of airfields, entrance and operation of vessels to support conservation and management activities, conducting personnel safety and health maintenance, on-site reviews and operational evaluations, and sustenance fishing conducted by MANWR residents within Midway Atoll Special Management Area;

3. **Resource Survey and Monitoring**: Activities to increase understanding of the distributions and abundances of organisms and their habitats and to improve ecosystem-based conservation and management decisions in the Monument. Such activities may include placement, installation and maintenance of scientific equipment, unmanned aerial and marine platform surveys, habitat mapping, non-lethal marking and tagging for population monitoring purposes, collection of biological, chemical, climatological, or geological data and samples for long-term monitoring purposes, collection of voucher specimens that cannot be visually identified and/or may represent new species or geographic records, and physical surveys and sampling from landfills or other potentially hazardous sites;

4. **Natural Resource Protection, Restoration and Remediation**: Activities to protect, conserve, and maintain the native ecosystems and biological diversity of the Monument and to aid in the recovery of its threatened and endangered plants and animals and their habitat, including the reduction and mitigation of threats to Monument resources from marine debris, contaminants, disease, and alien species. Such activities may include, wildlife disentanglement, injury assessment or mitigation measures in response to ship groundings or oil spills, restoration and translocation activities to augment populations of native species, invasive species removal using physical or chemical methods, activities necessary to locate and remove marine debris (land and ocean-based), and activities in response to an unusual mortality event (e.g., mass stranding or coral bleaching events).

5. **Cultural and Historical Resource Identification and Protection**: Activities to identify, document, interpret, preserve, and protect the Monument's cultural and historic resources. Such activities may include collection of post-contact artifacts in accordance with the National Historic Preservation Act (NHPA), surveys of historic and culturally significant sites, activities necessary to return seized Monument resources to their natural environment in coordination with appropriate federal and/or state resource agencies, collection of non-living culturally significant natural materials acquired during Monument operations for use in cultural ceremonies and practices, and activities necessary to preserve and perpetuate Native Hawaiian culture and practices.

6. **Outreach and Education**: Activities to cultivate an informed and involved constituency that supports and enhances conservation of the Monument's resources and contributes to the Nation's science and cultural literacy. Such activities may include news media site visits, collecting information from Monument field staff, photographing and filming natural and historic features of the Monument, and collection of debris and other non-living biological samples for education purposes.

7. **Hawaiian Monk Seal Conservation and Management**: Activities directed towards understanding the biology, ecology, and population dynamics of the Hawaiian monk seal and identifying factors that impact the survival and recovery of the species (including lethal shark removal).

The activities requested fulfill duties under coordinated interagency management of the Monument ecosystems, prevent duplicate efforts, and promote efficiency. All of the above activities would be conducted by NOAA, U.S. Fish and Wildlife, and OHA employees, approved contractors, volunteers, or other Federal employees who must remain under the direction and administrative control of the applicants while in state jurisdiction in the Monument.

One of the main modifications of the Co-Trustee permit this year is that the NOAA Fisheries, Pacific Islands Fisheries Science Center, Hawaiian Monk Seal Research Program's (HMSRP) management and recovery activities (inclusive of the removal of individual sharks at French Frigate Shoals displaying predatory behavior towards monk seal pups) are being integrated with the Co-Trustee permit - these activities would be conducted by HMSRP trained personnel or the staff listed above, as directed and trained by the HMSRP.

This integration of the HMSRP activities into the Co-Trustee's PMNM permit is being implemented as the activities conducted under the currently separate HMSRP permit are defined as co-trustee

activities, and this integration of two permits into one permit would reduce workload in terms of the application and reporting process, and in terms of submitting and presenting the BLNR submittals.

Originally (about 12 years ago), the HMSRP activities were part of the Co-Managers permit, but the activities got separated out into two distinct permits, once the removal of individual sharks at French Frigate Shoals displaying predatory behavior towards monk seal pups became a potential activity each year, for the purposes of transparency and to separate the activity out which may need more detailed evaluation each year, in order not to delay the issuance of the Co-Managers permit at the same time each year. This integration request was recently presented and reviewed by the members of the seven-member Monument Management Board (MMB) (comprised of the members listed above) this year, and after considering the need for the two distinct permits, all members were in support of this action, provided there is language integrated into the permit that potentially allows for cultural observers to participate, observe and provide input on this shark removal activity each year (if the activity occurs), if requested, and provided that the HMSRP be available to provide the same briefing each year (for transparency and informational purposes), with any updates on the shark removal activities which may have been conducted or may be conducted during previous or future field seasons, or on any other aspect of the HMSRP activities for which BNLR members would like a briefing on, as part of the regular presentation for the Co-Trustee's permit at the BLNR meeting.

All information from the previous HMSRP PMNM permit has been integrated into this BLNR submittal for the Co-Trustee's PMNM permit and in addition to Co-Managers PMNM permit conditions (including the new requested provisions stated above).

INTENDED ACTIVITIES FOR THE HAWAIIAN MONK SEAL RESEARCH PROGRAM (HMSRP)

NOAA NMFS Pacific Islands Fisheries Science Center (PIFSC) Hawaiian Monk Seal Research Program (HMSRP) proposes to continue conservation and management activities by for monitoring and recovery of the Hawaiian monk seal (*Neomonachus schauinslandi*) in Papahānaumokuākea. All activities described in this submittal are directed towards understanding the biology, ecology, and population dynamics of the Hawaiian monk seal and identifying factors that affect the survival and recovery of the species.

Proposed activities would be conducted by up to 25 individuals between April, 2022 – April, 2023.

Everything proposed in this renewal permit has been reviewed and approved in previous permits (most recent is PMNM-2022-002). Trail cameras and all associated equipment will be retrieved before field staff leave PHA at the end of the season.

General information on monk seal research and recovery initiatives, methods and tools are located on pgs. 8-24 of Attachment A (List of Conservation and Management Activities Covered Under Prior Co-Trustees' Permits to be Included). Detailed information on methods, protocol, consultation and the minimization of impacts of the shark predation mitigation activities are located under B) Recovery Intervention - section xii. Shark Predation Mitigation Activities (pgs. 9-11, 16-19) of Attachment A (List of Conservation and Management Activities Covered Under Prior Co-Trustees' Permits to be Included). Clarification and updates of the results thus far of shark predation mitigation activities at French Frigate Shoals are located in the below questions from the HMSRP application review in 2022.

Information on Monk Seal Research and Recovery Initiatives

This is a brief summary of information relevant to monk seal research and recovery initiatives proposed here. More information can be found in the attached Recovery Plan for the Hawaiian Monk Seal.

• The Hawaiian monk seal is an endangered species numbering approximately 1,400 individuals, 1,100 seals reside in the NWHI.

• The Hawaiian monk seal has been the focus of research and recovery activities for over 30 years. This has resulted in one of the most robust population datasets for a large mammal species allowing the Program to develop and assess cutting edge recovery actions.

• These recovery activities have resulted in the fact that a minimum of 28% of Hawaiian monk seals alive today are here because they directly benefited from an action or are the offspring of a female seal that benefited.

• In the PMNM, the key threats to the survival of the species include low birth rates combined with poor survival of juvenile Hawaiian monk seals to reproductive age. The majority of research activities are directed to understanding threats to the seals and mitigating those, particularly related to young female seals.

• All activities proposed here are permitted by the NOAA MMPA/ESA Permit 22677 (and associated NEPA docs etc.) and supported by the Revised Recovery Plan for Hawaiian Monk Seals.

• This permit also supports efforts conducted by the State and Federal partners that are directed towards monk seal research and recovery.

• To maximize the benefit from the researchers limited time in this remote place, the Program will use a suite of methods to ensure that all areas are well-surveyed (including using technology to expand data collection, and requesting access to all monk seal haul-out areas).

• Unmanned aerial systems (UAS) will be used to conduct ecological surveys including surveying and monitoring monk seals, marine debris, and possibly other flora and fauna in the NWHI (as a by-product of habitat mapping or as requested by partners).

• UAS will be launched and recovered from land, NOAA ships, or small boats launched from those ships, and will be flown at altitude below 400 feet.

• UAS efforts will provide the ability to survey and map resources on the remote islands without (1) interference; (2) the potential for the introduction of invasive species; and (3) human disturbance to the natural resources. The UAS would increase the monitoring and surveying capacity in the Monument.

• While the researchers work to minimize human presence on Mokumanamana, trained biologists familiar with the island may traverse Mokumanamana, using paths delineated by archaeologists and cultural practitioners familiar with the island, in the event that all seal haul-out areas cannot be surveyed through boat-landings or UAS flights at haul-out sites.

• This permit is comprehensive and includes ALL monk seal recovery activities that occur in the Monument including the mitigation of predation by Galapagos sharks on monk seal pups at French Frigate Shoals (FFS); the primary source of seal mortality at FFS.

• This is a continuation of permitted shark removal activities for monk seal conservation. The initial target of 20 sharks was determined based on data from the field whereby individually identifiable sharks (through tags or naturally acquired markings on their dorsal fins) that were engaged in predatory behavior on monk seal pups were enumerated. Shark biologists were consulted and ecosystem modeling efforts indicated that the Galapagos shark population, which is neither threatened nor endangered, was capable of sustaining this level of population reduction. Hence, the initial request of 20 sharks was based on an agreed upon minimum number of sharks that were exhibiting this behavior, paired with ecosystem based support.

Since the initial request of 20 made at the beginning of this project 7 Galapagos sharks have been caught and removed, leaving 13 remaining. The request for this year is for 13 Galapagos sharks. This is the balance of initially requesting removal of 20 sharks, minus the 7 that have been removed historically to-date. Fishing requires a great deal of effort, and catch-per-unit-effort is low, therefore the researchers expect that reaching this initial target number is still a long-term goal.

Published data and consultation with Carl Meyer puts the population somewhere between 668 to just over 1000 sharks. The estimated removal would be between 1.3 – 1.9% of the population. Generally, the researchers don't remove more than 1 shark per season or 0.1% of the population.

• Predation peaked in 1997-1999; it continued at a rate of 5-11 pups per year from 2000-2019 (usually 15-25% of the pup cohort each year). In 2019, 35 pups were born at FFS during the field season and Galapagos shark predation was confirmed in 3 pup deaths and strongly suspected in 6 additional disappearances, accounting for 25% of the pups born. Information from 2020 is not available because the researcher's field camps were not deployed due to COVID-19. There were no direct observations of predatory behavior towards pups or evidence of predation (injury/disappearance of seal pups) throughout the atoll in 2021. This means that no triggers for shark removal were met, no fishing occurred and no sharks were removed. Furthermore the Program halted their main predation mitigation effort, which is seal translocation from at-risk islets to Tern Island, because there was no predation to avoid and thus no benefit to this activity in 2021. An important caveat here is that in 2021, the field teams were deployed for ~ 2 fewer months than a typical season, meaning that surveillance was only about half of a normal year. The researchers look forward to finding out if observations during the full length field season in 2022 will be consistent with the observations in 2021, and will be sure to report on that after the teams return.

• Between 1997 and 2019, shark predation affected over 270 pups out of roughly 1150 born at FFS. Sharks have killed many pups and others were permanently maimed by severe shark bites and subsequently died.

• Since 1997, NMFS has engaged in a variety of actions to address this threat, including pre-weaning and translocating pups, predator deterrents, and targeted fishing activities to remove problem G. sharks. Translocating pups remains the researcher's most common intervention and in 2019, 14 pups were translocated.

• Removing the sharks exhibiting this behavior from the environment is the most effective means of preventing continued predation.

• NMFS has consulted numerous stakeholders including Native Hawaiians, animal welfare groups, conservation professionals, and the general public. Opinions and concerns are varied between individuals but no external group has requested NMFS cease this activity.

• This activity has been approved and undertaken safely and respectfully almost every year since 2010 and the HMSRP will continue to be mindful and respectful of the historical and cultural significance of sharks when conducting these activities. .

• Successful removal of these individuals could have a profound effect on the monk seal population at French Frigate Shoals while having negligible impact on the G. shark population.

Evaluation of Shark Removal Activities, Consultation with Monument Co-Trustees/Partners, and Efforts to Minimize the Impacts of the Removal Activity

All monk seal conservation and management activities conducted by the permittees will be carried out with strict safeguards for the natural, cultural and historic resources of the Monument as required by Presidential Proclamation 8031, and other applicable law and agency policies and standard operating procedures. All agencies have field protocols and best management practices. These practices and procedures will minimize or eliminate disturbance to wildlife, flora, habitats, and cultural and historic resources.

The Program has conducted monk seal research and conservation activities in the NWHI for decades. The researchers have a large presence in the NWHI and with that comes the potential to negatively impact a number of cultural and natural resources. The researchers have worked hard over the decades to develop and refine the protocols to minimize the amount of time and impact on these resources as well as follow other established protocols.

For new and particularly sensitive activities the researchers direct considerable energy to share information with the Monument partners on the need and justification for each activity. For example, the researchers have consulted extensively with the MMB and native Hawaiian partners in past years for the shark predation mitigation that is included in this project and has been permitted multiple times.

There has been extensive consultation with the Native Hawaiian community on this and many other Hawaiian monk seal research and conservation efforts since initiating this series of predation mitigation strategies in 2010. In 2010 -2011, the researchers consulted with and received quality input from OHA and the Monument's Native Hawaiian Cultural Working Group (CWG). The feedback from the CWG and others was not homogenous with a diverse array of perspectives and opinions both supporting and opposing the activity. The CWG determined it was unable to offer an endorsement or censure of the proposed management activity and has not reviewed the activity since. In 2020, the researchers were invited to meet with a representative of the CWG and answered some questions related to this activity. It was a good opportunity to reconnect and the researchers welcome any opportunity to provide further information to the CWG at their request in the future.

Discussions with other members of the Hawaiian community have resulted in constructive feedback and improved understanding of the views of some representatives of the Native Hawaiian community on the proposed work. From these meetings, the researchers also supported the participation of a number of Native Hawaiians in the shark predation mitigation work in 2010 and 2011.

In 2013 with the addition of seal flesh as bait, the researchers were encouraged by the State of Hawaii Board of Land and Natural Resources to communicate with, and be responsive to, stakeholders regarding this activity. The researchers alerted approximately 35 organizations and individuals about the field activities during the 2013 field season (including shark fishing) and updated them on the plans for the 2014 season. To date, none of these entities has expressed questions or concerns.

The researchers also undertook consultations regarding the use of tissue from previously deceased monk seals as bait with several Native Hawaiians with whom the researchers have been working with on other monk seal issues. In this regard, the researchers have held one-on-one discussions with several individuals (cultural practitioners, partners, and/or advisors). Input the researchers received during these one-on-one discussions ranged from full support and understanding to acceptance without expressed support. No one the researchers spoke with regarding the use of seal tissue has voiced opposition or indicated that the use of seal tissue as proposed would adversely affect their productive relationships with the Program or otherwise diminish their support for monk seal conservation. The overarching sentiment the researchers have heard has been that as long as the seals would be dead of a cause beyond the researchers control (which would be the case), using their bodies to try to save a still living seal, while admittedly difficult to consider or undertake, would be a reasonable effort in light of the endangered status of the monk seal population.

To safeguard the ecological integrity of the Monument, the researchers propose to limit the scope of the removal actions as described above and also to avoid by-catch of any other wildlife to the greatest degree possible. Possible adverse effects on the coral reef ecosystem at FFS from shark removals were investigated using the EcoSim model (Parrish, unpublished data). Results from that work indicated that the removal of 20 sharks had a nearly imperceptible effect on the dynamics of the FFS ecosystem. Additionally, pre-access permit and cultural briefings will be conducted for all new personnel entering Papahānaumokuākea and annually for all.

Rehabilitation/Translocation of Seals

Select monk seals taken into rehabilitation outside of Monument waters and then released. Some seals will be held for a short time in shoreline pens while waiting for veterinarian assessment and possible pickup or to help them acclimate to the wild prior to release after translocation or rehabilitation. Seals that are captured and brought in for rehabilitation or transported as part of the translocation program will be housed with other monk seals. Monk seals will be released after rehabilitation or translocation. Comprehensive information on monk seal rehabilitation or translocation activities and protocols can be found under the researcher's MMPA/ESA permit 22677.

Sample and Data Analysis, Write-ups and Publication of Information

Population assessment data will be analyzed in 6 months (typically preliminary data will become available late winter/early spring of each year). Telemetry and UAS data will analyzed within 12 months.

Question. From the permit 2022 application (pg. 22): "We will use the same bait type (large tuna heads, shark remains and tissue from previously deceased seals) and hook type (circle hook, size 18/0 to 20/0) as previously approved. Fish and seal tissue bait will be brought from outside the Monument. There may not be the opportunity to collect tissue from a deceased seal at Lalo. Seal tissue and shark tissue bait will also be collected within the Monument as available."

Was the type of bait discussed or modified last year during the processing of the application or is this wording still correct to include in the documents for the BLNR submittal?

a. There was no discussion or modification to the type of bait last year during processing of the application. This wording is correct. It may be useful to note that the predominant source of bait this year and in most years is fish bait that is brought out each year from Honolulu. Note: This information has not changed for the proposed activities in 2023.

Question. The following information was provided in the 2022 application (pgs. 5 – 6); can the applicant provide any updates from years of activities conducted since 2019: "Since the initial request of 20 made at the beginning of this project, 7 Galapagos sharks have been caught and removed, leaving 13 remaining. The request for this year is for 13 Galapagos sharks. This is the balance of initially requesting removal of 20 sharks, minus the 7 that have been removed historically to-date. Fishing requires a great deal of effort, and catch-per-unit-effort is low, therefore we expect that reaching this initial target number is still a long-term goal." Note: This information has not changed for the proposed activities in 2023.

"Published data and consultation with Carl Meyer puts the population somewhere between 668 to just over 1000 sharks. The estimated removal would be between 1.3 – 1.9% of the population. Generally, we don't remove more than 1 shark per season or 0.1% of the population."

"Predation peaked in 1997-1999; it continued at a rate of 5-11 pups per year from 2000-2019 (usually 15-25% of the pup cohort each year). In 2019, 35 pups were born at FFS during the field season and Galapagos shark predation was confirmed in 3 pup deaths and strongly suspected in 6 additional disappearances, accounting for 25% of the pups born. Information from 2020 is not available because our field camps were not deployed due toCOVID-19."

"Between 1997 and 2021, shark predation affected over 270 pups out of roughly 1150 born at Lalo. Sharks have killed many pups and others were permanently maimed by severe shark bites and subsequently died."

a. Throughout the atoll in 2021, there were no direct observations of predatory behavior towards pups or evidence of predation (injury/disappearance of seal pups). This means that no triggers for shark removal were met, no fishing occurred and no sharks were removed. Furthermore the program halted the main predation mitigation effort, which is seal translocation from at-risk islets to Tern Island, because there was no predation to avoid and thus no benefit to this activity in 2021.

In 2021, the field teams were deployed for ~ 2 fewer months than a typical season, meaning that surveillance was only about half of a normal year. Activities during the full length field season remained consistent in terms of no shark removal activities occurring; and differing observations in terms of direct observations of predatory behavior towards pups or evidence of predation (injury/disappearance of seal pups)or attempted fishing may be provided by the program during the BLNR hearing in 2022 (if requested). The program does not want to remove sharks, but if those triggers are met, the program wants the efforts to be as specific and targeted as possible and this is best achieved when fishing occurs immediately after a trigger is met. Therefore the program includes shark removal in their proposed activities so that their teams are able to respond to shark predation at Lalo if/when the need arises again in the future.

An additional observation that was unique in 2021 is that a Galapagos shark was observed patrolling the shallow waters around Tern Island by turtle researchers on shore in spring 2021. However, there were no pups in the area at that time and no Galapagos sharks were seen from Tern Island for the duration of the field season. The single islet that has historically been free of Galapagos shark predation on seal pups is Tern Island, so this incidence is hoped to be a rare isolated observation.

The activities described above may require the following regulated activities to occur in State waters:

☒ 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
☒ Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging any living or nonliving monument resource
☒ Anchoring a vessel
☒ Discharging or depositing any material or matter into the Monument
☒ Possessing fishing gear except when stowed and not available for immediate use during passage without interruption through the Monument
☒ Touching coral, living or dead
☒ Attracting any living Monument resource
Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging any living or nonliving Monument resource
☒ Sustenance fishing (Federal waters only, outside of Special Preservation Areas, Ecological Reserves and Special Management Areas)
☒ Swimming, snorkeling, or closed or open circuit SCUBA diving within any Special Preservation Area or Midway Atoll Special Management Area

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 would be conducted by NOAA, U.S. Fish and Wildlife, State of Hawai‘i, and OHA employees, contractors, volunteers, or other Federal and State employees under the direction and administrative control of the applicants.

Monument Management Plan Strategies

The activities proposed by the applicants directly support the Monument Management Plan (PMNM MMP Vol. 1, 2008), including but not limited to priority management needs 3.1: Understanding and Interpreting the NWHI; 3.2: Conserving Wildlife and Habitats; 3.3 Reducing Threats to Monument Resources; 3.5: Coordinating Conservation and Management Activities; and 3.6: Achieving Effective Monument Operations; TES-1: Support Activities that advance recovery of the Hawaiian monk seal for the life of the plan and; MD-1: Remove and prevent marine debris throughout the life of the plan.

To safeguard Monument resources the applicants will abide by all PMNM Best Management Practices (BMPs) while conducting the aforementioned activities within PMNM.

The applicant would abide by the following PMNM Best Management Practices (BMPs) while

conducting the aforementioned activities within the PMNM: Marine Alien Species Inspection Standards for Maritime Vessels (BMP# 001); Protocol for Acquiring Avian Blood Samples (BMP# 002); Human Hazards to Seabirds (BMP# 003); Best Management Practices for Boat Operations and Diving Activities (BMP# 004); Protocols to Reduce Impact to the Laysan Finch (BMP# 005); General Sampling and Transport Protocols for Collected Samples (BMP# 006); Best Management Practices for Terrestrial Biosecurity (BMP# 007); Seabird Protocols Necessary for Conducting Trolling Research and Monitoring in Papahānaumokuākea Marine National Monument (BMP# 008); Best Practices for Minimizing the Impact of Artificial Light on Sea Turtles (BMP# 009); Marine Wildlife Viewing Guidelines (BMP# 010); Disease and Introduced Species Prevention Protocol for Permitted Activities in the Marine Environment (BMP# 011); Precautions for Minimizing Human Impacts on Endangered Land Birds (BMP# 012); Nonnative Species Inspection Requirements at Midway Atoll (BMP# 015); Best Management Practices for Activities on Nihoa (BMP# 016); Best Management Practices for Maritime Heritage Sites (BMP# 017); Rodent Prevention and Inspection Standards for Permitted Vessels (BMP# 018); Best Management Practices for Activities on Mokumanamana (Necker Island) (BMP# 019); Best Management Practices to minimize the spread of Chondria tumulosa (BMP# 20); Health and Safety Plans, and Emergency Response Plans; All FWS refuge policies and procedures for conduct in the two wildlife refuges (Hawaiian Islands National Wildlife Refuge and Midway Atoll National Wildlife Refuge); All policies and procedures for conduct in Northwestern Hawaiian Islands Hawai‘i State Marine Refuge and Kure Atoll State Seabird Sanctuary; Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve Executive Orders; Hawai‘i Administrative Rules, §13-60.5, the Hawai‘i Revised Statutes, § 187A-6; and All other applicable state and federal laws and regulations.

REMARKS

In 2005, DLNR adopted rules creating the Northwestern Hawaiian Islands Marine Refuge, in Hawaii Administrative Rules (HAR) Chapter 13-60.5. A refuge permit under HAR § 13-60.5-6 (“Permits”), is subject to approval of appropriate activities stated in § 13-60.5-5 (“Permitted activities”) and relevant to the chapter’s purpose stated in § 13-60.5-1 (“Intent and purpose”), i.e.,

- to ensure the conservation of coral reef ecosystem resources in the marine refuge for present and future generations;
- to manage, preserve, protect, and conserve the unique refuge resources using the best available science and minimize risks of adverse effects to the region;
- by consistent resource management by restricting access to specific areas;
- support promote, and coordinate appropriate scientific research and assessment, with long-term monitoring of resources, including threats from human activities;
- allow Native Hawaiian cultural, subsistence, and religious practices consistent with applicable law and long-term conservation and protection;
- coordinate management and process permit review among DLNR, USFWS, NMFS, NOS, and other entities as appropriate to provide comprehensive conservation of the coral reef ecosystem and related resources including cleanup and prevention of marine debris, restoration or remediation of degraded or injured resources, enforcement and surveillance, management of potential tourism, recreation, and commercial activities;
- consistent with federal law where applicable.

Upon the establishment of the Monument in 2006, 50 C.F.R. 404 created six categories of Monument permits: research, educational, conservation & management, Native Hawaiian practices, special ocean use, and recreational. A conservation and management permit consistent with the objectives

found in HAR chapter 13-60.5 is sought.

A revised 2017 Memorandum of Agreement (MOA) was signed by all parties, amending and superseding the prior 2006 MOA, including admitting the Office of Hawaiian Affairs as a Monument Co-Trustee. The MOA envisions developing a coordinated management plan for the Monument, and reiterates the 2006 (Monument) Proclamation and 2016 (Monument Expansion) Proclamation, by stating that nothing contained in the Proclamations shall be deemed to diminish or enlarge the jurisdiction of the State of Hawai'i.

The joint Monument Management Plan (MMP) of 2008 anticipates a 15-year plan relating to management needs. The plan develops and implements a unified Monument permitting process and integrated permit[2]. Under the plan, a Monument conservation and management permit includes activities associated with resource management, such as field station operations, benthic mapping, habitat characterization, marine debris removal, development and maintenance of infrastructure, species and habitat restoration, and long-term resource monitoring programs such as monitoring of endangered species and seabird populations, and terrestrial native plant communities ... [and] provide a mechanism to respond and follow up to urgent events in the Monument that may not have been anticipated, such as response to vessel groundings, coral bleaching episodes, and invasive species detection. (MMP, p. 23)

Activities proposed by the applicants if appropriate for conservation and management and directly supportive of priority management needs referenced in the 2008 MMP Section 3.0, may include but are not limited to:

Understanding and interpreting resources in the NWHI
- protecting the ecological integrity of natural resources
- increasing our understanding and appreciation of cultural resources including Native Hawaiian history and cultural practices;
- identifying and protecting historic and maritime heritage resources;

Conserving wildlife and habitat in the Monument
- safeguarding and recovering protected plants and animals;
- conserving migratory bird populations and habitats;
- habitat management to restore native ecosystems and biological diversity;

Reducing Threats to Monument Resources
- reduce adverse effects of marine debris
- detect and control the introduction of alien species in the Monument

Managing Human Uses

Coordinating Conservation and Management Activities
- agencies to collaborate in coordinated management activities, including outreach,

Native Hawaiian community involvement, and ocean ecosystems education; and Achieving Effective Monument Operations.

[2] All permitted activities are authorized under the issuance of a single Monument permit signed by designees of the three Co-Trustees. (MMP, p. 233)

(See http://www.papahanaumokuakea.gov/permit/applicationrev.html regarding the current 2022 Co-Trustee's permit application.)

The 2008 MMP Appendix A (Permitting) contains the joint permit general terms and conditions, including monthly and annual reporting requirements regarding activities on State lands or within State waters. Other requirements include maintaining a cruise log, debriefing Co-Trustees, and submitting copies of articles and publications, etc. See Appendix A, #22, p. A-36.

REVIEW PROCESS

The 2023 Co-Trustee permit application was sent out for review and comment to the following scientific and cultural entities (for review of activities in which the entities are not themselves an applicant): Hawai'i Division of Aquatic Resources, Hawai'i Division of Forestry and Wildlife, Papahanaumokuakea Marine National Monument (NOAA/NOS), NOAA Pacific Islands Regional Office (NOAA-PO); United States Fish and Wildlife Service, Hawaiian and Pacific Islands National Wildlife Refuge Complex Office; the Office of Hawaiian Affairs (OHA) and the PMNM Native Hawaiian Cultural Working Group.

This 2023 application for the time period indicated received questions, comments and applicant responses as noted below:

MMB Agency Reviewer Questions and Applicant Responses:

Questions:

None

Comments:

1. NMFS has just one comment for a proposed change in the Hawaiian monk seal. Items 50-51 lists specific islets but that list is missing a few islets at French Frigate Shoals, NMFS suggest that it would be more accurate to add "e.g." in front of that short list of islets as it's such a dynamic place.

2. Throughout the final permit, insert Hawaiian names followed by English names for all locations other than Midway Atoll, which will remain identified as Midway Atoll followed by Hawaiian name, Kuaihelani.

3. Additional suggested comments/edits for inclusion in co-manager permit (listed in RED):

EXISTING TEXT:

4. Operating vessels to provide access for conservation and management activities. Authorized vessel operations shall include, but are not limited to:

a. Operating, mooring and anchoring small boats; (ALL MMB AGENCIES)

b. Conducting maintenance, proficiency training and safety measures for authorized vessels; (ALL MMB AGENCIES)

c. Anchoring of the authorized vessels and small boats on sandy substrate only, and all anchors must be lowered into place; (ALL MMB AGENCIES)

d. Discharging gray water outside of all Special Preservation Areas and the Midway Atoll Special Management Area; (ALL MMB AGENCIES) and

e. Discharging biodegradable solid waste associated with galley operations restricted to 3 nautical miles (ground to 1 inch in diameter) and 12 nautical miles (unground) outside of all Special Preservation Areas and the Midway Atoll Special Management Area. (ALL MMB AGENCIES)

ADJUST TO READ:

4. Operating vessels to provide access for conservation and management activities. Authorized vessel operations shall include, but are not limited to:

a. Operating, mooring and anchoring small boats; (ALL MMB AGENCIES)

b. Conducting maintenance, proficiency training and safety measures for authorized vessels; (ALL MMB AGENCIES)

c. Anchoring of the authorized vessels and small boats on sandy substrate only, and all anchors must be lowered into place; (ALL MMB AGENCIES)

d. Establish an underwater mooring at Nihoa to allow for safer and more environmentally sound "anchoring" for authorized support vessels (ALL MMB AGENCIES)

e. Discharging gray water outside of all Special Preservation Areas and the Midway Atoll Special Management Area; (ALL MMB AGENCIES) and

f. Discharging biodegradable solid waste associated with galley operations restricted to 3 nautical miles (ground to 1 inch in diameter) and 12 nautical miles (unground) outside of all Special Preservation Areas and the Midway Atoll Special Management Area. (ALL MMB AGENCIES)

EXISTING TEXT:

8. Conducting personnel safety, fitness, and health maintenance including, but not limited to: (ALL MMB AGENCIES)

a. Biking, swimming, and jogging at Kure Atoll, Tern Island, French Frigate Shoals, and Midway Atoll; and (ALL MMB AGENCIES)

b. Conducting health and safety activities for all personnel, including but not limited to: site safety reviews, adverse weather and emergency response procedures, safety protocols, and continuation of operation plans. (ALL MMB AGENCIES)

ADJUST TO READ:

8. Conducting personnel safety, fitness, and health maintenance including, but not limited to: (ALL MMB AGENCIES)

a. Biking and jogging at Midway Atoll (ALL MMB AGENCIES); and

b. Swimming and bathing at all islands and atolls (ALL MMB AGENCIES); and

c. Conducting health and safety activities for all personnel, including but not limited to: site safety reviews, adverse weather and emergency response procedures, safety protocols, and continuation of operation plans. (ALL MMB AGENCIES)

EXISTING TEXT:

RESOURCE SURVEY AND MONITORING

9. Swimming, snorkeling, and closed or open circuit SCUBA diving within any Special Preservation Area of the Midway Atoll Special Management Area, necessary to support conservation and management activities covered under this permit. (ALL MMB AGENCIES)

ADJUST TO READ:

9. a. Closed or open circuit SCUBA diving within any Special Preservation Area of the Midway Atoll Special Management Area, necessary to support conservation and management activities covered under this permit. (ALL MMB AGENCIES)

b. Swimming and snorkeling at all islands and atolls necessary to support conservation and management activities covered under this permit. (ALL MMB AGENCIES)

HAWAIIAN MONK SEAL CONSERVATION AND MANAGEMENT ACTIVITIES

EXISTING TEXT with addition of STATE and FWS to seven (7) sections identified in red:

36. Conducting the following population monitoring activities:

a. Conducting seal assessments by visually identifying animals, and marking and tagging animals; (NOAA) (STATE) (FWS)

b. Instrumenting seals including but not limited to mounted cameras and telemetry tags. (NOAA)

37. Operating unmanned aircraft systems (UAS) to assist in monitoring Hawaiian monk seal population. (NOAA)

38. Traversing Mokumanamana to conduct population assessment surveys only when full surveys cannot be completed by boat landing or UAS operations. (NOAA)

39. Placing acoustic recording devices on submerged sandy substrate to capture underwater vocalizations of Hawaiian monk seals. (NOAA)

40. Installing trail cameras in terrestrial areas to monitor animal behavior. (NOAA) (STATE) (FWS)

41. Disentangling monk seals from marine debris. (NOAA) (STATE) (FWS)

42. Conducting health surveillance and response, including but not limited to cutting umbilical cords, antihelminthic treatments, lancing abscesses, administering antibiotics and vaccinations, responding to disease outbreaks, necropsy and collecting/archiving/transferring samples for further research and diagnostic collaboration. (NOAA) (STATE) (FWS)

43. Translocating Hawaiian monk seals, consisting of the following types:

a. *Intra-atoll*: These translocations will include moving seals from areas of high risk where threats are imminent to safer areas and moving pups to promote maternal fostering when necessary. Field staff will perform these movements; greater resources (e.g., veterinarian care) will not typically be necessary. (NOAA)

b. *Inter-atoll*: These translocations will include transport of weaned female pups from atolls/islands of low survival to those of higher survival. (NOAA)

c. *MHI-NWHI*: These translocations will include transport of main Hawaiian Island (MHI) seals that are considered a threat to themselves or humans because they have demonstrated a pattern of interacting with humans. (NOAA)

d. *NWHI-captive care*: Seals may be taken into temporary captivity for treatment at appropriate, federally permitted rehabilitation facilities in the MHI for release back in the NWHI (i.e., permitted for captive care of injured, ill or prematurely weaned seals). (NOAA)

e. Aggressive male seal translocation to areas with no pups or juveniles. (NOAA)

44. Reuniting nursing mothers and pups, when separated (includes instances of pup switches). (NOAA) (STATE) (FWS)

45. Mitigating male aggression towards pups and juveniles (individual and multiple male-based aggression), including utilizing all federally permitted techniques (including, but not limited to, poles, rocks, slingshots, and air horns). Mitigation tools shall be applied as appropriate for the given context (i.e., the intensity, severity and frequency of aggression and the location, with regard to other species in the area such as birds). Mitigation may include temporarily separating males from juveniles by placing either in temporary shore-pens (see below). Mitigation also may include removal of the male(s) from the area by:

a. Translocation to a location where no pups or juveniles will be harmed; (NOAA) (STATE) (FWS)

b. Placement in an appropriate, federally permitted facility that is agreeable and permitted to care for a male indefinitely; (NOAA)

c. Lethal removal: this type of removal will only be applied when the above two options are not feasible, possible or exhausted. The preferred technique for euthanasia will be via physical means (e.g., firearm, captive bolt, etc.), in order for the carcass to remain in PMNM and for culturally appropriate and environmentally proper disposal to occur. When necessary, chemical euthanasia and removal of the carcass from PMNM will be allowed. (NOAA)

46. Conducting captive care of compromised seals to administer veterinary care and/or food supplementation. Captive care may include the capture and transport of seals to shore-pens (in the NWHI) or facilities in the MHI. NWHI seals under care in the MHI may be returned to the NWHI when a licensed veterinarian deems them rehabilitated and transport is feasible. The seals will then be released to the NWHI site deemed most appropriate for their subsequent survival (determined on the basis of such factors as the intensity and severity of imminent threats to the seals and recent survival trends at each atoll/island). (NOAA)

47. Monitoring shark activity at French Frigate Shoals. Monitoring may include camping on islets with shark incidents on nursing pups and recording shark activity and shark-seal interactions via hand-held or mounted cameras (cameras will be mounted on a pole 15' or less with no guy wires to be used only during the field season and attended daily by field staff). (NOAA)

48. Placing temporary shore-pens at select NWHI breeding sites to facilitate monk seal recovery activities described here within (e.g., translocations, captive care, and male aggression mitigation). (NOAA) (STATE) (FWS)

Additional reviews and permit history:

Are there other relevant/necessary permits or environmental reviews that have or will be issued with regard to this project? (e.g., HRS chapters 183C, 343; MMPA, ESA) Yes ☒ No ☐

If so, please list or explain:

- Applicants consulted with DLNR's Office of Conservation and Coastal Lands (OCCL) regarding any land use compliance with HRS chapter l83C (Conservation District)

- Environmental compliance with HRS chapter 343 and HAR chapter 11-200.1. The most recent Final Environmental Assessment covering certain subject activities was published in OEQC's The Environmental Notice on December 23, 2008 recommending a finding of no significant impact (FONSI). Separately, the Federal Co-Trustee applicants assure DLNR that the proposed activities are in current federal compliance with the National Environmental Policy Act per concurrent environmental review processes completed on December 23, 2008.

- Take of Endangered and Threatened Species: USFWS-TE-702631; USFWS-TE-003483-33; USFWS-PMNM-1; USFWS-FWSPIO-17

- Federal Bird Banding Permit: USGS-22570; USGS-22613; USGS-09149

- Green Turtle Tagging Permit: USFWS-TE-739350-4

- Marine Mammal Permit (Monk Seal – Research): NOAA/NMFS-16632-00

- Depredation Permit: USFWS-MB097755-0 (Cattle Egret Control)

- Communication systems (Broadcast/Receive Frequencies) at Midway are all licensed by FAA and FCC as appropriate. Contact refuge for additional information.

- 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.

- Migratory Bird Permits: USFWS-MB016635-1; MB2852A-2 (STAMP Project); MB03761B-0 (Cultural Working Group)

- An evaluation of any supplemental consultations (such as ESA, EFH, 106 etc.) will occur for each co-manager activity and be completed prior to the activity occurring (as necessary).

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

If so, please summarize past permits:

- Some or all of the collective applicants were granted permits the following permits in the past fourteen years for the purpose of managing the Monument: Coral Reef Ecosystem Reserve Management Activities - NWHICRER-2004-001, Kure Marine Debris Removal - DLNR-NWHI-06R010, DAR NWHI Ulua Fish Tagging Project - DLNR-NWHI-06R020, HINWR Management Activities 2006 - DLNR-NWHI-06R022, HINWR Management Activities 2006 - NWHIMNM-2006-019, HINWR Management Activities 2007 - DLNR-NWHI-07S001, HINWR Management Activities 2007 - NWHIMNM-2007-002, MANWR Management Activities 2007 - NWHIMNM-2007-005, Kure marine debris removal - DLNR-NWHI-07C001, Monument Management Activities - NWHIMNM-2007-001, Monument Management Activities - PMNM-2008-001, PMNM-2009-001, PMNM-2010-001, PMNM-2011-001, PMNM-2012-001, PMNM-2013-001, PMNM 2014-001, PMNM 2015-001, PMNM-2016-001, PMNM-2017-001, PMNM-2018-001, PMNM-2019-00l, PMNM-2020-001, PMNM-2021-001 and PMNM-2022-001.

Have there been any a) violations: Yes ☐ No ☒
b) late/incomplete post-activity reports: Yes ☐ No ☒

involving any of the applicant agencies or personnel?

Are there any other relevant concerns from previous permits? Yes ☐ No ☒

If yes, please explain.

STAFF OPINION
Department staff are of the opinion that the Co-Trustees' application for a conservation and management permit and covered personnel are justified under HAR chapter 13-60.5 criteria and should be allowed to enter state lands and waters in the Monument as indicated, and to conduct the activities as specified, subject to the Papahanaumokuakea Marine National Monument Conservation and Management Permit General Conditions, and the indicated special instructions, conditions, and protocols to be observed. Staff recommends that the BLNR approve the application as indicated below.

MONUMENT MANAGEMENT BOARD OPINION
The seven members of the Monument Management Board (MMB) were consulted and are of the opinion that the applicants have met permit procedures and criteria under the findings of Presidential Proclamation 8031, 71 Fed. Reg. 36,443 (2006) as required, and these general conservation and management activities may be conducted subject to completion of all compliance requirements recommended below. The MMB concurs with the special conditions recommended by DLNR staff.

RECOMMENDATIONS:

That the Board of Land and Natural Resources

A. Approve the proposed Co-Trustees' Conservation and Management Permit according to the form of the Application (Attachment C) and authorize and approve entry to State lands and waters of the Monument for Co-Trustees U.S. Fish and Wildlife Service; National Oceanic and Atmospheric Administration; and the Office of Hawaiian Affairs, for such conservation and management activities to be conducted as listed in Attachment A with the following additional conditions:

1. That the BLNR declare that the anticipated actions to be undertaken under this permit will have little or no significant effect on the environment except consistently with the activities covered in the 2008 Final Environmental Assessment (FEA) and FONSI. Any activities not covered in the FEA shall be addressed as further determination(s) of exemption from the preparation of an environmental assessment, with the authority delegated by the BLNR to the Chairperson to approve and sign such determinations only for purposes of this permit to be issued, and subject to recordkeeping requirements of HRS chapter 343, and HAR chapter 11-200.

2. That the permittee provide, as required under the Monument permit general terms and conditions, a summary of their findings under this Monument access, including but not limited to, any initial findings to the DLNR for use at educational institutions and outreach events. Any unexpected results and anomalous encounters should be included in a report or future permit applications to the BLNR to allow proper evaluation of conservation and management efforts in future permitting decisions.

3. That all agencies and personnel covered under this Conservation and Management Permit shall abide by and obey all Monument permit general conditions and protocols, unless otherwise specifically permitted, exempted, or excluded under the terms and conditions.

4. This permit is not to be used for nor does it authorize the sale of collected organisms. Under this permit, the authorized activities must be for noncommercial purposes not involving the use or sale of any organism, by-products, or materials collected within the Monument for obtaining patent or intellectual property rights.

5. The permittee may not convey, transfer, or distribute, in any fashion (including, but not limited to, selling, trading, giving, or loaning) any coral, live rock, or organism collected under this permit without the express written permission of the Co-Trustees.

6. 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.

7. Tenders and small vessels must be equipped with engines that meet EPA emissions requirements.

8. Refueling of tenders and all small vessels must be done at the support ships and outside the confines of lagoons or near-shore waters in the State Marine Refuge with the exception of boats utilized in operations that are land-based for extended periods of time (i.e. Protected Species Division [PSD] / monk seal program field camps), which will be authorized to refuel in nearshore waters (within the State Northwestern Hawaiian Islands Marine Refuge) with the provision that the Protected Species Division (PSD) personnel will adhere to the following small boat refueling procedures at the Protected Species Division field camps:

    a. For boats with 6 gallon tanks that can be removed from the boat (currently 2 tanks at Manawai and 1 tank at Lalo): Fuel tanks are filled on land using a hand pump from the 55 gallon gas drums directly into the boat gas tanks. Absorbent material and a spill kit are on hand at all times during fuel transfer in case of any spilling. The camps have reported that this procedure works out well with little opportunity for spilling or leaking because of the hand pump being used.

    b. For larger boat gas tanks (>6 gallon, currently 1 tank at Lalo), portable jerry cans are filled as described above and used to fill the boat gas tank within the boat. Absorbent material is used for this transfer.

9. No fishing is allowed in State Waters except as authorized under State law for subsistence, traditional and customary practices by Native Hawaiians.

10. To mitigate risk of spreading the Chondria tumulosa within the monument and Main Hawaiian Islands, the permittee will follow the Best Management Practices to Minimize the Spread of Chondria tumulosa (BMP #20); any activities which fall outside of BMP 020 (Best Management Practices to Minimize the Spread of Chondria Tumulosa) are addressed in separate consultations with subject matter experts and the

permit coordinator and prior to departure and in a supplemental Chondria biosecurity plan (PIFSC PSD Biosecurity Plan for Chondria tumulosa). The researchers will ensure approval of the supplemental biosecurity plan from the MMB prior to permitted activities occurring.

11. The permittee is required to follow all applicable Federal, State, and County laws with respect to the COVID-19 emergency response that apply at the time of departure and return. In issuance of this permit, the State of Hawaii is not otherwise monitoring or regulating permittee's compliance with COVID-19 laws and is not responsible for the health and safety of crew members, researchers or other occupants of the vessel associated with this permit.

B. Authorize the DLNR Divisions of Aquatic Resources and Forestry and Wildlife to continue general conservation and management activities within the Monument, including assisting other Co-Trustees in general conservation and management activities throughout the Monument under the lead of Co-Trustee(s), as indicated on Attachment A.

Respectfully submitted,

Brian J. Neilson, Administrator
Division of Aquatic Resources

APPROVED FOR SUBMITTAL

Suzanne D. Case, Chairperson
Board of Land and Natural Resources

Attachments:

1) Declaration of Exemption ("DE") from the Preparation of an Environmental Assessment under the Authority of Chapter 343, HRS & Chapter 11-200.1 HAR (for the Hawaiian Monk Seal Research Program's (HMSRP) management and recovery activities)

2) Attachment A: List of Conservation and Management Activities Covered Under Prior Co-Trustees' Permits to be Included

3) Attachment B: Personnel Covered Under the Co-Trustees' Conservation & Management Permit

4) PMNM Application

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 8, 2022

TO: Division of Aquatic Resources File

THROUGH: Suzanne D. Case, Chairperson

FROM: Brian J. Neilson, Administrator
Division of Aquatic Resources

SUBJECT:

DECLARATION OF EXEMPTION FROM THE PREPARATION OF AN ENVIRONMENTAL ASSESSMENT UNDER THE AUTHORITY OF CHAPTER 343, HRS AND CHAPTER 11-200.1 HAR, FOR A PAPAHĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT CONSERVATION AND MANAGEMENT PERMIT TO NOAA FISHERIES, PACIFIC ISLANDS FISHERIES SCIENCE CENTER, HAWAIIAN MONK SEAL RESEARCH PROGRAM (HMSRP)(PART OF THE CO-TRUSTEE PERMIT), FOR ACCESS TO STATE WATERS TO CONDUCT HAWAIIAN MONK SEAL MANAGEMENT AND RECOVERY ACTIVITIES, INCLUSIVE OF THE REMOVAL OF INDIVIDUAL SHARKS AT FRENCH FRIGATE SHOALS DISPLAYING PREDATORY BEHAVIOR TOWARDS MONK SEAL PUPS UNDER PERMIT PMNM-2023-001.

.

The following permitted activities are found to be exempted from preparation of an environmental assessment under the authority of Chapter 343, HRS and Chapter 11-200.1, HAR:

Project Title: Papahānaumokuākea Marine National Monument Conservation and Management Permit to NOAA Fisheries, Pacific Islands Fisheries Science Center, Hawaiian Monk Seal Research Program (HMSRP)(Part of the Co-Trustee Permit), for Access to State Waters to Conduct Hawaiian Monk Seal Management and Recovery Activities, Inclusive of the Removal of Individual Sharks at French Frigate Shoals Displaying Predatory Behavior Towards Monk Seal Pups.

Permit Number: PMNM-2023-001

Project Description: NOAA Fisheries, Pacific Islands Fisheries Science Center (PIFSC), Hawaiian Monk Seal Research Program (HMSRP), proposes to continue conservation and management activities for monitoring and recovery of the Hawaiian monk seal (*Neomonachus schauinslandi*) in

Papahānaumokuākea. All activities described in this application are directed towards understanding the biology, ecology, and population dynamics of the Hawaiian monk seal and identifying factors that affect the survival and recovery of the species. This project is one of the projects listed under the activities of the Co-Trustee permit. To remain consistent with previous permitting, (previously, when the project was separated out from the Co-Trustee activities and had its own individual permit, the project had an accompanying Declaration of Exemption), a Declaration of Exemption shall continue to accompany this portion of the overall activities listed under the Co-Trustee permit. This program also has a Programmatic EIS for NOAA NMFS Hawaiian Monk Seal Recovery Actions (June 2014) and an EA for the original permit, which resulted in a FONSI (Finding of No Significant Impact) and is titled: Supplemental Environmental Assessment On Issuance Of A Permit For Field Research and Enhancement Activities On The Endangered Hawaiian Monk Seal (Permit No. 10137-04)

The Conservation and Management Permit, as described below, would allow entry and activities to occur in Papahanaumokuakea Marine National Monument, including the NWHI State Marine Refuge and the waters (0-3 nautical miles) surrounding the following sites:

- Nihoa Island
- Necker Island (Mokumanamana Island)
- French Frigate Shoals (Lalo)
- Gardner Pinnacles (Pūhāhonu)
- Laysan Island (Kamole)
- Lisianski Island (Kapou)
- Pearl and Hermes Atoll (Manawai)
- Midway Atoll (Kuaihelani)
- Kure Atoll (Hōlanikū)
-

Proposed activities would be authorized to occur between January 1, 2023 – December 31, 2024.

Everything proposed in this renewal permit has been reviewed and approved in previous permits (most recent is PMNM-2022-002). The newest activities added to this permit consist of the supplemental Chondria biosecurity plan ("PIFSC PSD Biosecurity Plan for *Chondria tumulosa"*), which will either supplement or be replaced by BMP #020, and installing trail cameras at Pearl and Hermes Atoll (PHA) (proposed and approved in 2021). Trail cameras and all associated equipment will be retrieved before field staff leave PHA at the end of the season.

One of the main modifications of the Co-Trustee permit this year is that the NOAA Fisheries, Pacific Islands Fisheries Science Center, Hawaiian Monk Seal Research Program's (HMSRP) management and recovery activities (inclusive of the removal of individual sharks at French Frigate Shoals displaying predatory behavior towards monk seal pups) are being integrated with the Co-Trustee permit - these activities would be conducted by HMSRP trained personnel or the staff listed above, as directed and trained by the HMSRP.

This integration of the HMSRP activities into the Co-Trustee's PMNM permit is being implemented as the activities conducted under the currently separate HMSRP permit are defined as co-trustee

activities, and this integration of two permits into one permit would reduce workload in terms of the application and reporting process, and in terms of submitting and presenting the BLNR submittals.

Originally (about 12 years ago), the HMSRP activities were part of the Co-Managers permit, but the activities got separated out into two distinct permits, once the removal of individual sharks at French Frigate Shoals displaying predatory behavior towards monk seal pups became a potential activity each year, for the purposes of transparency and to separate the activity out which may need more detailed evaluation each year, in order not to delay the issuance of the Co-Managers permit at the same time each year. This integration request was recently presented and reviewed by the members of the seven-member Monument Management Board (MMB) (comprised of the members listed above) this year, and after considering the need for the two distinct permits, all members were in support of this action, provided there is language integrated into the permit that potentially allows for cultural observers to participate, observe and provide input on this shark removal activity each year (if the activity occurs), if requested, and provided that the HMSRP be available to provide the same briefing each year (for transparency and informational purposes), with any updates on the shark removal activities which may have been conducted or may be conducted during previous or future field seasons, or on any other aspect of the HMSRP activities for which BNLR members would like a briefing on, as part of the regular presentation for the Co-Trustee's permit at the BLNR meeting.

All information from the previous HMSRP PMNM permit has been integrated into this BLNR submittal for the Co-Trustee's PMNM permit and in addition to Co-Managers PMNM permit conditions (including the new requested provisions stated above).

INTENDED ACTIVITIES FOR THE HAWAIIAN MONK SEAL RESEARCH PROGRAM (HMSRP)

NOAA NMFS Pacific Islands Fisheries Science Center (PIFSC) Hawaiian Monk Seal Research Program (HMSRP) proposes to continue conservation and management activities by for monitoring and recovery of the Hawaiian monk seal (*Neomonachus schauinslandi*) in Papahānaumokuākea. All activities described in this submittal are directed towards understanding the biology, ecology, and population dynamics of the Hawaiian monk seal and identifying factors that affect the survival and recovery of the species.

Proposed activities would occur from January 1, 2023 through December 31, 2024.

Everything proposed in this renewal permit has been reviewed and approved in previous permits (most recent is PMNM-2022-002). Trail cameras and all associated equipment will be retrieved before field staff leave PHA at the end of the season.

General information on monk seal research and recovery initiatives, methods and tools are located on pgs. 8-24 of Attachment A (List of Conservation and Management Activities Covered Under Prior Co-Trustees' Permits to be Included) . Detailed information on methods, protocol, consultation and the minimization of impacts of the shark predation mitigation activities are located under B) Recovery Intervention - section xii. Shark Predation Mitigation Activities (pgs. 9-11, 16-19) of Attachment A (List of Conservation and Management Activities Covered Under Prior Co-Trustees' Permits to be

Included). Clarification and updates of the results thus far of shark predation mitigation activities at French Frigate Shoals are located in the below questions from the HMSRP application review in 2022.

Information on Monk Seal Research and Recovery Initiatives

This is a brief summary of information relevant to monk seal research and recovery initiatives proposed here. More information can be found in the attached Recovery Plan for the Hawaiian Monk Seal.

• The Hawaiian monk seal is an endangered species numbering approximately 1,400 individuals, 1,100 seals reside in the NWHI.

• The Hawaiian monk seal has been the focus of research and recovery activities for over 30 years. This has resulted in one of the most robust population datasets for a large mammal species allowing the Program to develop and assess cutting edge recovery actions.

• These recovery activities have resulted in the fact that a minimum of 28% of Hawaiian monk seals alive today are here because they directly benefited from an action or are the offspring of a female seal that benefited.

• In the PMNM, the key threats to the survival of the species include low birth rates combined with poor survival of juvenile Hawaiian monk seals to reproductive age. The majority of research activities are directed to understanding threats to the seals and mitigating those, particularly related to young female seals.

• All activities proposed here are permitted by the NOAA MMPA/ESA Permit 22677 (and associated NEPA docs etc.) and supported by the Revised Recovery Plan for Hawaiian Monk Seals.

• This permit also supports efforts conducted by the State and Federal partners that are directed towards monk seal research and recovery.

• To maximize the benefit from the researchers limited time in this remote place, the Program will use a suite of methods to ensure that all areas are well-surveyed (including using technology to expand data collection, and requesting access to all monk seal haul-out areas).

• Unmanned aerial systems (UAS) will be used to conduct ecological surveys including surveying and monitoring monk seals, marine debris, and possibly other flora and fauna in the NWHI (as a by-product of habitat mapping or as requested by partners).

• UAS will be launched and recovered from land, NOAA ships, or small boats launched from those ships, and will be flown at altitude below 400 feet.

• UAS efforts will provide the ability to survey and map resources on the remote islands without (1) interference; (2) the potential for the introduction of invasive species; and (3) human disturbance to the natural resources. The UAS would increase the monitoring and surveying capacity in the Monument.

• While the researchers work to minimize human presence on Mokumanamana, trained biologists familiar with the island may traverse Mokumanamana, using paths delineated by archaeologists and cultural practitioners familiar with the island, in the event that all seal haul-out areas cannot be surveyed through boat-landings or UAS flights at haul-out sites.

• This permit is comprehensive and includes ALL monk seal recovery activities that occur in the Monument including the mitigation of predation by Galapagos sharks on monk seal pups at French Frigate Shoals (FFS); the primary source of seal mortality at FFS.

• This is a continuation of permitted shark removal activities for monk seal conservation. The initial target of 20 sharks was determined based on data from the field whereby individually identifiable sharks (through tags or naturally acquired markings on their dorsal fins) that were engaged in predatory behavior on monk seal pups were enumerated. Shark biologists were consulted and ecosystem modeling efforts indicated that the Galapagos shark population, which is neither threatened nor endangered, was capable of sustaining this level of population reduction. Hence, the initial request of 20 sharks was based on an agreed upon minimum number of sharks that were exhibiting this behavior, paired with ecosystem based support.

Since the initial request of 20 made at the beginning of this project 7 Galapagos sharks have been caught and removed, leaving 13 remaining. The request for this year is for 13 Galapagos sharks. This is the balance of initially requesting removal of 20 sharks, minus the 7 that have been removed historically to-date. Fishing requires a great deal of effort, and catch-per-unit-effort is low, therefore the researchers expect that reaching this initial target number is still a long-term goal.

Published data and consultation with Carl Meyer puts the population somewhere between 668 to just over 1000 sharks. The estimated removal would be between 1.3 – 1.9% of the population. Generally, the researchers don't remove more than 1 shark per season or 0.1% of the population.

• Predation peaked in 1997-1999; it continued at a rate of 5-11 pups per year from 2000-2019 (usually 15-25% of the pup cohort each year). In 2019, 35 pups were born at FFS during the field season and Galapagos shark predation was confirmed in 3 pup deaths and strongly suspected in 6 additional disappearances, accounting for 25% of the pups born. Information from 2020 is not available because the researcher's field camps were not deployed due to COVID-19. There were no direct observations of predatory behavior towards pups or evidence of predation (injury/disappearance of seal pups) throughout the atoll in 2021. This means that no triggers for shark removal were met, no fishing occurred and no sharks were removed. Furthermore the Program halted their main predation mitigation effort, which is seal translocation from at-risk islets to Tern Island, because there was no predation to avoid and thus no benefit to this activity in 2021. An important caveat here is that in 2021, the field teams were deployed for ~ 2 fewer months than a typical season, meaning that surveillance was only about half of a normal year. The researchers look forward to finding out if observations during the full length field season in 2022 will be consistent with the observations in 2021, and will be sure to report on that after the teams return.

• Between 1997 and 2019, shark predation affected over 270 pups out of roughly 1150 born at FFS. Sharks have killed many pups and others were permanently maimed by severe shark bites and

subsequently died.

• Since 1997, NMFS has engaged in a variety of actions to address this threat, including pre-weaning and translocating pups, predator deterrents, and targeted fishing activities to remove problem G. sharks. Translocating pups remains the researcher's most common intervention and in 2019, 14 pups were translocated.

• Removing the sharks exhibiting this behavior from the environment is the most effective means of preventing continued predation.

• NMFS has consulted numerous stakeholders including Native Hawaiians, animal welfare groups, conservation professionals, and the general public. Opinions and concerns are varied between individuals but no external group has requested NMFS cease this activity.

• This activity has been approved and undertaken safely and respectfully almost every year since 2010 and the HMSRP will continue to be mindful and respectful of the historical and cultural significance of sharks when conducting these activities. .

• Successful removal of these individuals could have a profound effect on the monk seal population at French Frigate Shoals while having negligible impact on the G. shark population.

Evaluation of Shark Removal Activities, Consultation with Monument Co-Trustees/Partners, and Efforts to Minimize the Impacts of the Removal Activity

All monk seal conservation and management activities conducted by the permittees will be carried out with strict safeguards for the natural, cultural and historic resources of the Monument as required by Presidential Proclamation 8031, and other applicable law and agency policies and standard operating procedures. All agencies have field protocols and best management practices. These practices and procedures will minimize or eliminate disturbance to wildlife, flora, habitats, and cultural and historic resources.

The Program has conducted monk seal research and conservation activities in the NWHI for decades. The researchers have a large presence in the NWHI and with that comes the potential to negatively impact a number of cultural and natural resources. The researchers have worked hard over the decades to develop and refine the protocols to minimize the amount of time and impact on these resources as well as follow other established protocols.

For new and particularly sensitive activities the researchers direct considerable energy to share information with the Monument partners on the need and justification for each activity. For example, the researchers have consulted extensively with the MMB and native Hawaiian partners in past years for the shark predation mitigation that is included in this project and has been permitted multiple times.

There has been extensive consultation with the Native Hawaiian community on this and many other Hawaiian monk seal research and conservation efforts since initiating this series of predation mitigation strategies in 2010. In 2010 -2011, the researchers consulted with and received quality input

from OHA and the Monument's Native Hawaiian Cultural Working Group (CWG). The feedback from the CWG and others was not homogenous with a diverse array of perspectives and opinions both supporting and opposing the activity. The CWG determined it was unable to offer an endorsement or censure of the proposed management activity and has not reviewed the activity since. In 2020, the researchers were invited to meet with a representative of the CWG and answered some questions related to this activity. It was a good opportunity to reconnect and the researchers welcome any opportunity to provide further information to the CWG at their request in the future.

Discussions with other members of the Hawaiian community have resulted in constructive feedback and improved understanding of the views of some representatives of the Native Hawaiian community on the proposed work. From these meetings, the researchers also supported the participation of a number of Native Hawaiians in the shark predation mitigation work in 2010 and 2011.

In 2013 with the addition of seal flesh as bait, the researchers were encouraged by the State of Hawaii Board of Land and Natural Resources to communicate with, and be responsive to, stakeholders regarding this activity. The researchers alerted approximately 35 organizations and individuals about the field activities during the 2013 field season (including shark fishing) and updated them on the plans for the 2014 season. To date, none of these entities has expressed questions or concerns.

The researchers also undertook consultations regarding the use of tissue from previously deceased monk seals as bait with several Native Hawaiians with whom the researchers have been working with on other monk seal issues. In this regard, the researchers have held one-on-one discussions with several individuals (cultural practitioners, partners, and/or advisors). Input the researchers received during these one-on-one discussions ranged from full support and understanding to acceptance without expressed support. No one the researchers spoke with regarding the use of seal tissue has voiced opposition or indicated that the use of seal tissue as proposed would adversely affect their productive relationships with the Program or otherwise diminish their support for monk seal conservation. The overarching sentiment the researchers have heard has been that as long as the seals would be dead of a cause beyond the researchers control (which would be the case), using their bodies to try to save a still living seal, while admittedly difficult to consider or undertake, would be a reasonable effort in light of the endangered status of the monk seal population.

To safeguard the ecological integrity of the Monument, the researchers propose to limit the scope of the removal actions as described above and also to avoid by-catch of any other wildlife to the greatest degree possible. Possible adverse effects on the coral reef ecosystem at FFS from shark removals were investigated using the EcoSim model (Parrish, unpublished data). Results from that work indicated that the removal of 20 sharks had a nearly imperceptible effect on the dynamics of the FFS ecosystem. Additionally, pre-access permit and cultural briefings will be conducted for all new personnel entering Papahānaumokuākea and annually for all.

Rehabilitation/Translocation of Seals

Select monk seals taken into rehabilitation outside of Monument waters and then released. Some seals will be held for a short time in shoreline pens while waiting for veterinarian assessment and possible pickup or to help them acclimate to the wild prior to release after translocation or rehabilitation. Seals that are captured and brought in for rehabilitation or transported as part of the translocation program will be housed with other monk seals. Monk seals will be released after rehabilitation or translocation.

Comprehensive information on monk seal rehabilitation or translocation activities and protocols can be found under the researcher's MMPA/ESA permit 22677.

Sample and Data Analysis, Write-ups and Publication of Information

Population assessment data will be analyzed in 6 months (typically preliminary data will become available late winter/early spring of each year). Telemetry and UAS data will analyzed within 12 months.

HAWAIIAN MONK SEAL CONSERVATION AND MANAGEMENT ACTIVITIES (continued from Attachment A [List of Conservation and Management Activities Covered Under Prior Co-Trustees' Permits to be Included]):

36. Conducting the following population monitoring activities:

    a. Conducting seal assessments by visually identifying animals, and marking and tagging animals; (NOAA)

    b. Instrumenting seals including but not limited to mounted cameras and telemetry tags. (NOAA)

37. Operating unmanned aircraft systems (UAS) to assist in monitoring Hawaiian monk seal population. (NOAA)

38. Traversing Mokumanamana to conduct population assessment surveys only when full surveys cannot be completed by boat landing or UAS operations. (NOAA)

39. Placing acoustic recording devices on submerged sandy substrate to capture underwater vocalizations of Hawaiian monk seals. (NOAA)

40. Installing trail cameras in terrestrial areas at to monitor animal behavior. (NOAA)

41. Disentangling monk seals from marine debris. (NOAA)

42. Conducting health surveillance and response, including but not limited to cutting umbilical cords, antihelminthic treatments, lancing abscesses, administering antibiotics and vaccinations, responding to disease outbreaks, necropsy and collecting/archiving/transferring samples for further research and diagnostic collaboration. (NOAA)

43. Translocating Hawaiian monk seals, consisting of the following types:

a. *Intra-atoll*: These translocations will include moving seals from areas of high risk where threats are imminent to safer areas and moving pups to promote maternal fostering when necessary. Field staff will perform these movements; greater resources (e.g., veterinarian care) will not typically be necessary. (NOAA)

b. *Inter-atoll*: These translocations will include transport of weaned female pups from atolls/islands of low survival to those of higher survival. (NOAA)

c. *MHI-NWHI*: These translocations will include transport of main Hawaiian Island (MHI) seals that are considered a threat to themselves or humans because they have demonstrated a pattern of interacting with humans. (NOAA)

d. *NWHI-captive care*: Seals may be taken into temporary captivity for treatment at appropriate, federally permitted rehabilitation facilities in the MHI for release back in the NWHI (i.e., permitted for captive care of injured, ill or prematurely weaned seals). (NOAA)

e. Aggressive male seal translocation to areas with no pups or juveniles. (NOAA)

44. Reuniting nursing mothers and pups, when separated (includes instances of pup switches). (NOAA)

45. Mitigating male aggression towards pups and juveniles (individual and multiple male-based aggression), including utilizing all federally permitted techniques (including, but not limited to, poles, rocks, slingshots, and air horns). Mitigation tools shall be applied as appropriate for the given context (i.e., the intensity, severity and frequency of aggression and the location, with regard to other species in the area such as birds). Mitigation may include temporarily separating males from juveniles by placing either in temporary shore-pens (see below). Mitigation also may include removal of the male(s) from the area by:

a. Translocation to a location where no pups or juveniles will be harmed; (NOAA)

b. Placement in an appropriate, federally permitted facility that is agreeable and permitted to care for a male indefinitely; (NOAA)

c. Lethal removal: this type of removal will only be applied when the above two options are not feasible, possible or exhausted. The preferred technique for euthanasia will be

via physical means (e.g., firearm, captive bolt, etc.), in order for the carcass to remain in PMNM and for culturally appropriate and environmentally proper disposal to occur. When necessary, chemical euthanasia and removal of the carcass from PMNM will be allowed. (NOAA)

46. Conducting captive care of compromised seals to administer veterinary care and/or food supplementation. Captive care may include the capture and transport of seals to shore-pens (in the NWHI) or facilities in the MHI. NWHI seals under care in the MHI may be returned to the NWHI when a licensed veterinarian deems them rehabilitated and transport is feasible. The seals will then be released to the NWHI site deemed most appropriate for their subsequent survival (determined on the basis of such factors as the intensity and severity of imminent threats to the seals and recent survival trends at each atoll/island). (NOAA)

47. Monitoring shark activity at French Frigate Shoals. Monitoring may include camping on islets with shark incidents on nursing pups and recording shark activity and shark-seal interactions via hand-held or mounted cameras (cameras will be mounted on a pole 15' or less with no guy wires to be used only during the field season and attended daily by field staff). (NOAA)

48. Placing temporary shore-pens at select NWHI breeding sites to facilitate monk seal recovery activities described here within (e.g., translocations, captive care, and male aggression mitigation). (NOAA)

49. Attracting Monument living marine resources using baited hooks, with bait to include fish parts (brought from outside the Monument), shark remains (obtained from permitted activities), and salvaged monk seal tissues (obtained from deceased monk seals at French Frigate Shoals and brought from outside the Monument). (NOAA)

50. Removing, moving, taking, possessing, injuring, or disturbing; or attempting to remove, move, take, possess, injure, or disturb up to **13** Galapagos sharks (*Carcharhinus galapagensis*) within a distance of 700 meters from the shorelines of Trig, Gin, Little Gin and Round islets in consultation with OHA and the Papahānaumokuākea Native Hawaiian Cultural Working Group. Only Galapagos sharks with a minimum size of 2 meters (6.5 feet) tail length or greater shall be lethally removed. Permittees are required to safely release Galapagos sharks smaller than the minimum size limit as well as all other non-target species. The following four removal methods are authorized:

    a. Deploying a *hand-held harpoon* from shore or small boat when a targeted Galapagos shark is observed. Targeted shark shall then be hauled on shore or alongside a small boat for humane euthanasia using a .44 caliber bang stick. (NOAA)

b. Deploying a baited *handline* from shore or small boat. Targeted shark caught shall then be hauled on shore or alongside a small boat for humane euthanasia using a .44 caliber bang stick. (NOAA)

c. Deploying *bottomsets*, where each bottomset shall have a maximum of ten baited hooks and a buoy line at the top and an anchor (9-12 lb) at the bottom. All bottomset gear shall be deployed only on sandy substrate and shall be closely monitored by field project personnel. (NOAA)

d. Deploying *drumlines*, where each drumline shall consist of a single baited hook and drum-buoy with gear configuration to allow baited hook to rest on the bottom or suspended above the seafloor. All drumline gear shall be deployed only on sandy substrate and shall be closely monitored by field project personnel. (NOAA)

51. Possessing fishing gear in support permitted activities, within a distance of 700 meters from the shorelines of Trig, Gin, Little Gin, and Round islets. All fishing gear shall be monitored closely to prevent mortality of non-target species. (NOAA)

52. Placing anchors on submerged lands that are part of authorized fishing gear. All anchors shall be placed on sandy substrate and all anchors removed when fishing gear is retrieved. (NOAA)

53. Conducting necropsies on euthanized Galapagos sharks on Tern Island, FFS for the purpose of obtaining morphometric measurements, reproductive state, and removing samples of muscle, liver, vertebrae, and gut contents for scientific analyses. (NOAA)

54. Discharging of Galapagos shark remains (post-necropsy) at a distance of approximately 0.5 miles seaward from the FFS breaking reef. Global Positioning System (GPS) coordinates shall be recorded at each carcass discharge site. One carcass, including any lethal by-catch shall be disposed of at each site. (NOAA)

55. Transferring necropsy samples from Galapagos shark remains to researchers for scientific analyses:

    a. Diet analysis through isotope screening (vertebrae) (NOAA)

    b. Diet analysis through fatty acid profiles (liver) (NOAA)

    c. Ciguatera and mercury level testing (muscle and liver) (NOAA)

    d. DNA analysis from fin clip and stomach contents, if available (NOAA)

56. Transferring biological samples (e.g., teeth and skin) for cultural purposes to practitioners shall occur only to such persons conducting protocol in PMNM. (NOAA)

57. Erecting temporary polyvinyl tents for housing monk seal field teams at French Frigate Shoals, Laysan, Lisianski, Pearl and Hermes and Kure. One tent at each site may have a radio antenna extending upwards <10ft. (NOAA)

More Information on Monk Seal Conservation, Management, Research and Recovery Activities

The following list of activities is intended to promote the recovery of the Endangered Hawaiian monk seal at any or all breeding sites in the NWHI. For more information about these activities please consult the MMPA/ESA Permit 22677. Activities may include:

A) Conservation Research Activities

i. Population Monitoring.

a. Conducting seal assessments by visually identifying animals, marking animals, flipper tagging, pit tagging and other techniques approved under MMPA/ESA permit 22677 will occur across the NWHI.

b. Deploying field staff in camps for days to months at a time at Lalo, Kamole, Kapou, Manawai, Hōlanikū or Kuaihelani.

c. Instrumentation of seals for post release monitoring or understanding ecology and behavior of monk seals will include seal mounted cameras, telemetry tags or other technology approved under MMPA/ESA permit 22677.

d. Use UAS (APH-22 hexacopter or Mavic Pro GE) to monitor Hawaiian monk seal populations (including counts, individual identification, body condition assessment), marine debris, and possibly other flora and fauna on or around islets in the monument.

The APH-22 has a pilot in command (PIC) and a ground station operator (GSO) visual observer (VO) and is launched from land or the GSO/VO's hand. The Mavic Pro Ge is a vertical take-off and landing UAS that can be launched from land or boat but does not necessitate the use of a ground station or GSO. Operation of the Mavic Pro GE will also involve a VO other than the PIC. Once any UAS is launched, the VO monitors the UAS flight and scans the sky to see if there is any air traffic or bird activity requiring the landing of the UAS. The UAS will fly for a maximum of 30 minutes and will remain at all times within the pilot's visual line of sight and less than 0.5-nm.

General Operation Guidelines will include:

- Operation in daylight hours only.

- Operation in winds less than 25kts.
- Only NOAA Certified Pilots trained specifically for the APH-22 or the Mavic Pro GE will operate the system.
- Pilots will minimize multiple takeoffs and landing in a single location if birds are present to minimize repeat disturbance to birds.

DJI Mavic Pro GE Specifications:

- Body: Quadcopter with 4 foldable arms
- Diagonal size (excluding propellers): 13.2" (335mm)
- Weight (including battery and propellers: 1.62 lbs (734 g)
- Max Flight Time: 27 minutes
- Range, Physical: 8 miles (13km, no wind)
- Range, Max Transmission: 4.3 mi (7km)
- Payload: Integrated camera on gimbal
- Max Speed: 40 mph (65 kph)

For Mokumanamana visits, the researchers will follow all appropriate Mokumanamana and PMNM Best Practices, as well as adhere to these General Guidelines:

- Only traverse Mokumanamana when full surveys cannot be completed by multiple boat landings or UAS activities.
- A qualified and experienced Resource Monitor would be present.
- Minimum number of personnel would go ashore and undertake the hike.

e. Deployment of acoustic recording devices to capture underwater vocalizations of Hawaiian monk seals.

Passive acoustic monitoring via SoundTraps is a non-invasive method for studying underwater sounds. This study will use two SoundTrap ST500 HF underwater acoustic recorders at two sites (Lalo and Manawai) to record the underwater vocalizations of Hawaiian monk seals and seasonal trends in their typical aquatic soundscape. It is important for increasing the baseline knowledge of their communication system and for measuring the level of man-made noise they encounter. Assessing the impacts of man-made sound on monk seal communication can inform conservation decisions, particularly the development of noise mitigation measures and population monitoring through passive acoustics.

The first year of deployment (2021) was successful in obtaining underwater vocalization data and thus this project continued into 2022 and expects to continue into 2023 with no modifications.

Other monk seal directed research as needed and authorized by MMPA/ESA permit 22677. All projects will be captured as a memo to file to ensure PMNM MMB is informed of all monk seal conservation research activities.

B) Recovery Interventions

i. Disentanglement of monk seals from marine debris;

ii. Health response, including but not limited to cutting umbilical cords, lancing abscesses, administering antibiotics, vaccinating animals and responding to disease outbreaks, and necropsy;

iii. Anthelmintic treatment ('deworming') by field staff, which may include monitoring to detect improvement in body condition of treated seals versus control seals. Anthelmintic medications may include various cestodicides and nematocides (e.g. praziquantel, fenebendazole, ivermectin, emodepside) applied via various routes (e.g. oral, injectable, topical);

iv. Translocation, consisting of the following types:

a. Intra-atoll: These translocations will include moving seals from areas of high risk where threats are imminent to safer areas, and moving pups to promote maternal fostering when necessary. Field staff will perform these movements; greater resources (e.g. veterinarian care) will not typically be necessary.

b. Inter-atoll: These translocations will include transport of weaned female pups from atolls/islands of low survival to those of higher survival.

c. MHI – NWHI: These translocations will include transport of main Hawaiian Island (MHI) seals that are considered a threat to themselves or humans because they have demonstrated a pattern of interacting with humans.

d. NWHI-captive care: Seals may be taken into temporary captivity for treatment at appropriate, federally permitted rehabilitation facilities in the MHI for release back in the NWHI (i.e. permitted for captive care of injured, ill or prematurely weaned seals) (see below).

e. Aggressive male seal translocations to areas with no pups or juveniles (see below);

v. Reunion of nursing mothers and pups, when separated (includes instances of pup switches);

vi. Mitigation of male aggression towards pups and juveniles (individual and multiple male-based aggression), including utilizing all federally permitted techniques (including, but not limited to, poles, rocks, slingshots and air horns). Mitigation tools will be applied as appropriate for the given context (i.e. the intensity, severity and frequency of aggression and the location, with regard to other species in the area such as birds). Mitigation may include temporarily separating males from juveniles by placing either in temporary shore-pens (see below). Mitigation also may include removal of the male(s) from the area by:

a. Translocation to a location where no pups or juveniles will be harmed;

b. Placement in an appropriate, federally permitted facility that is agreeable and permitted to care for a male indefinitely; or

c. Lethal removal; this type of removal will only be applied when the above two options are not feasible, possible or exhausted. The preferred technique for euthanasia will be via physical means (e.g. firearm, captive bolt, etc.), in order for the carcass to remain in PMNM and for culturally appropriate and environmentally proper disposal to occur. When necessary, chemical euthanasia and removal of the carcass from PMNM will be allowed;

vii. Rehabilitation and care of compromised seals to administer veterinary care and/or food supplementation. Captive care may include the capture and transport of seals to shore-pens (in the NWHI) or facilities in the MHI. The researchers will aim to return NWHI seals under care in the MHI to the NWHI when a licensed veterinarian deems them rehabilitated and transport is feasible. The seals will then be released to the NWHI site deemed most appropriate for their subsequent survival (determined on the basis of such factors as the intensity and severity of imminent threats to the seals and recent survival trends at each atoll/island);

viii. Monitoring shark activity at French Frigate Shoals. Monitoring may include camping on islets with shark incidents on nursing pups and recording shark activity and shark-seal interactions via hand-held or mounted cameras (cameras will be mounted on a pole 15' or less with no guy wires to be used only during the field season and attended daily by field staff);

ix. Placement of temporary shore pens at selected NWHI breeding sites to facilitate monk seal recovery activities described here within (e.g. translocations, captive care, or male aggression mitigation); and

x. Establishment of field staff residence at all monk seal breeding sites to perform the monk seal activities described here within.

a. In 2021, the researchers began a project to incorporate the Huli ‘Ia into their field camps which is intended to extend into 2023 and beyond. The intent is to open dialogue and recognize, record and ultimately share seasonal observations about Papahānaumokuākea made when teams are deployed.

xi. Collect and remove marine debris, trash, and other materials (land and ocean-based) that pose threats to Monument resources, including but not limited to derelict fishing gear and following Monument BMPs (especially BMP # 005, 007, 011 and 020 for *Chondria* mitigation at Manawai and Kuahelani).

a. Disentanglement of threatened and endangered species by authorized personnel, monitoring of sites that have been cleared of debris for recovery rates and effects of removal;

b. Location and removal of debris. The team will cooperate with partners leading marine debris efforts on how to best integrate and support their activities. Of particular note: *If* any debris removal activities do occur at Manawai and Kuahelani, the researchers will abide by best practices for *Chondria* biocontrol and work with the State and other partners to ensure coordination and compliance with those practices.

xii. Shark Predation Mitigation Activities:

a. Fishing personnel and location: A team of 3-5 staff experienced and trained in safe and effective methods for shark fishing/removal will be tasked with monitoring and removal of Galapagos sharks that they encounter within 700m of shore of any islet at Lalo where predatory behavior is observed. As such, **capturing sharks will only occur in what is considered the shallow lagoon inside the atoll in close proximity to islets with the highest rate of shark predation**.

b. Fishing Methods: Four different methods will serve as a "toolbox" of options to safely remove a maximum of 13 Galapagos sharks: handline, harpoon, bottomset, and drumline. Each method has its advantages and drawbacks. The potential for shark wariness to humans in combination with extremely low catch per unit effort (CPUE) near pupping sites indicates that such a "toolbox" is needed to successfully capture sharks at the numbers and in the areas the researchers desire. Handlines and harpoon will be used in shallow water, from shore or close to shore or from a small boat; bottomsets and drumlines will be used in deeper water, over sandy substrate at distances farther from shore (up to 700m away). Ability to set the gear as far out as 700m from shore will help ensure that it performs as designed by Meyer in 2009. Shallow depth, coral and snags make setting the bottomset at closer distances a challenge.

Handlines and harpoons have the advantage of being very specific and have been successful in the past. Bottomsets and drumlines are, by design, restricted by habitat characteristics due to the potential for lines to become tangled, etc. Thus, bottomsets and drumlines are not recommended to be effective in very shallow depths. Bathymetry and currents are islet-sector specific; therefore, the distance from shore to achieve a feasible depth (approx. 25 feet) and appropriate substrate (sandy bottom) is also islet-sector specific; a zone of 700m around each islet will provide for this.

No single method is guaranteed to be successful given the unpredictability and

individualistic nature of sharks. However, together, all the methods provide the greatest chance of success. The order in which the different methods will be applied will be at the discretion of the team and will be highly dependent on a variety of environmental and biological factors. If the researchers employ more than one method at a time, the researchers still expect that the total number of removals will be low based on the low CPUE in the shallow lagoon.

The researchers will monitor the total number of baited hooks deployed across methods in order to remain within the proposed catch quota of 13 additional sharks. The researchers will use the same bait type (large tuna heads, shark remains and tissue from previously deceased seals) and hook type (circle hook, size 18/0 to 20/0) as previously approved. Fish and seal tissue bait will be brought from outside the Monument. There may not be the opportunity to collect tissue from a deceased seal at French Frigate Shoals. Seal tissue and shark tissue bait will also be collected within the Monument as available.

The researchers will tend the gear to avoid bycatch mortality (non-target species will be dehooked and released). It is assumed that bycatch will be minimal and primarily shark species, based on Meyer's crew's experience in 2009 and the researcher's bycatch in 2010-2015. Fishing staff will avoid lethal removal of non-target sharks through their proper identification. The only shark species that is likely to be confused with the G. shark is the grey reef shark. However, in G. sharks, there is a very distinct ridge along the back between the first and second dorsal fins. Also, the maximum size of 20 grey reef sharks caught across the NWHI was 159 cm (total length) in a 2003 study and in 2011 at Trig and Gin by the program's staff (3 5-foot grey reefs were caught and released). So, based on the absence of the dorsal ridge and a threshold size requirement above 200cm for removal, the researchers will ensure that they do not misidentify and cull a shark that is actually a grey reef.

For handlines, a line will be baited from shore or small boat. A hand-held harpoon will be used from shore or small boat when a shark is observed. A barbed shaft, on the end of the harpoon pole will be delivered by hand and the tip will be attached to wire cable and connecting line that will be used to retrieve the shark. For these methods, captured sharks will be hauled out on to the beach for euthanasia.

Bottomsets will be made to the specifications identical to those used in the Meyer's project permitted in the Monument to catch sharks in 2009. Meyer's bottomsets had 10 hooks; the researchers propose to use this many or less on each set. The gear is designed for sandy substrate with no potential for snagging. Approximately 200- 350m long 1⁄2 inch polypropylene mainline with overhand loops at regular intervals (40-60m) for gangion (branch line with hook) attachment will be used. Each end of the mainline will have a buoy line consisting of 1/2-inch polypropylene with a cleat at the top and a Danforth anchor (9-12 lb.) at the bottom. The buoy line length will be contingent on target set depth (45-75 feet depending on depth of deployment allowed). Gangions will consist of a stainless steel lobster trap clip (snaps onto mainline loops) with 2m of 1/2 inch polypropylene, a large swivel, 2m of 7/19 strand stainless steel

aircraft cable (bite leader) to a 20/0 Mustad circle hook. Sets will be made from a small boat, and with short soak times of a maximum of 3 hours (in the daytime only).

The drumline will be of either of the following 2 designs. It may consist of a large buoy, with a chain trace attached to it and single baited hook, shackled to the other end of the chain trace. A baited hook will be suspended approximately 10 feet above the sea floor. A groundline will be shackled to the drum with a swivel, attached to a Danforth or CQR anchor and anchored to the bottom substrate. A scope of 3-4 times the water depth will be used. Alternatively, it may consist of 20ft of 1⁄2 in. polypropylene substituting for a chain trace, connected to the same branchline type used for the bottomsets described above. The opposite end of this mainline will be shackled to a float-line buoy that serves as the 'drum'. A chain will be run through this buoy with the other end shackled to an 8' yellow marker line. The other end of the yellow line will then be shackled to a large red buoy with the connected float line (same used for bottomsets). The drumline set-up is a modification of what was used in 2010 so that the single baited hook rests on the bottom and does not suspend in the water column. This is preferred because the researchers are targeting a species that spends most of its time on the bottom feeding on demersal fishes. With this design, the drum-buoy functions as a 'bobber' that will sink or move when an animal is hooked.

c. Post-catch procedures:

When a shark is hooked or harpooned it will be brought to shore or to the side of the small boat and tail-roped and euthanized with a .44 caliber bang stick. HMSRP has established bangstick training and safety protocols and conducts an annual Operational Risk Management (ORM) for shark fishing operations. ORM is a continual process which includes risk assessment, risk decision making, and implementation of risk controls, which results in acceptance, mitigation, or avoidance of risk. It is standard for HMSRP to conduct ORM and risk assessment for projects that may involve risks such as this shark predation mitigation work.

Refresher training on use of the bang stick prior to fishing activities will occur boat-side on inert material.

HMSRP will perform a necropsy on captured G. sharks on site, including gut content inspection, morphometric measurements, and identification of sex and reproductive state. Procedures will mirror those done on monk seals, using the same kits, modified as necessary based on instructions in the Elasmobranch Husbandry Manual (editors M. Smith, D. Warmolts, D. Toney & R. Hueter). The main focus of shark necropsies will be to determine pregnancy and gut contents, provide remains for Native Hawaiian cultural practices (if requested, they have not been for the last several permit cycles), and take samples for scientific analysis.

Samples of muscle, liver, vertebrae for fatty acid and isotope/ diet analysis will be removed from the carcass after the necropsy and stored frozen. Vertebrae samples will

likely be sent to Woods Hole Oceanographic Institute to be processed by Greg Skomal's lab for isotope analysis. Fatty acid profiles will likely be analyzed for data on prey recently consumed, likely Sara Iverson's laboratory at Dalhousie University. Stomach contents will be screened for monk seal remains and provided to shark ecologists upon request. Some remaining tissue will possibly be retained for bait.

Thereafter, shark remains will be handled as deemed appropriate by cultural advisors and the State of Hawaii Office of Hawaiian Affairs. In recent years, shark remains have been returned to the ocean outside of the fringing reef and that will continue unless directed otherwise by the OHA partners.

d. Reporting: The MMB will be notified by NMFS when a shark has been removed. This will be done as quickly as possible and should normally be within 24 hours. A report that summarizes data concerning the removal of each shark will be submitted to the Monument in compliance with the Monument reporting schedules.

<u>Proposed fixed installations and instrumentation proposed to be set in the Monument</u>

A) The researchers propose to install or maintain (if already installed):

i. Temporary Installation polyvinyl tents for housing monk seal field teams at French Frigate Shoals, Laysan, Lisianski, Pearl and Hermes Reef and Kure. One tent at each site will also have a radio antenna extending upwards <10ft.

ii. Trail Cameras at Lalo (Tern Island) and Manawai (North and Little North Islands). Trail cameras are compact, self-contained systems that are programmed to take a certain number of pictures per day capturing the presence or absence of animals in specific locations. Sizes of trail camera systems including external solar panels will be no larger than 16" x 12" x 12". Weights of systems including solar panels will be no more than 5 lbs. These are used to monitor for threats to seals, specifically entrapment (Tern Island) and male aggression (Manawai).

Cameras will be mounted via padded tripod or T-post, no more than 5' in height. Plastic or steel bird deterrent spikes will be added to the camera systems to deter birds from blocking the camera's view and excreting on solar panels.

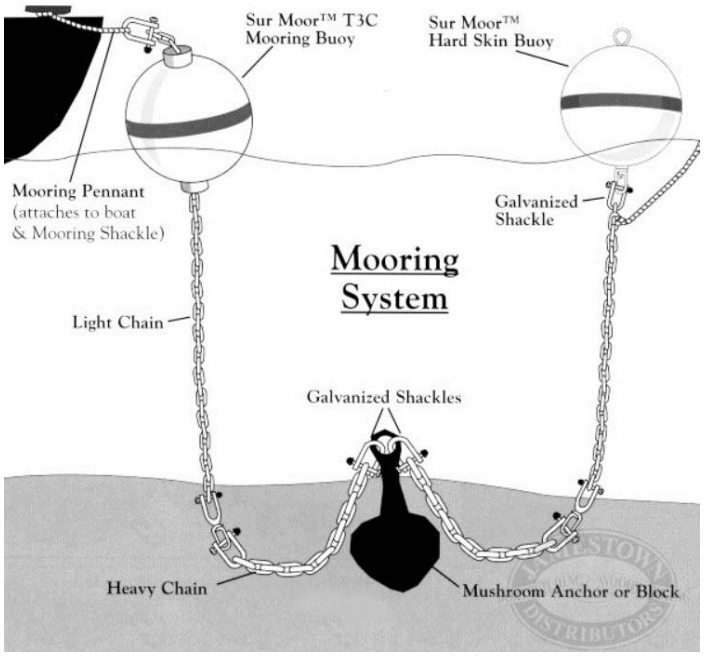
The cameras will be deployed staff from approximately May-August (during the field season) at North and Little North Islands (Manawai). Inclement weather at Manawai often prevents boating for multiple days at a time, resulting in less observation time on North and Little North Islands. These cameras help to fill in gaps in survey coverage. Images will be reviewed weekly during the season to provide close to real-time information on male aggression to HMSRP leadership, which will help guide

management and recovery decisions within the season, such as pup translocation. Additionally, the majority of pups at Manawai are born at North and Little North, and the trail cameras may also provide incidental population assessment data on births and weaning events. The cameras will be facing areas of previously observed or suspected male aggression, mainly near the southern portion of North Island, the northern portions of the North Island spits, and the northern portion of Little North Island. Weekly visits will be conducted, in which SD cards will be swapped out in the trail cameras to continue recording during the field season. Trail cameras and all associated equipment will be retrieved before field staff Manawai at the end of the season.

Cameras will be deployed similarly at Tern Island (Lalo), but will remain in place until the following field season because their purpose is to support post-season entrapment monitoring. Cameras may be mounted on the seawall but will more likely be mounted via padded tripod or T-post. In 2020-2021, seawall mounted cameras failed due to the heavy wave action encountered by the seawall in the winter.

iii. Temporary (season-long) mooring systems to anchor two small boats at Southeast Island, Pearl and Hermes Reef and, in instances when the davit is unavailable, potentially at Tern Island, French Frigate Shoals. These systems are recommended over traditional anchoring for leaving boats unattended for long intervals, i.e. overnight, in high surge areas. etc. In many cases, a mooring system is the safest way to leave a boat in the water to prevent it from breaking free and coming ashore, which will cause damage to the boat and shoreline environment.

Permanent and/or semi-permanent moorings use less scope than traditional anchoring which reduces the "footprint" on the bottom, risk of damage to the environment and risk of wildlife entanglement/entrapment. Appropriate moorings are comprised of a suitable anchor, a light chain, and surface float. Additional line will be attached to an anchor onshore at Southeast Island and to the pier at Tern Island to ensure the vessels cannot float away if the mooring system were to fail in inclement weather. These mooring systems will be deployed on sandy substrate directly off the north side of Southeast Island and from the dock at Tern Island. The following image (credit to Jamestown Distribution) illustrates the type of system that would be temporarily installed if necessary.



iv. Underwater Acoustic Recorders. Recording Hawaiian monk seal underwater vocalizations using the SoundTrap ST500 HF

Study Objective

This study aims to record and describe the underwater vocal repertoire and seasonal trends in sound production for Hawaiian monk seals in PMNM using two SoundTrap ST500 HF underwater acoustic recorders. One recorder would be deployed at each of two locations: Lalo and Manawai. In 2021, the instruments were successfully deployed for the first time and data were successfully obtained and thus will continue into 2022 with no modifications. Specific *Chondria* protocol modifications for cleaning this sensitive equipment at Manawai were discussed and followed prior to the 2021 field season, and the researchers will review those protocols with appropriate SMEs again before deployment in 2022.

Equipment

The recording units are Ocean Instruments SoundTrap ST500 HF (serial number to be determined). The full-scale response of this model is 173 dB re 1 µPa and the bandwidth is 20 Hz - 150 kHz ± 3 dB. A SoundTrap user manual and specification sheet are attached to this protocol.

Software

SoundTrap Host software will be used to configure the instrument before and after each deployment. This software can be downloaded from the Ocean Instruments website (http://www.oceaninstruments.co.nz/downloads/). The first time the SoundTrap and then the device will be visible in the SoundTrap Host software. It will be listed as "SoundTrap serial number TBD" or "SoundTrap device is connected to the computer (via USB), drivers will be installed serial number TBD" depending upon the unit you have.

Data Storage – To be determined

Environment

Both SoundTraps should be deployed at 5-10 m depth in sandy substrates as close to land as possible. GPS locations for the SoundTraps must be taken immediately after deployment, and again when the units are "checked" to verify they have not drifted.

Duration of Deployment

Units would be deployed during the first month of the field team's arrival. Units will remain in the water for the duration of the field camp and be retrieved prior to departing the camp.

Maintenance

Units will be checked regularly during the first week of deployment. If no issues are encountered (i.e., unit not drifting and still intact) within the first week, units will be checked once a week for the remainder of the camp duration. "Checked" means seeing the unit from the boat. GPS locations for the SoundTraps must be taken when the units are "checked" to verify they have not drifted.

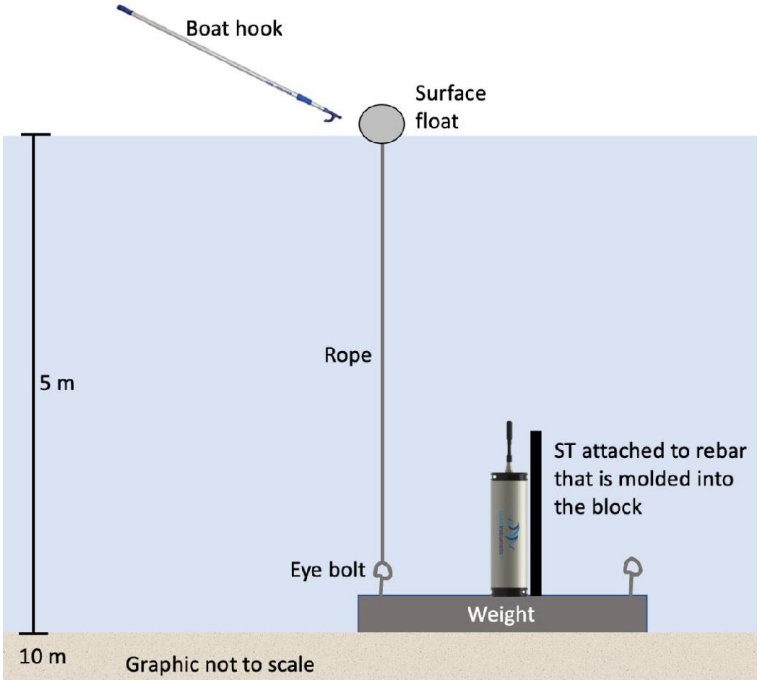
Equipment Configuration

Single anchored line with surface or sub-surface float (10 m total depth). The

SoundTrap will be attached to a rebar stand molded into a concrete block (weight) with the hydrophone facing the surface. The rope with the float will be tied to an eyebolt molded into the concrete block. Another eye bolt at the opposite side of the concrete block can be used for lowering the unit during deployment. Two grooves at the top and bottom of the SoundTrap housing provide attachment points for cable ties. The cable ties should be threaded through the associated holes so they cannot slip off. To minimize any possible entanglement risk of the rope, supportive padding material may be attached to it.

Deployment: Unit will be lowered down by rope threaded through the eyebolt. Once the unit is stationary, one side of the rope can be dropped into the water while the other side is pulled up through the eyebolt.

Retrieval: Grappler anchor or boat hook catches buoy and unit is pulled upward towards vessel.



B) The researchers propose to maintain/repair:

a. Tern Island Entrapment Camera Project

In 2020, the researchers initiated a pilot project to deploy rugged trail cameras on Tern Island, Lalo in order to monitor wildlife entrapments. The camera systems were deployed in fall 2020 and retrieved in 2021. Unfortunately, they were swamped by the winter conditions, making the imagery unusable. In 2022, the team aimed to replace the camera systems using T-posts rather than attaching them to the seawall; in 2023 the team will maintain or re-install the cameras.

Disposition of organisms or samples after collection:

- In the case of living seals collected for rehabilitation, these seals will be released back in the NWHI upon completion of rehabilitation (and clearance by veterinary examination).

- In the case of samples collected from seals (either biological specimens such as blood or tissue samples from living animals, or necropsy samples from dead animals), these will either be sent to appropriate research / diagnostic collaborators or archived in appropriate storage facilities at the NOAA IRC in Honolulu.

- In the case of samples collected from sharks (necropsy samples from dead animals), these will either be sent to appropriate research / diagnostic collaborators or cultural practitioners.

- Samples will be shipped out of the Monument in appropriate media and containers on board the NOAA research or charter vessels supporting the activities.

- The Hawaiian Monk Seal Research Program is the primary entity conducting research and recovery work on monk seals in the Northwestern Hawaiian Islands. All samples collected are covered under the researcher's MMPA/ESA permit 22677 and then are distributed to their partners. A complete list of partners is included in the attached document MMPA/ESA Permit 22677. This eliminates the likelihood of duplicative sampling or research happening related to monk seals. The researchers collaborate with a wide variety of programs to share samples and conduct research. Requests can be made to the HMSRP for samples, and sufficient biological/recovery justification samples are often shared.

Monument Management Plan Strategies

The activity will benefit the conservation and management of the Monument by supporting the following strategies under the Monument Management Plan (PMNM MMP Vol. 1, 2008):

• TES-1: Support Activities that advance recovery of the Hawaiian monk seal for the life of the plan.
• MD-1: Remove and prevent marine debris throughout the life of the plan.

The activities described above may require the following regulated activities to occur in State waters:

☒ 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

☒ Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging any living or nonliving monument resource

☒ Anchoring a vessel

☒ Discharging or depositing any material or matter into the Monument

☒ Possessing fishing gear except when stowed and not available for immediate use during passage without interruption through the Monument

☒ Touching coral, living or dead

☒ Attracting any living Monument resource

Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging any living or nonliving Monument resource

☒ Sustenance fishing (Federal waters only, outside of Special Preservation Areas, Ecological Reserves and Special Management Areas)

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

The applicant would abide by the following PMNM Best Management Practices (BMPs) while conducting the aforementioned activities within the PMNM: Best Management Practices for Human Hazards to Seabirds (BMP#003); Boat Operations and Diving Activities (BMP #004); The Laysan Finch Protocol (BMP 005); Special Conditions and Rules for Moving Between Islands/Atolls and Packing for Field Camps (BMP#007); Best Practices for Minimizing the Impact of Artificial Light on Sea Turtles (BMP#009); Marine Wildlife Viewing Guidelines (BMP #010); Disease and Introduced Species Prevention Protocol for Permitted Activities in the Marine Environment (BMP #011); Precautions for Minimizing Human Impacts on Endangered Land Birds (BMP 012); Best Management Practices for Maritime Heritage Sites (BMP#017); and Best Management Practices to Minimize the Spread of *Chondria tumulosa* (BMP #20).

REVIEW PROCESS:

The permit application was sent out for review and comment to the following scientific and cultural entities: Hawaii Division of Aquatic Resources, Hawaii Division of Forestry and Wildlife, Papahānaumokuākea Marine National Monument (NOAA/NOS), NOAA Pacific Islands Regional Office (NOAA-PIRO), United States Fish and Wildlife Service Hawaiian and Pacific Islands National Wildlife Refuge Complex Office, and the Office of Hawaiian Affairs (OHA). In addition, the permit application has been posted on the Monument Web site since October 2022, giving the public an opportunity to comment. The application was posted within 40 days of its receipt, in accordance with the Monument's Public Notification Policy.

MMB Agency Reviewer Questions and Applicant Responses from 2022 Co-Trustee Application:

Comments:

1. NMFS has just one comment for a proposed change in the Hawaiian monk seal. Items 50-51 lists specific islets but that list is missing a few islets at French Frigate Shoals, NMFS suggest that it would be more accurate to add "e.g." in front of that short list of islets as it's such a dynamic place.

2. Throughout the final permit, insert Hawaiian names followed by English names for all locations other than Midway Atoll, which will remain identified as Midway Atoll followed by Hawaiian name, Kuaihelani.

3. Additional suggested comments/edits for inclusion in co-manager permit (listed in RED):

HAWAIIAN MONK SEAL CONSERVATION AND MANAGEMENT ACTIVITIES

EXISTING TEXT with addition of STATE and FWS to seven (7) sections identified in red:

36. Conducting the following population monitoring activities:

a. Conducting seal assessments by visually identifying animals, and marking and tagging animals; (NOAA) (STATE) (FWS)

b. Instrumenting seals including but not limited to mounted cameras and telemetry tags. (NOAA)

37. Operating unmanned aircraft systems (UAS) to assist in monitoring Hawaiian monk seal population. (NOAA)

38. Traversing Mokumanamana to conduct population assessment surveys only when full surveys cannot be completed by boat landing or UAS operations. (NOAA)

39. Placing acoustic recording devices on submerged sandy substrate to capture underwater vocalizations of Hawaiian monk seals. (NOAA)

40. Installing trail cameras in terrestrial areas to monitor animal behavior. (NOAA) (STATE) (FWS)

41. Disentangling monk seals from marine debris. (NOAA) (STATE) (FWS)

42. Conducting health surveillance and response, including but not limited to cutting umbilical cords, antihelminthic treatments, lancing abscesses, administering antibiotics and vaccinations, responding to disease outbreaks, necropsy and collecting/archiving/transferring samples for further research and diagnostic collaboration. (NOAA) (STATE) (FWS)

43. Translocating Hawaiian monk seals, consisting of the following types:

a. *Intra-atoll*: These translocations will include moving seals from areas of high risk where threats are imminent to safer areas and moving pups to promote maternal fostering when necessary. Field staff will perform these movements; greater resources (e.g., veterinarian care) will not typically be necessary. (NOAA)

b. *Inter-atoll*: These translocations will include transport of weaned female pups from atolls/islands of low survival to those of higher survival. (NOAA)

c. *MHI-NWHI*: These translocations will include transport of main Hawaiian Island (MHI) seals that are considered a threat to themselves or humans because they have demonstrated a pattern of interacting with humans. (NOAA)

d. *NWHI-captive care*: Seals may be taken into temporary captivity for treatment at appropriate, federally permitted rehabilitation facilities in the MHI for release back in the NWHI (i.e., permitted for captive care of injured, ill or prematurely weaned seals). (NOAA)

e. Aggressive male seal translocation to areas with no pups or juveniles. (NOAA)

44. Reuniting nursing mothers and pups, when separated (includes instances of pup switches). (NOAA) (STATE) (FWS)

45. Mitigating male aggression towards pups and juveniles (individual and multiple male-based aggression), including utilizing all federally permitted techniques (including, but not limited to, poles, rocks, slingshots, and air horns). Mitigation tools shall be applied as appropriate for the given context (i.e., the intensity, severity and frequency of aggression and the location, with regard to other species in the area such as birds). Mitigation may include temporarily separating males from juveniles by placing either in temporary shore-pens (see below). Mitigation also may include removal of the male(s) from the area by:

a. Translocation to a location where no pups or juveniles will be harmed; (NOAA) (STATE) (FWS)

b. Placement in an appropriate, federally permitted facility that is agreeable and permitted to care for a male indefinitely; (NOAA)

c. Lethal removal: this type of removal will only be applied when the above two options are not feasible, possible or exhausted. The preferred technique for euthanasia will be via physical means (e.g., firearm, captive bolt, etc.), in order for the carcass to remain in PMNM and for culturally appropriate and environmentally proper disposal to occur. When necessary, chemical euthanasia and removal of the carcass from PMNM will be allowed. (NOAA)

46. Conducting captive care of compromised seals to administer veterinary care and/or food supplementation. Captive care may include the capture and transport of seals to shore-pens (in the NWHI) or facilities in the MHI. NWHI seals under care in the MHI may be returned

to the NWHI when a licensed veterinarian deems them rehabilitated and transport is feasible. The seals will then be released to the NWHI site deemed most appropriate for their subsequent survival (determined on the basis of such factors as the intensity and severity of imminent threats to the seals and recent survival trends at each atoll/island). (NOAA)

47. Monitoring shark activity at French Frigate Shoals. Monitoring may include camping on islets with shark incidents on nursing pups and recording shark activity and shark-seal interactions via hand-held or mounted cameras (cameras will be mounted on a pole 15' or less with no guy wires to be used only during the field season and attended daily by field staff). (NOAA)

48. Placing temporary shore-pens at select NWHI breeding sites to facilitate monk seal recovery activities described here within (e.g., translocations, captive care, and male aggression mitigation). (NOAA) (STATE) (FWS)

MMB Agency Reviewer Questions and Applicant Responses from 2021 Application (when an individual permit was issued for the HMSRP project):

Question. When will the sound trap at Manawai be deployed and recovered? When it is recovered how it is going to be transported and is there any associated rigging being removed with the recorded? Please be sure to follow current Chondria protocols.

a. The SoundTrap will be deployed at Manawai by the field teams during their routine activities at the start of the field season in mid-May. It will be left in place (visually monitored) during the field season until camps conclude in mid-August. The equipment will be retrieved and packed by the field teams as with all other gear and supplies and will not be left in place after the field season.

The SoundTrap lies horizontally on top of a concrete weight and is secured to the weight using hose clamps and zip ties woven through embedded eyebolts. The concrete weight is approximately 20" x 12". The concrete weight with SoundTrap will be placed on sand and will not be anchored into the substrate. Retrieving the equipment will be done by locating the buoy with a boat hook and pulling the entire weight, SoundTrap and buoy up by hand from the boat. No one will be swimming or diving in the water to retrieve it and there will be no additional rigging needed to pull the instrument up.

At the end of the field season, the SoundTrap and associated items that were deployed under water (e.g. concrete block, buoy, etc.) will be disinfected following the BMPs for Chrondria. Last year, a modified disinfection protocol was agreed upon for the hydrophone component. This year we will not need to use any alternative and will be able to follow the disinfection protocol as stated in the BMPs completely. After disinfection, the equipment will be placed on the Sette and transported back to Honolulu consistent with protocols for all other field equipment that was in contact with the water. None of the SoundTrap items will be used in other Monument or State of Hawaii waters for at least 30 days after recovery.

Comment. The U.S. Fish and Wildlife Service, has been involved in the shark culling conversation as it relates to monk seal research and recovery conservation in the Monument since 2008. It has been the approach of the agency that we will abstain from approving or rejecting that particular activity as it is described in the annual proposals, and this remains unchanged.

a. We acknowledge this comment.

Comment. We look forward to receiving the next round of scientific reports related to these activities listed in the permit.

a. We look forward to sharing that information. At this time, the 2021 and 2022 population summary is in the internal review process and we would be glad to provide a briefing once that is finalized. Our Stock Assessment Reports are publicly available here (https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock#pinnipeds---phocids-(earless-seals-or-true-seals).

Question. From the permit 2022 application (pg. 22): "We will use the same bait type (large tuna heads, shark remains and tissue from previously deceased seals) and hook type (circle hook, size 18/0 to 20/0) as previously approved. Fish and seal tissue bait will be brought from outside the Monument. There may not be the opportunity to collect tissue from a deceased seal at Lalo. Seal tissue and shark tissue bait will also be collected within the Monument as available."

Was the type of bait discussed or modified last year during the processing of the application or is this wording still correct to include in the documents for the BLNR submittal?

a. There was no discussion or modification to the type of bait last year during processing of the application. This wording is correct. It may be useful to note that the predominant source of bait this year and in most years is fish bait that is brought out each year from Honolulu. Note: This information has not changed for the proposed activities in 2023.

Question. The following information was provided in the 2022 application (pgs. 5 – 6); can the applicant provide any updates from years of activities conducted since 2019: "Since the initial request of 20 made at the beginning of this project, 7 Galapagos sharks have been caught and removed, leaving 13 remaining. The request for this year is for 13 Galapagos sharks. This is the balance of initially requesting removal of 20 sharks, minus the 7 that have been removed historically to-date. Fishing requires a great deal of effort, and catch-per-unit-effort is low, therefore we expect that reaching this initial target number is still a long-term goal." Note: This information has not changed for the proposed activities in 2023.

"Published data and consultation with Carl Meyer puts the population somewhere between 668 to just over 1000 sharks. The estimated removal would be between 1.3 – 1.9% of the population. Generally, we don't remove more than 1 shark per season or 0.1% of the population."

"Predation peaked in 1997-1999; it continued at a rate of 5-11 pups per year from 2000-2019 (usually 15-25% of the pup cohort each year). In 2019, 35 pups were born at FFS during the field season and Galapagos shark predation was confirmed in 3 pup deaths and strongly suspected in 6 additional

disappearances, accounting for 25% of the pups born. Information from 2020 is not available because our field camps were not deployed due toCOVID-19."

"Between 1997 and 2021, shark predation affected over 270 pups out of roughly 1150 born at Lalo. Sharks have killed many pups and others were permanently maimed by severe shark bites and subsequently died."

a. Throughout the atoll in 2021, there were no direct observations of predatory behavior towards pups or evidence of predation (injury/disappearance of seal pups). This means that no triggers for shark removal were met, no fishing occurred and no sharks were removed. Furthermore the program halted the main predation mitigation effort, which is seal translocation from at-risk islets to Tern Island, because there was no predation to avoid and thus no benefit to this activity in 2021.

In 2021, the field teams were deployed for ~ 2 fewer months than a typical season, meaning that surveillance was only about half of a normal year. Activities during the full length field season remained consistent in terms of no shark removal activities occurring; and differing observations in terms of direct observations of predatory behavior towards pups or evidence of predation (injury/disappearance of seal pups)or attempted fishing may be provided by the program during the BLNR hearing in 2022 (if requested). The program does not want to remove sharks, but if those triggers are met, the program wants the efforts to be as specific and targeted as possible and this is best achieved when fishing occurs immediately after a trigger is met. Therefore the program includes shark removal in their proposed activities so that their teams are able to respond to shark predation at Lalo if/when the need arises again in the future.

An additional observation that was unique in 2021 is that a Galapagos shark was observed patrolling the shallow waters around Tern Island by turtle researchers on shore in spring 2021. However, there were no pups in the area at that time and no Galapagos sharks were seen from Tern Island for the duration of the field season. The single islet that has historically been free of Galapagos shark predation on seal pups is Tern Island, so this incidence is hoped to be a rare isolated observation.

Environmental Compliance:

NEPA / HEPA: (check-one)

☐ Categorical Exclusion / Exempt Class: 5
☐ EA
☒ EIS Programmatic EIS for NOAA NMFS Hawaiian Monk Seal Recovery Actions (June 2014)

Other Consultations: (ESA/MMPA Section 7; NHPA Section 106, etc.)

- ESA/MMPA permit 22677 has been issued to PIFSC HMSRP for activities associated with this permit.

- Quarantine procedures will be carefully followed at each island where personnel land (BMPs 007, 011). This includes use of gear purchased new and dedicated to each island / atoll. Thorough cleaning, biosecurity, and safe storage protocols are followed between field seasons. To mitigate risk of spreading the *Chondria tumulosa* within the monument and Main Hawaiian Islands, the monk seal team will follow the Best Management Practices to Minimize the Spread of *Chondria tumulosa* (BMP #20); any activities which fall outside of BMP 020 (Best Management Practices to Minimize the Spread of Chondria Tumulosa) are addressed in separate consultations with subject matter experts and the permit coordinator and prior to departure and in a supplemental Chondria biosecurity plan ("PIFSC PSD Biosecurity Plan for Chondria tumulosa"; attached at end of submittal). The supplemental biosecurity plan has been written for approval from the MMB as outlined per draft BMP #20; the researchers will ensure concurrence from the MMB prior to permitted activities occurring. Note: some changes to protocol may occur after final review.

- The proposed activities are in compliance with the National Environmental Policy Act Environmental Assessment for conducting Hawaiian Monk Seal Conservation and Management Activities in PMNM (May 2012).

- NHPA Section 106 consultation completed for archipelagic wide operations (main and northwestern Hawaiian Islands) in November 2013.

- The EA for the original permit resulted in a FONSI (Finding of No Significant Impact) and is titled: Supplemental Environmental Assessment On Issuance Of A Permit For Field Research and Enhancement Activities On The Endangered Hawaiian Monk Seal (Permit No. 10137-04)

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

The Applicant (NOAA) has been granted a permit to conduct similar activities many different years since the inception of the PMNM permitting process, including the following permits: PMNM-2022-002, PMNM-2021-015, PMNM-2020-006, PMNM-2018-014, PMNM-2017-012, PMNM-2011-029, PMNM-2010-018, PMNM-2009-030, PMNM-2008-016, and to conduct associated Hawaiian monk seal recovery work (note: in earlier years, shark removal activities were authorized under separate permits from monk seal activities – therefore some permit numbers differ from monk seal management permit numbers – these permit number are listed in section 3. Cumulative Impacts of Actions below).

If so, please summarize past permits:

Have there been any a) violations: Yes ☐ No ☒
b) Late/incomplete post-activity reports: Yes ☐ No ☒

Are there any other relevant concerns from previous permits? Yes ☐ No ☒

Consulted Parties: The permit application was sent out for review and comment to the following scientific and cultural entities: Hawaii Division of Aquatic Resources, Hawaii Division of Forestry and Wildlife, Papahānaumokuākea Marine National Monument (NOAA/NOS), NOAA Pacific Islands Regional Office (NOAA-PIRO), United States Fish and Wildlife Service Hawaiian and Pacific Islands National Wildlife Refuge Complex Office, and the Office of Hawaiian Affairs (OHA). In addition, the permit application has been posted on the Monument Web site, giving the public an opportunity to comment. The application was posted within 40 days of its receipt, in accordance with the Monument's Public Notification Policy.

Exemption Determination: After reviewing §11-200.1-15, HAR, including the criteria used to determine significance under §11-200.1-13, HAR, DLNR has concluded that the activities under this permit would have minimal or no significant effect on the environment and that issuance of the permit is categorically exempt from the requirement to prepare an environmental assessment based on the following analysis:

1. All activities associated with this permit have been evaluated as a single action. Since this permit involves an activity that is precedent to a later planned activity, i.e., the same methodology used throughout the permit period, the categorical exemption determination here will treat all planned activities as a single action under §11-200.1-10, HAR. This permit may involve an activity that is precedent to a later planned activity, i.e. the continued removal of sharks next year if thirteen (13) sharks are not removed this year, or removal of twenty (20) sharks in total over a multi-year period since the project's inception. Subsequent activities will depend largely on the results achieved under this permit.

2. The General Exemption Type #5 for Basic Data Collection, Research and Experimental Management with no Serious or Major Environmental Disturbance Appears to Apply. §11-200.1-16 (a) (1) and §11-200.1-16 (a) (2), HAR, exempts the class of actions that involve "basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource." This exemption type has been interpreted to include the conservation and management activities conducted by NOAA NMFS Pacific Islands Fisheries Science Center (PIFSC) Hawaiian Monk Seal Research Program (HMSRP) for monitoring and recovery of the Hawaiian monk seal, such as those being proposed.

The proposed activities here appear to fall squarely under the general exemption type identified under HAR §11-200.1-16 (a) (1) and §11-200.1-16 (a) (2), as described under the revised 2020 DLNR Exemption List (Concurred on by the Environmental Council on November 10, 2020), under the general exemption type #5 (Part 1), items #13 and #15 and (Part 2), item #4, which includes, respectively, "research that the Department declares is designed specifically to monitor, conserve, or enhance native species or native species' habitat", "game and non-game wildlife surveys, vegetation and rare plant surveys, aquatic life surveys, inventory studies, new transect lines, photographing, recording, sampling, collection, culture, and captive propagation" and "experimental management actions that the Department declares are designed specifically to monitor, conserve, or enhance native species or native species' habitat."

The Applicants would follow Monument Best Management Practices (BMPs) to mitigate threats activities could have on listed species, sea birds, and terrestrial birds. The BMPs include Best Management Practices for Human Hazards to Seabirds (BMP#003); Boat Operations and Diving Activities (BMP #004); The Laysan Finch Protocol (BMP 005); Special Conditions and Rules for Moving Between Islands/Atolls and Packing for Field Camps (BMP#007); Best Practices for Minimizing the Impact of Artificial Light on Sea Turtles (BMP#009); Marine Wildlife Viewing Guidelines (BMP #010); Disease and Introduced Species Prevention Protocol for Permitted Activities in the Marine Environment (BMP #011); Precautions for Minimizing Human Impacts on Endangered Land Birds (BMP 012); Best Management Practices for Maritime Heritage Sites (BMP#017); and Best Management Practices to Minimize the Spread of *Chondria tumulosa* (BMP #20). Bycatch would be expected to be minimal based on experience from previously approved permits from 2010 to 2015 (PMNM-2012-013 and PMNM-2013- 017, PMNM-2014-023, PMNM-2015-009) and research done by Meyer in 2009 (PMNM-2009-009 and PMNM-2009-036). To avoid the misidentification between Galapagos sharks and grey reef sharks, the minimum size requirement would be set to about 160 cm for removal and an absence of the dorsal ridge seen in grey reef sharks.

As discussed below, no significant disturbance to any environmental resource is anticipated. Thus, so long as the below considerations are met, the general exemption types should include the action now contemplated.

3. Cumulative Impacts of Actions in the Same Place and Impacts with Respect to the Potentially Particularly Sensitive Environment Will Not be Significant. Even where a categorical exemption appears to include a proposed action, the action cannot be declared exempt if "the cumulative impact of planned successive actions in the same place, over time, is significant, or when an action that is normally insignificant in its impact on the environment may be significant in a particularly sensitive environment." §11-200.1-15 (d), HAR. To gauge whether a significant impact or effect is probable, an exempting agency must consider every phase of a proposed action, any expected primary and secondary consequences, the long-term and short-term effects of the action, the overall and cumulative effect of the action, and the sum effects of an action on the quality of the environment. §11-200.1-13, HAR.

This project would continue shark removal activities that were undertaken in 2007 and 2010 to 2020, under permits (in earlier years, shark removal activities were authorized under separate permits from monk seal activities – therefore some permit numbers differ from monk seal management permit numbers) PMNM-2007-025, PMNM-2010-014, PMNM-2011-007, PMNM-2012-013, and PMNM-2013-017, PMNM-2014-023, PMNM-2015-009, PMNM-2016-008, PMNM-2018-014, PMNM-2020-006 (monk seal teams not deployed due to COVID), PMNM-2021-015 and PMNM-2022-002; these activities had no deleterious effects on Monument resources. Possible adverse effects on the coral reef ecosystem at French Frigate Shoals (FFS) from shark removals were investigated using the EcoSim model (Parrish, NMFS). Results from that work indicated that the removal of 20 sharks had a nearly imperceptible effect on the dynamics of the FFS ecosystem. With that in mind, significant cumulative impacts are not anticipated as a result of this activity, and numerous safeguards further ensure that the potentially sensitive environment of the project area will not be significantly affected. All activities will be conducted in a manner compatible with the management direction of the Monument Proclamation in that the activities do not diminish monument resources, qualities, and ecological integrity, or have any indirect, secondary, cultural, or cumulative effects. The joint permit

review process did not reveal any anticipated indirect or cumulative impacts that would occur as a result of these activities. These activities would be conducted from the seasonal monk seal field camp based on FFS. The operation of the field camp, and associated monitoring activities, are additionally covered under the Co-Trustee's permit PMNM-2023-001.

Since no significant cumulative impacts or significant impacts with respect to any particularly sensitive aspect of the project area are anticipated, the categorical exemptions identified above should remain applicable.

4. Overall Impacts will Probably have a Minimal or No Significant Effect on the Environment. Any foreseeable impacts from the proposed activity will probably be minimal, and further mitigated by general and specific conditions attached to the permit. Specifically, all research activities covered by this permit 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.

Conclusion. Upon consideration of the permit to be approved by the Board of Land and Natural Resources, the potential effects of the above listed project as provided by Chapter 343, HRS and Chapter 11-200.1 HAR, have been determined to be of probable minimal or no significant effect on the environment and exempt from the preparation of an environmental assessment.

Attachment A
LIST OF CONSERVATION AND MANAGEMENT ACTIVITIES COVERED UNDER PRIOR CO-TRUSTEES' PERMITS TO BE INCLUDED

Abbreviations for purposes of this List:

BRAC = Base realignment and closure
C&M = Conservation and Management
ESA = Endangered Species Act
FUDS = Formerly used defense sites
FWS = U.S. Fish and Wildlife Service
GPS = global positioning system
IRT = Innovative readiness training
LIDAR = light detection and ranging
MASMA = Midway Atoll Special Management Area
MMB = Monument Management Board
Monument = Papahanaumokuakea Marine National Monument
NHPA = National Historic Preservation Act
NMFS = National Marine Fisheries Service
NOAA = National Oceanic and Atmospheric Administration
NWHI = Northwestern Hawaiian Islands
OHA = Office of Hawaiian Affairs
ROY = remotely operated vehicle
SCUBA= self-contained underwater breathing apparatus
SPA= special preservation areas[1] as defined in 50 CFR § 404.3
STATE= State of Hawaii
UAV = unmanned aerial vehicles

Note the proposed activities listed in the final permit application have been rearranged and restated for brevity. The activities to be covered under this conservation and management permit have been previously approved in prior Co-Trustee permits under the following basic categories (in bold) as follows:

ENTRANCE

1. The permit applicants, their designated agency staff, volunteers, contractors, and Midway Atoll National Wildlife Refuge residents necessary for permitted activities, may enter Papahānaumokuākea Marine National Monument (see Attachment #1, Permitted Personnel List). All personnel must be identified and information provided to the Monument permit coordinators prior to each entry into the Monument. The permit applicants shall ensure that all personnel assigned to conduct conservation and management activities authorized under this permit are fully qualified to perform in the assigned role(s) and shall be limited to the scope of

[1] Proclamation 8031 identifies a SPA as a discrete, biologically important area of the Monument. Uses are subject to additional conditions (e.g., avoid concentrations of uses resulting in population declines, user conflicts, and protect critical areas to sustain important marine species/habitats. or provide opportunities for scientific research.

actions set forth in this permit and all other applicable policies, protocols, permits, and regulations. (ALL MMB AGENCIES)

OPERATIONS

2. Operating field stations of the National Wildlife Refuge System (NWRS) and the State of Hawai‘i Kure Atoll State Wildlife Sanctuary, necessary for meeting mission and purposes of refuges and the Monument in support of on-site management and resource conservation including but not limited to: (STATE) (FWS)

    a. Maintaining and repairing/replacing facilities and their components (e.g., carpentry, electrical, plumbing, welding, general construction); (STATE) (FWS)

    b. Building and other facilities deconstruction and reconstruction; (STATE) (FWS)

    c. Maintaining airport and airstrips, including improvements such as runway lighting replacement, taxiway maintenance (including repaving, and painting/marking); (STATE) (FWS)

    d. Painting, including all preparation work such as scraping, washing, etc.; (STATE) (FWS) and

    e. Lead-based paint soil remediation, including removing sand/soil from around many or all affecting buildings and proper on-site containment of this material. (STATE) (FWS)

3. Supporting and re-supplying field camps and field stations, including but not limited to, delivery and removal of supplies, people, waste, and/or assets necessary for operations. (ALL MMB AGENCIES)

4. Operating vessels to provide access for conservation and management activities. Authorized vessel operations shall include, but are not limited to:

    a. Operating small boats for vessel maintenance and proficiency; (ALL MMB AGENCIES)

    b. Anchoring of the authorized vessels on sandy substrate only, and all anchors must be lowered into place; (ALL MMB AGENCIES)

    c. Discharging gray water outside of all Special Preservation Areas and the Midway Atoll Special Management Area; (ALL MMB AGENCIES) and

    d. Discharging biodegradable solid waste associated with galley operations restricted to 3 nautical miles (ground to 1 inch in diameter) and 12 nautical miles (unground) outside of all Special Preservation Areas and the Midway Atoll Special Management Area. (ALL MMB AGENCIES)

5. Possessing fishing gear to conduct sustenance fishing for pelagic species within Midway Atoll Special Management Area (MASMA) in accordance with the Monument Management Board Policy on Sustenance Fishing (Attachment #2). (ALL MMB AGENCIES)

6. Operating aircraft and airfields, including necessary maintenance and use of airfields and runways at Midway Atoll and Tern Island, French Frigate Shoals. (FWS)

7. Conducting on-site reviews and operational evaluations including, but not limited to: (ALL MMB AGENCIES)

    a. On-site reviews by management and congressional personnel; (ALL MMB AGENCIES)

    b. Agency site visits and meetings for management planning and programmatic assessments; (ALL MMB AGENCIES) and

    c. On-site management and safety reviews to gauge implementation and effectiveness of Monument management and programs. (ALL MMB AGENCIES)

8. Conducting personnel safety, fitness, and health maintenance including, but not limited to: (ALL MMB AGENCIES)

    a. Biking, swimming, and jogging at Tern Island, French Frigate Shoals, and Midway Atoll; and (ALL MMB AGENCIES)

    b. Conducting health and safety activities for all personnel, including but not limited to: site safety reviews, adverse weather and emergency response procedures, safety protocols, and continuation of operation plans. (ALL MMB AGENCIES)

RESOURCE SURVEY AND MONITORING

9. Swimming, snorkeling, and closed or open circuit SCUBA diving within any Special Preservation Area of the Midway Atoll Special Management Area, necessary to support conservation and management activities covered under this permit. (ALL MMB AGENCIES)

10. Touching coral, living or dead, necessary to support conservation and management activities covered under this permit. (ALL MMB AGENCIES)

11. Attracting any living Monument resource, necessary to support conservation and management activities covered under this permit. (ALL MMB AGENCIES)

12. Surveying and monitoring target species and habitats to evaluate trends and status for management purposes. Activities in direct support of management, monitoring, and characterization may include: (ALL MMB AGENCIES)

    a. Placing scientific equipment or drilling into submerged and emergent lands in order to install scientific equipment, devices, markers, oceanographic instrument arrays, unmanned aerial systems, remotely operated camera systems, and remote viewing

camera systems on submerged or emergent lands, and performing necessary maintenance activities on such equipment; (NOAA) (STATE) (FWS)

b. Collecting climatological data and necessary scientific information from on-site equipment; (NOAA) (STATE) (FWS)

c. Photographing and filming as necessary to document Monument resources; (ALL MMB AGENCIES)

d. Non-lethal marking and tagging for monitoring purposes; (ALL MMB AGENCIES) Note: Prior to authorization to conduct work which may result in the "take" of a protected species, a separate ESA/MMPA permit shall be required. (NOAA) (STATE) (FWS)

e. Visual, non-invasive marking and tagging for monitoring purposes; (ALL MMB AGENCIES) and

f. Physical surveying of and sampling from landfills, storage tanks, contamination sites, or other potentially hazardous materials associated with current and former occupation and use of the Northwestern Hawaiian Islands (NWHI); (NOAA) (STATE) (FWS) and

g. Visual, acoustic, and/or aerial (including UAS) surveys to estimate the abundance and distribution of cetaceans in the NWHI. Note: Prior to authorization to conduct cetacean surveys, which may result in the "take" of a protected species, a separate ESA/MMPA permit shall be required. (NOAA) (STATE) (FWS)

13. Removing, moving, taking, harvesting, possessing, injuring, disturbing, or attempting to remove, move, take, harvest, possess, injure, or disturb biological, chemical, or geological samples for analysis in support of activities under approved management plans, restoration or recovery plans, and for base line inventory and monitoring of population trends and habitat conservation and management. (ALL MMB AGENCIES)

14. Removing, moving, taking, harvesting, possessing, or attempting to remove, move, take, harvest, or possess a set number of any visually observable marine organism morphotype (except mammals) or terrestrial plant morphotype (including fungi), which cannot be visually identified or may represent a new geographic record or new species, with the set number based upon the per island/atoll abundance criteria below: (ALL MMB AGENCIES)

    a. One (1) specimen can be taken, removed, or possessed if in abundance assessment cannot be ascertained, or less than ten (10) such specimens are present, cumulative during the course of the collection event per island and atoll; (ALL MMB AGENCIES)

    b. Up to three (3) specimens can be taken, removed, or possessed if an abundance assessment of ten (10) or more such specimens is ascertained, cumulative during the course of the collection event per island or atoll; (ALL MMB AGENCIES) and

    c. For clonal organisms that cannot be visually identified or may represent a new geographic record or new species, take shall be limited to no more than half the clonal

organism visually observed. Up to three (3) clonal specimens of similar morphology can be taken, removed, or possessed if an abundance assessment of ten (10) or more of such specimens is ascertained, cumulative during the course of the collection event per island or atoll. (ALL MMB AGENCIES)

15. Conducting habitat mapping for the production of accurate, high-resolution base maps with methods to include: (ALL MMB AGENCIES)

    a. Data collecting to include optic, acoustic, and metal detector technologies, as well as land and dive operations, including the use of a remotely operated vehicle (ROV), for ground truthing; (ALL MMB AGENCIES) and

    b. Global Positioning System (GPS) mapping and Light Detection and Ranging (LIDAR) work. (ALL MMB AGENCIES)

NATURAL RESOURCE PROTECTION, RESTORATION, AND REMEDIATION

16. Conducting management actions necessary to understand and carry out protection, restoration, and remediation of species and habitats, such as carrying out existing species recovery and restoration plans (ALL MMB AGENCIES). Research and enhancement activities on or around the Hawaiian monk seal will be separately permitted and are not covered herein. Activities may include the following for all flora and fauna species present in PMNM, except the Hawaiian monk seal, which requires a separate NMFS ESA permit, except in cases where disentanglement or another emergency or health response is necessary:

    a. Conducting wildlife disentanglement, health response (including treatment and necropsy), and translocation activities according to existing species recovery plans; (NOAA) (STATE) (FWS) Note: Activities on or around species on the Endangered Species list, the appropriate lead agency shall be consulted prior to taking action)

    b. Conducting population augmentation or reestablishment activities such as capture, translocation, reintroduction, and outplanting; (ALL MMB AGENCIES) Note: Activities on or around species on the Endangered Species list, the appropriate lead agency shall be consulted prior to taking action)

    c. Conducting invasive species controls by mechanical, chemical and manual methods as needed; (ALL MMB AGENCIES) Note: Activities on or around species on the Endangered Species list, the appropriate lead agency shall be consulted prior to taking action) and

    d. Investigating and monitoring of contamination in abiotic or biotic resources. (NOAA) (STATE) (FWS) Note: Activities on or around species on the Endangered Species list, the appropriate lead agency shall be consulted prior to taking action)

17. Removing marine debris, trash, and other materials (land and ocean-based) that pose threats to Monument resources, including but not limited to derelict fishing gear. Activities may include: (ALL MMB AGENCIES)

a. Disentangling wildlife from marine debris and other materials by authorized personnel; (NOAA) (STATE) (FWS) Note: Activities occurring on or around species on the Endangered Species list shall consult the appropriate lead agency prior to taking action.

b. Tracking debris via drifter buoys and Unmanned Aerial Vehicles; (NOAA) (STATE) (FWS)

c. Monitoring of sites that have been cleared of debris for recovery rates and effects of removal; (ALL MMB AGENCIES)

d. Locating and removing debris and hazardous materials. This may be through interagency agreements, such as the Department of Defense (DOD) Innovative Readiness Training (IRT), Formerly Used Defense Sites (FUDS), or the Base Realignment and Closure (BRAC) Programs. Efforts may include activities such as seafloor and island mapping, reconnaissance and removal of materials, and derelict vessel salvage and removal; (ALL MMB AGENCIES) and

e. Removal of sessile encrusting flora and fauna associated with marine debris. (ALL MMB AGENCIES)

18. Providing emergency response and damage assessment, mitigation, restoration, and monitoring post-response management. (ALL MMB AGENCIES) Activities may include:

    a. Conducting damage assessment, mitigation, restoration, monitoring, and post-response management in coordination with appropriate federal and/or state resource agencies and, as appropriate, consistent with NOAA, FWS, and State of Hawai‘i Damage Assessment and Restoration regulations, policies, and procedures (e.g., oil spills, ship groundings, tsunami-generated marine debris, damage assessments, monitoring alien species, monitoring coral bleaching events, collection of bleached coral or alien species); (ALL MMB AGENCIES) and

    b. Conducting activities in response to an unusual mortality event (including but not limited to threatened and endangered species, marine mammals, and migratory birds) mass stranding or other urgent species response. (NOAA) (STATE) (FWS) Note: Activities occurring on or around species on the Endangered Species list shall consult the appropriate lead agency prior to taking action.

CULTURAL AND HISTORICAL RESOURCE IDENTIFICATION AND PROTECTION

19. Removing, moving, taking, harvesting, possessing, injuring, disturbing; or attempting to remove, move, take, harvest, possess, injure, or disturb post-contact artifacts as needed, subject to National Historic Preservation Act (NHPA) consultation when applicable, for the purpose of identifying, documenting, interpreting, preserving, and protecting the Monument’s cultural and historic resources. (ALL MMB AGENCIES)

20. Monitoring and surveying historic sites. (ALL MMB AGENCIES)

21. Conducting or allowing for the preservation and conservation of artifacts subject to successful NHPA Section 106 consultation and appropriate approvals from other Federal agencies (e.g., U.S. Navy), when applicable. (ALL MMB AGENCIES)

22. Non-commercial filming and photographic activities for the purposes of further documenting and capturing the history of the NWHI. (ALL MMB AGENCIES)

23. Locating historic artifacts using passive side scan sonar, metal-detector, or (land-based) ground penetrating radar. (ALL MMB AGENCIES)

24. Returning of any previously collected samples to appropriate areas in Papahānaumokuākea with proper cultural and biological protocols and in coordination with appropriate federal and/or state resource agencies and community partners, including OHA and the Papahānaumokuākea Native Hawaiian Cultural Working Group, as appropriate. (ALL MMB AGENCIES)

25. Recording of atmospheric, celestial, biological, and other environmental observations for the purpose of developing and understanding natural trends, changes and cycles. (ALL MMB AGENCIES)

26. Conducting native Hawaiian cultural protocols and ceremonies, including offering of culturally and biologically appropriate hoʻokupu in accordance with Monument regulations and Best Management Practices. (ALL MMB AGENCIES)

27. Removing, moving, taking, harvesting, possessing, injuring, disturbing; or attempting to remove, move, take, harvest, possess, injure, or disturb non-living culturally significant natural materials acquired during Monument operations and activities for cultural ceremony, practices and education. (ALL MMB AGENCIES)

28. Transferring culturally significant natural materials acquired during Monument operations and activities to Hawaiian cultural practitioners, in coordination with appropriate federal and/or state resource agencies and community partners, including OHA and the Papahānaumokuākea Native Hawaiian Cultural Working Group, and with the appropriate transfer documents and required permits. (ALL MMB AGENCIES)

29. Maintaining, preserving, caring for, and perpetuating Native Hawaiian wahi kūpuna (cultural sites) and iwi kūpuna (ancestral bones) in accordance with proper cultural protocols and consultation per the NHPA, Native American Graves Protection and Repatriation Act, Archeological Resources Protection Act, American Indian Religious Freedom Act and applicable sections of the Hawaiʻi State Constitution, Hawaiʻi Revised Statutes and Hawaiʻi Administrative Rules. (ALL MMB AGENCIES)

30. Conducting activities necessary for maintaining and preserving historic sites on Midway Atoll. (ALL MMB AGENCIES)

OUTREACH AND EDUCATION

31. Gathering information and experiences from personnel within the Monument to develop agency web pages, Navigating Change projects, and other Monument educational outreach products. (ALL MMB AGENCIES)

32. Removing, moving, taking, harvesting, possessing, injuring, disturbing; or attempting to remove, move, take, harvest, possess, injure, or disturb non-living debris and biological samples and specimens such as albatross boluses and carcasses for educational and/or outreach projects. (ALL MMB AGENCIES)

33. Transferring educational and outreach materials (e.g., albatross boluses or other non-living debris or biological samples) shall be according to one of the following categories, subject to all applicable permits and Monument Management Board (MMB) approved transfer documents: (ALL MMB AGENCIES)

    a. *Internal transfers*. Transfers among the MMB agencies provided such educational and/or outreach material shall remain within the custody of the MMB. (ALL MMB AGENCIES)

    b. *External transfers*. Transfers outside of the MMB agencies if authorized in writing, to government agencies and accredited educational institutions, for the purpose of cultivating, informing, or involving constituencies that support or enhance conservation of the natural, cultural, and historic resources of the Monument. (ALL MMB AGENCIES)

    c. *Loan Transfers*. Loans of biological samples or specimens, which must be returned to the MMB with a specified time frame and are subject to conditions stipulated in writing, to government agencies and accredited educational institutions for the purpose of supporting educational or outreach projects that enhance conservation of the natural, cultural, and historic resources of the Monument. (ALL MMB AGENCIES)

34. Conducting news media and VIP site visits to enhance public knowledge and understanding of Monument resources. (ALL MMB AGENCIES)

35. Conducting environmental, cultural, and historical education programs throughout the Monument by designated agency staff and contractors. (ALL MMB AGENCIES)

HAWAIIAN MONK SEAL CONSERVATION AND MANAGEMENT ACTIVITIES

36. Conducting the following population monitoring activities:

    a. Conducting seal assessments by visually identifying animals, and marking and tagging animals; (NOAA)

    b. Instrumenting seals including but not limited to mounted cameras and telemetry tags. (NOAA)

37. Operating unmanned aircraft systems (UAS) to assist in monitoring Hawaiian monk seal population. (NOAA)

38. Traversing Mokumanamana to conduct population assessment surveys only when full surveys cannot be completed by boat landing or UAS operations. (NOAA)

39. Placing acoustic recording devices on submerged sandy substrate to capture underwater vocalizations of Hawaiian monk seals. (NOAA)

40. Installing trail cameras in terrestrial areas at to monitor animal behavior. (NOAA)

41. Disentangling monk seals from marine debris. (NOAA)

42. Conducting health surveillance and response, including but not limited to cutting umbilical cords, antihelminthic treatments, lancing abscesses, administering antibiotics and vaccinations, responding to disease outbreaks, necropsy and collecting/archiving/transferring samples for further research and diagnostic collaboration. (NOAA)

43. Translocating Hawaiian monk seals, consisting of the following types:

    a. *Intra-atoll*: These translocations will include moving seals from areas of high risk where threats are imminent to safer areas and moving pups to promote maternal fostering when necessary. Field staff will perform these movements; greater resources (e.g., veterinarian care) will not typically be necessary. (NOAA)

    b. *Inter-atoll*: These translocations will include transport of weaned female pups from atolls/islands of low survival to those of higher survival. (NOAA)

    c. *MHI-NWHI*: These translocations will include transport of main Hawaiian Island (MHI) seals that are considered a threat to themselves or humans because they have demonstrated a pattern of interacting with humans. (NOAA)

    d. *NWHI-captive care*: Seals may be taken into temporary captivity for treatment at appropriate, federally permitted rehabilitation facilities in the MHI for release back in the NWHI (i.e., permitted for captive care of injured, ill or prematurely weaned seals). (NOAA)

    e. Aggressive male seal translocation to areas with no pups or juveniles. (NOAA)

44. Reuniting nursing mothers and pups, when separated (includes instances of pup switches). (NOAA)

45. Mitigating male aggression towards pups and juveniles (individual and multiple male-based aggression), including utilizing all federally permitted techniques (including, but not limited to, poles, rocks, slingshots, and air horns). Mitigation tools shall be applied as appropriate for the given context (i.e., the intensity, severity and frequency of aggression

and the location, with regard to other species in the area such as birds). Mitigation may include temporarily separating males from juveniles by placing either in temporary shore-pens (see below). Mitigation also may include removal of the male(s) from the area by:

a. Translocation to a location where no pups or juveniles will be harmed; (NOAA)

b. Placement in an appropriate, federally permitted facility that is agreeable and permitted to care for a male indefinitely; (NOAA)

c. Lethal removal: this type of removal will only be applied when the above two options are not feasible, possible or exhausted. The preferred technique for euthanasia will be via physical means (e.g., firearm, captive bolt, etc.), in order for the carcass to remain in PMNM and for culturally appropriate and environmentally proper disposal to occur. When necessary, chemical euthanasia and removal of the carcass from PMNM will be allowed. (NOAA)

46. Conducting captive care of compromised seals to administer veterinary care and/or food supplementation. Captive care may include the capture and transport of seals to shore-pens (in the NWHI) or facilities in the MHI. NWHI seals under care in the MHI may be returned to the NWHI when a licensed veterinarian deems them rehabilitated and transport is feasible. The seals will then be released to the NWHI site deemed most appropriate for their subsequent survival (determined on the basis of such factors as the intensity and severity of imminent threats to the seals and recent survival trends at each atoll/island). (NOAA)

47. Monitoring shark activity at French Frigate Shoals. Monitoring may include camping on islets with shark incidents on nursing pups and recording shark activity and shark-seal interactions via hand-held or mounted cameras (cameras will be mounted on a pole 15’ or less with no guy wires to be used only during the field season and attended daily by field staff). (NOAA)

48. Placing temporary shore-pens at select NWHI breeding sites to facilitate monk seal recovery activities described here within (e.g., translocations, captive care, and male aggression mitigation). (NOAA)

49. Attracting Monument living marine resources using baited hooks, with bait to include fish parts (brought from outside the Monument), shark remains (obtained from permitted activities), and salvaged monk seal tissues (obtained from deceased monk seals at French Frigate Shoals and brought from outside the Monument). (NOAA)

50. Removing, moving, taking, possessing, injuring, or disturbing; or attempting to remove, move, take, possess, injure, or disturb up to **13** Galapagos sharks (*Carcharhinus galapagensis*) within a distance of 700 meters from the shorelines of Trig, Gin, Little Gin and Round islets in consultation with OHA and the Papahānaumokuākea Native Hawaiian Cultural Working Group. Only Galapagos sharks with a minimum size of 2 meters (6.5 feet) tail length or greater shall be lethally removed. Permittees are required to safely

release Galapagos sharks smaller than the minimum size limit as well as all other non-target species. The following four removal methods are authorized:

a. Deploying a *hand-held harpoon* from shore or small boat when a targeted Galapagos shark is observed. Targeted shark shall then be hauled on shore or alongside a small boat for humane euthanasia using a .44 caliber bang stick. (NOAA)

b. Deploying a baited *handline* from shore or small boat. Targeted shark caught shall then be hauled on shore or alongside a small boat for humane euthanasia using a .44 caliber bang stick. (NOAA)

c. Deploying *bottomsets*, where each bottomset shall have a maximum of ten baited hooks and a buoy line at the top and an anchor (9-12 lb) at the bottom. All bottomset gear shall be deployed only on sandy substrate and shall be closely monitored by field project personnel. (NOAA)

d. Deploying *drumlines*, where each drumline shall consist of a single baited hook and drum-buoy with gear configuration to allow baited hook to rest on the bottom or suspended above the seafloor. All drumline gear shall be deployed only on sandy substrate and shall be closely monitored by field project personnel. (NOAA)

51. Possessing fishing gear in support permitted activities, within a distance of 700 meters from the shorelines of Trig, Gin, Little Gin, and Round islets. All fishing gear shall be monitored closely to prevent mortality of non-target species. (NOAA)

52. Placing anchors on submerged lands that are part of authorized fishing gear. All anchors shall be placed on sandy substrate and all anchors removed when fishing gear is retrieved. (NOAA)

53. Conducting necropsies on euthanized Galapagos sharks on Tern Island, FFS for the purpose of obtaining morphometric measurements, reproductive state, and removing samples of muscle, liver, vertebrae, and gut contents for scientific analyses. (NOAA)

54. Discharging of Galapagos shark remains (post-necropsy) at a distance of approximately 0.5 miles seaward from the FFS breaking reef. Global Positioning System (GPS) coordinates shall be recorded at each carcass discharge site. One carcass, including any lethal by-catch shall be disposed of at each site. (NOAA)

55. Transferring necropsy samples from Galapagos shark remains to researchers for scientific analyses:
    a. Diet analysis through isotope screening (vertebrae) (NOAA)
    b. Diet analysis through fatty acid profiles (liver) (NOAA)
    c. Ciguatera and mercury level testing (muscle and liver) (NOAA)
    d. DNA analysis from fin clip and stomach contents, if available (NOAA)

56. Transferring biological samples (e.g., teeth and skin) for cultural purposes to practitioners shall occur only to such persons conducting protocol in PMNM. (NOAA)

57. Erecting temporary polyvinyl tents for housing monk seal field teams at French Frigate Shoals, Laysan, Lisianski, Pearl and Hermes and Kure. One tent at each site may have a radio antenna extending upwards <10ft. (NOAA)

More Information on Monk Seal Conservation, Management, Research and Recovery Activities

The following list of activities is intended to promote the recovery of the Endangered Hawaiian monk seal at any or all breeding sites in the NWHI. For more information about these activities please consult the MMPA/ESA Permit 22677. Activities may include:

A) Conservation Research Activities

i. Population Monitoring.

a. Conducting seal assessments by visually identifying animals, marking animals, flipper tagging, pit tagging and other techniques approved under MMPA/ESA permit 22677 will occur across the NWHI.

b. Deploying field staff in camps for days to months at a time at Lalo, Kamole, Kapou, Manawai, Hōlanikū or Kuaihelani.

c. Instrumentation of seals for post release monitoring or understanding ecology and behavior of monk seals will include seal mounted cameras, telemetry tags or other technology approved under MMPA/ESA permit 22677.

d. Use UAS (APH-22 hexacopter or Mavic Pro GE) to monitor Hawaiian monk seal populations (including counts, individual identification, body condition assessment), marine debris, and possibly other flora and fauna on or around islets in the monument.

The APH-22 has a pilot in command (PIC) and a ground station operator (GSO) visual observer (VO) and is launched from land or the GSO/VO's hand. The Mavic Pro Ge is a vertical take-off and landing UAS that can be launched from land or boat but does not necessitate the use of a ground station or GSO. Operation of the Mavic Pro GE will also involve a VO other than the PIC. Once any UAS is launched, the VO monitors the UAS flight and scans the sky to see if there is any air traffic or bird activity requiring the landing of the UAS. The UAS will fly for a maximum of 30 minutes and will remain at all times within the pilot's visual line of sight and less than 0.5-nm.

General Operation Guidelines will include:

- Operation in daylight hours only.
- Operation in winds less than 25kts.
- Only NOAA Certified Pilots trained specifically for the APH-22 or the Mavic Pro GE will operate the system.
- Pilots will minimize multiple takeoffs and landing in a single location if birds are present to minimize repeat disturbance to birds.

DJI Mavic Pro GE Specifications:

- Body: Quadcopter with 4 foldable arms
- Diagonal size (excluding propellers): 13.2" (335mm)
- Weight (including battery and propellers: 1.62 lbs (734 g)
- Max Flight Time: 27 minutes
- Range, Physical: 8 miles (13km, no wind)
- Range, Max Transmission: 4.3 mi (7km)
- Payload: Integrated camera on gimbal
- Max Speed: 40 mph (65 kph)

For Mokumanamana visits, the researchers will follow all appropriate Mokumanamana and PMNM Best Practices, as well as adhere to these General Guidelines:

- Only traverse Mokumanamana when full surveys cannot be completed by multiple boat landings or UAS activities.
- A qualified and experienced Resource Monitor would be present.
- Minimum number of personnel would go ashore and undertake the hike.

e. Deployment of acoustic recording devices to capture underwater vocalizations of Hawaiian monk seals.

Passive acoustic monitoring via SoundTraps is a non-invasive method for studying underwater sounds. This study will use two SoundTrap ST500 HF underwater acoustic recorders at two sites (Lalo and Manawai) to record the underwater vocalizations of Hawaiian monk seals and seasonal trends in their typical aquatic soundscape. It is important for increasing the baseline knowledge of their communication system and for measuring the level of man-made noise they encounter. Assessing the impacts of man-made sound on monk seal communication can inform conservation decisions, particularly the development of noise mitigation measures and population monitoring through passive acoustics.

The first year of deployment (2021) was successful in obtaining underwater vocalization data and thus this project continued into 2022 and expects to continue into 2023 with no modifications.

Other monk seal directed research as needed and authorized by MMPA/ESA permit 22677. All projects will be captured as a memo to file to ensure PMNM MMB is informed of all monk seal conservation research activities.

B) Recovery Interventions

i. Disentanglement of monk seals from marine debris;

ii. Health response, including but not limited to cutting umbilical cords, lancing abscesses, administering antibiotics, vaccinating animals and responding to disease outbreaks, and necropsy;

iii. Anthelmintic treatment ('deworming') by field staff, which may include monitoring to detect improvement in body condition of treated seals versus control seals. Anthelmintic medications may include various cestodicides and nematocides (e.g. praziquantel, fenebendazole, ivermectin, emodepside) applied via various routes (e.g. oral, injectable, topical);

iv. Translocation, consisting of the following types:

a. Intra-atoll: These translocations will include moving seals from areas of high risk where threats are imminent to safer areas, and moving pups to promote maternal fostering when necessary. Field staff will perform these movements; greater resources (e.g. veterinarian care) will not typically be necessary.

b. Inter-atoll: These translocations will include transport of weaned female pups from atolls/islands of low survival to those of higher survival.

c. MHI – NWHI: These translocations will include transport of main Hawaiian Island (MHI) seals that are considered a threat to themselves or humans because they have demonstrated a pattern of interacting with humans.

d. NWHI-captive care: Seals may be taken into temporary captivity for treatment at appropriate, federally permitted rehabilitation facilities in the MHI for release back in the NWHI (i.e. permitted for captive care of injured, ill or prematurely weaned seals) (see below).

e. Aggressive male seal translocations to areas with no pups or juveniles (see below);

v. Reunion of nursing mothers and pups, when separated (includes instances of pup switches);

vi. Mitigation of male aggression towards pups and juveniles (individual and multiple male-based aggression), including utilizing all federally permitted techniques (including, but not limited to, poles, rocks, slingshots and air horns). Mitigation tools will be applied as appropriate for the given context (i.e. the intensity, severity and frequency of aggression and the location, with regard to other species in the area such as birds). Mitigation may

include temporarily separating males from juveniles by placing either in temporary shore-pens (see below). Mitigation also may include removal of the male(s) from the area by:

a. Translocation to a location where no pups or juveniles will be harmed;

b. Placement in an appropriate, federally permitted facility that is agreeable and permitted to care for a male indefinitely; or

c. Lethal removal; this type of removal will only be applied when the above two options are not feasible, possible or exhausted. The preferred technique for euthanasia will be via physical means (e.g. firearm, captive bolt, etc.), in order for the carcass to remain in PMNM and for culturally appropriate and environmentally proper disposal to occur. When necessary, chemical euthanasia and removal of the carcass from PMNM will be allowed;

vii. Rehabilitation and care of compromised seals to administer veterinary care and/or food supplementation. Captive care may include the capture and transport of seals to shore-pens (in the NWHI) or facilities in the MHI. The researchers will aim to return NWHI seals under care in the MHI to the NWHI when a licensed veterinarian deems them rehabilitated and transport is feasible. The seals will then be released to the NWHI site deemed most appropriate for their subsequent survival (determined on the basis of such factors as the intensity and severity of imminent threats to the seals and recent survival trends at each atoll/island);

viii. Monitoring shark activity at French Frigate Shoals. Monitoring may include camping on islets with shark incidents on nursing pups and recording shark activity and shark-seal interactions via hand-held or mounted cameras (cameras will be mounted on a pole 15' or less with no guy wires to be used only during the field season and attended daily by field staff);

ix. Placement of temporary shore pens at selected NWHI breeding sites to facilitate monk seal recovery activities described here within (e.g. translocations, captive care, or male aggression mitigation); and

x. Establishment of field staff residence at all monk seal breeding sites to perform the monk seal activities described here within.

a. In 2021, the researchers began a project to incorporate the Huli ʻIa into their field camps which is intended to extend into 2023 and beyond. The intent is to open dialogue and recognize, record and ultimately share seasonal observations about Papahānaumokuākea made when teams are deployed.

xi. Collect and remove marine debris, trash, and other materials (land and ocean-based) that pose threats to Monument resources, including but not limited to derelict fishing gear and following Monument BMPs (especially BMP # 005, 007, 011 and 020 for *Chondria* mitigation at Manawai and Kuahelani).

a. Disentanglement of threatened and endangered species by authorized personnel, monitoring of sites that have been cleared of debris for recovery rates and effects of removal;

b. Location and removal of debris. The team will cooperate with partners leading marine debris efforts on how to best integrate and support their activities. Of particular note: *If* any debris removal activities do occur at Manawai and Kuahelani, the researchers will abide by best practices for *Chondria* biocontrol and work with the State and other partners to ensure coordination and compliance with those practices.

xii. Shark Predation Mitigation Activities:

a. Fishing personnel and location: A team of 3-5 staff experienced and trained in safe and effective methods for shark fishing/removal will be tasked with monitoring and removal of Galapagos sharks that they encounter within 700m of shore of any islet at Lalo where predatory behavior is observed. As such, **capturing sharks will only occur in what is considered the shallow lagoon inside the atoll in close proximity to islets with the highest rate of shark predation**.

b. Fishing Methods: Four different methods will serve as a "toolbox" of options to safely remove a maximum of 13 Galapagos sharks: handline, harpoon, bottomset, and drumline. Each method has its advantages and drawbacks. The potential for shark wariness to humans in combination with extremely low catch per unit effort (CPUE) near pupping sites indicates that such a "toolbox" is needed to successfully capture sharks at the numbers and in the areas the researchers desire. Handlines and harpoon will be used in shallow water, from shore or close to shore or from a small boat; bottomsets and drumlines will be used in deeper water, over sandy substrate at distances farther from shore (up to 700m away). Ability to set the gear as far out as 700m from shore will help ensure that it performs as designed by Meyer in 2009. Shallow depth, coral and snags make setting the bottomset at closer distances a challenge.

Handlines and harpoons have the advantage of being very specific and have been successful in the past. Bottomsets and drumlines are, by design, restricted by habitat characteristics due to the potential for lines to become tangled, etc. Thus, bottomsets and drumlines are not recommended to be effective in very shallow depths. Bathymetry and currents are islet-sector specific; therefore, the distance from shore to achieve a feasible depth (approx. 25 feet) and appropriate substrate (sandy bottom) is also islet-sector specific; a zone of 700m around each islet will provide for this.

No single method is guaranteed to be successful given the unpredictability and individualistic nature of sharks. However, together, all the methods provide the greatest chance of success. The order in which the different methods will be applied

will be at the discretion of the team and will be highly dependent on a variety of environmental and biological factors. If the researchers employ more than one method at a time, the researchers still expect that the total number of removals will be low based on the low CPUE in the shallow lagoon.

The researchers will monitor the total number of baited hooks deployed across methods in order to remain within the proposed catch quota of 13 additional sharks. The researchers will use the same bait type (large tuna heads, shark remains and tissue from previously deceased seals) and hook type (circle hook, size 18/0 to 20/0) as previously approved. Fish and seal tissue bait will be brought from outside the Monument. There may not be the opportunity to collect tissue from a deceased seal at French Frigate Shoals. Seal tissue and shark tissue bait will also be collected within the Monument as available.

The researchers will tend the gear to avoid bycatch mortality (non-target species will be dehooked and released). It is assumed that bycatch will be minimal and primarily shark species, based on Meyer's crew's experience in 2009 and the researcher's bycatch in 2010-2015. Fishing staff will avoid lethal removal of non-target sharks through their proper identification. The only shark species that is likely to be confused with the G. shark is the grey reef shark. However, in G. sharks, there is a very distinct ridge along the back between the first and second dorsal fins. Also, the maximum size of 20 grey reef sharks caught across the NWHI was 159 cm (total length) in a 2003 study and in 2011 at Trig and Gin by the program's staff (3 5-foot grey reefs were caught and released). So, based on the absence of the dorsal ridge and a threshold size requirement above 200cm for removal, the researchers will ensure that they do not misidentify and cull a shark that is actually a grey reef.

For handlines, a line will be baited from shore or small boat. A hand-held harpoon will be used from shore or small boat when a shark is observed. A barbed shaft, on the end of the harpoon pole will be delivered by hand and the tip will be attached to wire cable and connecting line that will be used to retrieve the shark. For these methods, captured sharks will be hauled out on to the beach for euthanasia.

Bottomsets will be made to the specifications identical to those used in the Meyer's project permitted in the Monument to catch sharks in 2009. Meyer's bottomsets had 10 hooks; the researchers propose to use this many or less on each set. The gear is designed for sandy substrate with no potential for snagging. Approximately 200-350m long 1⁄2 inch polypropylene mainline with overhand loops at regular intervals (40-60m) for gangion (branch line with hook) attachment will be used. Each end of the mainline will have a buoy line consisting of 1/2-inch polypropylene with a cleat at the top and a Danforth anchor (9-12 lb.) at the bottom. The buoy line length will be contingent on target set depth (45-75 feet depending on depth of deployment allowed). Gangions will consist of a stainless steel lobster trap clip (snaps onto mainline loops) with 2m of 1/2 inch polypropylene, a large swivel, 2m of 7/19 strand stainless steel aircraft cable (bite leader) to a 20/0 Mustad circle hook. Sets

will be made from a small boat, and with short soak times of a maximum of 3 hours (in the daytime only).

The drumline will be of either of the following 2 designs. It may consist of a large buoy, with a chain trace attached to it and single baited hook, shackled to the other end of the chain trace. A baited hook will be suspended approximately 10 feet above the sea floor. A groundline will be shackled to the drum with a swivel, attached to a Danforth or CQR anchor and anchored to the bottom substrate. A scope of 3-4 times the water depth will be used. Alternatively, it may consist of 20ft of 1⁄2 in. polypropylene substituting for a chain trace, connected to the same branchline type used for the bottomsets described above. The opposite end of this mainline will be shackled to a float-line buoy that serves as the 'drum'. A chain will be run through this buoy with the other end shackled to an 8' yellow marker line. The other end of the yellow line will then be shackled to a large red buoy with the connected float line (same used for bottomsets). The drumline set-up is a modification of what was used in 2010 so that the single baited hook rests on the bottom and does not suspend in the water column. This is preferred because the researchers are targeting a species that spends most of its time on the bottom feeding on demersal fishes. With this design, the drum-buoy functions as a 'bobber' that will sink or move when an animal is hooked.

c. Post-catch procedures:

When a shark is hooked or harpooned it will be brought to shore or to the side of the small boat and tail-roped and euthanized with a .44 caliber bang stick. HMSRP has established bangstick training and safety protocols and conducts an annual Operational Risk Management (ORM) for shark fishing operations. ORM is a continual process which includes risk assessment, risk decision making, and implementation of risk controls, which results in acceptance, mitigation, or avoidance of risk. It is standard for HMSRP to conduct ORM and risk assessment for projects that may involve risks such as this shark predation mitigation work.

Refresher training on use of the bang stick prior to fishing activities will occur boat-side on inert material.

HMSRP will perform a necropsy on captured G. sharks on site, including gut content inspection, morphometric measurements, and identification of sex and reproductive state. Procedures will mirror those done on monk seals, using the same kits, modified as necessary based on instructions in the Elasmobranch Husbandry Manual (editors M. Smith, D. Warmolts, D. Toney & R. Hueter). The main focus of shark necropsies will be to determine pregnancy and gut contents, provide remains for Native Hawaiian cultural practices (if requested, they have not been for the last several permit cycles), and take samples for scientific analysis.

Samples of muscle, liver, vertebrae for fatty acid and isotope/ diet analysis will be removed from the carcass after the necropsy and stored frozen. Vertebrae samples

will likely be sent to Woods Hole Oceanographic Institute to be processed by Greg Skomal's lab for isotope analysis. Fatty acid profiles will likely be analyzed for data on prey recently consumed, likely Sara Iverson's laboratory at Dalhousie University. Stomach contents will be screened for monk seal remains and provided to shark ecologists upon request. Some remaining tissue will possibly be retained for bait.

Thereafter, shark remains will be handled as deemed appropriate by cultural advisors and the State of Hawaii Office of Hawaiian Affairs. In recent years, shark remains have been returned to the ocean outside of the fringing reef and that will continue unless directed otherwise by the OHA partners.

d. Reporting: The MMB will be notified by NMFS when a shark has been removed. This will be done as quickly as possible and should normally be within 24 hours. A report that summarizes data concerning the removal of each shark will be submitted to the Monument in compliance with the Monument reporting schedules.

Proposed fixed installations and instrumentation proposed to be set in the Monument

A) The researchers propose to install or maintain (if already installed):

i. Temporary Installation polyvinyl tents for housing monk seal field teams at French Frigate Shoals, Laysan, Lisianski, Pearl and Hermes Reef and Kure. One tent at each site will also have a radio antenna extending upwards <10ft.

ii. Trail Cameras at Lalo (Tern Island) and Manawai (North and Little North Islands). Trail cameras are compact, self-contained systems that are programmed to take a certain number of pictures per day capturing the presence or absence of animals in specific locations. Sizes of trail camera systems including external solar panels will be no larger than 16" x 12" x 12". Weights of systems including solar panels will be no more than 5 lbs. These are used to monitor for threats to seals, specifically entrapment (Tern Island) and male aggression (Manawai).

Cameras will be mounted via padded tripod or T-post, no more than 5' in height. Plastic or steel bird deterrent spikes will be added to the camera systems to deter birds from blocking the camera's view and excreting on solar panels.

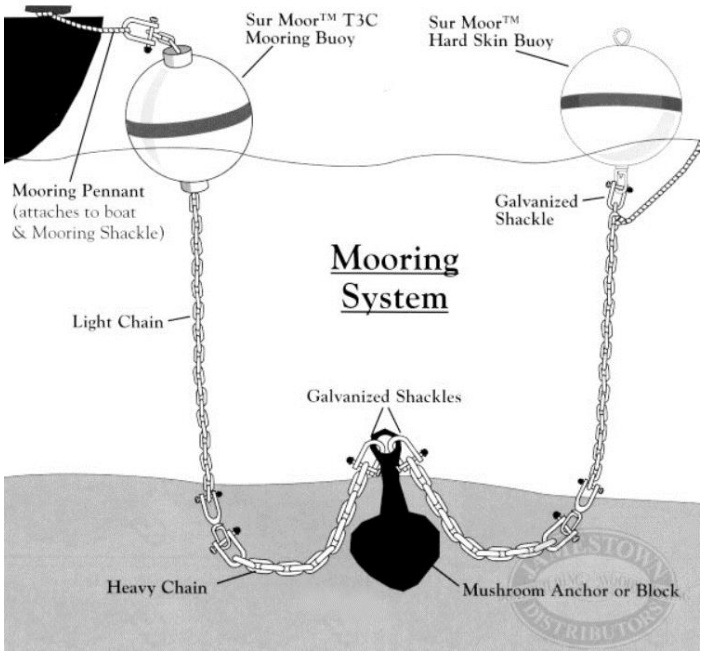
The cameras will be deployed staff from approximately May-August (during the field season) at North and Little North Islands (Manawai). Inclement weather at Manawai often prevents boating for multiple days at a time, resulting in less observation time on North and Little North Islands. These cameras help to fill in gaps in survey coverage. Images will be reviewed weekly during the season to provide close to real-time information on male aggression to HMSRP leadership, which will help guide management and recovery decisions within the season, such

as pup translocation. Additionally, the majority of pups at Manawai are born at North and Little North, and the trail cameras may also provide incidental population assessment data on births and weaning events. The cameras will be facing areas of previously observed or suspected male aggression, mainly near the southern portion of North Island, the northern portions of the North Island spits, and the northern portion of Little North Island. Weekly visits will be conducted, in which SD cards will be swapped out in the trail cameras to continue recording during the field season. Trail cameras and all associated equipment will be retrieved before field staff Manawai at the end of the season.

Cameras will be deployed similarly at Tern Island (Lalo), but will remain in place until the following field season because their purpose is to support post-season entrapment monitoring. Cameras may be mounted on the seawall but will more likely be mounted via padded tripod or T-post. In 2020-2021, seawall mounted cameras failed due to the heavy wave action encountered by the seawall in the winter.

iii. Temporary (season-long) mooring systems to anchor two small boats at Southeast Island, Pearl and Hermes Reef and, in instances when the davit is unavailable, potentially at Tern Island, French Frigate Shoals. These systems are recommended over traditional anchoring for leaving boats unattended for long intervals, i.e. overnight, in high surge areas. etc. In many cases, a mooring system is the safest way to leave a boat in the water to prevent it from breaking free and coming ashore, which will cause damage to the boat and shoreline environment.

Permanent and/or semi-permanent moorings use less scope than traditional anchoring which reduces the "footprint" on the bottom, risk of damage to the environment and risk of wildlife entanglement/entrapment. Appropriate moorings are comprised of a suitable anchor, a light chain, and surface float. Additional line will be attached to an anchor onshore at Southeast Island and to the pier at Tern Island to ensure the vessels cannot float away if the mooring system were to fail in inclement weather. These mooring systems will be deployed on sandy substrate directly off the north side of Southeast Island and from the dock at Tern Island. The following image (credit to Jamestown Distribution) illustrates the type of system that would be temporarily installed if necessary.



iv. Underwater Acoustic Recorders. Recording Hawaiian monk seal underwater vocalizations using the SoundTrap ST500 HF

Study Objective

This study aims to record and describe the underwater vocal repertoire and seasonal trends in sound production for Hawaiian monk seals in PMNM using two SoundTrap ST500 HF underwater acoustic recorders. One recorder would be deployed at each of two locations: Lalo and Manawai. In 2021, the instruments were successfully deployed for the first time and data were successfully obtained and thus will continue into 2022 with no modifications. Specific *Chondria* protocol modifications for cleaning this sensitive equipment at Manawai were discussed and followed prior to the 2021 field season, and the researchers will review those protocols with appropriate SMEs again before deployment in 2022.

Equipment

The recording units are Ocean Instruments SoundTrap ST500 HF (serial number to be determined). The full-scale response of this model is 173 dB re 1 µPa and the bandwidth is 20 Hz - 150 kHz ± 3 dB. A SoundTrap user manual and specification sheet are attached to this protocol.

Software

SoundTrap Host software will be used to configure the instrument before and after each deployment. This software can be downloaded from the Ocean Instruments website (http://www.oceaninstruments.co.nz/downloads/). The first time the SoundTrap and then the device will be visible in the SoundTrap Host software. It will be listed as "SoundTrap serial number TBD" or "SoundTrap device is connected to the computer (via USB), drivers will be installed serial number TBD" depending upon the unit you have.

Data Storage – To be determined

Environment

Both SoundTraps should be deployed at 5-10 m depth in sandy substrates as close to land as possible. GPS locations for the SoundTraps must be taken immediately after deployment, and again when the units are "checked" to verify they have not drifted.

Duration of Deployment

Units would be deployed during the first month of the field team's arrival. Units will remain in the water for the duration of the field camp and be retrieved prior to departing the camp.

Maintenance

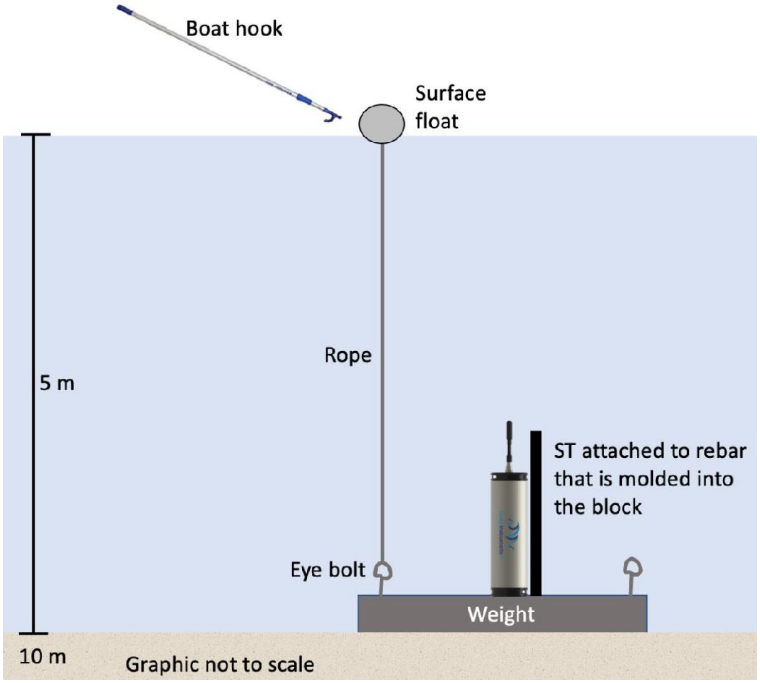
Units will be checked regularly during the first week of deployment. If no issues are encountered (i.e., unit not drifting and still intact) within the first week, units will be checked once a week for the remainder of the camp duration. "Checked" means seeing the unit from the boat. GPS locations for the SoundTraps must be taken when the units are "checked" to verify they have not drifted.

Equipment Configuration

Single anchored line with surface or sub-surface float (10 m total depth). The SoundTrap will be attached to a rebar stand molded into a concrete block (weight) with the hydrophone facing the surface. The rope with the float will be tied to an eyebolt molded into the concrete block. Another eye bolt at the opposite side of the concrete block can be used for lowering the unit during deployment. Two grooves at the top and bottom of the SoundTrap housing provide attachment points for cable ties. The cable ties should be threaded through the associated holes so they cannot slip off. To minimize any possible entanglement risk of the rope, supportive padding material may be attached to it.

Deployment: Unit will be lowered down by rope threaded through the eyebolt. Once the unit is stationary, one side of the rope can be dropped into the water while the other side is pulled up through the eyebolt.

Retrieval: Grappler anchor or boat hook catches buoy and unit is pulled upward towards vessel.



B) The researchers propose to maintain/repair:

a. Tern Island Entrapment Camera Project

In 2020, the researchers initiated a pilot project to deploy rugged trail cameras on Tern Island, Lalo in order to monitor wildlife entrapments. The camera systems were deployed in fall 2020 and retrieved in 2021. Unfortunately, they were swamped by the winter conditions, making the imagery unusable. In 2022, the team aimed to replace the camera systems using T-posts rather than attaching them to the seawall; in 2023 the team will maintain or re-install the cameras.

Disposition of organisms or samples after collection:

- In the case of living seals collected for rehabilitation, these seals will be released back in the NWHI upon completion of rehabilitation (and clearance by veterinary examination).

- In the case of samples collected from seals (either biological specimens such as blood or tissue samples from living animals, or necropsy samples from dead animals), these will either be sent to appropriate research / diagnostic collaborators or archived in appropriate storage facilities at the NOAA IRC in Honolulu.

- In the case of samples collected from sharks (necropsy samples from dead animals), these will either be sent to appropriate research / diagnostic collaborators or cultural practitioners.

- Samples will be shipped out of the Monument in appropriate media and containers on board the NOAA research or charter vessels supporting the activities.

- The Hawaiian Monk Seal Research Program is the primary entity conducting research and recovery work on monk seals in the Northwestern Hawaiian Islands. All samples collected are covered under the researcher's MMPA/ESA permit 22677 and then are distributed to their partners. A complete list of partners is included in the attached document MMPA/ESA Permit 22677. This eliminates the likelihood of duplicative sampling or research happening related to monk seals. The researchers collaborate with a wide variety of programs to share samples and conduct research. Requests can be made to the HMSRP for samples, and sufficient biological/recovery justification samples are often shared.

PERSONNEL COVERED UNDER THE CO-TRUSTEES' CONSERVATION & MANAGEMENT PERMIT

Additional persons to be covered by permit. List all personnel roles and names (if known at time of application) here (e.g. John Doe, Research Diver; Jane Doe, Field Technician) – Note: Some names may differ if position has been filled by a new individual:

U.S. Fish and Wildlife Service (FWS)

- Supervisor of Pacific Islands Refuges and Monuments, Ricardo Lopez;
- Deputy of of Pacific Islands Refuges and Monuments , Susan White;

Pacific Islands Refuges and Monuments Office staff to include:

- Superintendent of Pacific Remote Islands Marine National Monument, Kate Toniolo;
- Deputy Superintendent of Pacific Remote Islands Marine National Monument, Stefan Kropidlowski;
- Supervisory Wildlife Biologist, Elizabeth Flint;
- Chief Administrative Officer, Donna Mohler;
- Business Team, Eloise Wong;
- Business Team, Danny Ramos;
- Buisness Team, Tina Marzen;
- Contaminants Specialist, LeeAnn Woodward;
- Marine Monument Lead Planner, TBN;
- Biological Science Technician, Susan Allie Hunter;
- Biological Science Technician, TBN;
- Education and Outreach Specialist, Nanea Valeros;
- Wildlife Biological Technician, Aisha Rickli-Rahman;
- Biological Science Technician, Margeayx Wayne;
- Inventory and Monitoring Program Lead, Amanda Pollock;
- Inventory and Monitoring Biologist, Rachel Rounds;
- Inventory and Monitoring Data Manager, TBD;
- Palmyra Manager, TBN
- Refuge Zone Officer, Timothy Cusack
- Refuge Officer, TBD
- Invasive Species Coordinator, Jason Hanley;
- Emergency Manager, Laura Beauregard;
- Public Affairs Officer, Megan Nagel;
- Public Affairs Officer, Ivan Vicente;
- Public Affairs Officer, Jordan Akiyama;
- 3 Presidential Management Fellows, TBN;
- 4 Biological Science Technician, TBD
- 4 KUPU interns, TBN and
- 4 Volunteers, TBN.

FWS PMNM HQ Staff to include:

- Superintendent of Papahānaumokuākea Marine National Monument, Jared Underwood;

- Deputy Superintendent of Papahānaumokuākea Marine National Monument, Amanda Boyd esq;
- Wildlife Refuge Specialist, Stephen Barclay;
- Biological Science Technician, Daniel Link;
- Budget Officer, Marnie Meuser;
- Administrative Officer, Maylanie Hipolito;
- Biological Science Technician, Cynthia Rehkemper;
- Wildlife Biologist, TBN;
- Ecologist, Kauaoa Fraiola;
- Refuge Manager, TBN;
- Visitor Services Manager, TBN;
- 12 Volunteers, TBN.

FWS Midway Atoll NWR to include:
Refuge Staff (24 total) includes

- Refuge Manager, Pamela Repp;
- Deputy Refuge Manager, TBN;
- Wildlife Refuge Specialist, TBN;
- Wildlife Biologist, TBN;
- Wildlife Biologist, TBN
- Biological Science Technician, Amanda Adams;
- Budget Officer, Angela Burwell;
- Biological Science Technician, Laura Braizer;
- 4 Biological Science Technician, TBN;
- Biologist, Jonathan Plissner;
- Logistics Coordinator, Mike Seal;
- Maintenance Mechanic, TBN;
- 1 Park Ranger, TBN;
- 20 Volunteers or KUPU Interns, TBN.

Midway Atoll Contractors (70 total) includes

- 45 DBSI contract support personnel for airport operations, logistics, facilities, medical, communications, and task orders; and
- 25 construction workers.

Midway Federal Aviation Administration Staff (10 total) including

- 2 Honolulu Air Traffic Organization, TBN
- 2 Airports District Office, Honolulu, TBN;
- 6 FAA staff, TBN.

FWS Hawaiian Islands NWR Staff to include:
French Frigate Shoals Staff (36 total) includes

- Wildlife Refuge Manager, TBN;
- Deputy Refuge Manager, TBN;
- 2 Biological Science Technicians, TBN;
- 12 Biological Science Volunteers, TBN; and
- 20 Maintenance Staff, Volunteers or Contractors, TBN.

Laysan Island Staff (10 total) includes

- 4 Biological Science Technicians, TBN; and
- 6 Biological Science Volunteers, TBN.

Nihoa Staff includes (4 total)

- 4 Biological Science Technicians or Volunteers, TBN.

Lisianski Staff includes

- 2 Biological Science Technicians or Volunteers, TBN.

Pearl and Hermes Staff includes

- 2 Biological Science Technicians or Volunteers, TBN

FWS Ecological Services Staff to include:

- Field Supervisor, Earl Campbell;
- Deputy Field Supervisor, Gregory Koob;
- Deputy Field Supervisor, Michelle BogardusTBD;
- Aquatics Ecosystem Conservation Program Manager, Dan Polhemus;
- Oahu/Kauai/Northwestern Hawaiian Islands Geographic Team Program Manager, Aaron Nadig;
- Fish and Wildlife Biologist, Nadiera Sukhraj-McCarthy;
- Fish and Wildlife Biologist, John Vetter;
- Fish and Wildlife Biologist, Tony Montgomery;
- Fish and Wildlife Biologist, Jiny Kim;
- Fish and Wildlife Biologist, Annie Marshall;
- Fish and Wildlife Biologist, Leila Nagatani;
- Fish and Wildlife Biologist,Eldridge Naboa;
- Fish and Wildlife Biologist, Jeremy Raynal
- Fish and Wildlife Biologist, Ryan Pe'a
- Fish and Wildlife Biologist, Lauren Weisenberger
- Fish and Wildlife Biologist, Adam Adamski
- 4 Fish and Wildlife Biologists, TBN;
- Botanist, James Kwon;
- Coastal Program Coordinator, Sheldon Plentovich;
- Contaminants Specialist, Michael Fry.

National Oceanic and Atmospheric Administration (NOAA)
– National Ocean Service (NOS), Office of National Marine Sanctuaries (ONMS)

- Superintendent, Athline Clark
- Deputy Superintendent, Eric Roberts;
- Research Coordinator/Ecologist, Randall Kosaki;
- Education and Technology Coordinator, Vincent Andy Collins;
- Administrative Officer, Paige Moani Pai;
- Planning and Evaluation Coordinator, Alyssa Miller;
- Planning and Evaluation Specialist, Alyssa Miller;
- Permits and Policy Coordinator, Phillip Howard;
- Field Operations Coordinator, Jason Leonard;
- Administrative Assistant, Lucy Kaneshiro;
- Field Operations Coordinator, Jason Leonard;
- Information Technology Support Specialist, Alan Lum;

- Mokupāpapa Discovery Center Manager, Virginia Branco;
- Mokupāpapa Discovery Center Education Associate, Justin Umholtz;
- Mokupāpapa Discovery Center Events and Facilities Associate, Clayton Watkins;
- Mokupāpapa Discovery Center Aquarist, Michael Caban II-Akamai Stephens;
- O‘ahu Outreach and Education Coordinator, TBN;
- Mokupapap Discovery Center Native Hawaiian Outreach Specialist-Malia Evans
- RAC Coordinator, Social Media Specialist, Camille Hart Jones
- Resource Protection Manager, Brian Hauk;
- Graphic and Web Designer, Gardner Kahi Fujii;
- Vessel Operations Coordinator, Luke Evancoe;
- Vessel Operations Coordinator, Luke Evancoe;
- West Coast/Pacific Islands Media Coordinator, Sarah Marquis;
- Regional Cultural Resources Coordinator, Vernon Kalani Quiocho Jr.;
- Native Hawaiian Program Specialist, Kanoe Morishige:
- Data Integration Manager, David Graham;
- Field Logistics Technician, Keolohilani Lopes;
- Senior Policy and Programs Advisor, Naomi McIntosh;
- Ecological Research Statistician, Atsuko Fukunaga; and
- 5 volunteers/interns, Kilo Kaawagonzales and 4 TBN

<u>– National Ocean Service (NOS), Center for Operational Oceanographic Products and Services (CO-OPS)</u>

- field staff, TBN.

<u>– National Marine Fisheries Service (NMFS), Pacific Islands Regional Office (PIRO)</u>

- Pacific Islands Regional Administrator, Michael Tosatto;
- Deputy Regional Administrator, Sarah Malloy;
- Media and Outreach Coordinator, Hoku Ka’aekuahiwi-Pousima;
- Management Analyst, Pua Kamaka;
- Operations, Management, and Information staff, TBN;
- Protected Resources staff, TBN;
- Habitat Division staff, TBN;
- Assistant Regional Administrator Habitat Conservation Division, Gerry Davis;
- Restoration Center staff, TBN;
- Marine National Monument Program: Management and Program Officer, Malia Chow;
- Fishery Policy Analyst, Richard Hall; and
- Office of Law Enforcement staff, TBN.

<u>– National Marine Fisheries Service (NMFS), Pacific Islands Fisheries Science Center (PIFSC)</u>

- Science Center Director, Michael Seki;
- Deputy Director, Tia Brown;
- Chief of Staff, TBD;
- Policy Analyst, Rebecca Walker;
- Communications Officer, Ingrid Biedron;
- Education and Outreach Coordinator, Ali Bayless;

- Research Technician, T. Souza.

Science Operations Division Staff:

- Division Director, Noriko Shoji;
- Operations Manager, Kyle Koyanagi;
- Science Operations Coordinator, Russell Reardon;
- Supervisory Operations Research Analyst, Kimberly Lowe;
- Supervisory Natural Resource Management Specialist, Garry Harsanyi;
- Engineer, TBN;
- Supervisory Data Application Developer, Jesse Abdul;
- Monument Science Coordinator, TBN;
- Lead Logistics Management Specialist, Chad Yoshinaga;
- Natural Resource Management Specialist, Risa Oram;
- Environmental Scientist, Justin Rivera;
- Biological Science Technician, Jamie Barlow;
- Biological Science Technician, Alexa Gonzalez;
- Biological Science Technician, Calla Lloyd-Lim;
- Biological Science Technician, Robert McLean;
- Biological Science Technician, J. Staman;
- NOAA Corps Officer, Nathaniel Park;
- NOAA Corps Officer, Nicolas Osborn;
- NOAA Corps Officer, Kristin Sojka;
- Natural Resource Management Specialist, Eric Cruz;
- Natural Resource Management Specialist, Michael Trianni;
- NOAA Corps Officer,TBN;
- Science Operations Technician, Jessica Shem;
- Insular Fisheries Associate, Christopher Demarke;
- Insular Fisheries Associate, Dianna Miller-Greene;
- Insular Fisheries Specialist, TBN;
- Insular Fisheries Specialist, Audrey Rollo;
- Advanced Survey and Technology Developer, Jeremy Taylor;
- GIS Specialist, TBN;
- Dive Center/Laboratory Research Manager, Kerry Reardon;
- other Science Operations Staff, TBN;
- Research Fish Biologist, Benjamin Richards;
- Small Boat Mechanic, Art Suga.

Fisheries Research and Monitoring Division:

- Division Director, Todd Jones;
- Research Fish Biologist, R. Ahrens.
- Stock Assessment Program Staff:
- Supervisory Research Mathematical Statistician,Felipe Carvalho;
- Math Statistician, John Brodziak;
- Math Statistican, M. Oshima;
- Research Fish Biologist, E. Bohaboy;
- Math Statistician, N. Ducharme-Barth;
- Statistician, H. Ma;

- Research Fish Biologist John Syslo;
- Research Fish Biologist, Michelle Sculley;
- Supervisory PIFSC Scientist, Mark Nadon;
- Computer and Database Specialist, Eric Fletcher.
- Life History Program Staff:
- Supervisory Research Biologist, Joseph O'Malley;
- Research Fish Biologist, Ryan Nichols;
- Research Fish Biologist, K. Dahl;
- Research Fish Biologist, Michael Kinney;
- Research Fish Biologist, Eva Schemmel;
- Bio-Sampling Specialist, Erin Reed;
- Graduate Assistant, E. Barba.

Fisheries Reporting and Bycatch Program:

- Supervisory Research Fish Biologist, Keith Bigelow;
- Research Fish Biologist, D. Curran;
- Fishery Application Development Specialist, B. Cooper;
- Science Program Manager, Melanie Hutchinson;
- Research Ecologist, John Wang;
- Marine Research Associate, M. Scott;
- PIFSC Fish Monitoring Associate, J. Stahl;
- Fish Biologist, Russell Ito;
- Fish Specialist, Walter Machado;
- Other Program Staff, TBN.
- Fisheries Monitoring Program
- Fish Specialist, W. Machado;
- Data Program Manager, F. Tong;
- Other Fisheries Monitoring Program staff, TBN.

Ecosystem Sciences Division Staff:

- Division Director, Frank Parrish;
- Marine Biologist, B. Lumsden;
- Deep Sea Animal Research Specialist, T. Bachtel.
- Pelagic Research Program Staff:
- Supervisory Research Marine Scientist, Ryan Rykaczewski;
- Research Oceanographer, R. Domokos-Boyer;
- Research Fish Biologist, Donald Kobayashi;
- Research Marine Biologist, J. Ruzicka;
- Research Marine Biologist, J. Whitney;
- Research Oceanographer, Phoebe Woodworth-Jefcoats;
- Research Ecologist, Johanna Wren;
- Research Associate, Emily Contreras;
- Graduate Assistant, G. Mukai.
- Social-Ecological and Economic Systems Program Staff:
- Supervisory Economist, Justin Hospital;
- Industry Economist, Minling Pan;
- Research Economist, Jonathan Sweeney,
- Research Social Scientist, Danika Kleiber;

- Research Oceanographer, Jamison Gove;
- Graduate Assistant, L. Perng;
- Graduate Assistant, K. Kimura;
- Graduate Assistant, M. Ward;
- Graduate Asistant, A. Nakachi;
- Translator, T. Tran;
- Fish Economics Specialist, Cyrstal Dombrow;
- Social Scientist, Kirsten Leong;
- Social Research Project Manager, Adam Ayers
- Social Scientist, Rebecca Ingram;
- Contractor, J. Lecky;
- Senior Fish Economic Specialist, Hingling Chan;
- Sociology Research Assocociate, Mia Iwane;
- Fisheries Economic Project Manager, M. Khan;
- Fisheries Economic Project Manager, S. Medoff.

Archipelagic Research Program:

- Supervisory Research Ecologist, Jennifer Samson;
- Research Ecologist, Thomas Oliver;
- Research Fish Biologist, M. Parke;
- Marine Biologist, Hannah Barkley;
- Marine Biologist, Raymond Boland;
- Marine Biologist, T. Kindinger;
- Marine Biologist, K. McCoy;
- Marine Biologist, K. Tanaka;
- Graduate Assistant, M. Asbury;
- Marine Ecosystems Research Technician, J. Charendoff;
- Marine Debris Field Technician, R. Chen;
- Coral Reef Researcher, Courtney Couch;
- Field Logistics Associate, J. Garriques;
- Marine Ecosystem Research Specialist, A. Gray;
- Marine Ecosystem Research Coordinator, A. Halperin;
- Program Manager, Brittany Huntington;
- Supervisory Coral Reef Researcher, K. Ingeman;
- Marine Ecosystem Research Technician, M. Lamirand;
- Marine Ecosystem Research Technician, R. Lee;
- Seabed Mapping Specialist, F. Lichowski;
- Data Management Specialist, L. Luers;
- Marine Debris Field Technician, S. Matye;
- Field Logistics Specialist, James Morioka;
- Data Application Developer, B. Olenski;
- Marine Ecosystem Research Specialist, Noah Pomeroy;
- Research Associate, A. Schmidt;
- Supervisory Oceanographer, J. Smith;
- Research Technician, T. Souza;
- Marine Debris Field Technician, C. Spitzer;
- Marine Ecology Researcher, D. Torres-Pulliza;

- Data Management Specialist, K. Trick;
- Coral Ecology Researcher, Bernardo Vargas-Angel;
- Marine Ecosystem Research Coordinator, R. Weible;
- Marine Debris Field Technician, T. Wester;
- Research Technician, Morgan Winston.
- Operations, Management and Information Division staff, TBN.

Protected Species Division Staff:

- Director, Charles Littnan;
- Research Marine Biologist, Jason Baker;
- Research Associate, S. Davis;
- Math Statistician, D. Johnson;

Marine Turtle Biology and Assessment Program (MTBAP) Staff:

- Research Ecologist, Summer Martin;
- Biological Science Technician, Shandell Brunson;
- Biologist, Shawn Murakawa;
- Research Marine Biologist, Camryn Allen;
- Student Assistants A. Sommer, K. Wolford, C. Sabharwal;
- Marine Ecological Researcher, Alexander Gaos;
- Field-Lab Research Assistant, C. Coppenrath;
- Marine Sciences Technician, Marylou Staman;
- Marine Science Coordinator, J. Staman;
- 5 Temp Field Biologists, TBN.

Hawaiian Monk Seal Research Program (HMSRP) Staff:

- Supervisory Program Lead/Veterinarian Medical Officer, Michelle Barbieri Lino;
- Relief Veterinarian; M. Barrett;
- Ecologist, Stacie Robinson;
- Marine Biologist, Thea Johanos-Kam;
- Marine Science Biological Technician, S. Guerin;
- Protected Species Division Program Manager Program, Liz Kashinsky;
- Supervisory Research Biologist, Thea Johanos-Kam;
- Biological Science Technician, Brenda Becker;
- Marine Science Biological Technician, Tracy Mercer;
- Emergency Response Research Associate, Mark Sullivan;
- 2 Veterinary Assistants/Technicians, E. Yoshioka and TBN;
- Logistics/Research/Technicians TBN;
- 12 Temp Field Biologists, TBN.

Cetacean Research Program (CRP) Staff:

- Supervisory Research Ecologist, Erin Oleson;
- Research Oceanographer, Ann Allen;
- Research Ecologist, Amanda Bradford;
- Cetacean Acoustic Researcher, Yvonne Barkley;
- Marine Observer, S. Yin;
- Marine Observer, C. Hoefer;
- Cetacean Acoustician, S. Fregosi;
- Cetacean Research Program Supervisor, P. Gruden;

- Administrative Assistant, M. Wood;
- Cetacean Research Program Supervisor (JIMAR), Marie Hill;
- Passive Acoustic Technician, Jennifer McCullough;
- Operations Manager, Erik Norris;
- Contractor Photo ID Cetacean Specialist, Adam U;
- Cetacean Research Associate, Kym Yano;
- Cetacean Acoustician, Karlina Merkens;
- Diver, E. Keen;
- Contractor Cetacean Acoustician, Anne Simonis.
- PSD Services and Support Program:
- Supervisory Marine Biologist, Jessica Bohlander;
- Operations Research Analyst, Vikram Khurana;
- Marine Biologist, Laura McCue;
- Marine Biologist, Hope Ronco.

State of Hawai‘i, Department of Land and Natural Resources (DLNR)

- DLNR Chairperson, Suzanne Case,
- DLNR First Deputy, Robert Masuda;
- Water Deputy, M. Kaleo Manuel;
- Division of Aquatic Resources (DAR) Administrator, Brian Neilson;
- Division of Forestry and Wildlife (DOFAW) Administrator, David Smith;
- Division of Conservation and Enforcement (DOCARE), TBN,
- State Historic Preservation Division (SHPD), TBN,
- 6 Members of the Board of Land and Natural Resources (BLNR), TBN;
- PMNM Program Specialist,TBN, Permit Coordinator,TBN;
- Wildlife Manager, Jason Misaki;
- Kure Atoll State Wildlife Sanctuary Manager, Cynthia Vanderlip;
- Kure Atoll State Wildlife Sanctuary Field Camp Leader, Andrew Sullivan-Haskins;
- Kure Atoll State Wildlife Sanctuary Field Camp Leader, Michelle Rose Smith;
- Offshore Island Biologist, Tiana Bolosan;
- DOFAW Oahu Branch Manager, Marigold Zoll;
- 6 Kure Atoll State Seabird Sanctuary Volunteers and Technicians, TBN;
- 6 Aquatic Biologists, TBN;
- 6 Aquatic Alien Invasive Species (AIS) Team staff, TBN;
- 5 Biological Science Volunteers, TBN;
- 2 Outreach and Education Specialist, TBN;
- other DLNR Administrators, program managers and staff, TBN.

Office of Hawaiian Affairs (OHA)

- 9 Board of Trustees, Chair Collette Machado, Robert K Lindsey Jr., Brendan Kaleiaina Lee, William Keli‘i Akina, Lei Ahu Isa, Carmen Hulu Lindsey, Dan Ahuna, John D. Waihee IV, Kalei Akaka;
- 20 BOT staff, TBN;
- Interim Chief Executive Officer/Ka Pouhana, Syliva Hussey;
- InterimChief Operating Officer/Ka Pounui, Lisa Watkins-Victorino;
- Chief Advocate, Keola Lindsey;

- 4 Line of Business Directors, Mehana Hind, Jim Patterson, Miles Nishijima, and Gloria Li;
- 4 Executive Office staff, Momilani Lazo, Laura Kamalani-Paikai, Leona Castillo, and 1 TBN;
- Chief Counsel, Raina Gushiken;
- 2 Corporation Counsel staff, Shirley Okamoto, Everette Ohta;
- Papahānaumokuākea Program Specialist, Brad Kaʻaleleo Wong;
- Policy Program Manager, Jocelyn Doane;
- 5 Policy Program staff, Wayne Tanaka, Kamaile Maldonado, Monica Morris, Jenifer Jenkins;
- Washington D.C. Bureau Chief, Keone Nakoa;
- 2 Washington D.C. Bureau staff, TBN;
- Compliance Program Manager, Kai Markell;
- 4 Compliance Program staff, Kamakana Ferreira, Kathy Keala, Jerome Yasuhara, Lauren Morowski;
- Land,Culture, and History Program Manager, Pulama Lima;
- GIS Specialist, Zachary Smith
- 3 Land, Culture, and History Research Analysts, Wahineaipohaku Tong, Leona Kalima, Kale Hannahs;
- Digital Print and Media Manager, Alice Silbanuz;
- 2 Digital Media Specialists, Jason Lees and Kawena Lei Carvalho-Mattos;
- 3 Communications Specialists, Kaleena Patcho, Ikaika Hussey, and 1 TBN
- Land and Property Manager, Jonathan Ching;
- 2 Land and Property Staff, Brutus La Benz and Taylor Asao;

Senior Executive Board (SEB), Members of the Monument Management Board (MMB), and the Interagency Coordinating Committee (ICC) which are comprised of, but not limited to: Environmental Protection Agency (EPA), Department of Defense (DOD), US Coast Guard (USCG), NOAA Office of Law Enforcement (OLE), USFWS OLE, DLNR Department of Conservation and Resource Enforcement (DOCARE), Office of Hawaiian Affairs (OHA) and State of Hawai‘i Department of Health (HDOH).

Other staff, volunteers, cultural liaisons, or contractors necessary for the permitted activities may enter the Monument for conservation and management activities. Resident families of Midway Atoll may enter the Monument. Invited news media representatives may enter the Monument to provide public information of conservation and management activities. All personnel will be indentified and information will be provided to the Monument Permit Coordinators prior to each entry into the Monument.

The applicants shall ensure that all personnel assigned to any conservation and management activity allowed under this permit are qualified to perform in the assigned role and are limited to the scope of their position and respective project, and shall comply with all other applicable laws, policies, protocols, permits, and regulations. In addition, the applicants will ensure that all management activities are communicated and coordinated on an ongoing and regular basis.

To safeguard all the resources and ecological integrity of the Monument, early and ongoing coordination of interagency activities will occur between the action agency and interested Monument partners as soon as details of activities are identified via memo-to-file and completion of a CIS sheet. The goal of early coordination is the commitment to identifying, incorporating, and customizing best management practices for specific activities. Additionally, pre-access permit and cultural briefings will be conducted for all new personnel entering the Monument and annually for all.

Papahānaumokuākea Marine National Monument
CONSERVATION AND MANAGEMENT Permit Application

NOTE: ***This Permit Application (and associated Instructions) is 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/Daniel K. Inouye Regional Center
NOS/ONMS/Papahānaumokuākea Marine National Monument
Attention: 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: Jared Underwood, Eric Roberts, Brian Neilson, Sylvia Hussey
Affiliation: U.S. Fish and Wildlife Service (FWS), National Oceanic and Atmospheric Administration (NOAA), State of Hawai‘i Department of Land and Natural Resources (DLNR), Office of Hawaiian Affairs (OHA)

Permit Category: Conservation and Management
Proposed Activity Dates: January 1, 2023 – December 31, 2023
Proposed Method of Entry (Vessel/Plane): Vessel and plane
Proposed Locations:
This permit application encompasses all conservation and management activities that the Co-Trustees may conduct throughout the entire Monument.

Estimated number of individuals (including Applicant) to be covered under this permit:
Variable, depending on activity type and location.

Estimated number of days in the Monument:
There will be Monument staff in the Monument up to 365 days of the year. Numbers of personnel will fluctuate depending upon the season and the management activity undertaken at any one time. All personnel will be identified on an updated Compliance Information Sheet (CIS) prior to each entrance.

Description of proposed activities: (complete these sentences):

a.) The proposed activity would…
This Monument Conservation and Management Permit Application proposes activities that would allow the Co-Trustee Representatives of the U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, the State of Hawai‘i through the Department of Land and Natural Resources, and the Office of Hawaiian Affairs to conduct management activities for the conservation and management of Papahānaumokuākea Marine National Monument including the Hawaiian Islands National Wildlife Refuge, Midway Atoll National Wildlife Refuge, Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, Northwestern Hawaiian Islands State Marine Refuge, and Kure Atoll State Wildlife Sanctuary.

b.) To accomplish this activity we would ….

To accomplish the conservation and management of this ecosystem the Co-Trustees would carry out authorized activities associated with the following:

1. General operations to support field activities, which includes field camp, vessel, and flight operations

2. Resource survey and monitoring, which includes evaluating status and trends of target species and habitats

3. Natural resource protection, restoration, and remediation, which includes but is not limited to predator and invasive species control, marine debris removal and wildlife disentanglment, and health response and translocation of wildlife.

4. Cultural and historic resource identification, evaluation, monitoring, access and protection

5. Education and outreach

c.) This activity would help the Monument by …

These activities would benefit the Monument by providing coordinated interagency management of Monument ecosystems, prevent duplicate efforts, and gain efficiencies.

Other information or background:

A conservation and management permit of this nature has been issued annually, pending a stringent review process, to the Monument Co-Trustee agencies since 2008 for the purpose of conducting cooperative and effective management of Monument resources. For example, the NOAA NMFS PIFSC Marine Turtle Research Program has worked successfully within the U.S. Fish and Wildlife Service, Hawaiian Islands National Wildlife Refuge for over 40 seasons, resulting in great success for the species. Such collaborative work would benefit other Monument programs.

Section A - Applicant Information

1. Applicant

Underwood, Jared: Superintendant for Papahānaumokuākea Marine National Monument, Department of the Interior, U.S. Fish and Wildlife Service

Roberts, Eric: Acting Superintendent, Papahānaumokuākea Marine National Monument, National Oceanic and Atmospheric Administration

Neilson, Brian: Division of Aquatic Resources Administrator State of Hawai‘i Department of Land and Natural Resources

Hussey, Sylvia: Ka Pouhana, Office of Hawaiian Affairs

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

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

Underwood, Jared: Superintendant, Papahānaumokuākea Marine National Monument, Department of the Interior, U.S. Fish and Wildlife Service, 300 Ala Moana Blvd. Room 5-231, Honolulu, HI 96850

Roberts, Eric: Acting Superintendent, Papahānaumokuākea Marine National Monument, Department of Commerce, National Oceanic and Atmospheric Administration. 1845 Wasp Blvd, Building 176, Honolulu, HI 96818

Neilson, Brian: Division of Aquatic Resources Administrator, State of Hawai‘i Department of Land and Natural Resources; 1151 Punchbowl St., Honolulu, HI 96813

Hussey, Sylvia: Office of Hawaiian Affairs, 560 N. Nimitz Hwy., Suite 200, Honolulu, Hawai‘i, 96817

Phone:
Jared Underwood: SEE ORIGINAL APP FOR CONTACT INFO

Eric Roberts: SEE ORIGINAL APP FOR CONTACT INFO

Brian Neilson: SEE ORIGINAL APP FOR CONTACT INFO

Sylvia Hussey: SEE ORIGINAL APP FOR CONTACT INFO

Fax:
Jared Underwood: 808-792-9583

Eric Roberts: 808-455-3093

Brian Neilson: 808-587-0115

Sylvia Hussey: N/A

Email:
Jared Underwood: SEE ORIGINAL APP FOR CONTACT INFO
Eric Roberts: SEE ORIGINAL APP FOR CONTACT INFO
Brian Neilson: SEE ORIGINAL APP FOR CONTACT INFO
Sylvia Hussey: SEE ORIGINAL APP FOR CONTACT INFO

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

3. Affiliation (institution/agency/organization directly related to the proposed project):
Underwood, Jared: Superintendent for Papahānaumokuākea Marine National Monument, Department of the Interior, U.S. Fish and Wildlife Service

Roberts, Eric: Acting Superintendent, Papahānaumokuākea Marine National Monument, National Oceanic and Atmospheric Administration

Neilson, Brian: Division of Aquatic Resources Administrator, State of Hawai'i Department of Land and Natural Resources

Hussey, Sylvia: Ka Pouhana, Office of Hawaiian Affairs

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, Research Diver; Jane Doe, Field Technician):

Variable. Staff, volunteers, cultural liaisons, or contractors necessary for the permitted activities may enter the Monument for conservation and management activities. Resident families of Midway Atoll may enter the Monument. Invited news media representatives may enter the Monument to provide public information of conservation and management activities. All personnel will be indentified and information will be provided to the Monument Permit Coordinators prior to each entry into the Monument on CIS sheets.

The applicants shall ensure that all personnel assigned to any conservation and management activity allowed under this permit are qualified to perform in the assigned role and are limited to the scope of their position and respective project, and shall comply with all other applicable

laws, policies, protocols, permits, and regulations. In addition, the applicants will ensure that all management activities are communicated and coordinated on an ongoing and regular basis.

To safeguard all the resources and ecological integrity of the Monument, early and ongoing coordination of interagency activities will occur between the action agency and interested Monument partners as soon as details of activities are identified via a memo-to-file or similar type written documentation. The goal of early coordination is the commitment to identifying, incorporating, and customizing best management practices for specific activities. Additionally, pre-access permit and cultural briefings will be conducted for all new personnel entering the Monument and annually for all.

Section B: Project Information

5a. Project location(s):

		Ocean Based	
☒ Nihoa Island	☒ Land-based	☒ Shallow water	☒ Deep water
☒ Necker Island (Mokumanamana)	☒ Land-based	☒ Shallow water	☒ Deep water
☒ French Frigate Shoals	☒ Land-based	☒ Shallow water	☒ Deep water
☒ Gardner Pinnacles	☒ Land-based	☒ Shallow water	☒ Deep water
☒ Maro Reef			
☒ Laysan Island	☒ Land-based	☒ Shallow water	☒ Deep water
☒ Lisianski Island, Neva Shoal	☒ Land-based	☒ Shallow water	☒ Deep water
☒ Pearl and Hermes Atoll	☒ Land-based	☒ Shallow water	☒ Deep water
☒ Midway Atoll	☒ Land-based	☒ Shallow water	☒ Deep water
☒ Kure Atoll	☒ Land-based	☒ Shallow water	☒ Deep water
☒ Other			

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***

ENTRANCE

1. The permit applicants, their designated agency staff, volunteers, contractors, and Midway Atoll National Wildlife Refuge residents necessary for permitted activities may enter Papahānaumokuākea Marine National Monument (see Attachment #1, Permitted Personnel List). All personnel must be identified and information provided to the Monument permit coordinators prior to each entry into the Monument on CIS sheets. The permit applicants shall ensure that all personnel assigned to conduct conservation and management activities authorized under this permit are fully qualified to perform in the assigned role(s) and shall be limited to the scope of actions set forth in this permit and all other applicable policies, protocols, permits, and regulations. (ALL MMB AGENCIES)

OPERATIONS

2. Operating field stations of the National Wildlife Refuge System (NWRS) and the State of Hawai‘i Kure Atoll State Wildlife Sanctuary, necessary for meeting mission and purposes of refuges and the Monument in support of on-site management and resource conservation including but not limited to: (STATE) (FWS)

    a. Maintaining and repairing/replacing facilities and their components (e.g., carpentry, electrical, plumbing, welding, general construction); (STATE) (FWS)
    b. Building and other facilities deconstruction and reconstruction; (STATE) (FWS)
    c. Maintaining airport and airstrips, including improvements such as runway lighting replacement, taxiway maintenance (including repaving, and painting/marking); (FWS)
    d. Painting, including all preparation work such as scraping, washing, etc.; (STATE) (FWS) and
    e. Lead-based paint soil remediation, including removing sand/soil from around many or all affecting buildings and proper on-site containment of this material. (STATE) (FWS)

3. Supporting and re-supplying field camps and field stations, including but not limited to, delivery and removal of supplies, equipment, people, waste, and/or assets necessary for operations. (ALL MMB AGENCIES)

4. Operating vessels to provide access for conservation and management activities. Authorized vessel operations shall include, but are not limited to:
    a. Operating, mooring and anchoring small boats; (ALL MMB AGENCIES)
    b. Conducting maintenance, proficiency training and safety measures for authorized vessels; (ALL MMB AGENCIES)
    c. Anchoring of the authorized vessels and small boats on sandy substrate only, and all anchors must be lowered into place; (ALL MMB AGENCIES)
    d. Discharging gray water outside of all Special Preservation Areas and the Midway Atoll Special Management Area; (ALL MMB AGENCIES) and

e. Discharging biodegradable solid waste associated with galley operations restricted to 3 nautical miles (ground to 1 inch in diameter) and 12 nautical miles (unground) outside of all Special Preservation Areas and the Midway Atoll Special Management Area. (ALL MMB AGENCIES)

5. Possessing fishing gear to conduct sustenance fishing for pelagic species within Midway Atoll Special Management Area (MASMA) in accordance with the Monument Management Board Policy on Sustenance Fishing (Attachment #2). (ALL MMB AGENCIES)

6. Operating aircraft and airfields, including necessary maintenance and use of airfields and runways at Midway Atoll. (FWS)

7. Conducting on-site reviews and operational evaluations including, but not limited to: (ALL MMB AGENCIES)

    a. On-site reviews by management and congressional personnel; (ALL MMB AGENCIES)
    b. Agency site visits and meetings for management planning and programmatic assessments; (ALL MMB AGENCIES) and
    c. On-site management and safety reviews to gauge implementation and effectiveness of Monument management and programs. (ALL MMB AGENCIES)

8. Conducting personnel safety, fitness, and health maintenance including, but not limited to: (ALL MMB AGENCIES)

    a. Biking, swimming, and jogging at Kure Atoll, Tern Island, French Frigate Shoals, and Midway Atoll; and (ALL MMB AGENCIES)
    b. Conducting health and safety activities for all personnel, including but not limited to: site safety reviews, adverse weather and emergency response procedures, safety protocols, and continuation of operation plans. (ALL MMB AGENCIES)

RESOURCE SURVEY AND MONITORING

9. Swimming, snorkeling, and closed or open circuit SCUBA diving within any Special Preservation Area of the Midway Atoll Special Management Area, necessary to support conservation and management activities covered under this permit. (ALL MMB AGENCIES)

10. Touching coral, living or dead, necessary to support conservation and management activities covered under this permit. (ALL MMB AGENCIES)

11. Attracting any living Monument resource, necessary to support conservation and management activities covered under this permit. (ALL MMB AGENCIES)

12. Surveying and monitoring target species and habitats to evaluate trends and status for management purposes. Activities in direct support of management, monitoring, and characterization may include: (ALL MMB AGENCIES)

    a. Placing scientific equipment or drilling into submerged and emergent lands in order to install scientific equipment, devices, markers, oceanographic instrument arrays, unmanned aerial systems, remotely operated camera systems, and remote viewing camera systems on submerged or emergent lands, and performing necessary maintenance activities on such equipment; (NOAA) (STATE) (FWS)
    b. Collecting climatological data and necessary scientific information from on-site equipment; (NOAA) (STATE) (FWS)
    c. Photographing and filming (including UAS) as necessary to document Monument resources; (ALL MMB AGENCIES)
    d. Non-lethal marking and tagging for monitoring purposes; (ALL MMB AGENCIES) Note: Prior to authorization to conduct work which may result in the "take" of a protected species, a separate ESA/MMPA permit shall be required. (NOAA) (STATE) (FWS)
    e. Visual, non-invasive marking and tagging for monitoring purposes; (ALL MMB AGENCIES) and
    f. Physical surveying of and sampling from landfills, storage tanks, contamination sites, or other potentially hazardous materials associated with current and former occupation and use of the Northwestern Hawaiian Islands (NWHI); (NOAA) (STATE) (FWS) and
    g. Visual, acoustic, and/or aerial (including UAS) surveys to estimate the abundance and distribution of cetaceans in the NWHI. Note: Prior to authorization to conduct cetacean surveys, which may result in the "take" of a protected species, a separate ESA/MMPA permit shall be required. (NOAA) (STATE) (FWS)

13. Removing, moving, taking, harvesting, possessing, injuring, disturbing, or attempting to remove, move, take, harvest, possess, injure, or disturb biological, chemical, or geological samples for analysis in support of activities under approved management plans, restoration or recovery plans, and for base line inventory and monitoring of population trends and habitat conservation and management. (ALL MMB AGENCIES)

14. Removing, moving, taking, harvesting, possessing, or attempting to remove, move, take, harvest, or possess a set number of any visually observable marine organism morphotype (except mammals) or terrestrial plant morphotype (including fungi), which cannot be visually identified or may represent a new geographic record or new species, with the set number based upon the per island/atoll abundance criteria below: (ALL MMB AGENCIES)
    a. One (1) specimen can be taken, removed, or possessed if in abundance assessment cannot be ascertained, or less than ten (10) such specimens are present, cumulative during the course of the collection event per island and atoll; (ALL MMB AGENCIES)

b. Up to three (3) specimens can be taken, removed, or possessed if an abundance assessment of ten (10) or more such specimens is ascertained, cumulative during the course of the collection event per island or atoll; (ALL MMB AGENCIES) and
c. For clonal organisms that cannot be visually identified or may represent a new geographic record or new species, take shall be limited to no more than half the clonal organism visually observed. Up to three (3) clonal specimens of similar morphology can be taken, removed, or possessed if an abundance assessment of ten (10) or more of such specimens is ascertained, cumulative during the course of the collection event per island or atoll. (ALL MMB AGENCIES)

15. Conducting habitat mapping for the production of accurate, high-resolution base maps with methods to include: (ALL MMB AGENCIES)

    a. Data collecting to include optic, acoustic, and metal detector technologies, as well as land and dive operations, including the use of a remotely operated vehicle (ROV) and UAS, for ground truthing; (ALL MMB AGENCIES) and
    b. Global Positioning System (GPS) mapping and Light Detection and Ranging (LIDAR) work. (ALL MMB AGENCIES)

NATURAL RESOURCE PROTECTION, RESTORATION, AND REMEDIATION

16. Conducting management actions necessary to understand and carry out protection, restoration, and remediation of species and habitats, such as carrying out existing species recovery and restoration plans (ALL MMB AGENCIES).
    a. Conducting wildlife disentanglement, health response (including treatment and necropsy), and translocation activities according to existing species recovery plans; (NOAA) (STATE) (FWS) Note: Activities on or around species on the Endangered Species list, the appropriate lead agency shall be consulted prior to taking action)
    b. Conducting population augmentation or reestablishment activities such as capture, translocation, reintroduction, and out-planting; (ALL MMB AGENCIES) Note: Activities on or around species on the Endangered Species List, the appropriate lead agency shall be consulted prior to taking action)
    c. Conducting invasive species controls by mechanical, chemical and manual methods as needed; (ALL MMB AGENCIES) Note: Activities on or around species on the Endangered Species list, the appropriate lead agency shall be consulted prior to taking action)

    d.Investigating and monitoring of contamination in abiotic or biotic resources. (NOAA) (STATE) (FWS) Note: Activities on or around species on the Endangered Species list, the appropriate lead agency shall be consulted prior to taking action)
17. Removing marine debris, including but not limited to, plastic pollution, trash, derelict fishing gear and other materials (land and ocean-based) that pose threats to Monument resources. Activities may include: (ALL MMB AGENCIES)

a. Disentangling wildlife from marine debris and other materials by authorized personnel; (NOAA) (STATE) (FWS) Note: Activities occuring on or around species on the Endangered Species List shall consult the appropriate lead agency prior to taking action.
b. Tracking debris via drifter buoys and Unmanned Aerial Vehicles; (NOAA) (STATE) (FWS)
c. Monitoring of sites that have been cleared of debris for recovery rates and effects of removal; (ALL MMB AGENCIES)
d. Locating and removing debris and hazardous materials. This may be through interagency agreements, such as the Department of Defense (DOD) Innovative Readiness Training (IRT), Formerly Used Defense Sites (FUDS), or the Base Realignment and Closure (BRAC) Programs. Efforts may include activities such as seafloor and island mapping, reconnaissance and removal of materials, and derelict vessel salvage and removal; (ALL MMB AGENCIES) and
e. Removal of sessile encrusting flora and fauna associated with marine debris. (ALL MMB AGENCIES)

18. Providing emergency response and damage assessment, mitigation, restoration, and monitoring post-response management. (ALL MMB AGENCIES) Activities may include:
    a. Conducting damage assessment, mitigation, restoration, monitoring, and post-response management in coordination with appropriate federal and/or state resource agencies and, as appropriate, consistent with NOAA, FWS, and State of Hawai‘i Damage Assessment and Restoration regulations, policies, and procedures (e.g., oil spills, ship groundings, tsunami-generated marine debris, damage assessments, monitoring alien species, monitoring coral bleaching events, collection of bleached coral or alien species); (ALL MMB AGENCIES) and
    b. Conducting activities in response to an unusual mortality event (including but not limited to threatened and endangered species, marine mammals, and migratory birds) mass stranding or other urgent species response. (NOAA) (STATE) (FWS) Note: Activities occuring on or around species on the Endangered Species list shall consult the appropriate lead agency prior to taking action.

CULTURAL AND HISTORICAL RESOURCE IDENTIFICATION AND PROTECTION

19. Removing, moving, taking, harvesting, possessing, injuring, disturbing; or attempting to remove, move, take, harvest, possess, injure, or disturb post-contact artifacts as needed, subject to National Historic Preservation Act (NHPA) consultation when applicable, for the purpose of identifying, documenting, interpreting, preserving, and protecting the Monument’s cultural and historic resources. (ALL MMB AGENCIES)

20. Monitoring and surveying historic sites. (ALL MMB AGENCIES)
21. Conducting or allowing for the preservation and conservation of artifacts subject to successful NHPA Section 106 consultation and appropriate approvals from other Federal agencies (e.g., U.S. Navy), when applicable. (ALL MMB AGENCIES)

22. Non-commercial filming and photographic activities for the purposes of further documenting and capturing the history of the NWHI. (ALL MMB AGENCIES)

23. Locating historic artifacts using passive side scan sonar, metal-detector, or (land-based) ground penetrating radar. (ALL MMB AGENCIES)

24. Returning of any previously collected samples to appropriate areas in Papahānaumokuākea with proper cultural and biological protocols and in coordination with appropriate federal and/or state resource agencies and community partners, including OHA and the Papahānaumokuākea Native Hawaiian Cultural Working Group, as appropriate. (ALL MMB AGENCIES)

25. Recording of atmospheric, celestial, biological, and other environmental observations for the purpose of developing and understanding natural trends, changes and cycles. (ALL MMB AGENCIES)

26. Conducting native Hawaiian cultural protocols and ceremonies, including offering of culturally and biologically appropriate hoʻokupu in accordance with Monument regulations and Best Management Practices. (ALL MMB AGENCIES)

27. Removing, moving, taking, harvesting, possessing, injuring, disturbing; or attempting to remove, move, take, harvest, possess, injure, or disturb non-living culturally significant natural materials acquired during Monument operations and activities for cultural ceremony, practices and education. (ALL MMB AGENCIES)

28. Transferring culturally significant natural materials acquired during Monument operations and activities to Hawaiian cultural practitioners, in coordination with appropriate federal and/or state resource agencies and community partners, including OHA and the Papahānaumokuākea Native Hawaiian Cultural Working Group, and with the appropriate transfer documents and required permits. (ALL MMB AGENCIES)

29. Maintaining, preserving, caring for, and perpetuating Native Hawaiian wahi kūpuna (cultural sites) and iwi kūpuna (ancestral bones) in accordance with proper cultural protocols and consultation per the NHPA, Native American Graves Protection and Repatriation Act, Archeological Resources Protection Act, American Indian Religious Freedom Act and applicable sections of the Hawaiʻi State Constitution, Hawaiʻi Revised Statutes and Hawaiʻi Administrative Rules. (ALL MMB AGENCIES)

30. Conducting activities necessary for maintaining and preserving historic sites on Midway Atoll. (ALL MMB AGENCIES)

OUTREACH AND EDUCATION

31. Gathering information and experiences from personnel within the Monument to develop agency web pages, Navigating Change projects, and other Monument educational outreach products. (ALL MMB AGENCIES)

32. Removing, moving, taking, harvesting, possessing, injuring, disturbing; or attempting to remove, move, take, harvest, possess, injure, or disturb non-living debris and biological samples and specimens such as albatross boluses and carcasses for educational and/or outreach projects. (ALL MMB AGENCIES)

33. Transferring educational and outreach materials (e.g., albatross boluses or other non-living debris or biological samples) shall be according to one of the following categories, subject to all applicable permits and Monument Management Board (MMB) approved transfer documents: (ALL MMB AGENCIES)

    a. *Internal transfers*. Transfers among the MMB agencies provided such educational and/or outreach material shall remain within the custody of the MMB. (ALL MMB AGENCIES)
    b. *External transfers*. Transfers outside of the MMB agencies if authorized in writing, to government agencies and accredited educational institutions, for the purpose of cultivating, informing, or involving constituencies that support or enhance conservation of the natural, cultural, and historic resources of the Monument. (ALL MMB AGENCIES)
    c. *Loan Transfers*. Loans of biological samples or specimens, which must be returned to the MMB with a specified time frame and are subject to conditions stipulated in writing, to government agencies and accredited educational institutions for the purpose of supporting educational or outreach projects that enhance conservation of the natural, cultural, and historic resources of the Monument. (ALL MMB AGENCIES)

34. Conducting news media and VIP site visits to enhance public knowledge and understanding of Monument resources. (ALL MMB AGENCIES)

35. Conducting environmental, cultural, and historical education programs throughout the Monument by designated agency staff and contractors. (ALL MMB AGENCIES)

HAWAIIAN MONK SEAL CONSERVATION AND MANAGEMENT ACTIVITIES

36. Conducting the following population monitoring activities:
    a. Conducting seal assessments by visually identifying animals, and marking and tagging animals; (NOAA)
    b. Instrumenting seals including but not limited to mounted cameras and telemetry tags. (NOAA)

37. Operating unmanned aircraft systems (UAS) to assist in monitoring Hawaiian monk seal population. (NOAA)

38. Traversing Mokumanamana to conduct population assessment surveys only when full surveys cannot be completed by boat landing or UAS operations. (NOAA)

39. Placing acoustic recording devices on submerged sandy substrate to capture underwater vocalizations of Hawaiian monk seals. (NOAA)

40. Installing trail cameras in terrestrial areas at to monitor animal behavior. (NOAA)

41. Disentangling monk seals from marine debris. (NOAA)

42. Conducting health surveillance and response, including but not limited to cutting umbilical cords, antihelminthic treatments, lancing abscesses, administering antibiotics and vaccinations, responding to disease outbreaks, necropsy and collecting/archiving/transferring samples for further research and diagnostic collaboration. (NOAA)

43. Translocating Hawaiian monk seals, consisting of the following types:
    a. *Intra-atoll*: These translocations will include moving seals from areas of high risk where threats are imminent to safer areas and moving pups to promote maternal fostering when necessary. Field staff will perform these movements; greater resources (e.g., veterinarian care) will not typically be necessary. (NOAA)
    b. *Inter-atoll*: These translocations will include transport of weaned female pups from atolls/islands of low survival to those of higher survival. (NOAA)
    c. *MHI-NWHI*: These translocations will include transport of main Hawaiian Island (MHI) seals that are considered a threat to themselves or humans because they have demonstrated a pattern of interacting with humans. (NOAA)
    d. *NWHI-captive care*: Seals may be taken into temporary captivity for treatment at appropriate, federally permitted rehabilitation facilities in the MHI for release back in the NWHI (i.e., permitted for captive care of injured, ill or prematurely weaned seals). (NOAA)
    e. Aggressive male seal translocation to areas with no pups or juveniles. (NOAA)

44. Reuniting nursing mothers and pups, when separated (includes instances of pup switches). (NOAA)

45. Mitigating male aggression towards pups and juveniles (individual and multiple male-based aggression), including utilizing all federally permitted techniques (including, but not limited to, poles, rocks, slingshots, and air horns). Mitigation tools shall be applied as appropriate for the given context (i.e., the intensity, severity and frequency of aggression and the location, with regard to other species in the area such as birds). Mitigation may include temporarily separating males from juveniles by placing either in temporary shore-pens (see below). Mitigation also may include removal of the male(s) from the area by:
    a. Translocation to a location where no pups or juveniles will be harmed; (NOAA)
    b. Placement in an appropriate, federally permitted facility that is agreeable and permitted to care for a male indefinitely; (NOAA)

c. Lethal removal: this type of removal will only be applied when the above two options are not feasible, possible or exhausted. The preferred technique for euthanasia will be via physical means (e.g., firearm, captive bolt, etc.), in order for the carcass to remain in PMNM and for culturally appropriate and environmentally proper disposal to occur. When necessary, chemical euthanasia and removal of the carcass from PMNM will be allowed. (NOAA)

46. Conducting captive care of compromised seals to administer veterinary care and/or food supplementation. Captive care may include the capture and transport of seals to shore-pens (in the NWHI) or facilities in the MHI. NWHI seals under care in the MHI may be returned to the NWHI when a licensed veterinarian deems them rehabilitated and transport is feasible. The seals will then be released to the NWHI site deemed most appropriate for their subsequent survival (determined on the basis of such factors as the intensity and severity of imminent threats to the seals and recent survival trends at each atoll/island). (NOAA)

47. Monitoring shark activity at French Frigate Shoals. Monitoring may include camping on islets with shark incidents on nursing pups and recording shark activity and shark-seal interactions via hand-held or mounted cameras (cameras will be mounted on a pole 15' or less with no guy wires to be used only during the field season and attended daily by field staff). (NOAA)

48. Placing temporary shore-pens at select NWHI breeding sites to facilitate monk seal recovery activities described here within (e.g., translocations, captive care, and male aggression mitigation). (NOAA)

49. Attracting Monument living marine resources using baited hooks, with bait to include fish parts (brought from outside the Monument), shark remains (obtained from permitted activities), and salvaged monk seal tissues (obtained from deceased monk seals at French Frigate Shoals and brought from outside the Monument). (NOAA)

50. Removing, moving, taking, possessing, injuring, or disturbing; or attempting to remove, move, take, possess, injure, or disturb up to **13** Galapagos sharks (*Carcharhinus galapagensis*) within a distance of 700 meters from the shorelines of Trig, Gin, Little Gin and Round islets in consultation with OHA and the Papahānaumokuākea Native Hawaiian Cultural Working Group. Only Galapagos sharks with a minimum size of 2 meters (6.5 feet) tail length or greater shall be lethally removed. Permittees are required to safely release Galapagos sharks smaller than the minimum size limit as well as all other non-target species. The following four removal methods are authorized:

    a. Deploying a *hand-held harpoon* from shore or small boat when a targeted Galapagos shark is observed. Targeted shark shall then be hauled on shore or alongside a small boat for humane euthanasia using a .44 caliber bang stick. (NOAA)

b. Deploying a baited *handline* from shore or small boat. Targeted shark caught shall then be hauled on shore or alongside a small boat for humane euthanasia using a .44 caliber bang stick. (NOAA)

c. Deploying *bottomsets*, where each bottomset shall have a maximum of ten baited hooks and a buoy line at the top and an anchor (9-12 lb) at the bottom. All bottomset gear shall be deployed only on sandy substrate and shall be closely monitored by field project personnel. (NOAA)

d. Deploying *drumlines*, where each drumline shall consist of a single baited hook and drum-buoy with gear configuration to allow baited hook to rest on the bottom or suspended above the seafloor. All drumline gear shall be deployed only on sandy substrate and shall be closely monitored by field project personnel. (NOAA)

51. Possessing fishing gear in support permitted activities, within a distance of 700 meters from the shorelines of Trig, Gin, Little Gin, and Round islets. All fishing gear shall be monitored closely to prevent mortality of non-target species. (NOAA)

52. Placing anchors on submerged lands that are part of authorized fishing gear. All anchors shall be placed on sandy substrate and all anchors removed when fishing gear is retrieved. (NOAA)

53. Conducting necropsies on euthanized Galapagos sharks on Tern Island, FFS for the purpose of obtaining morphometric measurements, reproductive state, and removing samples of muscle, liver, vertebrae, and gut contents for scientific analyses. (NOAA)

54. Discharging of Galapagos shark remains (post-necropsy) at a distance of approximately 0.5 miles seaward from the FFS breaking reef. Global Positioning System (GPS) coordinates shall be recorded at each carcass discharge site. One carcass, including any lethal by-catch shall be disposed of at each site. (NOAA)

55. Transferring necropsy samples from Galapagos shark remains to researchers for scientific analyses:
    a. Diet analysis through isotope screening (vertebrae) (NOAA)
    b. Diet analysis through fatty acid profiles (liver) (NOAA)
    c. Ciguatera and mercury level testing (muscle and liver) (NOAA)
    d. DNA analysis from fin clip and stomach contents, if available (NOAA)

56. Transferring biological samples (e.g., teeth and skin) for cultural purposes to practitioners shall occur only to such persons conducting protocol in PMNM. (NOAA)

57. Erecting temporary polyvinyl tents for housing monk seal field teams at French Frigate Shoals, Laysan, Lisianski, Pearl and Hermes and Kure. One tent at each site may have a radio antenna extending upwards <10ft. (NOAA)

*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/endangered/
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:

a. How can the activity be conducted with adequate safeguards for the cultural, natural 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, cultural, and historic resources of the Monument as required by Presidential Proclamation 8031, and other applicable law and agency policies and standard operating procedures. All agencies have field protocols and best management practices. These practices and procedures will minimize or eliminate disturbance to wildlife, flora, habitats, and cultural and historic resources. Long and short-term monitoring data is used to inform management and conservation actions to maintain the ecological, cultural and historic integrity of the Monument.

To safeguard all the resources and ecological integrity of the Monument, early and ongoing coordination of interagency activities will occur between the action agency and interested Monument partners as soon as details of activities are identified. For example, Monument partners will document proposed activities under a memo-to-file and a joint calendar of projected activities to be covered under the manager's permit is kept and continually updated by agency staff. In addition, logistics planning and coordination meetings between all Monument Management Board (MMB) agencies may be implemented to further synchronize activities. The goal of early coordination is the commitment to identifying, incorporating, and customizing best management practices for specific activities.

Additionally, pre-access permit and cultural briefings will be conducted for all new personnel entering the Monument and annually for all.

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?

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. Activities will be in support of the Monument Management Plan (2008), including but not limited to priority management needs 3.1: Understanding and Interpreting the NWHI; 3.2: Conserving Wildlife and Habitats; 3.3 Reducing Threats to Monument Resources; 3.5: Coordinating Conservation and Management Activities; and 3.6: Achieving Effective Monument Operations.

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.

On June 15, 2006, President George W. Bush established Papahānaumokuākea Marine National Monument by issuing Presidential Proclamation 8031 (Proclamation; 71 FR 36443, June 26, 2006) under the authority of the Antiquities Act (16 U.S.C. 431), with codifying regulations in 50 CFR Part 404. This Proclamation designated that the Monument would be managed by Department of Commerce through NOAA, Department of the Interior through FWS, and that the State of Hawai'i's jurisdiction in the region remained unchanged. Through the December 8, 2006 and the January 10, 2017 Memorandums of Agreement (MOA), NOAA, FWS, and the State of Hawai'i through the Department of Land and Natural Resources, and the Office of Hawaiian Affairs (OHA), became the agencies responsible for the conservation and management of 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 inside the Monument.

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 end value is to maintain all Monument resources and conduct adaptive management 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 and 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. Appropriate management actions prevent potential adverse impacts that include but are not limited to: invasive species outbreaks, overharvesting of natural resources; marine debris damage; avian disease outbreaks, and monk seal population declines. In addition, the applicants will employ time-tested best management practices to minimize and mitigate adverse impacts.

With regard to shark removal activities at French Frigate Shoals for conservation and management of Hawaiian monk seals, to further safeguard natural resources, NOAA was granted

a catch limit of 20 Galapagos sharks within 700 meters of four islets across French Frigate Shoals (Trig, Gin, Little Gin and Round islets) during the main pupping and weaning season which historically runs from May – September. To date, 7 sharks have been removed in prior years leaving a quota of 13 Galapagos sharks which could be removed during the permit period. The French Frigate Shoals Galapagos shark population is estimated to be in the hundreds or low thousands. The number of Galapagos sharks likely involved in predation of monk seal pups in the shallows (i.e., around the French Frigate Shoals pupping islets) is estimated to be in the low tens based on sonic-tag data (C. Meyer pers comm.). Fishing staff are expert in shark identification and the only shark that is likely to be confused with the Galapagos shark is the grey reef shark; however reef sharks are significantly smaller in size and have been found to reach a maximum size of 1.60 meters in length across the Northwestern Hawaiian Islands. It is for this reason, as well as information obtained from C. Meyer's work on movement behavior of tagged Galapagos sharks, that the applicants are limiting removal to lethally take Galapagos sharks with a minimum size of two meters (6.5 feet) tail length or greater. NOAA would be required to as safely as possible release all Galapagos sharks smaller than two meters tail length, as well as all other non-target species.

e. Explain how 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.

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

The applicants and their representative management, biological, interpretive, law enforcement, administrative, and education and outreach staff possess high levels of expertise and knowledge of the ecosystem and locations within the Monument. These experts provide their knowledge and recommendations in all management decisions so that all impacts are minimized and mitigated if necessary.

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

The 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.

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 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.

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

All vessels used by the applicants that are not stationed in the Monument will be outfitted with a functional NOAA Office of Law Enforcement type-approved Vessel Monitoring System as required by 50 CFR Part 404.5 and stated in the Proclamation.

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 listed activities inappropriate.

8. Procedures/Methods:
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 Best Management Practices, policies, and procedures, among others that may be developed, when operating in the Monument:

1. Marine Alien Species Inspection Standards for Maritime Vessels (BMP# 001);
2. Protocol for Acquiring Avian Blood Samples (BMP# 002);
3. Human Hazards to Seabirds (BMP# 003);
4. Best Management Practices for Boat Operations and Diving Activities (BMP# 004);
5. Protocols to Reduce Impact to the Laysan Finch (BMP# 005);
6. General Sampling and Transport Protocols for Collected Samples (BMP# 006);
7. Best Management Practices for Terrestrial Biosecurity (BMP# 007);
8. Seabird Protocols Necessary for Conducting Trolling Research and Monitoring in Papahānaumokuākea Marine National Monument (BMP# 008);
9. Best Practices for Minimizing the Impact of Artificial Light on Sea Turtles (BMP# 009);
10. Marine Wildlife Viewing Guidelines (BMP# 010);
11. Disease and Introduced Species Prevention Protocol for Permitted Activities in the Marine Environment (BMP# 011);
12. Precautions for Minimizing Human Impacts on Endangered Land Birds (BMP# 012);
13. Nonnative Species Inspection Requirements at Midway Atoll (BMP# 015);
14. Best Management Practices for Activities on Nihoa (BMP# 016);
15. Best Management Practices for Maritime Heritage Sites (BMP# 017);
16. Rodent Prevention and Inspection Standards for Permitted Vessels (BMP# 018);

17. Best Management Practices for Activities on Mokumanamana (Necker Island) (BMP# 019);
18. Best Management Practices to minimize the spread of Chondria tumulosa (BMP# 20);
19. Health and Safety Plans, and Emergency Response Plans;
20. All FWS refuge policies and procedures for conduct in the two wildlife refuges (Hawaiian Islands National Wildlife Refuge and Midway Atoll National Wildlife Refuge);
21. All policies and procedures for conduct in Northwestern Hawaiian Islands Hawai‘i State Marine Refuge and Kure Atoll State Seabird Sanctuary;
22. Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve Executive Orders;
23. Hawai‘i Administrative Rules, §13-60.5, the Hawai‘i Revised Statutes, § 187A-6; and
24. All other applicable state and federal laws and regulations.

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):

Collections will occur as necessary to support the management activities listed under Question 6, Number 2 (Resource Survey and Monitoring). Collections will occur as needed in the following instances:

- Collecting species for propagation or translocation;
- Collecting post-contact artifacts as needed;
- Collecting biological, climatological, chemical, geological, or archaeological samples for study;
- Collection of biological voucher specimens that cannot be visually identified on the spot and/or may represent new geographic records or new species;
- Collection of culturally significant natural materials for cultural ceremonies and practices;
- Collection of specimens and biological samples for educational outreach activities; and
- Collection of specimens and biological materials for monitoring and research purposes to include organisms found dead and non-lethal biological samples, if such collection supports stated research or monitoring needs. (For example: birds collected to determine cause of death; birds and other samples collected for other information (e.g. genetic or isotope analyses); plastic pollution studies; and feather and egg samples for genetic and isotope sampling.)

Answers to the following will be dependent on specific management activities, and will be reported on per activity to document and track actual collections.

Common name:

Scientific name:

& size of specimens:

Collection location:

☒ Whole Organism ☒ Partial Organism

9b. What will be done with the specimens after the project has ended?
Collections and specimens will be processed and archived according to agency protocols and Monument Best Management Practices. Some material may be provided for educational use or for museum vouchers and studies. Cultural materials may be provided to Hawaiian cultural practitioners when applicable, in coordination with appropriate federal and/or state resource agencies, including OHA. When practicable, and desirable, collections and specimens will be returned to the Monument at the location of collection.

9c. Will the organisms be kept alive after collection? ☒ Yes ☒ No
Management activity dependent

• General site/location for collections:
Management activity dependent

• Is it an open or closed system? ☒ Open ☒ Closed
Management activity dependent

• Is there an outfall? ☒ Yes ☒ No
Management activity dependent

• Will these organisms be housed with other organisms? If so, what are the other organisms?
Management activity dependent

• Will organisms be released?
Management activity dependent

10. 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.

11. 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. Monument Co-Trustee representatives and the Monument Management Board will work collaboratively to achieve the desired results, thus reducing duplicative sampling.

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

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.

13. 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 on the islands will be used in amounts that will sustain an approved activity for an appropriate time period. Inventory of hazardous materials will be conducted annually to reduce or minimize long term storage in order to reduce spills or accidents per OSHA standards. Unused and old hazardous materials brought into the Monument will be removed appropriately for disposal. All U.S. Department of Transportation safety measures will be followed for storage and transport of hazardous materials within the Monument.

14. Describe any fixed installations and instrumentation proposed to be set in the Monument:
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 for installation of moorings, and permanent monitoring stations;
- Installation and maintenance of moorings, boundary buoys, and permanent monitoring stations; and
- Placement of scientific equipment.

All installed hardware, including but not limited to instrumentation, survey stakes, moorings, buoys, and scientific equipment will be removed from the Monument upon completion of their respective projects.

15. Provide a timeline 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.

16. List all Applicant's publications directly related to the proposed project:
N/A

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.

_____ _____

Jared Underwood Date
Superintendant
Papahānaumokuākea Marine National Monument
U.S. Department of the Interior,U.S. Fish and Wildlife Service

_____

Eric Roberts Date
Acting Superintendent
Papahānaumokuākea Marine National Monument
U.S. Department of Commerce, National Oceanic and Atmospheric Administration

_____

Brian Neilson Date
Division of Aquatic Resources Administrator
State of Hawai‘i, Department of Land and Natural Resources

_____

Sylvia Hussey: Date
Ka Pouhana
Office of Hawaiian Affairs

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

NOAA/Daniel K. Inouye Regional Center
NOS/ONMS/Papahānaumokuākea Marine National Monument
Attention: Permit Coordinator
1845 Wasp Blvd., Building 176
Honolulu, HI 96818
nwhipermit@noaa.gov
PHONE: (808) 725-5800 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