



PAPA HĀNAUMOKUĀKEA
Marine National Monument



Hō'i hou i ka iwi kuamō'o
Return to the backbone

SUMMARY OF
ACTIVITIES PERMITTED
IN 2021



2021 Activities

In 2021, a diverse range of activities were conducted by co-managers, film-makers, cultural practitioners, community members, and researchers within Papahānaumokuākea Marine National Monument, the largest marine protected area in the United States. A common theme of the activities conducted in the monument this year was captured in the Hawaiian proverb “Ho’i hou i ka iwi kuamo’o,” which translates to “return to the backbone.” The following highlights of projects in 2021 illustrate a resurgence of activity in the monument following challenges that arose from COVID-19 in subsequent years which put many of these important activities on hold.

Hōkūlē’a Voyage Training the Next Generation of Traditional Navigators

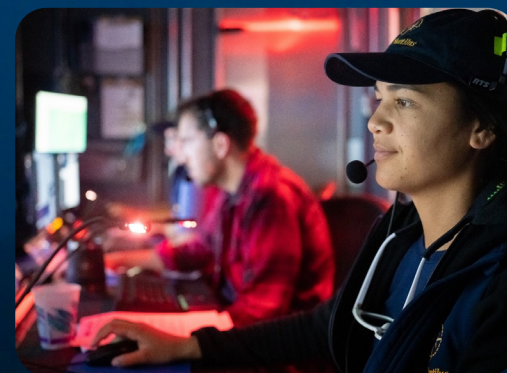
An incredible testimony to the shared historical origins and ocean expertise of Pacific Islands, traditional wayfinding in Hawai’i and Moananuiākea (Pacific Ocean) embodies a rich legacy of Papahānaumokuākea. Today, Papahānaumokuākea continues to be an important training ground for new generations of wayfinders. To honor the voyaging heritage to Papahānaumokuākea, voyaging canoes Hōkūlē’a and Hikianalia embarked on a two-week training voyage to prepare the crew for the Moananuiākea Voyage in 2023. The Moananuiākea Voyage is a 42-month, 41,000 mile circumnavigation of the Pacific with the main goal of developing 10 million new crew members, navigators, and leaders for the planet to continue the legacy of voyaging.

Kānaka ‘Ōiwi (Native Hawaiian) Scientists Conduct Sea Level Rise Research and Intertidal Surveys at Lalo and Nihoa

In July 2021, a crew of all Kānaka ‘Ōiwi (Native Hawaiian) scientists and community members, led by Dr. Haunani Kāne, journeyed to Papahānaumokuākea to investigate the impacts of climate change by examining the effects of sea-level rise and hurricanes at Lalo. Subsequently, a second study on both Nihoa and La Perouse Pinnacle within Lalo was conducted by Nā Maka Onaona’s intertidal research team and led by Lauren Kapono and Pelika Andrade. The research was part of a Productivity and Carrying Capacity Survey to address how seasonal habitat and environment influence ‘opihi carrying capacity. These expeditions helped to support Native Hawaiians and Pacific Islanders, both of whom are severely under-represented in STEM.

Building Partnerships with Kānaka ‘Ōiwi (Native Hawaiians) and Ocean Exploration Trust

Within the past two years, members of the Papahānaumokuākea Native Hawaiian Cultural Working Group and the Ocean Exploration Trust team have grown a partnership that honors ‘Ōiwi (Native



Hawaiian) knowledge systems and provides opportunities for Kānaka ‘Ōiwi (Native Hawaiians) to participate in expeditions. On both the November 2021 and April 2022 E/V *Nautilus* expeditions into PMNM, Kānaka ‘Ōiwi were represented in a number of positions. Continuing to increase indigenous participation is critical to encouraging the next generation to pursue careers in STEM. Additional efforts to include Hawaiian language and culture have laid the foundation for continued diverse, equitable, and inclusive collaboration that equally values indigenous practices and viewpoints.

NOAA’s Pacific Islands Fisheries Science Center’s Field Camps Return to the Monument

The deployment and recovery of field camps were carried out by NOAA biologists in 2021. These camps formed the foundation for research and recovery efforts on threatened Hawaiian green sea turtles and endangered Hawaiian monk seals in the Monument. Although they are typically deployed yearly, the COVID-19 pandemic suspended the 2020 season, making the 2021 season even more important. Field teams conducted a variety of activities, and monk seal population analysis began after they returned. NOAA found that there was a respectable increase in monk seal population since the 2019 estimate. This trend was widespread, as six out of the eight populations increased while the other two remained consistent.

‘Schoolyard Films’ Educational Film at Midway Atoll

From mid-November to early-December 2021, Schoolyard Films initiated their education filming production at Midway Atoll National Wildlife Refuge on the impact of ocean plastic pollution on the Northwest Hawaiian Islands’ ecosystems and wildlife. The main goal of the production was to create an educational video targeted at schools across the nation. Accompanied by a monument-designated resource monitor, the film team, which consisted of a videographer, film director, and a producer, captured scenes of wildlife, particularly albatross behavior, and the Midway landscape including some of the marine debris covered shores. The film will provide students with an overview of the plastic waste threat to healthy marine environments and show how people around the world can aid in developing solutions to address this threat.

For more information on these stories visit www.papahanaumokuakea.gov.

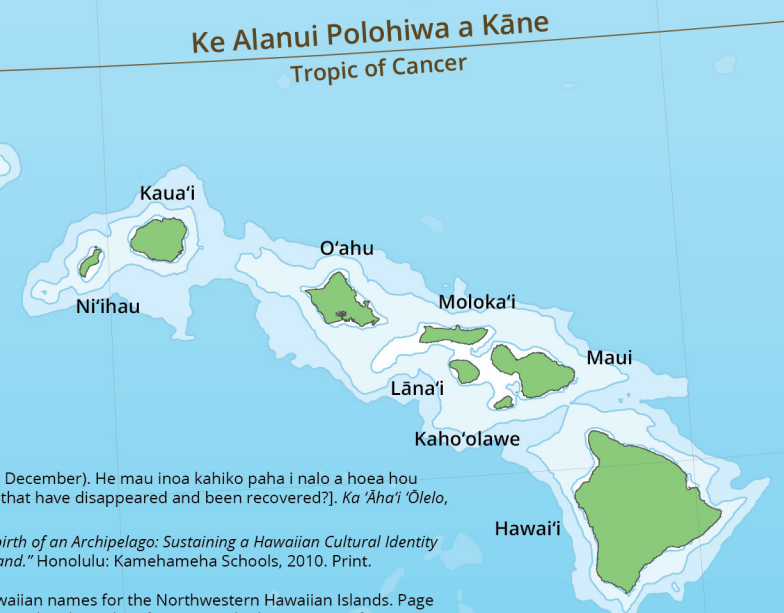
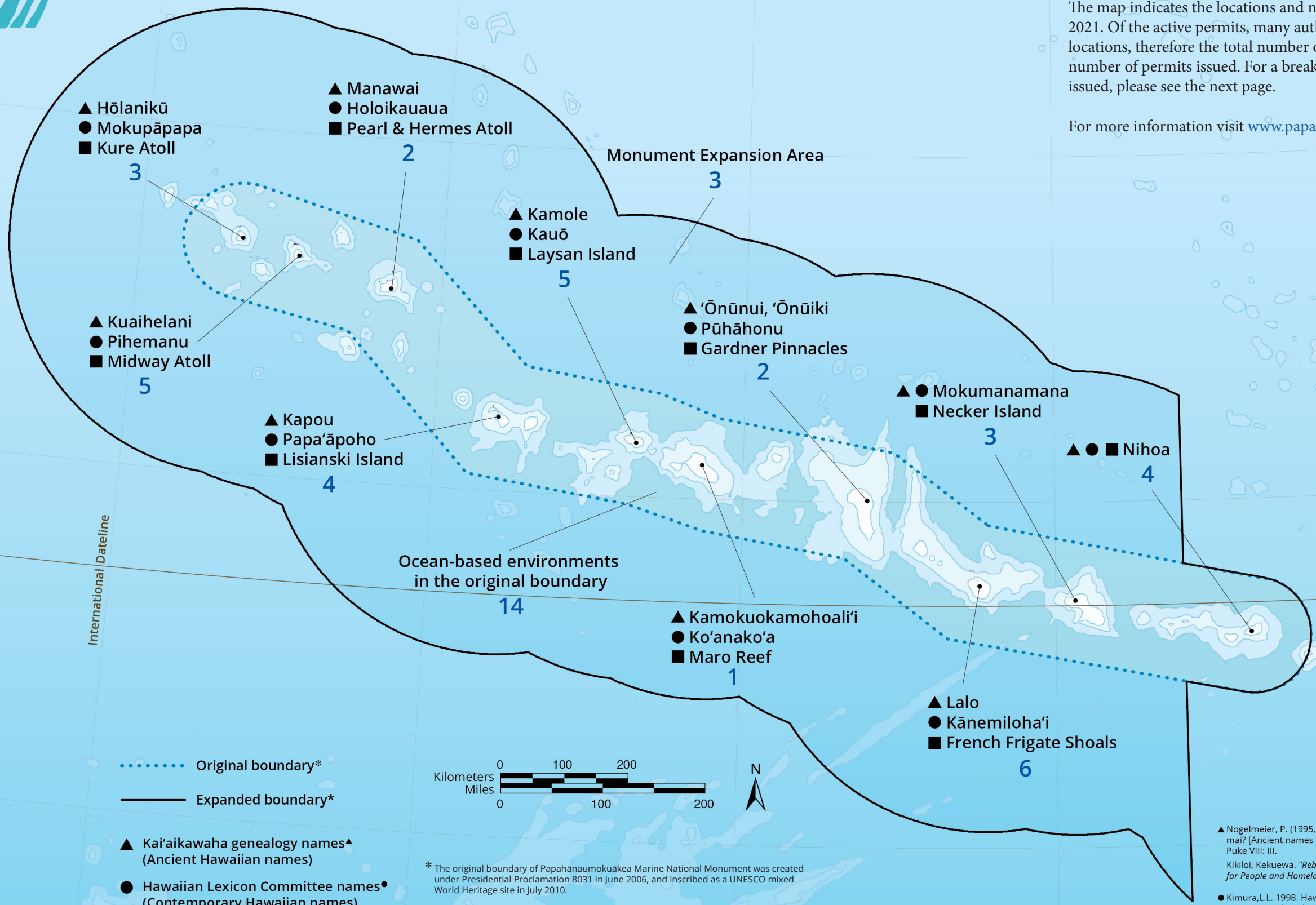
Background image: Diver observing whitetip reef shark at Lalo (Photo by James Watt/NOAA). Overlaid images from left to right: Apprentice navigators (left to right) Lucy Lee, Kai Hoshijo, and Dillyn Lietzke standing watch departing Mokumanamana and heading towards Lalo (Photo by Chris Blake/Polynesian Voyaging Society). Dr. Haunani Kāne and the crew of Kānaka ‘Ōiwi (Native Hawaiians) conducting productivity and carrying capacity surveys in the intertidal zone on La Perouse Pinnacle in Lalo (Photo by Kainalu Steward/OHA). Malanai Kāne Kuahiwinui, Kū Pa’a Mau Program Coordination & Crew Captain Kānehūnāmoku Voyaging Academy, was a science communication fellow on the E/V *Nautilus* Lu’uaeahikiikemumu expedition to explore the seamounts of Lili’uokalani Ridge in Papahānaumokuākea. She played a major role in creating ‘Ōlelo Hawai’i (Hawaiian Language) videos to share about deep sea ecosystems through an ‘Ōiwi (Native Hawaiian) lens (Photo by Ocean Exploration Trust). Small boats are used to access small islands for Hawaiian monk seal surveys. Field teams at Lalo and Manawai depend on small boats to visit the many islands and spits within those atolls (Photo by NOAA Fisheries, NMFS ESA/MMPA Permit No. 22677). Laysan albatross pair on nest. (Photo by USFWS).

Papahānaumokuākea Marine National Monument Map

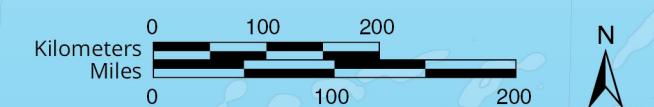
Locations of Permitted Activities

The map indicates the locations and numbers of permitted activities that occurred in 2021. Of the active permits, many authorized activities were conducted at multiple locations, therefore the total number of activities per site is actually greater than the number of permits issued. For a breakdown on the types and numbers of permits issued, please see the next page.

For more information visit www.papahanaumokuakea.gov.



..... Original boundary*
 — Expanded boundary*



- ▲ Kai'aikawaha genealogy names▲
(Ancient Hawaiian names)
- Hawaiian Lexicon Committee names●
(Contemporary Hawaiian names)
- Common names■
(Derived from modern nautical charts)

* The original boundary of Papahānaumokuākea Marine National Monument was created under Presidential Proclamation 8031 in June 2006, and inscribed as a UNESCO mixed World Heritage site in July 2010.

* The Monument Expansion Area was created in 2016 under Presidential Proclamation 9478. This area includes waters and submerged lands to the extent of the seaward limit of the United State Exclusive Economic Zone west of 163° West Longitude and extending from the original boundaries under Presidential Proclamation 8031.

▲ Nogelmeier, P. (1995, December). He mau inoa kahiko paha i nalo a hoea hou mai? [Ancient names that have disappeared and been recovered?]. *Ka 'Āha'i 'Ōlelo*, Puke VIII: III.

Kikiloi, Kekuewa. "Rebirth of an Archipelago: Sustaining a Hawaiian Cultural Identity for People and Homeland." Honolulu: Kamehameha Schools, 2010. Print.

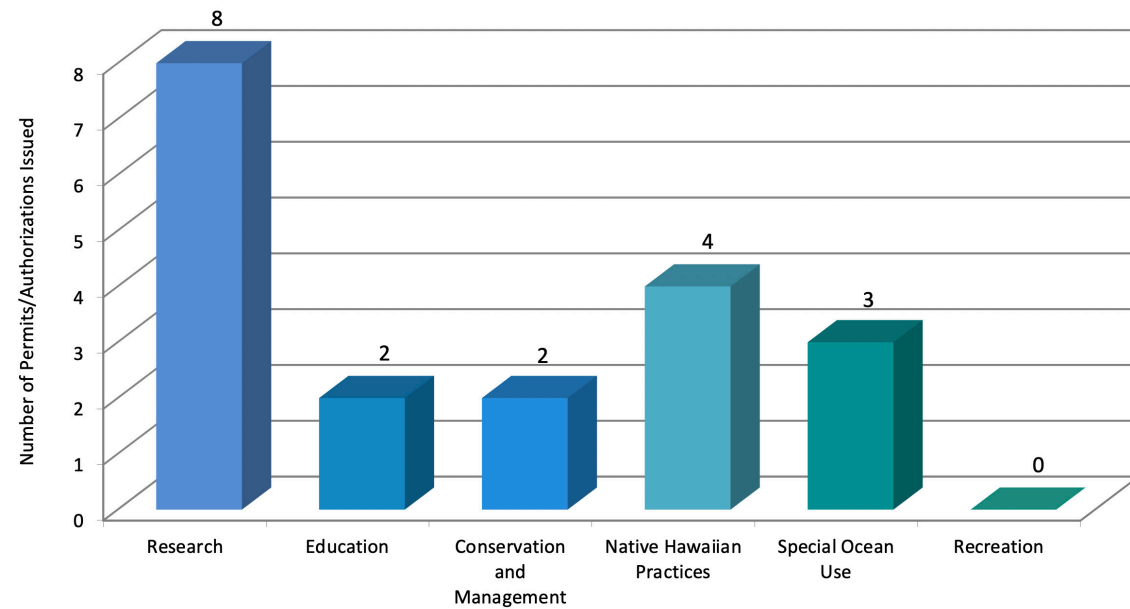
● Kimura, L.L. 1998. Hawaiian names for the Northwestern Hawaiian Islands. Page 27 in S.P. Juvik and J.O. Juvik (eds.), *Atlas of Hawai'i*, 3rd ed. University of Hawai'i Press, Honolulu.

■ Rauzon, Mark J. 2001. *Isles of Refuge: Wildlife and History of the Northwestern Hawaiian Islands*. University of Hawai'i Press, Honolulu.

Permits Issued in 2021

Each year the co-trustees issue a number of permits for a variety of activities to occur in Papahānaumokuākea. All permit applications must complete a rigorous process of environmental and cultural review and documentation of meeting the applicable permitting criteria, which include the Findings in Proclamation 8031 and federal regulations 50 CFR Part 404. As permit applications are reviewed and processed, individual applicants may elect to withdraw a permit application. In 2021, 21 permit applications were received and 19 permits were issued (Figure 1). Of the permits issued, 16 were for activities solely within the original monument boundaries, two were for activities within both the original monument boundaries and Monument Expansion Area (MEA) and one was for activities solely within the MEA. Of the remaining permit applications, one was withdrawn and one was carried over for consideration and issuance in 2022 due to the impacts from COVID-19.

» Figure 1. Number of PMNM Permits Issued in 2021 by Permit Type.



The map on pages 4-5 indicates locations at which permitted activities occurred. Of the active permits, many authorized activities at multiple locations; therefore, the total number of activities per site is actually greater than the number of permits issued.

To support permitted activities, authorized individuals may either enter the monument on permitted vessels or aircraft to Midway Atoll. In 2021 there were a total of 31 permitted flights to and from the monument, a 3% increase from 2020. Permitted vessel entries and exits are defined as any instance in which a vessel is permitted to enter the monument to conduct authorized activities and subsequently exits the monument. For reporting purposes, any further authorized entry of the same vessel is counted as a second vessel entry. In 2021, there were 16 permitted vessel entries into the monument done by nine permitted vessels.



The marine debris team takes a well-earned rest after removing close to 124,000 pounds of marine debris in September 2021. Photo by James Morioka/NOAA Fisheries



Papahānaumokuākea Marine National Monument is administered jointly by four co-trustees – the Department of Commerce, the Department of the Interior, the State of Hawai‘i, and the Office of Hawaiian Affairs. The day-to-day management of the monument is overseen by a seven-member management board: NOAA’s Office of National Marine Sanctuaries, NOAA Fisheries, U.S. Fish and Wildlife Service National Wildlife Refuges and Ecological Services, State of Hawai‘i Division of Aquatic Resources and Division of Forestry and Wildlife, and the Office of Hawaiian Affairs. Co-management takes all agencies working together, and all have unique expertise to bring to the table. Papahānaumokuākea celebrated 10 years as the first mixed (natural and cultural) UNESCO World Heritage Site in the United States in July 2020.

For more information about the stories and activities of Papahānaumokuākea, please visit www.papahanaumokuakea.gov.