Papahānaumokuākea Marine National Monument contains one of the last large-scale, predator-dominated coral reef ecosystems on the planet. The monument’s waters are home to more than 7,000 marine species — a quarter of which are found only in the Northwestern Hawaiian Islands — including endangered and threatened species like Hawaiian monk seals and green sea turtles. Encompassing nearly 140,000 square miles of ocean and coral reefs, the monument has great cultural significance to Native Hawaiians and blends the management of terrestrial, marine and cultural resources with a focus on the connections between land and sea.


2009 ACCOMPLISHMENTS

Papahānaumokuākea Marine National Monument

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Papahānaumokuākea Marine National Monument

http://papahanaumokuakea.gov
Historic Alliance to Enhance Management and Protection

The world’s two largest marine protected areas announced a historic alliance to enhance the management and protection of almost 300,000 square miles of marine habitat in the Pacific Ocean. A “sister site” relationship was announced in September 2009 between Papahānaumokuākea Marine National Monument and the Phoenix Islands Protected Area near the equator in the Republic of Kiribati. Managers of both sites met in November in French Polynesia to formalize the agreement. Combined, the two sites encompass 25 percent of all marine protected areas on Earth. The partnership links the sites and is designed to enhance management knowledge and practices for these tropical and subtropical marine and terrestrial island ecosystems.

Both sites were nominated this year by their respective governments as a World Heritage Sites, a designation of the United Nations Educational, Scientific and Cultural Organization.

Unveiling the Secrets of a Mystery Island

A Honolulu-based researcher and an archaeologist from the U.S. Fish and Wildlife Service spent nearly three weeks on rugged, isolated and wind-swept Mokumanamana (Necker Island), completing the longest archaeological research project ever held there. Mokumanamana is categorized as a mystery island, because when the first Europeans rediscovered it, it had no inhabitants but did have evidence of prior human occupation. The research is intended to help uncover the mysteries of who lived on the island, when, and for how long. Researchers gathered geological source material to try and determine whether basalt artifacts from Mokumanamana were made locally or brought to the island. Perhaps their most exciting discovery occurred at a work site where they found a rare “Necker Island stone image.” A number of these rare stone images were first rediscovered in 1894, as well as on later trips.

Maritime Heritage Biogeography Project

As part of a larger, multidisciplinary expedition to Papahānaumokuākea Marine National Monument on the NOAA ship Hi’ialakai, a Hawai’I Institute of Marine Biology graduate student in collaboration with the Monument maritime archaeologist worked to compare the biology of maritime heritage sites to their surrounding habitat. In order to carry out this work, divers conducted surveys at five shipwreck sites in the monument over the course of 15 days. The team collected data on benthic community structure and substrate type, fish and coral populations, genetics and oceanographic information including temperature, salinity, pH, wave height, tidal range and dissolved oxygen at both shipwreck and control sites in the Northwestern Hawaiian Islands. The goal of the project was to create a snapshot of the shipwreck ecosystem to determine if there are differences between the shipwreck and control sites. This work will assist in developing long-term monitoring strategies and help establish a way in which monument managers and scientists can begin to understand shipwreck sites as part of the larger ecosystem.

Navigating Change: Inspiring a New Generation of Leaders

In 2008, more than 70 Hawai’i teachers and 300 students participated in Navigating Change, a program that celebrates the diverse marine life, indigenous and cultural significance and balance in ecology in Papahānaumokuākea Marine National Monument. The program attempts to incorporate indigenous and local knowledge and Western scientific methodologies and field experiences the students gain a better understanding of human impacts on natural environments. During the 2008-2009 school year, the program launched the Ahupua’a Alliance, which is a partnership between restoration groups, scientists and Native Hawaiians. Students from five schools focused on the restoration of Mauna Loa Bay in East O’ahu. During 2009-2010, Navigating Change focuses on Hawai’i Island, the state’s largest.

Report Assesses Monument Resource Conditions, Threats

Papahānaumokuākea Marine National Monument’s remote location and isolation keeps its natural resources in an “overall good state.” This was a finding of a NOAA report released in March 2009 on the condition of the monument. The report did, however, note a need to address potential impacts to key habitats; declining conditions of some living resources; a general need to increase knowledge of regional biodiversity; and enhanced research and discovery of marine archaeological resources. Given their isolation and as a result of past management efforts, the reefs of the Northwestern Hawaiian Islands are considered to be in nearly pristine condition. Global issues, outside of the monument boundaries, such as marine debris, ocean acidification, climate change and invasive species have the potential to degrade fragile monument resources and habitats.