

Papahānaumokuākea Marine National Monument
CONSERVATION AND MANAGEMENT Permit Application

Updated: 11/3/2023

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

ADDITIONAL IMPORTANT INFORMATION:

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

INCOMPLETE APPLICATIONS WILL NOT BE CONSIDERED

Send Permit Applications to:

NOAA/Inouye Regional Center

NOS/ONMS/PMNM/Attn: Permit Coordinator

1845 Wasp Blvd, Building 176

Honolulu, HI 96818

nwhipermit@noaa.gov

PHONE: (808) 725-5800 FAX: (808) 455-3093

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

**Papahānaumokuākea Marine National Monument
Permit Application Cover Sheet**

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

Summary Information

Applicant Name: James Motoharu Morioka

Affiliation: Papahānaumokuākea Marine Debris Project (PMDP) – U.S. 501(c)(3) non-profit organization

Permit Category: Conservation and Management

Proposed Activity Dates: March 1 – October 30, 2024

- PMDP-2024-01 (2024 Mission #1) – Shore-based mission at Kuaihelani (Midway Atoll)
 - Tentative Dates: **April 19 – May 3, 2024**
 - Flight from Honolulu to Kuaihelani: TBD Chartered Flight April 19, 2024
 - Flight from Kuaihelani to Honolulu: TBD Chartered Flight May 3, 2024
 - Gear Transport from Honolulu to Kuaihelani: M/V Imua February 1-14, 2024
 - Gear delivered to Kuaihelani ~February 7, 2024
 - Gear Transport from Kuaihelani to Honolulu: M/V Imua May 9-20, 2024
 - Gear picked up from Kuaihelani ~May 14, 2024
- PMDP-2024-02 (2024 Mission #2) – Ship-based mission at all islands and atolls of Papahānaumokuākea
 - Tentative Dates: **August 3 – September 1, 2024**
 - Departure from Honolulu: M/V Imua August 3, 2024
 - Arrival in Honolulu: M/V Imua September 1, 2024
 - Gear Loading in Honolulu: August 2, 2024
 - Gear Offloading in Honolulu: September 3, 2024
- PMDP-2024-03 (2024 Mission #3) – Ship-based mission at all islands and atolls of Papahānaumokuākea
 - Tentative Dates: **September 10 – October 9, 2024**
 - Departure from Honolulu: M/V Imua September 10, 2024
 - Arrival in Honolulu: M/V Imua October 9, 2024
 - Gear Loading in Honolulu: September 9, 2024
 - Gear Offloading in Honolulu: October 10, 2024

Proposed Method of Entry (Vessel/Plane):

- PMDP-2024-01: Chartered Plane (TBD)
- PMDP-2024-02: Chartered Vessel (M/V Imua)
- PMDP-2024-03: Chartered Vessel (M/V Imua)

Proposed Locations: Marine debris survey and removal efforts will occur across the following islands and atolls in the Northwestern Hawaiian Islands in the Papahānaumokuākea Marine National Monument (listed in order from east to west):

- Lālo (French Frigate Shoals)
- Kamokuokamohoali'i (Maro Reef)
- Kamole (Laysan Island)
- Kapou (Lisianski Island)
- Manawai (Pearl and Hermes Atoll)
- Kuaihelani (Midway Atoll)
- Hōlanikū (Kure Atoll).

Hereinafter all islands and atolls will be referred to by their Hawaiian names.

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

- PMDP-2024-01: 12 PMDP staff
- PMDP-2024-02: 16 PMDP staff and 7 M/V Imua staff
- PMDP-2024-03: 16 PMDP staff and 7 M/V Imua staff

Estimated number of days in the Monument: 75

- PMDP-2024-01: 15 days
- PMDP-2024-02: 30 days
- PMDP-2024-03: 30 days

Description of proposed activities: (complete these sentences):

a.) The proposed activity would...

“allow for large-scale marine debris survey and removal operations to occur in the Monument in support of priorities identified in Monument management and recovery plans, included but not limited to: 1) [Papahānaumokuākea Marine National Monument \(PMNM\) Management Plan](#) (hereinafter referred to as the MMP) (specifically 3.3: Reducing Threats to Monument Resources – 3.3.1: Marine Debris (MD) Action Plan – “Reduce the adverse effects of marine debris to PMNM resources and reduce the amount of debris entering the North Pacific Ocean”), 2) [Hawai'i Marine Debris Action Plan \(HI-MDAP\)](#), 3) [Recovery Plan for the Hawaiian Monk Seal](#), 4)

[Mai Ka Po Mai: A Guidance Document for Papahānaumokuākea](#), 5) [Endangered Species Act of 1973 \(ESA\)](#) and the 6) [Marine Mammal Protection Act of 1972 \(MMPA\)](#).”

The NOAA Northwestern Hawaiian Islands (NWHI) Marine Debris Project, henceforth referred to as the ‘Project’, commenced its operations in 1996 and was spearheaded by NOAA Fisheries in collaboration with various partner agencies until the year 2021. Over the years, the Project has underscored the imperative of conducting large-scale marine debris removal initiatives to safeguard marine wildlife, notably the endangered Hawaiian monk seal, threatened green sea turtle, and other marine species.

Between 2015-2021, James Morioka (Executive Director, Papahānaumokuākea Marine Debris Project (PMDP)) and Kevin O’Brien (President and Founder, PMDP jointly directed and managed the Project. This was prior to the establishment of PMDP in 2019. PMDP now leads the Project in the PMNN, following successful collaborative missions with NOAA, U.S. Fish and Wildlife Services (USFWS) and the State of Hawai‘i Department of Land and Natural Resources (DLNR) in 2020-2021. Subsequently, PMDP has independently orchestrated and executed four successful field missions in 2022 and 2023, successfully removing a cumulative weight of 202,950 pounds (101 tons) of marine debris in 2022 and 212,410 pounds (106 tons) in 2023. Looking ahead, PMDP envisions removing over 200,000 pounds (100 tons) of marine debris in 2024.

b.) To accomplish this activity, we would

The Papahānaumokuākea Marine Debris Project (PMDP) will concentrate its efforts on achieving the following objectives:

- Surveying for and removing derelict fishing gear (DFG) from shallow coral reef environments (0-30 ft depth) at Lālo (French Frigate Shoals), Kamokuokamohoali‘i (Maro Reef), Manawai (Pearl and Hermes Atoll), Kuaihelani (Midway Atoll), and Hōlanikū (Kure Atoll).
- Surveying for and removing DFG, plastics, and other entanglement hazards from shoreline habitats at Lālo (French Frigate Shoals), Kamole (Laysan Island), Kapou (Lisianski Island), Manawai (Pearl and Hermes Atoll), Kuaihelani (Midway Atoll), and Hōlanikū (Kure Atoll).
- Opportunistically removing large marine debris items such as buoys, derelict small boats, and other material.
- Evaluating the rates of marine debris accumulation and assessing its abundance and distribution on coral reefs and shorelines.
- Assessing ecological impacts of DFG on coral reef environments through photographic surveys.
- Disentangling protected wildlife, including Hawaiian monk seals, sea turtles, and sea birds, from marine debris when human intervention is necessary or possible.

- Conducting opportunistic surveys of Hawaiian monk seals and sea turtles, including capturing and tagging weaned Hawaiian monk seal pups when appropriate.
- Utilizing small Unmanned Aerial Systems (sUAS) surveys to enhance marine debris detection, thereby increasing operational efficiency, and assessing the abundance and distribution of marine debris on coral reefs and shorelines. Additionally, exploring a potential partnership with the University of Hawaii at Manoa to utilize sUAS surveys for quantifying and characterizing shoreline marine debris in PMNM.
- Utilizing Diver Propulsion Vehicle (DPV) surveys to aid in the detection of marine debris underwater, enhancing operational efficiency, and assessing the abundance and distribution of marine debris on coral reefs.
- Conducting Native Hawaiian cultural protocols to include ho'okupu (offering) consisting of ti leaf and if permitted, wai (freshwater), pa'akai (salt), 'awa (dried Piper methysticum), kalo (taro), or ulu (breadfruit).

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

“supporting priorities identified in Monument management and recovery plans, included but not limited to: 1) [Papahānaumokuākea Marine National Monument \(PMNM\) Management Plan](#), 2) [Hawai'i Marine Debris Action Plan \(HI-MDAP\)](#), 3) [Recovery Plan for the Hawaiian Monk Seal](#), 4) [Mai Ka Po Mai: A Guidance Document for Papahānaumokuākea](#), 5) [Endangered Species Act of 1973 \(ESA\)](#) and the 6) [Marine Mammal Protection Act of 1972 \(MMPA\)](#).”

1. Papahānaumokuākea Marine National Monument (PMNM) Management Plan (MMP) (Link HERE)

Led by Monument Management Board (MMB)

Volume 1: December 2008

3.1: Understanding and Interpreting the NWHI.

- 3.3.1: Marine Conservation Science Action Plan.
 - Strategy Marine Conservation Science (MCS)-1: Continue and enhance research, characterization and monitoring of marine ecosystems for the life of the plan, as appropriate.
 - Activity MCS-1.1: Continue to characterize type and spatial distributions of shallow-water marine habitats to inform protection and management efforts.
 - MCS-1.2: Continue monitoring of shallow-water coral reef ecosystems to protect ecological integrity.
 - MCS-2: Assess and prioritize research and monitoring activities over the life of the plan.

- Theme of Natural Resources Science Plan (NRSP): Research on human impacts (marine debris).
 - MCS-3: Communicate results of research and monitoring over the life of the plan.
 - MCS-3.3: Include an educational component in marine research expeditions.
 - MCS-3.4: Use materials gathered and created through research to develop or enhance education and outreach products.
- 3.1.2: Native Hawaiian Culture and History (NHCH) Action Plan.
 - NHCH-2: Conduct, support, and facilitate Native Hawaiian cultural access and research of the NWHI over the life of the plan.
 - NHCH-2.3: Facilitate cultural field research and cultural education opportunities annually.
 - NHCH-2.6: Continue to facilitate Native Hawaiian cultural access.
 - NHCH-3: Increase cultural resource management capacity across MMB agencies over the life of the plan.
 - NHCH-3.2: Engage Native Hawaiian practitioners and cultural experts and the Native Hawaiian Cultural Working Group in the development and implementation of the Monument's management activities.
 - NHCH-3.4: Identify and integrate Native Hawaiian traditional knowledge and management concepts into Monument management.
 - NHCH-5: Provide cultural outreach and educational opportunities to serve the Native Hawaiian community and the general public over the life of the plan.
 - NHCH-5.1: Integrate Native Hawaiian values and cultural information into general outreach and education programs.
 - NHCH-5.2: Develop a culturally based strategy for education and outreach within the Native Hawaiian community.

3.2: Conserving Wildlife and Habitats.

- 3.2.1: Threatened and Endangered Species (TES) Action Plan.
 - TES-1: Support activities that advance recovery of the Hawaiian monk seal for the life of the plan.
 - TES-1.1: Support marine debris removal activities to promote recovery.
 - TES-1.3: Conserve Hawaiian monk seal habitat.
 - TES-1.5: Support outreach and education on Hawaiian monk seals.
 - TES-2: Determine the status of cetacean populations and verify and manage potential threats over the life of the plan.
 - TES-2.3: Monitor, characterize, and address the effects of marine debris on cetaceans in the Monument.

- TES-3: Ensure that nesting populations of green turtles at source beaches are stable or increasing over the life of the plan.
 - TES-3.2: Protect and manage nesting and basking habitat.
 - TES-3.3: Protect and manage marine habitat, including foraging areas and migration routes.
- 3.2.2: Migratory Birds (MB) Action Plan.
 - MB-2: Minimize the impacts of threats to migratory birds such as habitat destruction by invasive species, disease, contaminants (including oil), and fisheries interactions for the life of the plan.
 - MB-2.5: Work with partners to reduce the impact of commercial and sport fisheries outside the Monument on migratory bird populations.
- 3.2.3: Habitat Management and Conservation (HMC) Action Plan.
 - HMC-1: Within 15 years, develop and implement a strategy for restoring the health and biological diversity of the shallow reefs and shoals where anthropogenic disturbances are known to have changed the ecosystem, using best available information about pre-disturbance conditions.
 - HMC-1.1: Identify and prioritize restoration needs in shallow water reef habitats impacted by anthropogenic disturbances within 5 years.

3.3: Reducing Threats to Monument Resources.

- 3.3.1: Marine Debris (MD) Action Plan.
 - MD-1: Remove and prevent marine debris throughout the life of the plan.
 - MD-1.1: Continue working with partners to remove marine debris in the Monument and reduce additional debris entering the Monument.
 - MD-1.2: Catalog, secure, contain, and properly remove hazardous materials that wash ashore in the NWHI.
 - MD-1.3: Develop and implement a 5-year marine debris removal and prevention strategy for the Monument.
 - MD-2: Investigate the sources, types, and accumulation rates of marine debris within 5 years.
 - MD-2.1: Work with partners on marine debris studies.
 - MD-2.2: Develop and standardize marine debris monitoring protocols for marine and terrestrial habitats.
 - MD-3: Develop outreach materials regarding marine debris within 2 years.
 - MD-3.1: Work with partners to continue to develop and implement an outreach strategy for marine debris.
- 3.3.2: Alien Species (AS) Action Plan (specifically for ‘nuisance’ algae, *Chondria tumulosa* at Manawai, Kuaihelani, and Hōlanikū).

- AS-1: Conduct planning to prioritize by threat level, invasiveness, and practicality of eradication or control all nonnative organisms in the Monument over the life of the plan.
 - AS-1.1: Complete an Integrated Alien Species Management Plan (IASMP).
 - AS-1.2: Develop best management practices to prevent, control, and eradicate alien species.
- AS-2: Engage in active surveillance to monitor existing infestations and to detect new infestations of alien species over the life of the plan.
 - AS-2.1: Survey distributions and populations of known alien species at regular intervals.
 - Develop and implement monitoring protocols for early detection and characterization of new infestations.
- AS-3: Establish and enforce quarantine procedures appropriate for each site and habitat (terrestrial and aquatic) in the Monument to prevent the invasion or reinfestation of nonindigenous species over the life of the plan.
 - AS-3.1: Enforce the use of existing quarantine protocols to prevent the introduction of invasive terrestrial species to the Monument.
- AS-8: Conduct and facilitate research designed to answer questions regarding invasive species detection, effects on ecosystems, and alien species prevention, control, and eradication over the life of the plan.
 - AS-8.1: Support and conduct research on alien species detection and the effects of invasive species on native ecosystems.
 - AS-8.2: Support and conduct research on invasive species prevention, control methods, and eradication techniques.
- AS-9: Engage Monument users and the public in preventing the introduction and spread of alien species.
 - AS-9.2: Integrate alien species information into general Monument outreach materials.
- AS-10: Participate in statewide and Pacific regional alien species efforts.
 - AS-10.1: Build relationships with other resource managers and invasive species experts in the State, nation, and other countries based on shared challenges concerning invasive species.
- 3.3.4: Emergency Response and Natural Resource Damage Assessment (ERDA) Action Plan.
 - ERDA-1: Create a Monument Emergency Response and Assessment Team within 1 year.
 - ERDA-1.4: Participate in damage assessment programs and training throughout the life of the plan.
 -

3.5: Coordinating Conservation and Management Activities.

- 3.5.1: Agency Coordination (AC) Action Plan.
 - AC-2: Establish and support cooperative management agreements with agency partners.
 - AC-2.2: Establish agreements for coordinated management and conduct cooperative management operations.
 - AC-2.3: Develop interagency agreements, grants, and memoranda of agreement as needed to carry out specific program priorities.
 - AC-3: Promote international, national, and local agency collaborations to increase capacity building and foster networks that will improve management effectiveness.
 - AC-3.2: Network with other marine protected areas in the Pacific.
- 3.5.2: Constituency Building and Outreach Action Plan.
 - CBO-1: Develop and implement an integrated communications strategy, based on assessment of ongoing activities and future needs, to coordinate outreach and engage Monument constituencies within 5 years.
 - CBO-1.1: Develop an integrated communications strategy based on an assessment of ongoing activities and future needs.
 - CBO-1.2: Continue to refine and implement the Monument Media Communications Protocol to engage news media in informing the public about the Monument's resources and activities.
 - CBO-1.4: Incorporate new perspectives for understanding the value of NWHI ecosystems, including socioeconomic studies, to increase ocean ecosystems literacy and conservation in the Monument within 5 years.
 - CBO-1.5: Research and implement new technologies and tools to increase public understanding of the NWHI ecosystems within 5 years.
 - CBO-2: Continue to develop and disseminate materials and improve and update tools that help inform Monument constituencies about the Monument over the life of the plan.
 - CBO-2.2: Continue to develop and update printed materials to aid Monument constituencies in understanding key aspects of the Monument.
 - CBO-2.3: Support other entities' efforts to broaden knowledge of and appreciation for Monument resources and management priorities.
 - CBO-3: Continue initiatives that allow Monument constituencies to be more involved in the Monument and enhance opportunities for long-term engagement over the life of the plan.
 - CBO-3.1: Continue to seek out and participate in events that reach a broader audience and provide constituents with knowledge of the Monument.

- CBO-3.3: Continue to seek out and support partnership opportunities that focus on Oceania-related issues.
 - CBO-3.6: Continue to support the Native Hawaiian Cultural Working Group through the Office of Hawaiian Affairs.
 - CBO-3.8: Continue to convene the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve Advisory Council (RAC) through NOAA's Office of National Marine Sanctuaries until the Monument Alliance is established.
- 3.5.3: Native Hawaiian Community Involvement (NHCI) Action Plan.
 - NHCI-2: Develop and annually maintain partnerships with Native Hawaiian organizations and institutions.
 - NHCI-2.1: Continue to expand and explore opportunities to partner with institutions serving Native Hawaiians,
 - NHCI-3: Identify and integrate Native Hawaiian traditional knowledge and management concepts into Monument management annually for the life of the plan.
 - NHCI-3.1: Engage the Native Hawaiian community to identify how traditional knowledge will be integrated into Monument activities.
 - NHCI-3.2: Use and integrate Native Hawaiian traditional knowledge in Monument management activities.
- 3.5.4: Ocean Ecosystems Literacy (OEL) Action Plan.
 - OEL-1: Develop and implement educational programs in Hawai'i to increase ocean ecosystems literacy and promote stewardship values within 5 years.
 - OEL-1.3: Develop an ocean stewardship program for middle school and high school students within 5 years.
 - OEL-2: Develop and implement new tools to "bring the place to the people", with a focus on students, within 3 years.
 - OEL-2.1: Identify and prioritize research and development projects to increase ocean ecosystems literacy and conservation in the NWHI.
 - OEL-2.2: Use telepresence for educational and outreach activities within 5 years.

3.6: Achieving Effective Monument Operations.

- 3.6.3: Coordinated Field Operations (CFO) Action Plan.
 - CFO-2: Enhance interagency planning and coordination for field operations in support of Monument protection and management, and develop protocols and processes that will be utilized throughout the life of the plan.
 - CFO-2.1: Develop interagency agreements to facilitate effective field coordination throughout the Monument.

- CFO-2.2: Develop and implement standardized field operations protocols.
- CFO-2.4: Annually coordinate field operations to efficiently deploy personnel and share resources among agency partners.

2. **Hawai'i Marine Debris Action Plan (HI-MDAP)** ([Link HERE](#))

Led by NOAA Marine Debris Program (MDP)

December 2021

Goal 1: Prevention.

- Strategy 1.1: Change consumer behavior through outreach and education.
 - Action 1.1.1: Use social media as a platform for outreach.
 - 1.1.2: Conduct education and outreach to the general public, residents, military community, and visitors through, but not limited to, presentations, news events, featured speakers, and film screenings.
 - 1.1.6: Conduct education and outreach at schools and universities.
 - 1.1.6: Provide education on alternative products, make them accessible, and promote their use.
 - 1.1.8: Work with Hawai'i Marine Debris Action Plan (HI-MDAP) researchers to support one another in sharing accurate scientific information to the local community.
 - 1.1.9: Educate the public on marine debris generated through the commercial fishing industry, encourage increased understanding of where seafood comes from and how to support local fishers.

Goal 2: Ocean-based Marine Debris.

- 2.1: Conduct education and outreach to ocean users on proper and legal waste management at sea.
 - 2.1.5: Educate and promote consumer understanding of the marine debris costs associated with certain fisheries and seafood choices.
- 2.2: Identify funding and provide low-cost and convenient disposal options for fishing gear and solid waste.
 - 2.2.6: Partner in the Hawai'i Nets-to-Energy program.
- 2.3: Identify fishing materials and practices designed to reduce marine debris.
 - 2.3.1: Gather and share best management practices for coastline fishing gear and methods.
 - 2.3.2: Learn more about smart fish aggregating devices (FAD).
- 2.4: Create public-private partnerships to develop industry standards for reducing marine debris.

- Engage with fisheries and gear manufacturers that are determined to be the source of derelict fishing gear washing into Hawai'i.
- 2.7: Effectively respond to abandoned and derelict vessels.
 - 2.7.2: Enhance interagency coordination for addressing abandoned and derelict vessels and maintain an abandoned and derelict vessel inventory for remote or difficult to access coastlines.

Goal 3: Removal.

- 3.1: Utilize effective methods to locate marine debris accumulation.
 - 3.1.1: Continue to support the advancement of at-sea detection for marine debris through remote sensing.
 - 3.1.2: Continue monitoring efforts in the Papahānaumokuākea Marine National Monument to identify accumulation sites.
 - 3.1.6: Conduct annual aerial shoreline surveys and ground truthing (if UAS aerial surveys are permitted).
 - 3.1.7: Tag derelict fishing gear with GPS buoys to determine their location and potential marine debris accumulations.
- 3.3: Use available information to prioritize cleanup sites.
 - 3.3.2: Continue engagement with county, state and federal marine wildlife representatives regarding their high-priority regions/seasons by island.
- 3.4: Develop capacity for marine debris removal and disposal.
 - 3.4.1: Create and update island-specific flow chart options depicting the disposal and collaboration process.
 - 3.4.3: Expand the development and capacity to repurpose and recycle salvaged marine debris into infrastructure, materials, and products across all islands.
 - 3.4.8: Create a shared understanding within and outside of the Hawai'i Marine Debris Action Plan community, on what happens to debris after disposal.
- 3.5: Increase communication and collaboration to efficiently remove marine debris.
 - 3.5.4: Provide financial and logistical support for large-scale marine debris removal in the Papahānaumokuākea Marine National Monument.
 - 3.5.6: Develop and maintain a network of nongovernmental organizations and other partner on-water resources that can perform regular near-shore debris mass surveys, removal training, and removal operations, and coordinate disposal of debris found with shore-based cleanup partners.

Goal 4: Research

- 4.1: Develop an understanding of marine debris physical and chemical traits, life cycle, sources, transport, fate, quantity, and accumulation rate.
 - 4.1.1: Conduct shoreline and in-water surveys regularly, and share data and survey methods to determine accumulation rates.

- 4.1.4: Use spatial mapping to compare areas of high removal effort to standing debris accumulations in order to evaluate the impact of cleanups and site monitoring.
 - 4.1.7: Better identify sources of hagfish traps to determine the best prevention efforts.
 - 4.1.8: Create a database of derelict fishing gear types and metrics in Hawai'i in order to try and identify the fishery or manufacturer sources.
 - 4.1.11: Identify funding to continue sourcing derelict fishing gear marine debris and scaling up a centralized detection, removal, research, and repurposing program.
- 4.2: Develop or identify standardized methods or best management practices for applicable aspects of research to ensure data can be meaningfully analyzed.
 - 4.2.5: Identify standardized shoreline and in-water monitoring protocols throughout Hawai'i.
 - 4.2.8: Develop a method to identify gear types from derelict fishing gear.
- 4.3: Enhance and advance research on the ecological impacts of marine debris.
 - 4.3.1: Research the interaction of invasive species with marine debris, including species identification, impacts, transport, and fate.
 - 4.3.3: Monitor and assess information on the impacts of entanglement on wildlife.
 - 4.3.4: Monitor and assess information on the impacts of marine debris to habitats.
 - 4.3.6: Use structure-from-motion (SFM) imagery to quantify the volume of coral reef damage by derelict fishing gear strikes in Kaneohe Bay.
- 4.4: Improve research on the economic impacts of marine debris.
 - 4.4.5: Research the economic impacts of derelict fishing gear in Hawai'i.
- 4.5: Evaluate the effectiveness of mitigation, outreach, and removal efforts of marine debris.
 - 4.5.2: Investigate the effectiveness of marine debris and plastic education and outreach.
- 4.6: Support communication and collaboration of research to all stakeholders.
 - 4.6.1: Improve collaboration and data sharing amongst the local marine debris community through the publishing, compiling, and sharing of marine debris research completed in Hawai'i state and regional waters.
 - 4.6.4: Explore and share funding opportunities and develop partnerships to approach funding opportunities.
 - 4.6.5: Collaborate with international partners for marine debris research.
 - 4.6.6.: Participate in international conferences, partnerships, and other avenues of information sharing to highlight the relevance of marine debris in Hawai'i.

3. Recovery Plan for the Hawaiian Monk Seal (*Monachus schauinslandi*) ([Link HERE](#))

August 2007

Led by NOAA National Marine Fisheries Service

Recovery Goal: The goal of this revised recovery plan is to assure the long-term viability of the Hawaiian monk seal in the wild, allowing initially for reclassification to threatened status, and, ultimately, removal from the List of Endangered and Threatened Wildlife.

Significant threats that face this species: Entanglement of seals in marine debris has and continues to result in significant levels of seal mortality.

- Strategy 1: Improve the survivorship of females, particularly juveniles, in sub-populations of the NWHI. To do this requires:
 - Continuing actions to remove marine debris and reduce mortality of seals due to entanglement.

Recommended short-term actions:

- Strategy 2: Prevent entanglements of monk seals.
 - Action 2.1: Continue programs that facilitate the disentanglement of animals.
 - 2.2: Continue removing potentially hazardous debris.
 - 2.2.1: Continue focused clean-up effort on high entanglement risk zones in the water.
 - 2.2.1.1: Monitor marine debris accumulation rates and identify areas of greatest potential risk.
 - 2.2.1.2: Remove debris from beaches.
 - 2.3: Reduce the amount of debris.
 - 2.3.2: Implement education and marine debris reduction programs targeting identified sources.

4. Mai Ka Pō Mai: A Native Hawaiian Guidance Document for the Management of Papahānaumokuākea Marine National Monument ([Link HERE](#))

2021, Office of Hawaiian Affairs (added as a PMNM Co-Trustee in 2017)

Ho'oku'i: Papahānaumokuākea represents the rich Hawaiian heritage, cultural experiences, and wisdom that have cultivated healthy relationships among places and their peoples through time and space.

- Na Kuhikuhi (Strategies) Ho'oku'i-2: Ensure that policies and programs incorporate relevant cultural knowledge.

- Ho'oku'i-3: Use Hawaiian knowledge, language, values, traditions, and concepts throughout all areas of management and activities.
- Ho'oku'i-4: Manage data to support Monument and community based management.

Kūkulu 1. Ho'omana: Papahānaumokuākea is a living spiritual foundation and natural environment for Hawaiian existence.

- Ho'omana 1-1: Manage the natural-cultural landscape through the practice of aloha 'āina.
- Ho'omana 1-2: Perpetuate Hawaiian cultural practices, knowledge, and values.
- Ho'omana 1-3: Enhance protections through access for Native Hawaiians.
- Ho'omana 1-4: Amplify the cultural and spiritual experience.

Kūkulu 2. Hō'ike: Papahānaumokuākea is an abundant source of ancestral knowledge and a place where experts demonstrate excellence and advance knowledge systems.

- Hō'ike 2-1: Conduct research and monitoring in a manner that incorporates multiple perspectives, knowledge systems, and values.
- Hō'ike 2-2: Support, facilitate, and conduct Hawaiian methods of science and research.
- Hō'ike 2-4: Promote alignment of research initiatives of the co-managing agencies and permittees to advance Hawaiian research agenda items.

Kūkulu 3. Ho'oulu: Inspire and grow thriving communities.

- Ho'oulu 3-1: Engage and collaborate with communities and leaders involved in mālama 'āina work.
- Ho'oulu 3-3: Develop partnerships and collaborations with other organizations to support Papahānaumokuākea programs and initiatives.
- Ho'oulu 3-4: Develop and support initiatives that focus on next-generation capacity building for leadership succession.

Kūkulu 4. Ho'olaha: Papahānaumokuākea provides cultural pathways and ancestral wisdom that extends through time and space.

- Ho'olaha 4-1: Develop educational programs and initiatives that are based on Hawaiian cultural values, concepts, and traditional resource management stewardship.
- Ho'olaha 4-2: Identify, share, and promote innovative research and other place-based activities in PMNM that can serve as models to inform resource management in the main Hawaiian Islands.
- Ho'olaha 4-4: Incorporate Hawaiian values, traditions, and histories into Monument communication strategies to better connect the public to the Monument.

5. Endangered Species Act, 1973 ([Link HERE](#))

Implemented by NOAA Fisheries and the U.S. Fish and Wildlife Services.

- Section 4: Designates critical habitat for the conservation of the species (endangered Hawaiian monk seal and threatened green sea turtle).
- Section 4: Developing and implementing recovery plans for listed species (endangered Hawaiian monk seal and threatened green sea turtle).
- Section 10: Cooperating with non-federal partners to develop conservation plans, safe harbor agreements, and candidate conservation agreements with assurances for the long-term conservation of species.
- Section 10: Issuing permits that authorize scientific research to learn more about listed species, or activities that enhance the propagation or survival of listed species.

6. Marine Mammal Protection Act, 1972 ([Link HERE](#))

Implemented by NOAA Fisheries, the U.S. Fish and Wildlife Services, and Marine Mammal Commission.

- NOAA Fisheries performs the following conservation and management actions:
- Develops and implements conservation plans for species designated as depleted.
- Develops and implements take reduction plans to minimize dead and seriously injured marine mammals in commercial fishing gear.

Other information or background:

The Hawaiian Archipelago, specifically the Papahānaumokuākea Marine National Monument (PMNM) is centrally situated within the world's largest ocean gyre, known as the North Pacific Gyre. This gyre comprises a system of clockwise ocean currents that gather marine debris originating from the North Pacific Ocean, including regions like East Asia, the Aleutian Islands, the North American West Coast, and the equatorial zone. These debris converge into the gyre's convergence zones, located just north of the Hawaiian Islands. Coupled with prevailing northeast tradewinds and significant north swells, the PMNM becomes a substantial repository for marine debris.

The PMNM encompasses all of the Northwestern Hawaiian Islands (NWHI), including its islands, atolls, coral reefs, shoals, and seamounts. This area holds 70% of all shallow-water coral reef habitats (<200 m) in the United States. Designated a World Heritage Site by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) in 2010, PMNM is home to more than 7,000 marine species, with 25% being endemic, found only in the Hawaiian Archipelago.

Papahānaumokuākea is deeply significant in the ancestry of Kānaka Maoli (Native Hawaiian people), representing an extension of their genealogy tracing back to the elemental energies that birthed the Pae 'āina Hawai'i (Hawaiian archipelago). Venturing into Papahānaumokuākea means reconnecting with Hawaiian ancestral ties, transitioning from Ao (light, day; the realm of humans) to Pō (dark, night; the realm of the gods). This place, frequented by kūpuna (elders) for thousands of years, holds profound

cultural and genealogical significance, as reflected in the Kumulipo, a Hawaiian cosmogonical genealogy chant.

In line with the Kumulipo, the chant conveys the interconnectedness of realms, underscoring that “He aliʻi ka ʻāina, He kauwa ke kanaka” (“The land is the chief, man is the servant”). As humans, it is our kūleana (responsibility) to mālama (care for) Papahānaumokuākea, maintaining balance within the system. Our endeavors to clean marine debris uphold our cultural and genealogical connection to not only Papahānaumokuākea but to all Hawaiʻi.

Since 1996, the Project (formerly led by NOAA Fisheries and other agencies) has conducted large-scale marine debris removals to mitigate the entanglement and ingestion threat to protected wildlife and damage to coral reefs and has successfully removed a total of 1,270 metric tons (2.8 million pounds) of marine debris from the PMNM (with PMDP supporting 364 metric tons or 802,000 pounds during 2020-2023). The Project has also disentangled numerous marine animals. Of the estimated 1,500 remaining Hawaiian monk seals (which face the highest documented entanglement rate of any pinniped species), approximately 32% are alive today due to marine debris removal efforts, disentanglements, and rehabilitation endeavors (Harting et al., 2014). The [NOAA NMFS Recovery Plan for the Hawaiian Monk Seal \(2007\)](#) highlights a minimum of 2.3 serious injuries or deaths annually due to fishery-related marine debris.

Marine debris and derelict fishing gear have pervasive impacts across the Hawaiian Archipelago, affecting all inhabitants – both human and wildlife. Whether entangling marine animals (seals, turtles, whales, fish, and invertebrates) or adversely impacting corals, marine debris poses a serious threat to fragile coral ecosystems, particularly within the PMNM, known for being among the most biologically diverse and economically valuable ecosystems globally (Bryant et al., 1997). The entanglement of monk seals remains a critical concern, particularly in the absence of a formal Project led by NOAA. The frequency of monk seals found entangled has remained unchanged, and marine debris accumulation rates in the PMNM have not decreased. Fortunately, PMDP diligently fulfills its role in safeguarding the marine environment and ocean wildlife from the adverse effects of marine debris by continuing large-scale marine debris removal operations within the PMNM.

“Papahānaumokuākea’s ecosystems are increasingly under pressure from threats such as marine debris, invasive species, and climate change,” said Rick Spinrad, Ph.D., NOAA Administrator. “Designation of the monument’s waters as a national marine sanctuary would complement the efforts of the four co-trustees to safeguard the Monument’s natural, cultural, and historic values.”

NOAA Considers Sanctuary off Hawaiian Islands – (November 19, 2021)

<https://www.noaa.gov/news-release/noaa-considers-marine-sanctuary-off-hawaiian-islands>