
A large seal is swimming vertically in clear blue water. Below it, a diver in a blue and yellow wetsuit is visible, holding a camera. The background shows a sandy seabed with some coral.

**Some people say
the Northwestern
Hawaiian Islands
should be a closed
sanctuary.**

A diver is swimming horizontally over a large, flat, greenish-brown coral reef. The reef is composed of many small, rounded structures. The water is clear and blue.

**Some people say
the sanctuary
should be used,
studied and
managed.**

History & Significance

While the Northwestern Hawaiian Islands (NWHI) are often described as “pristine,” they have a long history of use. And sometimes of abuse.

Hawaiians populated the two islands closest to the main Hawaiian Islands around 1,000 A.D. In 1822 Queen Kaahumanu annexed the island of Moku Manamana (now also known as Necker), doubling the ocean reach of the Kingdom of Hawai‘i. In 1886, King Kalakaua annexed the archipelago all the way to Kure, quadrupling the map size of the Kingdom.

Hawaiians conducted traditional fishing in the NWHI almost into the twentieth century.



Midway Island, WW II (photo courtesy of Bishop Museum)

Beginning in the 1900s, the NWHI were increasingly subjected to commercialization from around the Pacific: guano extraction, the plundering of birds, sea turtles and monk seals; and unregulated lobster and pearl oyster harvesting, long-lining, net trawling and bottom dragging for precious coral and groundfish.

The Battle of Midway, America’s triumphal turning point in World War II in the Pacific, was fought at the far western end of the Hawaiian archipelago. Coral at French Frigate Shoals was dredged to enlarge Tern Island to four times its original size to accommodate an airstrip.

Nonetheless, nature has proved resilient. Much of this vast space is all but untouched and, with management, species have recovered and the ecosystem remains pristine.



Midway WW II gun emplacement



Egg collecting, Laysan Island (photo courtesy of Bishop Museum)

Cover: (bottom photo courtesy of James Watt)



“During the Law of the Sea conferences between 1973 and 1982, many nations declared 200-mile fishery conservation zones to protect their fishing interests, and so the United States followed suit. Congress created eight regional fishery management councils, which have been operating since 1976. At the same time, the State of Hawaii Fisheries Division, the National Marine Fisheries Service Honolulu Laboratory and the U.S. Fish & Wildlife Service – and later the University of Hawaii Sea Grant Program – launched a five-year research program on the Northwestern Hawaiian Islands, providing reliable scientific information on which our Council has made its management decisions.”

Kitty Simonds, Executive Director
Western Pacific Regional Fishery
Management Council

Questions & Answers

Q: What are the Northwestern Hawaiian Islands?

A: A vast oceanic world dotted by occasional small islands, reefs and seamounts.

Q: Are they part of the State of Hawaii?

A: Yes. They expand the length and ocean space of Hawaii by more than four times.

Q: Are they a national treasure?

A: Yes. Surveys by the Western Pacific Fishery Management Council and other State and Federal agencies have established their global ecological significance, as well as their economic significance to the State of Hawaii.

Q: Are the NWHI nursery grounds for fish stocks in the main Hawaiian Islands?

A: A study is underway to investigate this issue, but recent oceanographic data and other observations suggest the opposite may be true. For example, the blue-lined snapper (taape) that was released in the main Hawaiian Islands is now established in the NWHI.

Q: Are the NWHI already protected?

A: Yes, by layers of regulations and several management plans concerning species, ecosystems and activities.

Q: Are they being degraded?

A: Scientists have continually studied the NWHI marine resources since as early as 1948. They marvel at the vibrant condition of the marine ecosystem, despite a variety of land management problems, such as invasive plants and animals.

Q: What about the mounds of debris we’ve seen on the news?

A: North Pacific currents deposit large nets and other debris on the NWHI reefs. These are not from the local, highly regulated fisheries but likely from North Pacific trawl fisheries. A cooperative clean-up effort has removed nearly 447 metric tons of marine debris from the NWHI since 1996.



Reef ecosystem (photo courtesy of James Watt).



“My involvement with the Northwestern Hawaiian Islands began in the early seventies. The U.S. had just extended jurisdiction from twelve to two hundred miles and suddenly there was an enormous amount of Federal money to study what we had . . . The first dive right below me was a fifteen foot head of acropora coral. We’d see schools of ulua that looked like buffalo. And it’s still that way. Why? Because the management has been very effective.”

Dr. Rick Grigg,
Professor of Oceanography,
University of Hawaii



Ulua school (photo courtesy of John Naughton)



Marine debris



Marine debris clean-up

Protect the Land

In contrast to the marine ecosystem, the terrestrial environment has more chronic impacts from human presence in the NWHI, and the management needs of the terrestrial environment are greater. Invasive species (plants, ants, grasshoppers, rabbits and rodents) have created numerous problems for indigenous plants and nesting seabirds.

The NWHI provides breeding habitats to 25 species of seabirds, the Hawaiian monk seal and green sea turtle. Since the early 1980s, cooperative management activities by numerous agencies have facilitated the recovery of the Hawaiian green sea turtle. The Hawaiian monk seal, although still endangered, appears to have stabilized in the NWHI at approximately 1,400 individuals and has increased in the main Hawaiian Islands.



Monk seal dozing in the surf

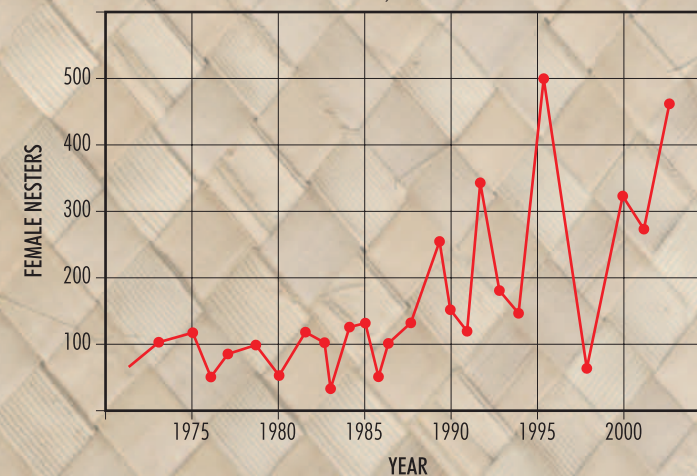


Laysan albatross and chick



Green sea turtles (photo courtesy of Turtletrax)

Trends in Hawaiian green sea turtle nesting abundance, 1973–2002



Preserve the Reef

In 1995, the Western Pacific Fishery Management Council initiated a series of studies of the coral reefs of the Pacific, including the NWHI.

As an outcome of these studies, the Council developed a Coral Reef Ecosystems Fishery Management Plan to conserve shallow-water resources.

Ironically, as awareness of the NWHI spread, it generated a widespread image of the area as a pristine, highly vulnerable wilderness. This in turn generated demands that sustainable use, including managed fishing, be shut down.

In one of his last acts in office, President Clinton signed an executive order designating the NWHI a marine reserve and directing the initiation of the Reserve as a National Marine Sanctuary. The executive order set the stage for a new dialogue on what the appropriate level of access and use should be.

As part of this process, the scientific community has been heavily engaged in biological and ecosystem studies, and numerous stakeholders have become more involved in resource management of the area.

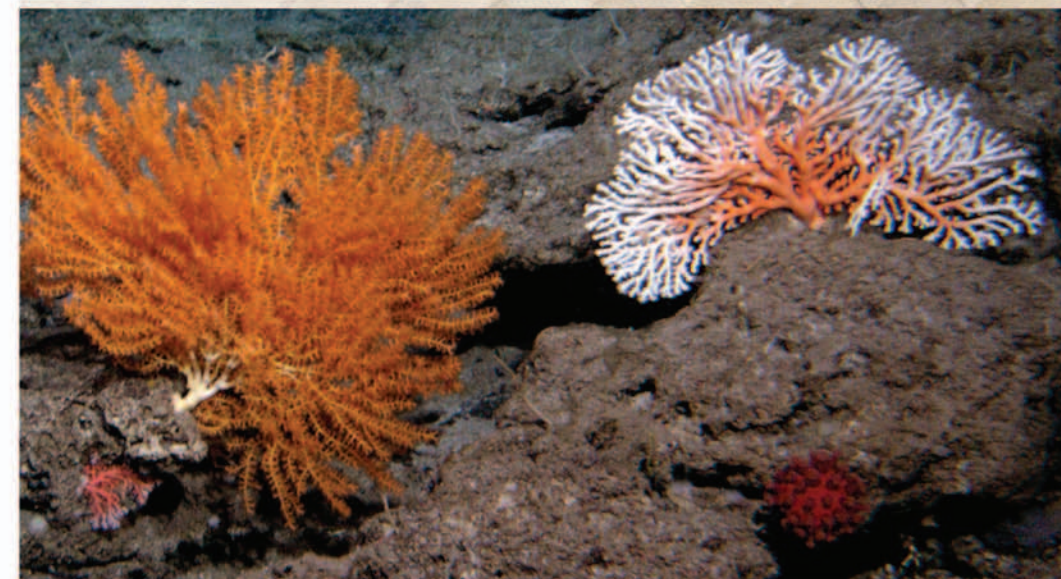


Fisherman with onaga (photo courtesy of Justin Rutka)

Manage the Deep Ocean

Working with fishermen licensed by the Council's limited entry programs, the Council prohibited longline fishing within 50 nautical miles of the atolls and islands of the NWHI and banned trawl fishing completely. The Council also promulgated fishery management plans that established quotas, closed areas and restricted gear for the harvesting of crustaceans and deepwater precious corals. From the many diverse activities once undertaken in the NWHI, only a limited-entry fishery with hook and line in the deeper ocean continues with any regularity today. This is tightly regulated by the Council's Bottomfish and Seamount Groundfish Fishery Management Plan.

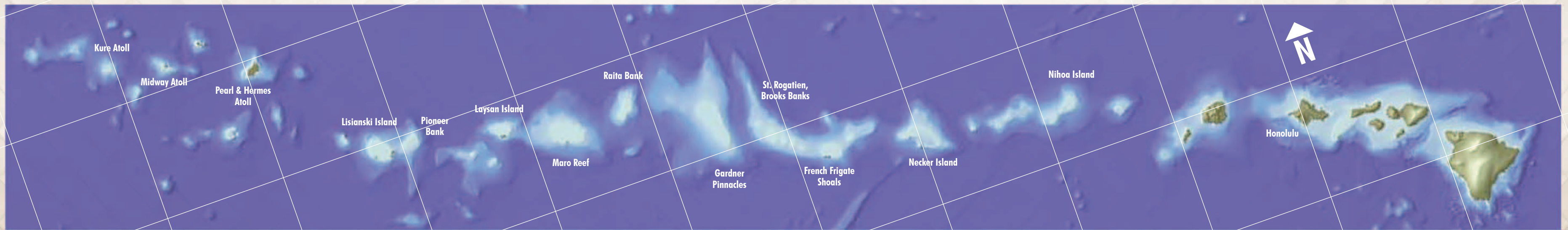
"Limited entry" means just that. Where once dozens of often large and factory-like U.S. and foreign boats combed all the NWHI, only a few small boats are now permitted to fish.



Precious corals



Spiny lobster



Negotiating Differences, Finding a Reasonable Balance

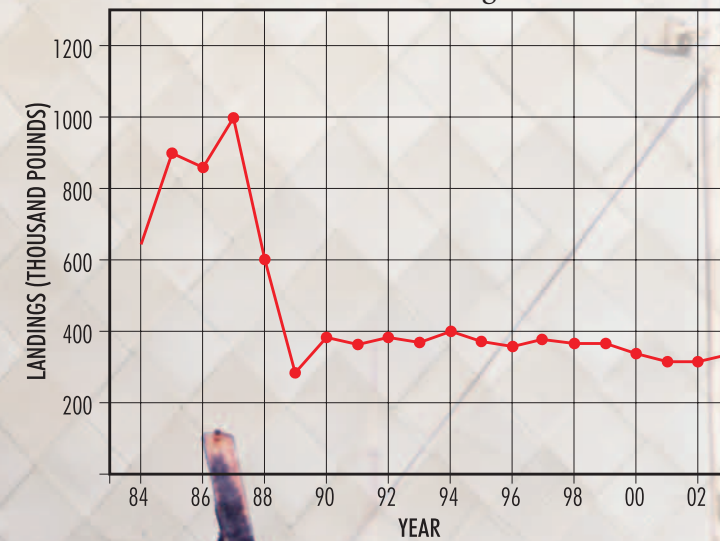


Sunrise over Necker Island (photo courtesy of James Watt)

“I think people are slowly recognizing that our small well-managed fisheries in the Northwestern Hawaiian Islands can co-exist with other sea life (turtles, monk seals, birds, sharks, sponges and corals) and Hawaiian cultural activities.”

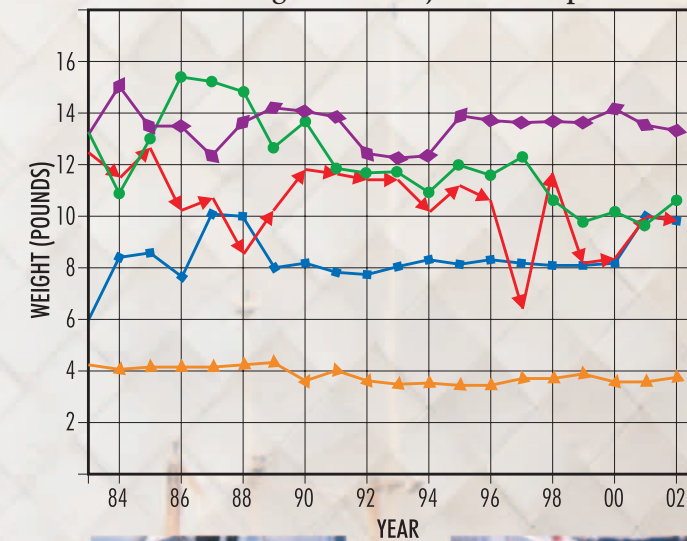
*Kitty Simonds, Executive Director
Western Pacific Regional Fishery
Management Council*

Hawaii's Bottomfish Landings from the NWHI



In 1989, the Council limited access to the NWHI bottomfish fishery, reducing the 30 to 40 vessel fleet to about one-fourth that size as well as reducing the harvest, which has remained stable since that time.

Mean Weight for 5 Major NWHI Species



- ◆ HAPU
- UKU
- ▲ ONAGA
- OPAKA
- ▲ EHU

Average weights of harvested NWHI bottomfish have remained stable over the past two decades. This, along with the stable annual catch levels indicates a healthy stock that is being sustainably harvested.



“To close a fishery like (NWHI), I cannot see that. I just can't see that. I still believe that fish was put in the ocean for human consumption, and if we can come up with a good conservation area, good gear restrictions, all of these things have to be put into consideration.”
Leo Obai, Fisherman



“When I first went up there, I didn't know too many areas. You just don't go to a bank, throw your anchor and catch lots of fish . . . but it gets better and better as the years go on, because you learn more spots.”
“Of the four boats I know up there, everybody practices good skills.”
“Everybody is very individual. We all protect our spots. I don't want them to know where I fish and I don't know where they fish. Because there's so many different areas, in my lifetime I don't see a problem.”
Bobby Gomes, Fisherman



“I've been fishing approximately 25 years up there, and I haven't seen any depletion. The reason for that is the management. We're not overfishing the grounds, only fishing certain places at certain times of the year and only taking, say, a thousand pounds from one spot and moving on. We don't sit there and try to rob the ground.”
Bill Strickland, Fisherman

Manage and Monitor Bottom Fishing

The limit on bottomfish boats that may enter the NWHI is 17, with a maximum size of 60 feet. Only nine boats with limited-entry permits regularly fish the NWHI. These boats are spread over such a vast area – each with its own style and fishing spots – that the fishermen rarely see one another.

Impact on protected species is virtually non-existent. There has never been a reported or observed gear interaction between the bottomfish fishery and monk seals or sea turtles.



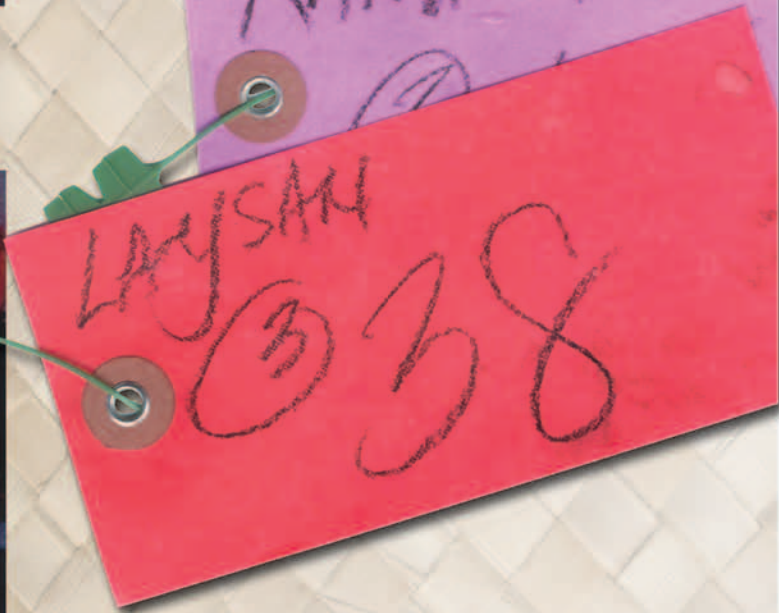
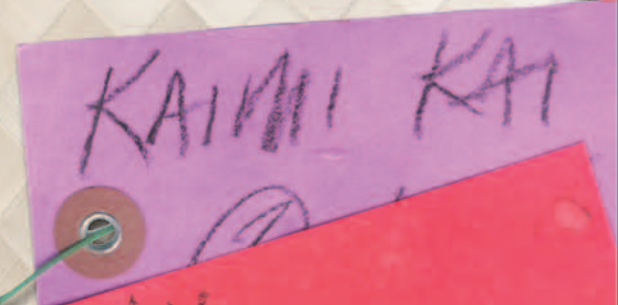


Honolulu fish auction

The Fish Market

The deep waters of the NWHI provide Hawaii with about one-third of its fresh premium quality bottomfish for local and export markets. This is a stable, productive source of fish, thanks to the strict management practices imposed by the Western Pacific Fishery Management Council and NOAA Fisheries. The size of landed fish also remains stable, reflecting a healthy fishery in a well managed ecosystem.

Because of the consistency and quality of their catches, the few boats that fish the NWHI are a major source of bottomfish supply in the Honolulu fresh seafood market.



A variety of bottomfish



The Consumer

Fresh locally produced seafood is important culturally, socially and economically to the people of Hawaii. Hawaii residents consume 23 lbs of seafood per capita, which is nearly one and half times the 16 lbs per capita consumption of seafood for the US overall. Bottomfish like onaga and opakapaka, as well as other red fish, are particularly important to Hawaii residents as traditional foods to be shared during the holidays.

Seafood is one of the few food production industries that can be sustained in the islands. The Hawaii fishing industry provides healthy seafood to local residents, restaurants and hotels in the islands. The Hawaii visitor industry "product" is greatly enhanced by the availability of high quality, fresh Hawaii seafood.

Fishery management actions that reduce Hawaii harvests can result in the promotion of imported seafood that carry greater adverse impacts to the environment, if obtained from fisheries that are less regulated or more stressed than the managed Hawaii fisheries and its healthy stocks.



"From the Northwestern Hawaiian Islands they bring home anywhere from five thousand to seven thousand pounds at a time, a huge difference compared to the main Hawaiian Islands. "These fish, especially onaga and opakapaka, are promoted as part of Hawai'i. They are part of the exotic product of Hawai'i like pineapple and flora – freshly caught fish from pristine Hawaiian waters."
Wayne Higashi,
Fish Market Auctioneer



"If we didn't have our own supply coming in, the foreign sources would increase their price to us, because they would be the only game in town. "You would have to say, 'Tonight's special is Australian opakapaka.' "What is that? That's crazy."
Glen Tanoue,
Fish Wholesaler



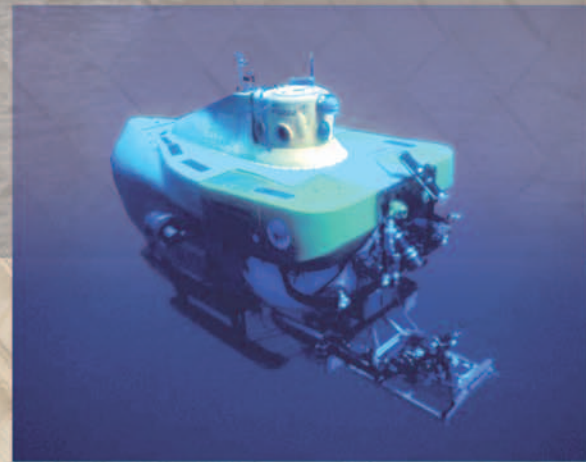
"Opaka and onaga are part of the culture, like mahimahi and ahi. Most people who come in want to have bottomfish. They don't want to have weke or reef fish. They want the onaga, the opaka. Everytime we have it, it sells. I think it's about thirty percent of our menu."
Russell Siu,
Chef and Restaurant Owner



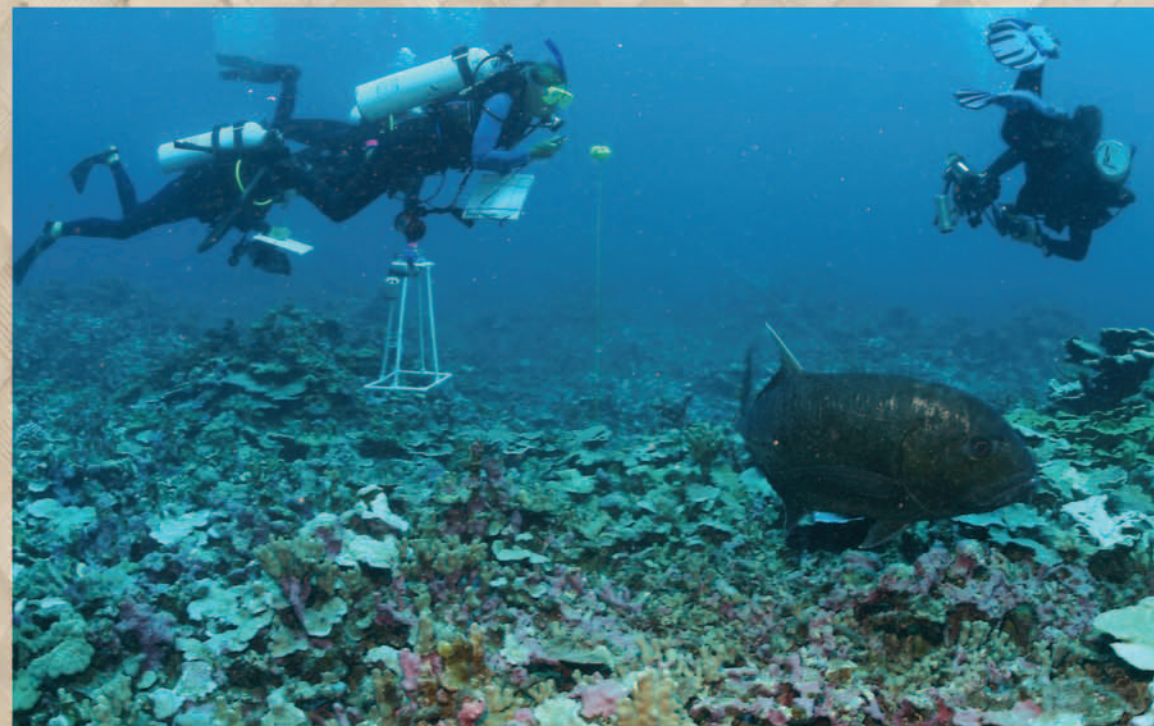
(photo courtesy of Hawaii State Dept. of Business, Economic Development and Tourism / Camera Hawaii / Hawaii Seafood Promotion Committee)

What is to be Learned?

Research concerning the NWHI marine resources began as early as 1948 and was driven largely by interest in commercial fisheries. In the 1960s, a Governor's Task Force recognized that the fishery resources in the main Hawaiian Islands were under stress and recommended developing the NWHI fisheries. In 1978, federal and state agencies began the highly important five-year cooperative research program to identify NWHI marine resources. Current surveys indicate that the marine resources and ecosystem in the NWHI remain as pristine today as they were 30 years ago.



Deep sea submersible



Coral reef research



Coral reef research (photo courtesy of James Watt)

Fishing and Scientific Research

"Use of resource is usually the impetus that drives you to understand the ecosystem. Were it not for that, you're not going to do the in-depth scientific studies to truly understand the system. It just won't get done if you're sitting on your hands saying, 'Don't touch it.'"

*Dr. Rick Grigg
Professor of Oceanography,
University of Hawaii*



Large coral head (photo courtesy of James Watt)



"Most of our work in the Northwestern Hawaiian Islands was on the shallow water reef habitat. It's usually a hundred feet or less, and that's where most of the coral development is..."

"The level of (fishing) activity that's going on up there right now doesn't seem to be impacting the ecosystem. Certainly not the shallow-water ecosystem—the stuff I'm more familiar with."

*Dr. Alan Friedlander,
Oceanic Institute*



"The purpose of our dives was to look at the impacts of bottom fishing on the ecology of those banks... and we just did not see enough evidence of negative impacts on either bank that would warrant closing them to fishing."

"I know there are people who would like to essentially close the Northwestern Hawaiian Islands and create a large reserve. But I think it would serve a greater purpose to learn how humans can interact with their environment in a sustainable manner..."

*Dr. Chris Kelly,
Hawaii Undersea
Research Laboratory*



"We've got this environmental model that we developed back in the early years, and we keep adding to it by collecting new data and improving on it, and it gives us a picture of the whole ecosystem."

"We have people studying monk seals, monitoring populations... fish abundance surveys... (and) commercial fisheries data... We have our research survey, independent surveys and then a lot of the oceanographic data from satellite imagery."

*Dr. Jeff Polovina,
Chief of Ecosystems and
Oceanography Division,
NOAA Pacific Islands Fisheries
Science Center*



History of Fisheries in NWHI

- 1000** □ Polynesians begin to bottomfish at Nihoa and Necker.
- 1700-1800** □ Native Hawaiians visit the area for turtles, seabirds and bottomfish.
- 1800** □ □ Western sailing ships harvest seals, whales, reef fish, turtles, sharks, birds, pearl oysters and sea cucumbers.
- 1822** □ Queen Kaahumanu annexes Nihoa for the Kingdom of Hawaii.
- 1859** □ Guano extraction begins. Japanese harvest bird skins and feathers.
- 1886** □ □ King Kalakaua takes possession of Kure in the western end of the Hawaiian archipelago.
- 1909** □ President Roosevelt designates NWHI as the Hawaiian Island Bird Reservation.
- 1910-1940s** □ □ Hawaii vessels harvest inshore species (pearl oysters, ulua, mullet, weke, moi, akule, etc.), turtles, lobsters, and bottomfish.
- 1940-1944** □ □ US naval base established at Midway Atoll. Coral dredged to convert 11-acre Tern Island at French Frigate Shoals into a 42-acre naval airstrip.
- 1946** □ □ Large commercial vessels fish NWHI. Two fishing bases at Tern Island airstrip trap fish and turtles for the Honolulu market.
- 1948** □ □ Pacific Ocean Fishery Investigation begins research on potential commercial fishery yield.
- 1965** □ □ Japanese longliners, pole-and-line, draggers and trawlers begin fishing the NWHI for tuna, precious coral and groundfish. Soviet trawlers target groundfish.
- 1970** □ □ A State of Hawaii Governor's Task Force recognizes that fishery resources around the main Hawaiian islands are taxed and recommends developing the NWHI fisheries.
- 1973** □ National Marine Fisheries Service begins research cruises.
- 1976** □ □ □ □ Congress adopts the Magnuson Fishery Conservation and Management Act, establishing the Western Pacific Fishery Management Council (Council) to manage fisheries in federal waters around Hawaii and other US Pacific Islands and forcing foreign vessels out of NWHI.
- 1978** □ A multi-agency, five-year program to study NWHI marine resources begins.
- 1980** □ □ □ Council establishes Precious Coral Fishery Management Plan (FMP). Subsequent amendments restrict gear to those that can discriminate between types, size, quality or characteristics of living and dead precious (deepwater) coral, etc.
- 1983** □ □ □ Council establishes Crustaceans FMP. Subsequent amendments limit entry (15 vessels) and number of traps, require escape vents, and establish time and area closures, quotas, etc.
- 1986** □ □ □ Bottomfish and Seamount Groundfish FMP established. Bottom trawls and bottom set gillnets prohibited. Subsequent amendments limit entry (17 vessels), require attendance at protected species workshops, limit vessel size to 60 feet, and institute other regulations.
- 1987** □ □ Pelagics FMP established. Subsequent amendments prohibit longline fishing within 50 miles of the NWHI.
- 1995** □ □ □ Council undertakes studies on coral reef ecosystems and begins preparation on Coral Reef Ecosystems (CRE) FMP. Preferred alternatives identify all federal waters 0-300 feet in the NWHI as marine protected areas and 24 percent of NWHI waters as no-take zones.
- 2000** □ □ □ President Clinton by executive order establishes the NWHI Coral Reef Ecosystem Reserve from three to 50 miles offshore the NWHI and initiates the process for designating the Reserve as a National Marine Sanctuary (NMS).
- 2001** □ CRE FMP completed and submitted for approval.
- 2002** □ CRE FMP approved by Secretary of Commerce except the NWHI measures.
- 2004** □ □ CRE FMP implemented. Council begins developing fishing regulations for proposed sanctuary as mandated by the NMS Act.