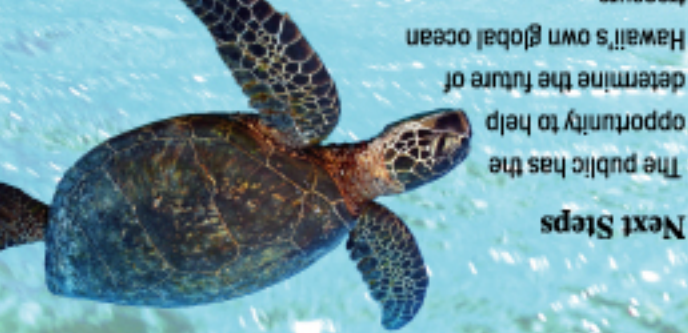


Coral (Pocillopora eydouxi) and pinnfish (Heniochus dipnotus), French Frigate Shoals.

the designation process in 2007.

Drafts of these documents are projected to be released to the public in summer 2006. During a 75-day comment period, a series of public meetings will be held in Hawaii and Washington.

A management plan and environmental impact statement (EIS) are now being developed to address key resource management issues facing the region. The EIS will analyze a wide range of activities that could potentially impact the natural and cultural resources in the proposed sanctuary.



The public has the opportunity to help determine the future of Hawaii's own global ocean treasure.

Next Steps

What You Can Do

- Learn more about your oceans
- Join our listserve to receive e-updates
- Learn more about the NWHI
- Arrange a talk for your community group
- Attend Reserve Advisory Council meetings
- Provide comments at public meetings or provide them by email, fax or mail during the public comment period
- Encourage others to get informed and involved!

Get informed and voice your views on how this special place should be cared for into the future! The new NWHI national marine sanctuary could become the largest marine protected area in the world.

For more information about the Northwestern Hawaiian Islands, the sanctuary designation process, or how you can become involved, please visit our website at <http://hawaiiireef.noaa.gov> or contact the reserve office at 808-397-2660 or hawaiiireef@noaa.gov.



Lipspot moray eel (juvenile), *Gymnothorax cf. chilospius*, *puhi*
Photo: David Litwagner / Susan Middleton

Designation can help secure ongoing funding for the new NWHI sanctuary and also enable it to draw on the considerable expertise of 13 other sanctuaries that comprise the National Marine Sanctuary Program.

Endangered Hawaiian monk seal
Monachus schauinslandi
Uchirolophoceros

lasting protection for this region.

during several public comment periods. Most support strong, date, more than 52,000 public comments have been submitted engaged the public as well as stakeholder constituencies. To An extensive and ongoing public scoping process has actively

of these ecosystems and acted to safeguard them. actions to protect this region's ecological richness. Since 1903, six presidents and Congress have recognized the immense value NOAA initiated the designation process in 2001 under mandate by the Executive Orders and the National Marine Sanctuaries Amendments Act, joining in a century-long history of federal waters not presently in the reserve, making possible more comprehensive and coordinated management for the area.

A Historic Opportunity

Sanctuary designation represents a historic opportunity to proactively manage the marine ecosystems of the NWHI while they are still healthy and abundant. It affirms that there should be places in our planet's oceans set aside as a natural and cultural legacy for future generations, in a way that is worthy of this unique and special place. Becoming a sanctuary offers some advantages over remaining a reserve. A sanctuary would have regulations and more robust enforcement capabilities than are currently afforded under the reserve. The designation process may also consider inclusion of state and federal waters not presently in the reserve, making possible more comprehensive and coordinated management for the area.

The National Marine Sanctuary Program

In 1972, exactly 100 years after the first national park was created, the nation made a similar commitment to preserving its marine treasures by establishing the National Marine Sanctuary Program. Today, the National Marine Sanctuary Program includes 13 national marine sanctuaries and the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, now being considered for sanctuary status.

As trustee for the nation's marine protected areas, the NMSP works to conserve, protect, and enhance their biodiversity, ecological integrity and cultural legacy. The NMSP presently encompasses



Stocky hawkfish
Cirrhilabrus pinnatus
po o pu a

statement.

The public scoping process for the proposed designation will continue through the completion of the environmental impact

lasted protection for this region. during several public comment periods. Most support strong, date, more than 52,000 public comments have been submitted engaged the public as well as stakeholder constituencies. To An extensive and ongoing public scoping process has actively

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Creating the Nation's Largest National Marine Sanctuary

The reserve is now being considered for designation as the nation's 14th national marine sanctuary. This public process builds on the reserve's ongoing efforts to safeguard the unique geology, biology and cultural history of the NWHI marine region. With the inclusion of state waters within its boundaries, the proposed NWHI national marine sanctuary would potentially become the largest marine protected area in the world. NOAA initiated the designation process in 2001 under mandate by the Executive Orders and the National Marine Sanctuaries Amendments Act, joining in a century-long history of federal waters not presently in the reserve, making possible more comprehensive and coordinated management for the area.

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 National Oceanic and Atmospheric Administration (NOAA) manages sanctuaries through authority of the National Marine Sanctuaries Act, in accordance with its mission goal to protect, restore, and manage the use of coastal and ocean resources through an ecosystem-based approach to management.

across jurisdictions. cooperation is essential to ensure strong, seamless protection of standing stewardship responsibilities in the NWHI. Interagency of Hawaii and U.S. Fish and Wildlife Service, who maintain long-term conservation, enforcement and educational efforts with the State largely uninhabited area, the reserve closely coordinates its To meet the challenge of managing this vast, remote and the globe.

the critically endangered Hawaiian monk seal. federal laws, including the threatened green sea turtle, seabirds, and nesting and breeding grounds for rare species protected by state and of which are found only in Hawaii. Many of the islands are important haven to over 7,000 marine plants and animals, at least one quarter coral reef colonies — truly rainforests of the sea — are home and such as jacks, sharks and groups still roam in abundance. These a grand oasis of life. Here, nature dominates and large predators Today, relatively undisturbed by human presence, the NWHI remain

long-distance voyages. Hawaii's sailed these waters and inhabited these islands during Ancient archaeological artifacts and sites provide evidence that early



Spinner dolphins, *Stenella longirostris*, *ma'i a*

The reserve's primary activities are research and monitoring, education and sanctuary designation. Research is conducted to parks combined.

Pacific Ocean — an area larger than all of the country's national flag. It encompasses approximately 134,576 square miles of Reserve is the single largest conservation area under the U.S.

The Northwestern Hawaiian Islands Coral Reef Ecosystem Conservation Area in the U.S.

What is a National Marine Sanctuary?

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.

National Marine Sanctuary habitats include beautiful rocky reefs, lush kelp forests, whale migration corridors, spectacular deep-sea canyons, and underwater archaeological sites. Each national marine sanctuary is a special place — an underwater world so rich in biological and/or cultural resources that it needs to be protected and managed.

Our nation's marine sanctuaries can provide a safe refuge for species close to extinction or a "museum" that preserves in place rare cultural resources. They are also natural classrooms that demonstrate the intricate workings and fragile balance of life on our blue planet, inspiring us to become respectful caretakers of our environment.



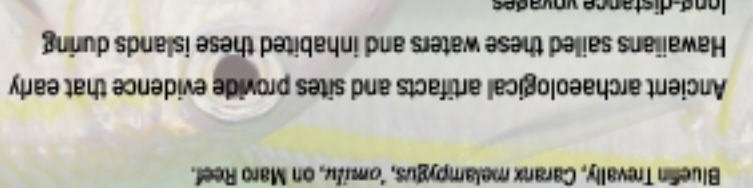
Lobe corals, *Pocillopora lobata*, in unusual growth pattern near Lisianski Island. All photographs are by James Whit, unless otherwise credited.

Since its inception, the reserve and all of its operations have been funded by, and been part of, NOAA's Coral Reef Conservation Program, whose mission is to support effective management and sound science to preserve, sustain and restore valuable coral reef ecosystems.



upset the natural balance of this complex, fragile web of life. of factors, including marine debris, vessel groundings, fishing, recreational and research activities, and invasive species, could this still-thriving ecosystem is not immune to threats. A wide range predator-dominated coral reef ecosystems in the world. But even most extensive left on the planet, and one of the healthiest and have helped keep these coral reefs some of the healthiest and isolation and early federal protections dating back a century

the critically endangered Hawaiian monk seal. federal laws, including the threatened green sea turtle, seabirds, and nesting and breeding grounds for rare species protected by state and of which are found only in Hawaii. Many of the islands are important haven to over 7,000 marine plants and animals, at least one quarter coral reef colonies — truly rainforests of the sea — are home and such as jacks, sharks and groups still roam in abundance. These a grand oasis of life. Here, nature dominates and large predators Today, relatively undisturbed by human presence, the NWHI remain long-distance voyages. Hawaii's sailed these waters and inhabited these islands during Ancient archaeological artifacts and sites provide evidence that early



Bluefin Trevally, *Caranx melampygus*, *omaha*, on Maui Reef.



According to the Native Hawaiian creation chant, the coral polyp emerged from the primal darkness as the first living creature on Earth, long before the creation of humans. Today, modern science agrees that coral reefs are the foundation and building block for other life in tropical seas.

At a time when the world's oceans are in peril, how do we ensure that still-wild coral reefs — the ocean's cradles of life — remain healthy? In 2001, the National Oceanic and Atmospheric Administration's (NOAA) Northwestern Islands Coral Reef Ecosystem Reserve (NWHI) was established by Executive Orders to address this vital task.

The Northwest Hawaiian Islands are around each major

purpose of the reserve is to ensure the comprehensive, long-term protection of the coral reef ecosystem and related marine resources and species of this vast, remote region.

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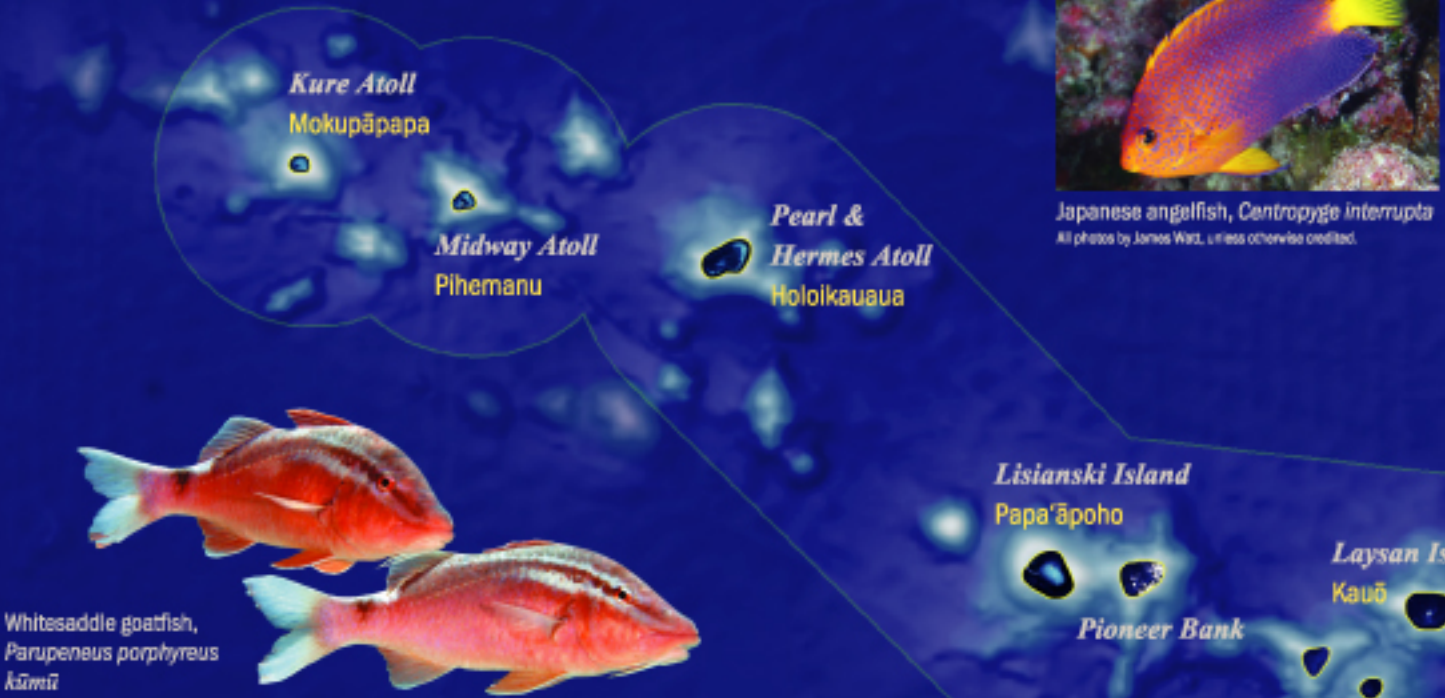
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A Global Ocean Treasure

Unique geology, biology and cultural history make the North-western Hawaiian Islands one of the world's greatest ocean treasures. These remote islands, atolls, reefs, banks and seamounts offer a rare glimpse of what a thriving, intact ecosystem looks like. Here, extensive, healthy coral reefs provide a home for sharks and large jacks, and deep-water habitats whose mysteries have scarcely been fathomed, survive in a wilderness all their own.



The Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve

Predator-Dominated Coral Reefs

Healthy predator populations are good indicators of overall ecosystem health. The NWHI is one of the last places on earth where scientists can study the ecology of a coral reef ecosystem with all of its functional groups intact, including keystone organisms like large predators. Over half of the fish biomass on NWHI coral reefs is made up of large top-level predators like sharks and jacks. In contrast, only 3% of the fish biomass in the main Hawaiian islands is composed of these predatory fishes, reflecting the impacts of human activities.

Since the early 1900s, federal and state protections have sought to conserve and restore the magnificent living resources of the NWHI. Today, this largely uninhabited region provides an invaluable baseline by which we can measure the impacts that have occurred on coastal reef ecosystems near human populations. Steeped in Native Hawaiian culture, the NWHI are a natural classroom that inspires and reminds us of our kuleana (responsibility/privilege) to mālama (care for) our planet.

Vast Coral Reefs

In contrast to many marine areas in other parts of the world, NWHI reefs are flourishing. Fifty-seven species of hard coral, and 12 species of soft coral and anemones are found in the NWHI and these are some of the healthiest and least disturbed reefs on the planet. In areas like Neva Shoals off Lisianski Island the living coral colonies create undersea mountains 40 feet high, providing complex labyrinth-like habitats for fish and invertebrates to hide in and make their homes. The reserve and its agency partners are striving to manage these still-healthy resources utilizing an ecosystem-based approach. Preventative measures such as limiting access and activities focus on maintaining the natural trophic structure of the NWHI marine ecosystem.

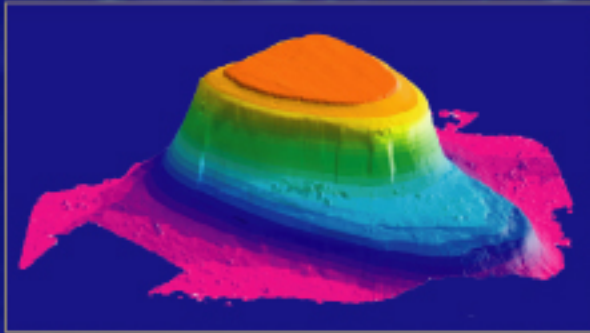


Diver surveys large Porites lobata colony at Lisianski Island.

Unique Geology

The Hawaiian Archipelago is a string of volcanic islands thought to be created from a single plume of magma rising from a hot spot within the earth's mantle. Millions of years of eruptions here pushed the fluid rock up through the ocean floor, creating high volcanic islands. Although the hot spot is stationary, the Pacific Plate beneath the islands is not, and as each new island formed it was carried away to the northwest about as fast as your fingernail grows, approximately 3.2" (80 mm.) per year.

Twenty eight million years ago, the last emergent feature in the chain, Kure Atoll, was located where the Big Island of Hawai'i is today. Over millennia, the once tall volcanic island that was Kure eroded and subsided back into the sea as it was carried towards its present location. Coral reefs first encircled the high island, then grew over it as the basalt rock foundation slipped beneath the ocean surface. Today, coral and coralline algae growth are the only things keeping Kure near the surface – but with time, the low-lying atoll too will slip beneath the waves.



Ship-based mapping of the NWHI is bringing many previously unknown features to light. Maps, such as the one above of Brooks Bank, show a three-dimensional view of submerged features.



Crosshatch triggerfish Xanthichthys mento

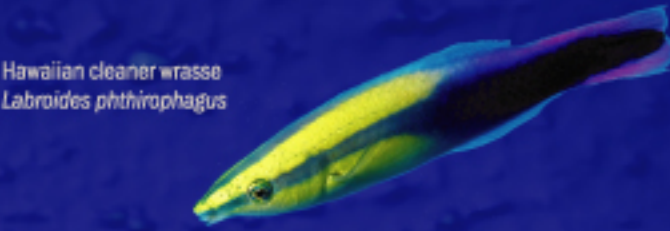


Potters angelfish, Centropyge potteri

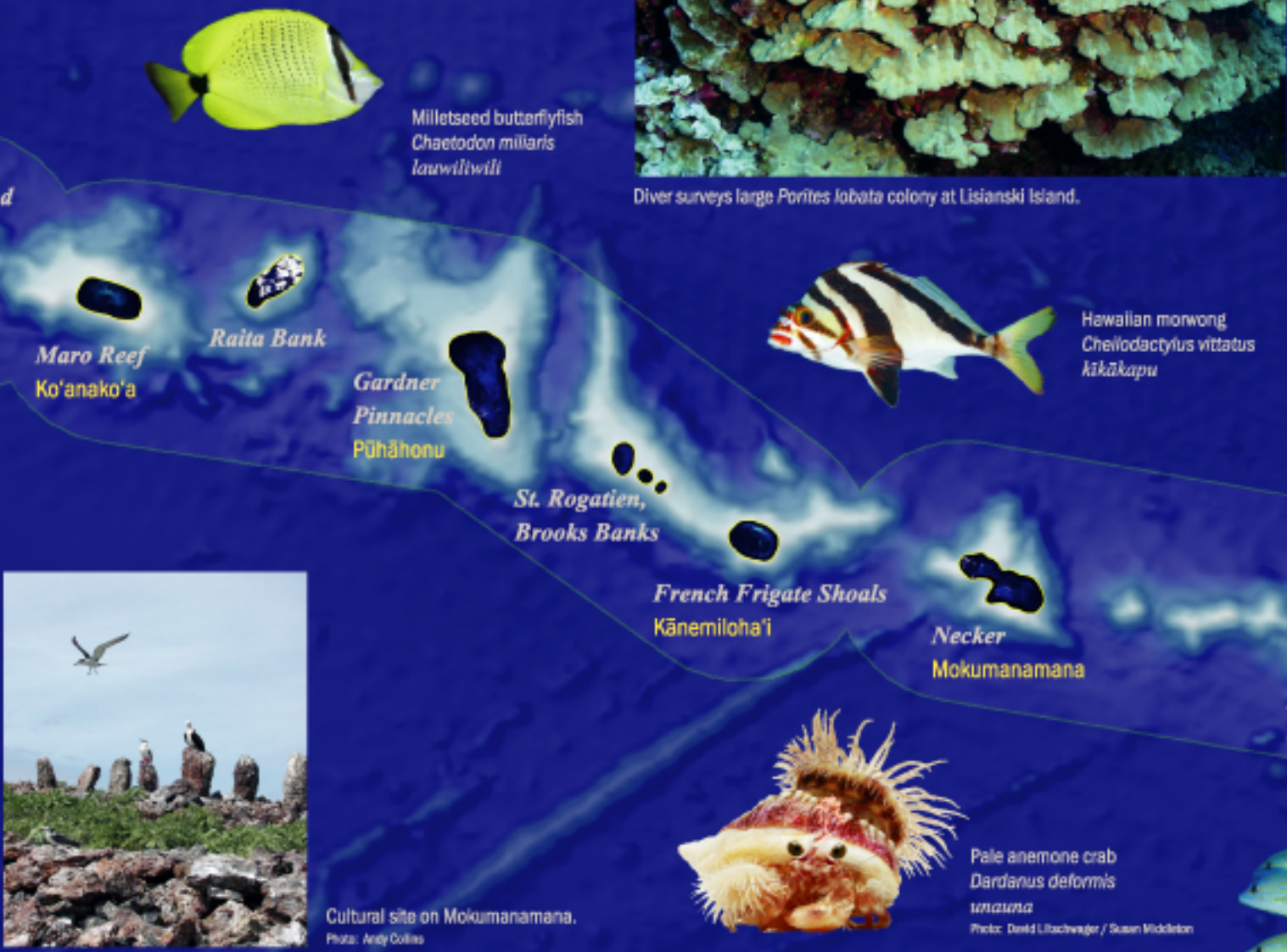
Endemic Species

The NWHI contains a high number of species that are found there and no where else in the world. Approximately 25 % of all marine species in the NWHI are unique to the Hawaiian Archipelago. In the three northernmost atolls over 50% of the fish population is composed of these unique species.

The remote location of the NWHI, thousands of miles from any continent, ensures that naturally occurring arrivals of new species are rare. Those species that have made their way to Hawai'i and survived have, over time, become unique species as they adapted to their new environment. These reefs and waters are home and haven to various endangered species as well as species yet unknown to science.



Hawaiian cleaner wrasse Labroides phthirophagus



Cultural site on Mokumanamana. Photo: Andy Collins

Cultural Significance

Native Hawaiian culture and history are integrally connected to the NWHI. Considered to be ancestral islands, the NWHI are celebrated in traditional songs, chants and stories, and a large number of archaeological features on the islands of Nihoa and Mokumanamana attest to early Native Hawaiian presence in the region. Carbon dating has revealed that Hawaiians lived on Nihoa for at least 700 years, ceasing permanent habitation prior to the arrival of the first Western ships in Hawai'i. Visits to these islands by Native Hawaiians for cultural and spiritual purposes continue today.

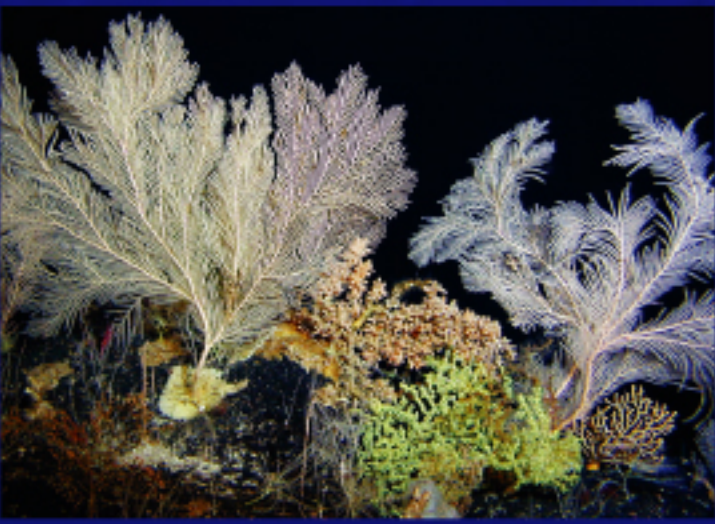


Polynesian voyaging canoe Hōkūle'a Photo: Maura Costa

The NWHI also contain many historic shipwrecks, aircraft wreck sites and other types of submerged archaeological sites. Proper documentation, interpretation and management of these sites will preserve this rich maritime heritage for generations to come.

Deep Sea Habitats

The pitch-black abyss harbors a strange world where deep-sea corals, odd invertebrates, and bottom fish such as onaga and opakapaka thrive. Hawaiian monk seals descend into the dark twilight, more than a thousand feet beneath the surface, to forage among huge branching formations of gold and bamboo precious corals. This alien universe, largely unexplored by deep diving submersibles, is only now revealing its diverse and rich wonders to science.



Deep-water gorgonian corals. Photo: Amy Bezo Taylor

Threats

Despite their remote location, and being uninhabited, the NWHI marine ecosystems are still threatened by human impacts. Every year, approximately 40 to 80 metric tons of marine debris and derelict fishing gear find their way to this remote island chain.

Derelict fishing nets, in particular, pose an entanglement hazard to marine life. They also scour the reefs by conglomerating into heavy balls that are pushed across the reef by wave energy. Other threats such as decaying WW II infrastructure on land, vessel groundings, and alien species introduced by human activities present formidable management challenges.



Entangled Hawaiian monk seal freed from net debris. Photo: Raymond Boland

Physical cleanup of debris, efforts at prevention, and ship hull inspections to remove alien hitchhikers, like invasive algae and invertebrates, are some of the measures being taken to protect the NWHI. Prevention-focused measures like placing limits on access, fishing and other human activities help maintain the ecological balance of this fragile web of life.

