

Maritime Archaeology

Maritime heritage resources, such as shipwrecks, submerged aircraft crash sites, and ruins of stone fish traps, are time capsules that can reveal a great deal about our past. NOAA's commitment to maritime heritage research in the Pacific creates opportunities to properly manage and protect these unique resources, particularly sites that are significant to our national history. The Pacific Islands Regional Office supports heritage research for several sites.



Shipwreck U.S.S. *Macaw* lost at Midway Atoll in 1944. Photo Credit: James Watt

The Northwestern Hawaiian Islands (NWHI), in the past an area known for its poorly charted reefs and atolls, possess some 60-plus known vessel losses. Records include ten 19th century whalers in the NWHI, some lost en route from Honolulu to the "Japan Grounds" to the west. There are over 60 known aircraft losses in these waters as well, many from the fierce aerial combat waged over Midway Atoll during World War II. In the main Hawaiian Islands, the Hawaiian Islands Humpback Whale National Marine Sanctuary includes at least 57 vessel losses and five naval aircraft crash sites. In addition, the remains of traditional Hawaiian fishing sites (noted by accumulations of stone tools and lures) and numerous fish ponds and fish traps abound in the sanctuary. The waters around American Samoa contain both World War II losses and 19th century whalers. Fagatele Bay National Marine Sanctuary itself abuts the historic remains of an ancient Samoan village site.

Near O'ahu, the 2002 discovery of the Japanese midget submarine, sunk by the U.S.S. *Ward* immediately prior to the December 7, 1941 attack on Pearl Harbor, has initiated a cooperative research project between NOAA, the Office of Naval Research, the University of Hawai'i,

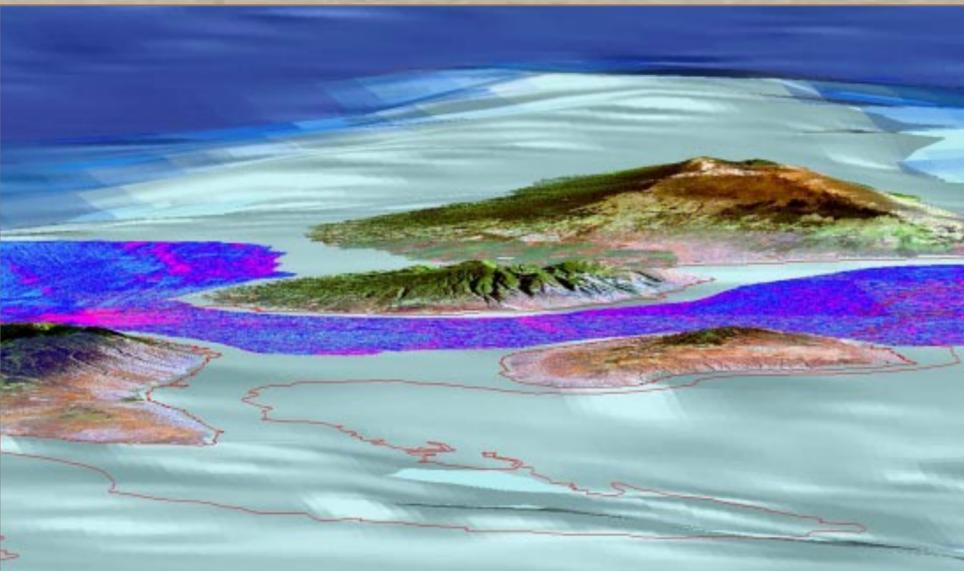


Unknown shipwreck near Midway Atoll. Photo Credit: James Watt

Geographic Information Systems

Geographic Information System (GIS) technology is an important tool for decision makers and researchers. From mapping changing species population patterns over time to providing three dimensional views of underwater landscapes, GIS can provide valuable insight to the processes and patterns occurring in our natural environment. GIS provides decision-makers with reliable spatial information and analysis to assist and support management decisions. As the trustee for some of our Nation's most precious marine resources, the National Marine Sanctuary Pacific Islands Region uses GIS to facilitate the conservation, protection and understanding of these special environments.

The Pacific Islands Region GIS program provides staff with quality GIS data, maps and analysis. Working with federal, state and territorial agencies, the GIS program is currently developing a database of marine resources. High quality bathymetric data collected for many areas within the region, provides information on ocean depth and ocean floor characteristics. Satellite imagery collected for all sites, including the remote Northwestern Hawaiian Islands, provides valuable information about shallow water coral reef habitats. Ecological, biological and environmental data are also being collected at each site. Eventually, these data sets will form a solid base from which staff can evaluate and monitor sanctuary resources.



Geographical Information Systems map depicting the Hawaiian Islands. Photo Credit: NMSP Pacific Islands Region

Internship Programs

The University of Hawai'i's Hawaiian Internship Program is a collaborative effort between the University of Hawai'i at Hilo Pacific Aquaculture and Coastal Resources program, and a number of partner agencies including the National Marine Sanctuaries program. The program serves to redress the observed lack of local representation within Hawai'i's conservation work force.

The program connects undergraduates who are "kama'aina" (local residents), especially those of Native Hawaiian ancestry, to internship opportunities with agencies and organizations responsible for research, management and education relating to environmental issues in Hawai'i and the Pacific Islands Region. A sister program, the Micronesia and American Samoa Student Internship Program (MASSIP), focuses on connecting local Pacific Island students to similar efforts in the Pacific. Internships with the National Marine Sanctuary Program in the Pacific Islands Region to date have included a whale naturalist, a native Hawaiian fishpond educator and a Hilo Discovery Center assistant interpreter. For more information, contact (808)933-0705, or visit <http://www2.hawaii.edu/~uhintern>



Hawaiian Cultural Practitioner Kimokeo Kapahulehua teaches students. Photo Credit: HHWNMS

National Marine Sanctuary Foundation

The National Marine Sanctuary Foundation is the private sector, non-profit partner to NOAA's National Marine Sanctuary Program. The Foundation helps the sanctuary program conserve and protect our nation's underwater treasures by assisting the program with outreach and education. It was created to provide a role for individuals, groups and corporations to ensure that our underwater national treasures are still here for future generations to enjoy. The National Marine Sanctuary Foundation (<http://www.nmsfocean.org>) provides a number of opportunities to get involved with your national marine sanctuary on a national as well as local level. The Foundation board members include such renowned marine biologists as Dr. Robert Ballard, Dr. Sylvia Earle, Jean-Michel Cousteau and marine artist Robert Lyn Nelson.



Groundbreaking of the new Sanctuary Learning Center on Maui
Left to Right: Regional Coordinator Allen Tom, Senator Daniel K. Inouye, Maui Mayor Alan Arakawa
Photo Credit: Andy Collins

Welcome - Aloha - Talofa

The Pacific Islands comprise some of the most geographically isolated islands in the world. Animals and plants that developed in this isolated environment are found nowhere else on the planet.



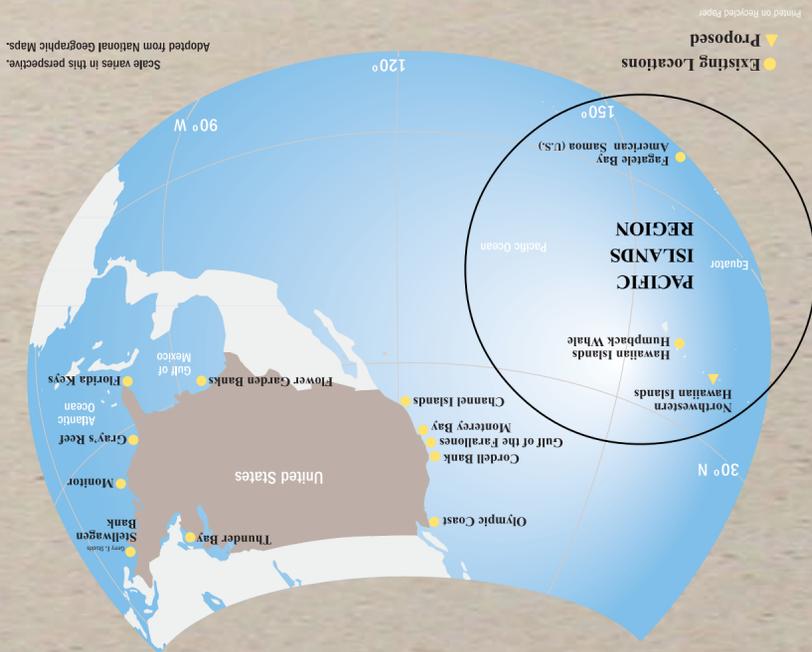
Yellowfin Goatfish Photo Credit: James Watt

The diverse marine environment complements the terrestrial richness. The aquatic environment ranges from rich coastal ecosystems of wetlands, shorelines and coral reefs, to the unexplored depths of the deep ocean trenches. As rich as the tropical environment is in animal and plant species, the Pacific Islands retain a culture unique to themselves. The island life revolves around the ocean - for pleasure, transportation and physical and spiritual sustenance. The ocean shaped the way Polynesians evolved.

NOAA's National Marine Sanctuary Program's Pacific Islands Region seeks to provide a better understanding of our marine environment while educating and maintaining our rich and unique cultural heritage. This brochure will highlight several regional programs (mapping, maritime archaeology) and several important partnerships that we hope to expand in the coming years. The region includes the precious coral reef ecosystems in the Northwestern Hawaiian Islands and American Samoa, as well as the humpback whale breeding grounds



Whitetip Reef Shark
Photo Credit: James Watt



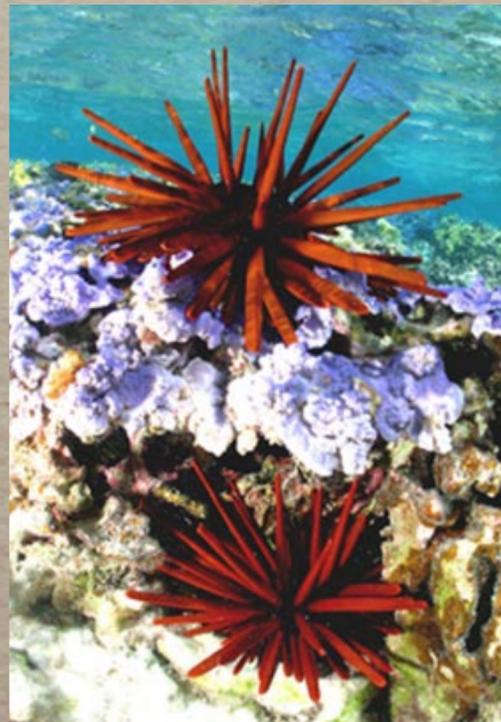
The National Marine Sanctuary Program serves as the trustee for a system of 14 marine protected areas, encompassing more than 150,000 square miles of marine and Great Lakes waters from Washington State to the Florida Keys, and from Lake Huron to American Samoa. The system includes 13 national marine sanctuaries and the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, which is being considered for sanctuary status. The sanctuary program is part of the National Oceanic and Atmospheric Administration (NOAA), which manages sanctuaries by working cooperatively with the public to protect sanctuaries while maintaining compatible recreational and commercial activities. The program works to enhance public awareness of our marine resources and marine heritage through scientific research, monitoring, exploration, educational programs, and outreach.

The National Marine Sanctuary System

National Marine Sanctuary - Pacific Islands Region

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Red Pencil Urchin
Photo Credit: James Watt
Exploring the Sanctuary
Cover Photo Credit: Kip Evans

Pacific Islands Region
Fagatele Bay
Hawaiian Islands Humpback Whale
Northwestern Hawaiian Islands Coral Reef
Ecosystem Reserve



Our national marine sanctuaries embrace part of our collective riches as a nation. Within their protected waters, giant humpback whales breed and calve their young, coral colonies flourish, and shipwrecks tell stories of our maritime history. Sanctuary habitats include beautiful rocky reefs, lush kelp forests, whale migration corridors, spectacular deep-sea canyons, and underwater archaeological sites. Our nation's sanctuaries can provide a safe habitat for species close to extinction, or protect historically significant shipwrecks. Ranging in size from less than one square mile to over 5,300 square miles, each sanctuary is a unique place needing special protections. Natural classrooms, cherished recreational spots, and valuable commercial industries—marine sanctuaries represent many things to many people.



Humpback Whales
From Credit: HHWNMS NOAA Fisheries Permit # 772-1-158
Photo Credit: Kip Evans



Clown Fish and Anemone
Photo Credit: Kip Evans

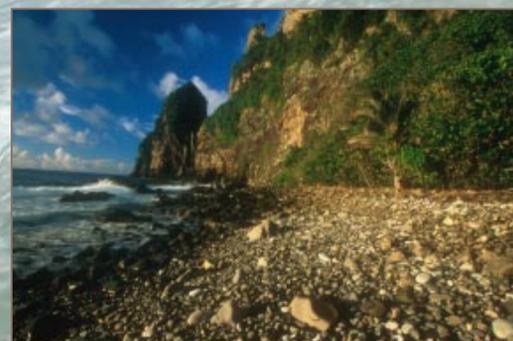


Fagatele Bay National Marine Sanctuary

Fagatele (Fohng-ah-téh-leh) Bay became a national marine sanctuary on April 29, 1986. It is administered jointly by NOAA and the American Samoa Government. The smallest and most remote of all the national marine sanctuaries, it encompasses only 163 acres (.25 sq. mi.). This sanctuary is an ecologically rich and pristine pocket of the Samoan reef ecosystem formed by the crater of an extinct volcano that has one wall open to the sea, much like Hanauma Bay on O'ahu. Located on Tutuila, the largest island in American Samoa, its borders extend from Steps Point, the southernmost point of the island, to Fagatele Point on the island's southwestern shore.



Aerial View of Fagatele Bay NMS
Photo Credit: Sanctuary photo



Rocky Shoreline of Fagatele Bay
Photo Credit: Kip Evans



Pacific Giant Clam
Photo Credit: FBNMS

Fagatele Bay provides a home to a wide variety of animals and plants that thrive in the protected waters of the bay. The coral reef ecosystem found in the sanctuary contains many of the species native to this part of the Indo-Pacific biogeographic region. Turtles, whales, sharks and the giant clam all find refuge in this protected area. One can approach Fagatele Bay either by boat from Pago Pago or Leone Bay, or by car and then follow the trail down the western wall.

Fagatele Bay National Marine Sanctuary makes a special effort to work with the American Samoan community with outreach programs for all ages. The sanctuary co-sponsors environmental education programs, and the Enviro-Discoveries Program for 9- to 12-year-old children who explore the marine life in the bay and learn ways to protect the resources there. Samoan cultural events and general community outreach and education programs are also run year-round. Scientific programs include continuing resource assessment surveys and coral reef monitoring.

Phone: (684) 633-7354
<http://fagatelebay.noaa.gov>



Corals in sanctuary
Photo Credit: Kip Evans



Blue Linkia Starfish
Photo Credit: Kip Evans

Hawaiian Islands Humpback Whale National Marine Sanctuary



Breaching Humpback Whale
Photo Credit: HHWNMS, ESA & MMPA Permit #782-1438

Outreach and education programs and projects are conducted to foster awareness of sanctuary resources and to promote ocean stewardship among Hawai'i's residents and visitors. Information about humpback whales and their habitat in Hawai'i is made available to the public through educator and student workshops, community lectures, shore-based whale watches, volunteer and naturalist training sessions, and sanctuary publications. On Maui, the new Education Center in Kihei will be a gathering place to promote education about humpback whales, marine conservation, Native Hawaiian culture and the surrounding environment. In the future, the sanctuary will also seek to cultivate new partnerships within the community to accomplish its vision.



The sanctuary conducts and supports humpback whale research that aims to increase scientific knowledge about the North Pacific humpback whale population and its habitat. Research efforts include photo identification, population, birth and mortality rates, and whale behavior.



Fluke-up Dive
Photo Credit: HHWNMS, ESA & MMPA Permit #782-1438



Tail Slap
Photo Credit: HHWNMS, ESA & MMPA Permit #782-1438

For more information on Hawai'i's humpback whales and the sanctuary, visit the Sanctuary Education Center at 726 South Kihei Road in Kihei, Maui. It is open Monday - Friday from 10 a.m. to 3 p.m. Lectures and other events are also offered throughout the year.

Phone: 1-800-831-4888
<http://hawaiihumpbackwhale.noaa.gov>

The sanctuary was created by Congress in 1992 to protect humpback whales and their habitat in Hawai'i. It is administered by NOAA in partnership with the State of Hawai'i's Department of Land and Natural Resources. The sanctuary is located from the shoreline to the 100-fathom isobath (600 ft. depth) in the four-island area of Maui, Penguin Bank, and off the north shore of Kaua'i, the north and south shores of O'ahu, and the North Kona and Kohala coasts of the Big Island.

Humpback whales receive protection under the Marine Mammal Protection Act, the Endangered Species Act and state wildlife laws. Also, Hawai'i is the only state in the U.S. where humpbacks come to breed, calve and nurse their young, thus they are protected as a resource of national significance within the Hawaiian Islands Humpback Whale National Marine Sanctuary.



Humpback Whale and Hawaiian Spinner Dolphin
Photo Credit: Lari Mazucca

Ocean stewardship is deeply embedded in Native Hawaiian culture. The sanctuary facilitates Native Hawaiian uses of the koholā (humpback whale) and its habitat by educating the public about traditional Native Hawaiian values, practices and traditions. A historical Native Hawaiian Fishpond that fronts the sanctuary property on Maui provides a natural classroom for these education efforts.

Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve

On December 4, 2000, the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve was created by Presidential Executive Order 13178. The reserve encompasses an area of the marine waters and submerged lands of the Northwestern Hawaiian Islands extending approximately 1,200 nautical miles long and 100 nautical miles wide. The islands boast a rich cultural history and are home to some of the healthiest and least disturbed coral reefs in the world. The reserve also contains one of the last large-scale, predator-dominated coral reef ecosystems on the planet. These coral reefs form the foundation of an ecosystem that hosts more than 7,000 species, including marine mammals, fishes, sea turtles, birds and invertebrates. Many are rare, threatened, or endangered and at least one-quarter are found nowhere else. The reserve has been proposed as the nation's 14th National Marine Sanctuary.

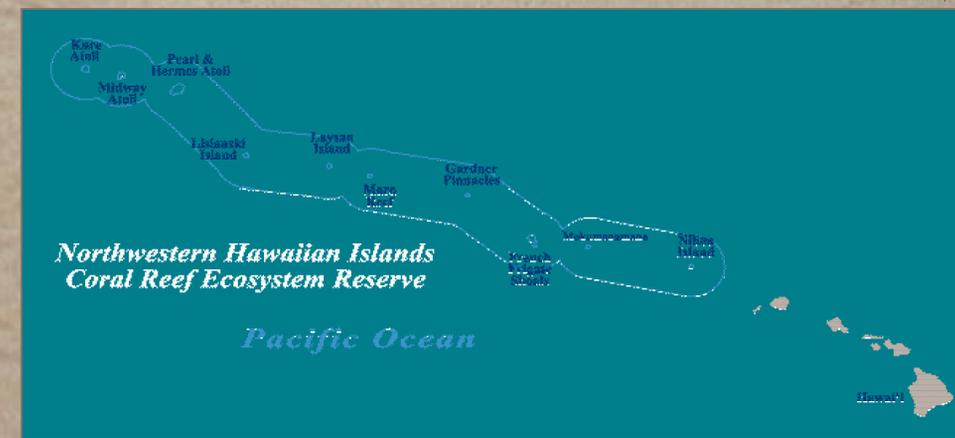
The remoteness of this vast ocean region presents special challenges for educational opportunities. The reserve's educational initiatives consist of distance learning via the web and other remote access technologies, and opening of the Mokuapāpapa Discovery Center in Hilo, Hawai'i. Staff also participate in community events, give public presentations, and conduct educational programs with partner agencies involved in managing the NWHI. The reserve's educational effort focuses on increasing understanding of ecosystem management, and emphasizes the necessity of protecting this area. All educational activities stress the importance of conservation and seek to actively engage the public in management of the reserve.



Hawaiian Monk Seal and Giant Trevally
Photo Credit: James Watt

For more information on Hawai'i's remote coral reefs, visit the Mokuapāpapa Discovery Center in Hilo, Hawai'i. The center features interactive exhibits that teach about the history, culture and science of the Northwestern Hawaiian Islands. The free center is open Tuesday - Saturday from 9 a.m. to 4 p.m. It is located in Hilo at 308 Kamehameha Ave, Suite 109.

Phone: (808) 933-8195
<http://hawaiireef.noaa.gov>



Green Sea Turtle
Photo Credit: James Watt



Masked Angelfish
Photo Credit: James Watt

Scientific and cultural research are important parts of the overall operations of the reserve. The reserve's coral reef research program focuses on basic habitat characterization. Reef surveys have recorded the diversity and abundance of fishes, algae, corals, and other reef invertebrates at numerous locations throughout the archipelago. Historical and cultural resources, such as shipwrecks, have also been documented on shallow reefs by reserve archaeologists. Research in deeper offshore waters has utilized multibeam sonar and submersibles to document rarely seen biological resources and topographical features contained within reserve waters. The results of these shallow and deep-water research efforts will aid in the creation of management plans for the largest coral reef system in the United States.



Students learn about the NWHI at the Discovery Center.
Photo Credit: Reserve photo