

# STATE OF THE RESERVE

NORTHWESTERN HAWAIIAN ISLANDS CORAL REEF ECOSYSTEM RESERVE

2000 — 2005



Review of the Management of the  
Northwestern Hawaiian Islands  
Coral Reef Ecosystem Reserve  
Under the National Marine Sanctuaries  
Amendments Act (P.L. 106-513) and  
Section 304(e) of the National Marine  
Sanctuaries Act (16 U.S.C. 1434(e))

National Oceanic and Atmospheric Administration



This document was produced by the National Marine Sanctuary Program, under the National Ocean Service, National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, to fulfill requirements of the National Marine Sanctuaries Amendments Act (P.L. 106-513) and Section 304(e) of the National Marine Sanctuaries Act (16 U.S.C. 1434(e))

National Oceanic and Atmospheric Administration.  
2006. State of the Reserve.  
Silver Spring, MD.

**February 2006**

**For information or copies, please contact:**

NOAA National Marine Sanctuary Program  
National Ocean Service  
1305 East West Highway  
Silver Spring, Maryland 20910  
Phone: 301-713-3125  
<http://www.sanctuaries.nos.noaa.gov>

or  
Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve  
<http://hawaiireef.noaa.gov>

Cover photos:

Waves and needlefish. Photo: Dan Suthers.

Bluefin trevally over shallow coral at Maro Reef. Photo: James Watt



# STATE OF THE RESERVE

NORTHWESTERN HAWAIIAN ISLANDS CORAL REEF ECOSYSTEM RESERVE



Colorful Hawaiian Squirrelfish are found only in Hawaiian waters and Johnston Atoll. Photo: James Watt

Review of the Management of the  
Northwestern Hawaiian Islands  
Coral Reef Ecosystem Reserve  
Under the National Marine Sanctuaries  
Amendments Act (P.L. 106-513) and  
Section 304(e) of the National Marine  
Sanctuaries Act (16 U.S.C. 1434(e))

National Oceanic and Atmospheric Administration





Bluefin trevally over shallow coral at Maro Reef. Photo: James Watt



Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve  
State of the Reserve Report



# Table of Contents

Acronyms . . . . .	ii
Map of Northwestern Hawaiian Islands . . . . .	iv
Executive Summary . . . . .	1
Background . . . . .	3
Evaluation of Progress . . . . .	4
Research and Monitoring . . . . .	8
Education, Outreach and Constituency Development . . . . .	13
Site Operations . . . . .	17
Field Operations . . . . .	20
Sanctuary Designation . . . . .	24
The Future . . . . .	27
Appendix A: NOAA’s National Marine Sanctuaries . . . . .	29
Appendix B: Executive Order 13178 . . . . .	30
Appendix C: Executive Order 13196. . . . .	39
Appendix D: Final Reserve Operations Plan (PDF) is available at <a href="http://hawaiiireef.noaa.gov/documents/">http://hawaiiireef.noaa.gov/documents/</a>	

## ACRONYMS

CCMA	Center for Coastal Monitoring and Assessment
CRCP	Coral Reef Conservation Program
DC	Washington, D.C.
DOC	Department of Commerce
EIS	Environmental Impact Statement
EO	Executive Order
GIS	Geographic Information System
HIMB	Hawai'i Institute of Marine Biology
HURL	Hawai'i Undersea Research Laboratory
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act of 1969
NMAO	NOAA Marine and Aviation Operations
NMSA	National Marine Sanctuaries Act
NMSAA	National Marine Sanctuaries Amendments Act of 2000
NMSP	National Marine Sanctuary Program
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent (to prepare environmental impact statement)
NOS	National Ocean Service
NWHI	Northwestern Hawaiian Islands
NWHICRER	Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve
OMB	Office of Management and Budget
PMC	Pacific Mapping Center
RAC	Reserve Advisory Council
REA	Rapid Ecological Assessment
RAMP	Reef Assessment and Monitoring Program
ROP	Reserve Operations Plan
RPA	Reserve Preservation Areas
Scuba	Self Contained Underwater Breathing Apparatus
USFWS	U.S. Fish and Wildlife Service
WPFMC	Western Pacific Fishery Management Council



Large lobe coral colony at Lisianski.  
Photo: James Watt

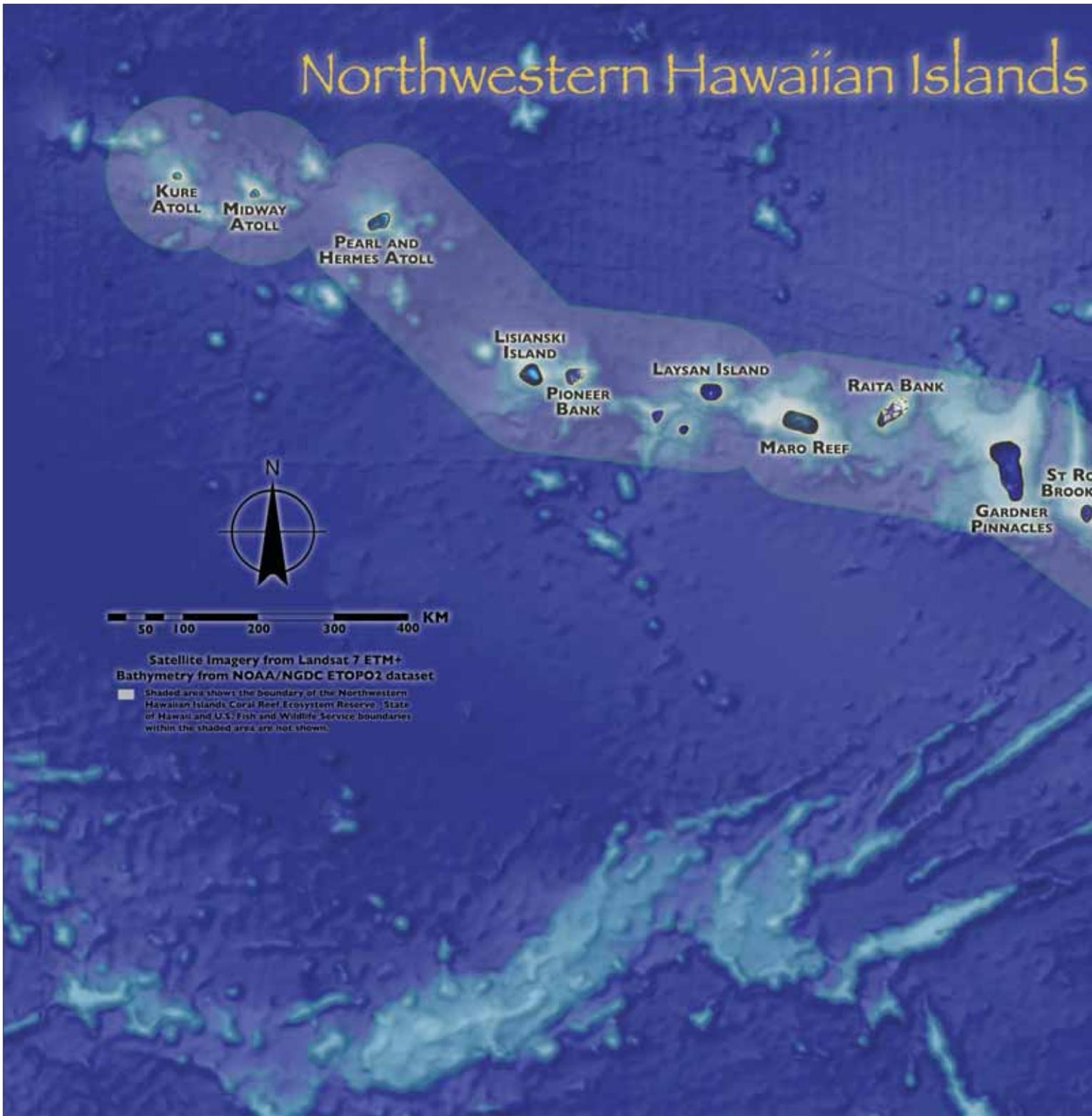
*Hānau ka 'Uku ko'ako'a  
Hānau kana, he 'Āko'ako'a, puka*

*Born the coral polyp  
Born of him came the reef*

*— Kumulipo creation chant*

Long before the creation of humans, when the world was still dark, the Hawaiian creation chant identifies the coral polyp as the first living creature to emerge on Earth — the foundation and building block of all other life in the sea and on the planet.

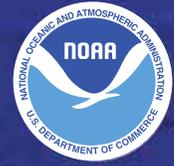
# Northwestern Hawaiian Islands



Satellite imagery from Landsat 7 ETM+  
Bathymetry from NOAA/NGDC ETOPO2 dataset

Shaded area shows the boundary of the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve. State of Hawaii and U.S. Fish and Wildlife Service boundaries within the shaded area are not shown.

# Coral Reef Ecosystem Reserve



*Acropora* spp. table corals are rare in the main Hawaiian Islands, but abundant in the NWHI. Photo: James Watt



## Executive Summary

**T**his report provides a summary of progress made toward implementation of the Reserve Operations Plan (ROP) and the activities and accomplishments of NOAA's Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve (reserve).

This report was prepared by the National Marine Sanctuary Program, under the National Ocean Service (NOS), National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, to fulfill requirements of the National Marine Sanctuaries Amendments Act of 2000 (NMSAA)(P.L. 106-513). The Act states that,

*“If the Secretary has not designated a national marine sanctuary in the Northwestern Hawaiian Islands under sections 303 and 304 of the National Marine Sanctuaries Act (16 U.S.C. 1433, 1434) before October 1, 2005, the Secretary shall conduct a review of the management of the reserve under section 304(e) of that Act (16 U.S.C. 1434(e)).”*

Section 304(e) of the National Marine Sanctuaries Act (NMSA) requires that,

*“Not more than 5 years after the date of designation of any national marine sanctuary, and thereafter at intervals not exceeding 5 years, the Secretary shall evaluate the substantive progress toward implementing the management plan and goals for the sanctuary, especially the effectiveness of site-specific management techniques and strategies, and shall review the management plan and regulations as necessary to fulfill the purposes and policies of this title. This review shall include a prioritization of management objectives.”*

To meet these requirements, this report provides a review of the reserve management efforts since 2000. One of the most significant accomplishments of the reserve was the completion and final publication in March 2005 of the Reserve Operations Plan (ROP), which serves as the management plan for the reserve. The goals of the reserve are outlined as management principles in Section 4 of Executive Order 13178 that established the reserve (see Appendix 1). Section 5(b) of EO 13178 also outlined the priority issues and actions to be addressed

by the ROP that serve as the management objectives for the reserve. During the development of the ROP, NOAA's National Marine Sanctuary Program (NMSP) utilized the Executive Orders and the draft ROP as management guideposts to steer the implementation of the reserve.



To meet the requirements of the NMSAA and Section 304(e) of the NMSA, the review of the reserve began in 2003 with the analysis of public scoping comments on the proposed national marine sanctuary and initial work with jurisdictional partner agencies to identify the collective management priorities for the Northwestern Hawaiian Islands (NWHI) as a region. The review continues through the design and development of the draft management plan for the proposed NWHI sanctuary. Working with the Reserve Advisory Council and jurisdictional agencies, it was determined that the ROP would serve as the foundation for the draft management plan for the proposed sanctuary. When complete, the sanctuary management plan will serve as a revised and expanded ROP, inclusive of a revised prioritization of management objectives for the area.

Overall, the reserve has made significant progress since its inception in January 2001. In addition to establishing its operational framework and foundation, the reserve has developed strong collaborative relationships with the State of Hawai'i, U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS) Pacific Islands Regional Office and Pacific Islands Fisheries Science Center, U.S. Coast Guard, and U.S. Department of Defense. These relationships have led to the establishment of an interagency coordinating committee for the region, progress made toward a coordinated permit system, identification of regional science needs, coordinated education and outreach, and the initial framework for coordinated field operations. In addition to interagency coordination, the reserve has worked closely with the Reserve Advisory Council, local and national non-governmental organizations, and key "stakeholder" constituencies, such as fishing, research, and Native Hawaiian communities, who may be directly affected by resource management decisions.

The reserve has also bolstered public engagement and participation in issues related to the NWHI as a whole through the establishment and involvement of the Reserve Advisory Council, and numerous public outreach and education events and activities. These efforts serve to inform the public of ways they can participate in determining the future of the region related to management and protection of the coral reef and marine resources of the region.

An analysis of the progress made toward implementation of the Reserve Operations Plan indicates that to date 72.7% of all the ROP activities have been initiated, remain ongoing or are completed; 15.9% of activities are projected to be initiated or completed within the next 1-2 years; 8% are projected to be undertaken after completion of the sanctuary designation process; and 3.4% have been revised due to changed priorities, new circumstances or new information/technology. In addition, the majority of reserve implementation effort was directed at high priority activities. Along with the strategies and activities laid out in the plan, the reserve has also undertaken many other projects and programs to fulfill the mandates of the Executive Orders and management principles of the reserve.

**This review of the management of the reserve has resulted in a determination by NOAA that the reserve is meeting and exceeding its responsibilities as outlined in the EO and ROP.**



The Hawaiian monk seal is one of the most endangered marine mammals found in U.S. waters. Photo: James Watt



## Background

**E**xecutive Order 13178, as finalized by Executive Order 13196 (hereafter referred to as “Executive Orders”) established the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve. The Executive Orders were issued pursuant to the National Marine Sanctuaries Amendments Act of 2000 (NMSAA). The purpose of the reserve is to ensure the comprehensive, strong, and lasting protection of the coral reef ecosystem and related marine resource and species of the Northwestern Hawaiian Islands.

The reserve includes submerged lands and waters of the NWHI and extends approximately 1,200 nautical miles long and 100 nautical miles wide. The reserve is adjacent to the seaward boundaries of the State of Hawai‘i and Midway Atoll National Wildlife Refuge, and overlays other federal waters that may extend beyond State of Hawai‘i jurisdiction. The Executive Orders provide for a number of conservation measures that restrict certain activities throughout the reserve and which grandfather in relatively small, existing, active bottomfish, commercial pelagic, and recreational fisheries. As part of the establishment of the reserve, the Executive Orders also created 15 Reserve Preservation Areas in which all consumptive or extractive uses are prohibited with limited exceptions.

Encompassing 134,576 square miles of coral reef and deep-water habitat, the reserve is the single largest conservation area — marine or terrestrial — under the U.S. flag. The area is home to more than 7,000 marine species, at least one quarter of which are found only in Hawai‘i. Due to early federal protections and their isolation, these still-wild coral reefs are among the healthiest and most extensive reef ecosystems remaining on the planet. In addition, this area has great cultural significance to Native Hawaiians as well as linkages to early Polynesian culture — making it additionally worthy of protection and understanding.

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. The NMSA and EO directed NOAA to initiate the process to designate the reserve as a national marine sanctuary. If designated, the new NWHI sanctuary would become the country’s 14th and largest national marine sanctuary.





Baby green sea turtle. Photo: James Watt

## Evaluation of Progress

**S**ection 5 of the Executive Orders called for the development of an operations plan directed at priority issues and actions to govern the management of the reserve. These include coordinated management; research, monitoring and assessment; education and outreach; clean up of marine debris; restoration or remediation of degraded or injured resources; enforcement and surveillance; and identification and coordination with Native Hawaiian interests and other constituencies.

The ROP follows the template for management plans developed by the National Marine Sanctuary Program (NMSP) and is composed of a set of function-oriented action plans (as identified in the Executive Orders). Each action plan focuses on strategies; outlines what, who, why, when, and how different activities will be conducted; and presents an idea of what costs might be incurred for each strategy.

In developing the ROP, NOAA considered the advice and recommendations of the Reserve Advisory Council. The initial draft ROP was released for public comment in March 2002. Based on significant public comment received, the first draft ROP was revised in consultation with U.S. Fish and Wildlife Service, the State of Hawai'i and NOAA Pacific Islands Regional Office and considered the recommendations of the Reserve Advisory Council. After additional reviews and input from partner agencies and NOAA, the final ROP was released in May of 2005. Until the ROP was made final, the reserve utilized the Executive Orders and the draft ROP as management guideposts to steer the establishment and implementation of the reserve.



## Implementation Status

Working with the Reserve Advisory Council, the reserve assessed progress made toward implementation of the Reserve Operations Plan. To conduct this assessment, the reserve evaluated activities undertaken and progress made toward achieving the stated ROP outcomes. In all, there are 176 activities in the ROP.

Four categories were used to characterize the level of progress made for each one:

- Ongoing or Completed
- To Be Initiated
- Post Designation
- Revised

For the purposes of this analysis, “Ongoing or Completed” is defined as activities that have been initiated, are ongoing and will continue throughout the duration of the reserve or have already been completed; “To Be Initiated” is defined as activities that have yet to be initiated under the reserve; “Post Designation” refers to activities that are more appropriately conducted after completion of the designation process; and “Revised” is defined as activities that have changed since the ROP was finalized.

The following specific examples help illustrate how work efforts were grouped for analysis:

- “Completed” activities include the establishment of the reserve’s offices and development of an operations plan to govern the management of the reserve. Many more activities being implemented by the reserve are ongoing due to the very nature of the work involved. Those “ongoing” efforts include the hiring of staff sufficient to implement the expanding work of the reserve, consultation with the

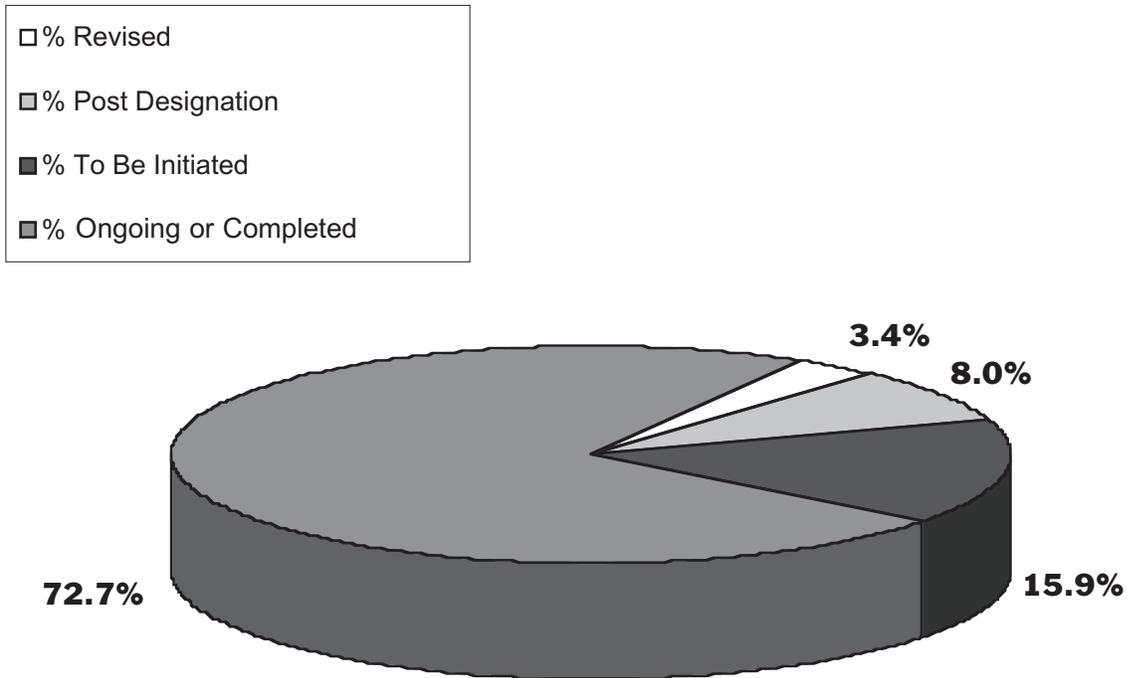
RAC, agency partners and key constituencies; and the reserve’s research and monitoring and assessment work. While an individual RAMP cruise is completed within a matter of weeks, monitoring and processing of data and samples is an ongoing task.

- “To Be Initiated” activities projected for implementation under the auspices of the reserve include conducting outreach to ensure awareness and compliance with permitting procedures of all jurisdictional agencies.
- “Post Designation” activities more appropriately done after designation will be included in the management plan for the proposed sanctuary. An example of a “Post Designation” activity is the establishment of a field capacity at Midway Atoll National Wildlife Refuge for research, monitoring, education, management and enforcement purposes. While the reserve has engaged in informal discussions with USFWS since 2001, full-scale planning will likely occur after designation.
- “Revised” activities are those that have changed based on new information, policy changes, new circumstances, or new technology. One example of this is the ROP activity to delineate Reserve Preservation Area boundaries and their inclusion on new NOAA nautical charts. While GIS coordinates have been established, straight-line boundaries will likely be finalized for the proposed sanctuary as part of designation.

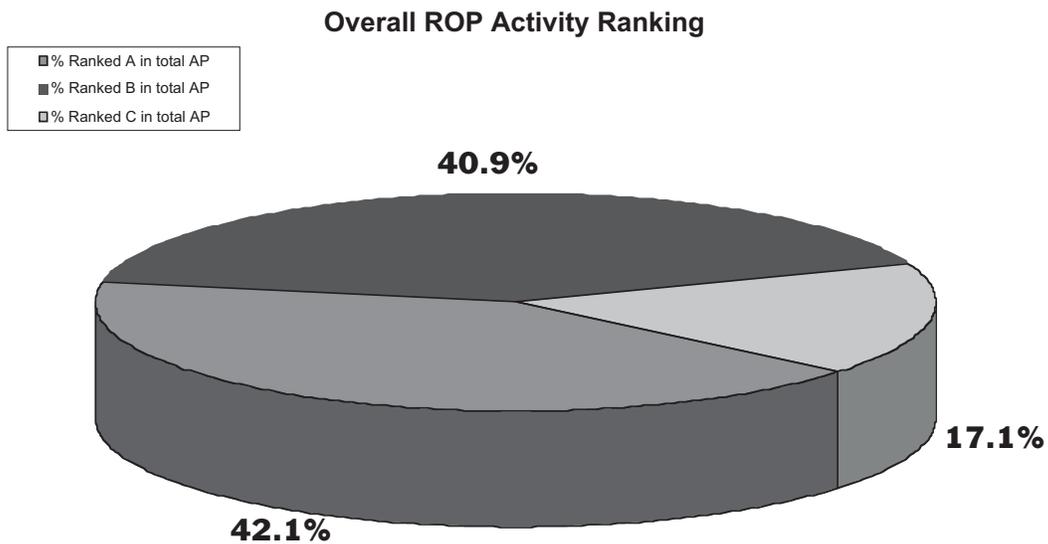
Results of the analysis concluded that more than 70 percent of the activities in the ROP are ongoing or are completed. Figure 1.1 depicts an overall view of the status of ROP activities and outcomes by category.

**Figure 1.1: Status of Activities By Category, throughout the entire Reserve Operations Plan Ranking Criteria**

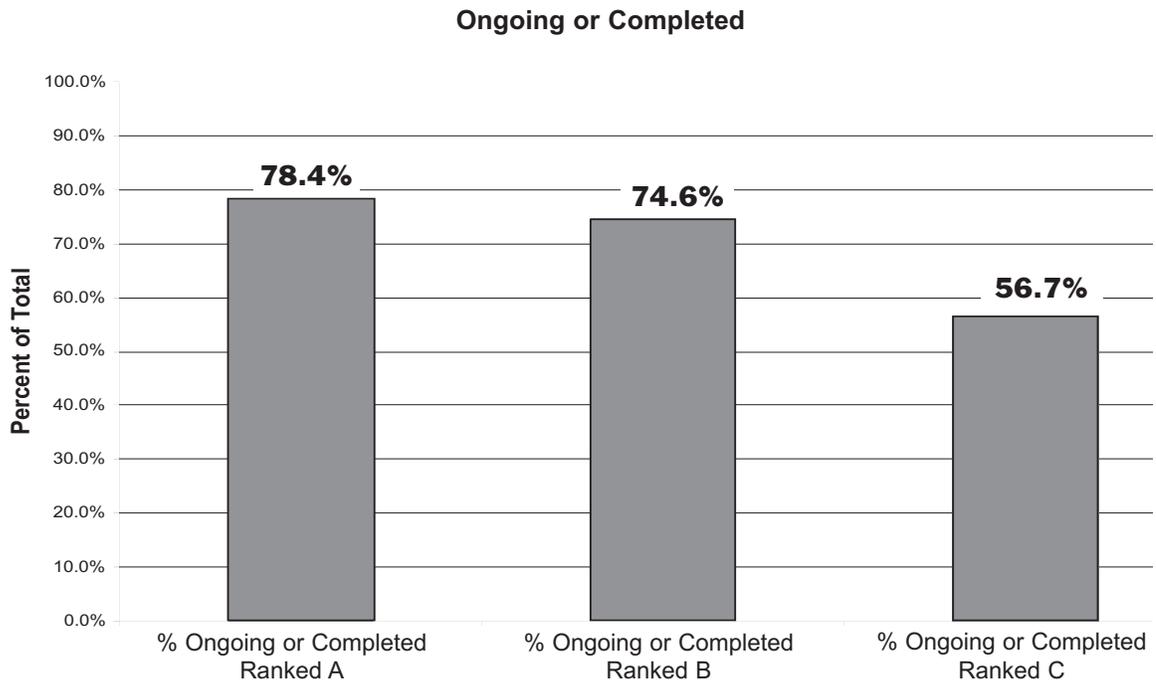
ROP Action Plans: Overall Status



**Figure 1.2: Reserve Operations Plan Activities Based on Ranking Criteria in the ROP and their Corresponding “A, B, C” Priority Rank**



**Figure 1.3: All “Ongoing or Completed” Activities in the ROP and their corresponding “A, B, C” priority rank**



To compare the priorities assigned by the ROP with progress made toward the various activities, each ROP activity was given an “A, B or C” priority ranking based on the following criteria:

- A - Mandated by the Executive Order/ Reserve Management Principles
- B - Highly Desirable
- C - If Sufficient Funds Are Available

Forty-two percent of all ROP activities were assigned an “A” ranking, 41 percent were given a “B” ranking and 17 percent were ranked as “C.” Figure 1.2 illustrates all activities in the ROP, based on the “A, B, C” ranking.

### Comparison Between Ranking and Status of Implementation

The comparison between priority-ranking and implementation status yielded affirmative results that the programmatic priorities outlined in the ROP were consistent with implementation priorities. Figure 1.3 illustrates that the majority of the reserve’s implementation efforts were directed at high priority activities. The activities in the “To Be Initiated” or “ Post Designation” categories follow the reverse trend and are largely comprised of lower priority activities.

Overall, this analysis of ROP activities implementation status demonstrates that the majority of activities ranked “A” (mandated by the EO or reserve management principles) or “B” (highly desirable) are ongoing or have already been completed. The reserve will continue to work with the Reserve Advisory Council to continually review progress being made toward ROP implementation.





Biologists survey algae and coral species throughout the NWHI to monitor ecosystem health. Photo: James Watt

## Research and Monitoring

**T**he reserve is instrumental in coordinating and conducting research and monitoring activities in the NWHI. Since 2000, the reserve has conducted NWHI Reef Assessment and Monitoring Program (RAMP) cruises as a core activity on an annual basis. The reserve's science activities include shallow coral reef research, deep submersible-based characterizations of banks and seamounts, satellite and multibeam sonar habitat mapping, rigorous outside peer reviews of research methods and products, and multi-agency regional research planning.

The reserve's field-based science activities fall into three major categories: characterization, monitoring, and research. Characterization includes identification of basic habitat types; documentation and mapping of their geographic distribution; and documentation of the diversity, abundance and distribution of marine life within these habitats. Monitoring carries characterization one step further, and involves repeated characterizations of select sites in order to look for changes over time in the distribution, abundance and health of marine life. Research involves hypothesis-driven data collection whose fundamental questions attempt to understand the function of these complex ecosystems.

Biological site characterizations and monitoring of shallow reef life in the NWHI have utilized Rapid Ecological Assessments (REAs), which are quantitative surveys conducted by dive teams of fish, coral, invertebrate, and algal biologists. The development of these standardized REA data collection protocols for multiple taxa was led by the reserve, and these methods are now in use not only on NWHI cruises but also on expeditions supported by NOAA's Coral Reef Conservation Program (CRCP) that visit other U.S. territories and possessions in the insular Pacific.

A major step forward in the development of the reserve's research and monitoring capacities occurred in 2004, with the commissioning of the new NOAA Ship *Hi'ialakai* in Honolulu. Designed to support scuba-based coral reef research and monitoring in remote island locales, and dedicated to the missions of the NOS and CRCP, this new platform will ensure the continuation of characterization and monitoring programs in the NWHI. The *Hi'ialakai*'s multibeam sonar capability was used extensively on cruises in 2005, and will greatly accelerate the mapping and characterization of habitats in deeper waters.

Finally, a major contribution of the reserve to research in the NWHI was the initiation of regional multiagency science planning efforts. The long-range goals of these initiatives include identification and prioritization of research needs, avoidance of duplicative efforts, coordination of field activities, and support for ecosystem-based management.

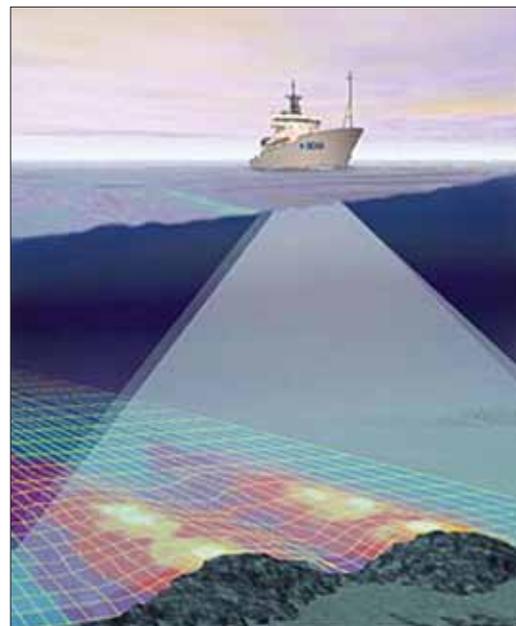
---

## ACCOMPLISHMENTS

### Characterization

Efforts to characterize the coral reefs of the NWHI have centered around field collection of data by divers, whether to ground-truth remote sensing images or to conduct quantitative surveys of marine life. In collaboration with partner agencies, REAs have been conducted at nearly 400 stations throughout the NWHI to document the diversity and abundance of fishes, corals, algae, and non-coral invertebrates at each site. Habitat characterization has also been accomplished utilizing multispectral analyses of satellite imagery and multibeam sonar technology. Shallow-water habitat maps based on ground-truthing of remote sensing data now exist for NWHI reefs. Published in 2003, *The Draft Atlas of the Shallow-Water Benthic Habitats of the NWHI* was developed through a partnership between NOS, NMFS, and other partners.

In 2004, the reserve supported publication of a companion volume, the *Bathymetric Atlas of the NWHI*, which summarized single and multibeam bathymetry in deeper waters. Since the publication of the bathymetric atlas, the reserve has hired mapping



Graphical representation of mapping using a ship-based multibeam system. A fundamental need for managers and scientists is the creation of accurate benthic maps of the NWHI.

specialists to support the mapping needs of the reserve and the NMSP Pacific Islands Region, and has worked closely with the Pacific Mapping Center (PMC) to prioritize mapping objectives for the NWHI. Using resources and personnel from both the NMSP and PMC, over 650 nautical miles of ocean floor have been mapped and high resolution maps have been produced using

*Hi‘ialakai*’s newly installed multibeam sonar system.

Several previously unknown marine features have been mapped as a result of the partnership between the reserve and PMC. At Kure Atoll, significantly more habitat area was found to exist inside of the 100 fathom contour than was previously shown on nautical charts. Significant bathymetric data have been collected on Brooks Banks, and a flat-topped seamount that may be important monk seal foraging ground was mapped for the first time near Pearl and Hermes Atoll.

The reserve has also advanced biological characterization of these deeper habitats.

Support was provided for three years of submersible surveys by the Hawai‘i Undersea Research Laboratory (HURL) on deep banks of the NWHI to characterize their fauna, and to identify any impacts from bottomfishing activities and gear.

Additional submersible work supported by NOAA’s Office of Ocean Exploration in reserve waters has documented the diversity of marine life in deep canyons, quantified the abundance of monk seal prey species among deep-water precious corals, and discovered new coral beds and new species of corals.

## Monitoring

Based on the extensive quantitative characterizations resulting from the 2000-2002 RAMP cruises, forereefs (deeper outer reefs), backreefs (shallow reef flats behind the reef crest), and lagoonal/patch reefs were identified as three major habitat types found in the NWHI. In 2003, the emphasis of the RAMP cruises shifted from characterization to monitoring. Rather than continuing to survey new sites, a subset of sites representative of each habitat type was

selected as long-term monitoring sites. Annual surveys using identical REA sampling protocols are now being conducted by the reserve at over 70 monitoring sites.

Beginning in 2005, additional permanent monitoring sites were

established to monitor changes in the prevalence of coral disease and bleaching.

Building on field methods developed for heavily impacted Caribbean coral reefs, this forward-looking monitoring program will contribute to an understanding of normal background levels of disease and bleaching on healthy reefs. In addition, it will offer an opportunity to document recovery from the coral bleaching events of 2002-2004 in an environment largely free of the confounding effects of impacts from local anthropogenic sources. These unique field conditions have quickly established Hawai‘i



Reserve Research Coordinator Randall Kosaki encounters a pelagic jellyfish during a Rapid Ecological Assessment of the abundance and diversity of life in the NWHI. Photo: Darla White

and the NWHI as a world-class “natural laboratory” for the study of coral health.

## Research

In 2005, a major milestone for the reserve was the establishment of a formalized research partnership between the NMSP Pacific Islands Region and the Hawai‘i Institute of Marine Biology (HIMB) of the University of Hawai‘i. The expertise and focused efforts of marine researchers at HIMB are now available to the reserve to better inform management efforts related to natural resource management, zoning, and education and outreach. Initial products of this relationship will also inform the sanctuary designation process.

Under reserve auspices and in partnership with HIMB, several new research initiatives began in 2005. Tagging and tracking of the large apex predators that characterize the reefs of the NWHI was initiated to understand their movements and use of space, both within a given reef, as well as between the reefs, of the NWHI and the Main Hawaiian Islands. Genetic studies of coral reef fishes and invertebrates will examine connectivity and population stock structures on a taxonomic and geographic scale never before



Galapagos sharks are common on most reefs throughout the NWHI, one of the few coral reef ecosystems remaining on the planet still dominated by apex predators. Photo: James Watt

attempted. Research into the causal factors of coral disease and bleaching will aid managers in better understanding coral reef resiliency and recovery from natural and anthropogenic stresses. Research also continues with existing NOAA partners. Stable isotope studies with NOS collaborators will help to elucidate sources of primary productivity that support the top-heavy, apex predator dominated trophic structure of NWHI reefs.

The reserve has supported the analysis of NMFS monk seal satellite tracking data to identify important foraging grounds in the NWHI, and has mapped previously undescribed seamounts that the telemetry indicate are important to the seals.

## Science Planning

A primary role for the reserve in NWHI characterization, research, and monitoring is the coordination and planning of these science activities. In 2003, the reserve convened a three-day workshop (*Information Needs for Conservation and Management: A Workshop on the Northwestern Hawaiian Islands*, May 2003) to identify and prioritize information needs for conservation and management in the region. Over 100 scientists, resource managers, and other stakeholders participated. The reserve also co-sponsored a science symposium on the NWHI (*Northwestern Hawaiian Islands Third Scientific Symposium*, Nov. 2004) that featured presentations on research conducted in the NWHI since the last major symposium held over two decades ago.

Most recently, with the information on the state of knowledge and prioritized research needs provided by the symposium and workshop, the reserve has launched an initiative



State of Hawai'i coral biologist Greta Aeby is among the scientists who are actively advancing ecosystem science and management techniques in the "natural laboratory" of the NWHI. Photo: James Watt

in cooperation with agency partners to develop a long-term regional research plan for the Hawaiian Archipelago. Concurrent with this effort is a focused process to develop a research plan for the proposed sanctuary.

### **Ongoing and Future Activities**

A collaboration with NOAA's Center for Coastal Monitoring and Assessment (CCMA) is underway to develop a GIS-based biogeographic assessment of the habitats and living marine resources of the NWHI. Scheduled to be completed in FY2007, the assessment will involve a synthesis of existing data, as well as field investigations, to acquire new information with goals of better defining areas of special ecological importance and identifying spatial and temporal links between organisms and their habitats.

Monitoring of coral reef biota and coral health will continue annually on RAMP and other cruises aboard *Hi'ialakai*. In order to evaluate the adequacy of data collection protocols used for this characterization and monitoring, the reserve is supporting an external peer review and analysis of data collected between 2000 and 2004. This study, to be conducted in FY2006 by the University of Miami's Rosentiel School of Marine and Atmospheric Science, will include evaluations of the data collected by the reserve and NMFS using REA protocols. These analyses may be enlarged in future years to include reviews of fisheries stock assessment data, oceanographic data, and other data sets considered influential to resource management in the NWHI.

The reserve anticipates further collaborations with Hawai'i Undersea Research Laboratory to expand characterizations of the extensive areas of deep-water benthic habitats within reserve boundaries. In addition, the reserve is a collaborator on proposals to utilize technical diving and closed-circuit rebreather technology to investigate unexplored reefs deeper than those typically accessed by open-circuit scuba divers, but shallower than those visited on submersible dives.

Finally, developing fully functional ecosystem models that reflect the complexity and dynamic nature of the NWHI marine environment is a long-term goal of the reserve's science program. This synthesis of characterization, monitoring, and research data is expected to yield both descriptive and predictive ecosystem models to help managers better understand ecosystem function and to serve as a decision-making tool to improve management of natural resources and human activities.



Kamehameha  
School students at  
*Mokupāpapa*  
*Discovery Center*  
in Hilo. Photo:  
James Watt



## Education, Outreach and Constituency Development

**T**he Executive Orders, the National Marine Sanctuaries Act, and NOAA, as well as the President's U.S. Ocean Action Plan (2004) all identify the need to build an involved and ocean literate public as essential to achieving the goal of long-term protection for the ocean. As such, the reserve has included education, outreach and constituency development as central components of its research and management activities since inception. The reserve's outreach efforts focus on raising awareness of the little known Northwestern Hawaiian Islands region and enlisting the public's support to protect the area. All of the reserve's education and outreach projects and programs have been developed in partnership with other agency and educational institutions. These programs have been designed to engage the public in reserve development, sanctuary designation, research and field activities, as well as management of Hawaii's marine resources more generally. Through support of its Reserve Advisory Council, the reserve has also made strong headway in building a broad base of constituent support including conservation advocates, scientists, ocean users and fishermen. Following guidance from the Executive Orders, the reserve has also fostered relationships with Native Hawaiians through partnerships with key Native Hawaiian organizations and community leaders and through support and facilitation of cultural access to the NWHI. Combined, these education, outreach and constituent development initiatives strive to deepen appreciation for Hawaii's unique ocean heritage, enhance ocean literacy, and build an informed, involved constituency that actively supports ocean conservation.

## ACCOMPLISHMENTS

### Constituency Development

Together with its partners, the reserve has fostered and built a large and active constituency to assist in the goal of long-term protection for the NWHI region. A Reserve Advisory Council was established in 2001 to act as a conduit to a diverse range of public interests, and provide input to the reserve from these different constituencies. Seats on the council include representatives from Native Hawaiian, research, education, commercial and recreational fishing, ocean-related tourism, and conservation interests, as well as citizen-at-large and representation from State and Federal government agencies. Council members have played an integral part in the formulation and evaluation of the ROP and are currently active in developing the draft management plan for the proposed sanctuary.



Cultural sites at Mokumanamana indicate use of the islands and surrounding oceans by Native Hawaiians. Photo: Andy Collins

Native Hawaiians are intimately connected to the NWHI on genealogical, cultural and spiritual levels and this connection is celebrated in traditional songs, chants and stories. The Executive Orders made particular mention of the importance of involving the Native Hawaiian community in decisions concerning noncommercial subsistence, cultural or reli-

gious Native Hawaiian uses in the NWHI. Additionally, the reserve sees Native Hawaiian involvement in the process to develop a management framework for the NWHI as essential to its success and longevity. To achieve this goal, the reserve has held workshops for Native Hawaiians to collect their input on what activities would be culturally appropriate for the region, and to enlist their support in developing a Native Hawaiian advisory body that would review proposals for future cultural activities. The reserve has also provided financial and logistical support for projects of interest to Native Hawaiians, such as the development of an undergraduate course at the University of Hawai‘i on the NWHI, emphasizing the area’s cultural significance. The reserve has also provided funding and logistical support for cultural research and education, and created bilingual exhibits in the *Mokupāpapa: Discovery Center* that are in both Hawaiian and English languages.

Through list serve updates, web-based information, and the use of media for distributing its messages, the reserve has developed a broad following, and this is evidenced by the over 52,000 public comments received to date on various management initiatives. Since 2002, reserve coordinated research expeditions to the NWHI have carried educational staff who regularly post web expedition updates to a multiagency education project website ([www.hawaiianatolls.org](http://www.hawaiianatolls.org)). These updates have allowed viewers from around the world to connect with the NWHI, and to understand research the reserve and partner agencies are conducting to inform management of NWHI coral reef and deepwater ecosystems.

### Exhibits and Interpretive Facilities

The reserve opened *Mokupāpapa: Discovery Center for Hawaii’s Remote Coral Reefs* in May 2003 to introduce people to the natural science, culture, and history of the NWHI and

the surrounding marine environment. The 4,000-square-foot facility utilizes interactive displays, three-dimensional models, a 2,500-gallon salt-water aquarium, and immersive theater experiences that stress the need for protection of NWHI reefs, waters and their inhabitants. By October 2005, the center had hosted more than 125,000 visitors. Most of the still and video images used at the center were collected by reserve education team members during research expeditions to the NWHI. These images have been used extensively by the reserve and its partners, as well as by educators in school projects. The reserve has also created traveling exhibits used for outreach events.

### Informal Education

In August of 2005, the reserve conducted its first “Educator at Sea” expedition to the NWHI aboard the NOAA Ship *Hi‘ialakai*. Ten Hawai‘i educators were chosen to participate in a 10-day voyage of discovery to the NWHI, visiting the nearshore waters of Nihoa, Mokumanamana and French Frigate Shoals. During the expedition, led by the reserve and supported by the U.S. Fish and Wildlife Service, Hawai‘i Sea Grant, NOAA National Marine Fisheries Service (NMFS), University of Hawai‘i and NOAA Marine and Aviation Operations, the educators produced educational activities, lesson

plans, and journals that were posted to the [hawaiianatolls.org](http://hawaiianatolls.org) website, and several communicated via email with their classes. As a follow-up project, the educators will be producing curriculum about the NWHI, and sharing their experiences at education conferences and in community presentations. Experiential education for teachers in the NWHI will help to bring these remote atolls into Hawai‘i classrooms to help address the general lack of knowledge of, and the need to protect, the region.

The reserve coordinates and hosts free monthly community presentations at *Mokupāpapa: Discovery Center* on a variety of ocean related topics, and many of the presenters are from State and Federal partner organizations. Community and school groups also schedule visits to the center, where they are given an educational tour of the facility. As of October 2005, 345 groups have taken advantage of this opportunity. Reserve staff also regularly give community presentations, exhibit at community events, and host lecture series centered around NWHI topics with partner organizations, the most recent being a two-month-long weekly series of presentations at Hanauma Bay Nature Preserve in Spring 2005.

### Formal Education

The reserve is one of the founding members of the *Navigating Change* educational partnership that began in 2002. *Navigating Change* seeks to motivate people to change their values, attitudes and behaviors in order to take better care of our island and marine environments. The partnership strives toward this goal through curricula that use NWHI ecosystems as an example by which to compare our main Hawaiian Islands. Through this comparison, students develop an understanding of what healthy Hawaiian ecosystems are and how we can help to change our values and behaviors to be better stewards of our island home. The 4th-5th grade curriculum is



Educators recently journeyed to the NWHI, developing lesson plans and activities to bring their experiences and messages of ocean conservation into classrooms.  
Photo: Andy Collins

infused with cultural and thematic elements that use the famed Polynesian voyaging canoe *Hōkūleʻa* as a vehicle for this change.

The Hawaiʻi DOE standards-based *Navigating Change Teacher's Guide* and video series is at the core of this initiative. The teacher's guide was developed by the reserve and its partners – the State of Hawaiʻi, Bishop Museum, Polynesian Voyaging Society, University of Hawaiʻi, Castle Foundation, and the U.S. Fish and Wildlife Service. Educational materials have been distributed to teachers through ongoing statewide teacher workshops and State of Hawaiʻi Department of Education networks.

### **Outreach and Media**

The reserve has begun to develop a broad outreach program with a primary focus of increasing knowledge of the NWHI and public involvement in long-term protection of this region, particularly in the proposed NWHI sanctuary designation process. The reserve has fostered relationships with the media to provide accurate information to the public on reserve management and public process activities, NWHI research expeditions, educational programs, and public events. These relationships have resulted in more accurate coverage in local and national media, including feature articles in several periodicals. Prior to the public scoping meetings held in 2002, the reserve developed television and radio spots as well as newspaper ads to inform the public of the sanctuary designation process and encourage participation in the scoping process.

Most recently, the reserve collaborated with noted nature photographers Susan Middleton and David Liittschwager to produce an exhibit (*Archipelago: Portraits of Life in the World's Most Remote Island Sanctuary*) showcasing NWHI flora and fauna, threats posed by natural and human-caused factors, and multiagency efforts to protect this special and unique marine region. The exhibit began its national

tour in September 2005 and, along with feature stories in *National Geographic* magazine and other publications, has already begun to increase public understanding of the region and the need for resource protection.

### **Ongoing and Future Activities**

In the near future, the reserve will focus primarily on outreach related to sanctuary designation, to maximize public participation in this process. This involves the production and broad dissemination of materials such as brochures and booklets on resource management issues and the region, to provide the public with the contextual background they need to provide informed input.

The long-term goal of building an informed and involved constituency will be achieved through targeted education and outreach to specific user and constituent groups. Programs highlighting topics of interest to Native Hawaiians, fishing, conservation, research, education and other stakeholder groups will be developed and will strive to build cross-interest appreciation for broader conservation goals. “Educator at Sea” and other types of educational expeditions to the NWHI will be continued. The reserve will continue to provide reports to, and solicit advice from, the Reserve Advisory Council and other constituent advisory groups. The reserve will also work with the Native Hawaiian community to identify cultural needs and priorities, and explore ways of integrating Native Hawaiian traditional ecological knowledge and resource management concepts into management of the reserve.

Activities to increase ocean literacy will continue to be of primary importance. Educational programs offered at *Mokupāpapa*, curriculum and other educational products will be expanded. New technologies such as telepresence, live broadcasts from NOAA ships, and virtual simulations will also be used to convey the wonder of the NWHI to the public.



Reserve Advisory Council workshop to help develop draft management plan. Photo: Andy Collins



## Site Operations

**P**rimary reserve operations include asset management, human resources development and the development of the Reserve Operations Plan. Ever-evolving collaborations with the Reserve Advisory Council, stakeholder constituencies and partner agencies have greatly contributed to the reserve’s growth and effectiveness to date.

As a “startup” organization, the reserve was initially challenged not only with fulfilling its mandate as the largest marine protected area under U.S. flag, but also with the enormous planning effort of sanctuary designation under the National Environmental Policy Act (NEPA) and National Marine Sanctuaries Act. This dual role has required considerable management discipline and flexibility.

In 2001, the reserve established its offices in Hilo and Honolulu. The Honolulu office was located near the O’ahu office of the Hawaiian Islands Humpback Whale National Marine Sanctuary. The reserve’s early focus was to develop its research, planning and operational capacity. Plans also began to design and build the 4,000-square-foot visitor center featuring interpretive exhibits on the Northwestern Hawaiian Islands in Hilo.

In addition to hiring staff and setting up offices and facilities, the reserve immersed itself in developing an information technology capacity, seated and supported the Reserve Advisory Council, and initiated the establishment of an interagency committee to begin to build strong relationships with the State of Hawai‘i, U.S. Fish and Wildlife Service, NMFS, U.S. Coast Guard and U.S. Department of Defense.

The reserve simultaneously worked with its advisory council to develop its operations plan and initial planning for sanctuary designation. In 2002, the sanctuary designation process was jumpstarted with public scoping meetings on all islands and in Washington, DC. With over 13,000 comments and more than 1,000 people attending public meetings, work focused on priority setting and issue characterization.

Since then, reserve operations have focused on developing adequate human resources and infrastructure to support the growing operational, field and designation needs of the reserve and proposed sanctuary.

## ACCOMPLISHMENTS

### Infrastructure Development and Asset Management

In its first year, the reserve planned, constructed and staffed offices in Honolulu and Hilo, as well as built and operated the *Mokupāpapa: Discovery Center* in Hilo. For each fiscal year, the reserve develops annual operating plans and corresponding budgets to carry out priority strategies and activities designed to meet the mandates and

management principles of the reserve. To maximize the efforts of a small staff, the reserve hired an information technology (IT) specialist to design, install and manage the IT system. After operating for three years out of temporary office space in Honolulu, the reserve collaborated with the Hawaiian Islands Humpback Whale National Marine Sanctuary and NMSP Pacific Islands Region to co-locate within a regional Honolulu office.



New office blessing. Reserve and Humpback Whale NMS staff co-locate in Pacific Region NMS office in 2004. Photo: Paul Wong

## Human Resources Development

To carry out its management objectives and priorities, the reserve established its organizational structure and capacity, expanding from two to 15 full time federal and contract employees in a five-year period. The reserve signed multi-year memoranda of agreement with the Research Corporation of the University of Hawai'i and with the State of Hawai'i Department of Land and Natural Resources, to focus on reserve operations and planning and sanctuary designation. As part of the planning process for the proposed sanctuary, the reserve has developed human resource needs projections for the next five to seven years.

## Operations Planning

Pursuant to the Executive Orders, reserve staff completed the final ROP, incorporating input provided by NOAA, the Reserve Advisory Council, partner agencies and about 27,000 public comments submitted in two rounds of public review. The reserve initiated, completed or is continuing implementation of the majority of activities and strategies identified in the ROP as priority areas. In the sanctuary designation process, staff have utilized the ROP as a foundation for developing a draft management plan for the proposed sanctuary. In addition, the reserve has developed various plans for reserve functions like outreach and research.

## Interagency Coordination and Collaboration

Unified ocean governance is a goal and priority for the reserve and proposed sanctuary. In an effort to reach this goal, the reserve has forged cooperative relationships with state and federal agencies with long-standing stewardship responsibilities in the



14 million seabirds, like this brown booby, nest in the NWHI and depend on resources of both land and sea for their survival. Photo: Dan Suthers

region. In 2001, the reserve initiated the establishment of a committee of agencies with management jurisdiction or authority in the region. The interagency group focused its early efforts on identifying shared needs in the region and areas of management for agencies to specifically collaborate on. Identifying areas such as field operations, research, permitting and education, the interagency committee drafted an interagency memorandum of understanding pursuant to the Executive Orders that, although not yet final, has served as a foundational document to guide how the agencies work together. Today, the reserve closely coordinates its research, permitting and educational outreach efforts with its jurisdictional agency partners to serve the mutual goal of providing seamless protection to the resources of the NWHI.





NOAA Ship  
*Hi'ialakai*.  
Photo: Karl  
Hedberg/  
NOAA

## Field Operations

**G**iven the remote location and distance from the main Hawaiian Islands, effective and safe field operations are essential in enabling successful management efforts in the NWHI. Field operations include the planning, resource allocation and asset management required to conduct on-the-ground research, management, enforcement and education activities in the region. This work includes: coordination of regional field activities across jurisdictions; emergency response and restoration; ship time allocation and cruise planning; permitting; land-based field activities at Midway and Kure Atolls; support for marine debris removal; enforcement and surveillance; and maritime heritage research.

Although the reserve has no land-based assets, it has supported land-based activities at Kure, Midway and throughout the Hawaiian Islands National Wildlife Refuge. The reserve has also conducted initial scoping and planning efforts with the USFWS to plan for the possible establishment of a NOAA field station or seasonal presence at Midway National Wildlife Refuge. In 2001, the reserve also assisted with field-based outreach and media efforts to raise awareness about the serious problem marine debris poses to the NWHI.

Responding to needs identified by an interagency committee, the reserve also led a planning effort with other State and Federal agencies for coordinated enforcement and surveillance in the region. These efforts have identified the need to develop a field-based component as part of a coordinated enforcement approach.



## ACCOMPLISHMENTS

### Field Season Planning and Coordination

Agencies have operated informally in the NWHI for decades, sharing information about research, monitoring, management and restoration activities planned for given field seasons. However, no formally coordinated field season planning or coordination took place until 2003 when the first regional field season planning meeting was organized by the reserve. Since then, such a meeting has been organized annually by the reserve to gather researchers, managers, contractors and ship crew together to coordinate and maximize transport platforms, resources and assets, research priorities and management measures. These annual meetings have led to coordinated ship time planning meetings, interagency permit discussions and recommendations and increased communication overall in sharing information among scientists, ship crew and managers.

### Permitting

The Executive Orders identify protection and conservation measures, Reserve Preservation Areas and other prohibitions necessary to implement the management principles and purposes of the combined orders. The Executive Orders also provide the Secretary of Commerce the ability to authorize by permit otherwise prohibited activities to the extent that they are deemed necessary for research, monitoring, education or management. As such, the reserve has developed permit guidelines and a permit program to review proposed activities in the reserve to determine whether or not the activity would require a permit and whether such a permit should be granted. This system has enabled the reserve to begin to track uses and impacts and collect information that can be used to

plan for, and develop, a comprehensive permit system for the proposed sanctuary. The reserve is working with its jurisdictional partners to develop a streamlined permit and notification program, as a coordinated permit system was identified as a primary need within the interagency committee (see Site Operations). Input from multiple sources — the reserve’s interagency partners, the RAC, and the public — is being synthesized to develop permit criteria, draft regulations, and changes to NMSP national permit guidelines. These steps are integral to the implementation of a coordinated sanctuary permit system and preparation of educational materials for the proposed NWHI sanctuary. Although informally conducted already, the reserve and partner agencies are developing a coordinated outreach program for permit holders to increase voluntary compliance with protection measures and regulations.

### Enforcement

Surveillance and enforcement is clearly one of the most important management needs in the NWHI. Recognizing this need, the reserve sponsored a series of discussions and workshops on enforcement and remote technologies to increase involvement of partner enforcement agencies and provide opportunities to discuss and prioritize potential applications and use of satellite, remote sensing, radar, vessel identification and monitoring technologies. The workshops yielded an exchange of ideas and the framework for an interagency plan which participants hope will lead to shared solutions and cost savings among agencies in developing a unified approach to surveillance and enforcement in the NWHI. The workshop results are also being used to develop the enforcement action plan for the draft management plan for the proposed NWHI sanctuary.



NOAA marine debris removal in the NWHI.  
Photo: Amy Hall

## Marine Debris Removal

The reserve has contributed significant funding, in partnership with other agencies, for ongoing marine debris clean-ups in the NWHI. The reserve will continue to support removal efforts, community outreach and debris prevention as long as this problem persists. The ultimate outcome sought – complete elimination of marine debris – may be impossible to achieve in the foreseeable future due to the financial cost, the size of the area and continual influx of new debris estimated at 40-60 metric tons per year. But removal and detection of existing debris, and reduction of incoming debris through outreach that builds awareness and compliance, are achievable strategies to reduce the overall impact of debris over time.

As of 2005, 542 tons of debris had been removed from NWHI reefs, and the majority of shallow water habitats in the NWHI had

been visited at least once. At its peak year in 2004, the program collected 125 tons of debris. In 2006, the debris removal program will shift from primarily a clean-up effort to maintenance and prevention. This new level of effort will significantly reduce, by roughly 66%, the cost and resources associated with the annual debris removal, while attempting to keep up with the estimated influx of new debris. Additionally, new technologies such as ghost net detection and removal at sea will be investigated, and new prevention programs will be initiated.

The reserve also led a field-based outreach and media effort in 2001 to help raise awareness of the problem. In 2005, the reserve submitted a proposal resulting in NOAA funding to hire a marine debris outreach coordinator in Hawai‘i to increase awareness and organize community resources around marine debris issues in the Main Hawaiian Islands.

## Response, Damage Assessment and Restoration

The ability to respond quickly to vessel groundings and other emergencies and to prevent the introduction and spread of alien species are critical in protecting these remote ecosystems, where help takes days to arrive. The July 2005 grounding of the M/V *Casitas* at Pearl and Hermes Atoll served as a sobering reminder of the challenges of responding with quick, effective, coordinated assistance among federal and state agencies. The reserve participated in the coordinated emergency effort and played an organizing role in gathering experts to assess damage to NWHI reef ecosystem resources in the wake of the grounding, enhancing the reserve’s response capacity throughout the process. This incident and a small ship fire aboard the NOAA Ship *Hi‘ialakai* has led the reserve and all

agencies to strengthen their collective capacity to conduct response, assessment and restoration efforts.

Alien species prevention is also a primary concern for the reserve. The reserve works closely with the command of the Hi‘ialakai to carry out an alien species hull inspection pilot program. Prior to the ship’s departure to the NWHI, an aquatic invasive species specialist hired by the reserve works with ship personnel to methodically inspect the hull for the presence of alien organisms. If any species foreign to NWHI waters are detected, a thorough cleaning of the 224-foot hull is performed by a crew of contracted professionals utilizing pressure washers or other appropriate equipment. Such prevention-oriented procedures ensure that alien organisms are removed before the ship leaves port.



NOAA diver surveys USS *Macaw* remains off Midway Atoll. Photo: Robert Schwemmer

### Maritime Heritage

Prior to the establishment of the reserve’s marine heritage program, maritime heritage resources and other sites of historical, cultural and archaeological significance had not been assessed or protected in the reserve. Although in its infancy, the mapping and thorough cataloging of these sites by the NMSP Pacific Region, in partnership with the U.S. Fish and Wildlife Service, the State of Hawai‘i, and

historic preservation organizations, is an important step forward in the preservation of maritime heritage artifacts in the region. There are currently 52 known vessels and airplanes lost within the region, but many more may yet be discovered and documented. The NMSP has already located the remains of vessels not previously identified such as the 19th-century American warship USS *Saginaw* at Kure Atoll; discovered previously undetected and undocumented vessels; and surveyed a half dozen other known vessels for the first time.

### Land-Based Field Activities and Planning

Although the reserve’s jurisdiction starts at the three-mile boundary of State waters surrounding all emergent features in the NWHI, access to land and the development of land-based activities and infrastructure is essential to successful marine resource management in the region. Through a Memorandum of Agreement with the State of Hawai‘i, the reserve supported and helped to initiate a year-round field capacity at Kure Atoll to enhance research and management at the northernmost atoll. Having a field presence also enhances surveillance capabilities to identify ship traffic and potential unauthorized use of reserve waters and resources.

In addition to the support at Kure, the reserve also began scoping discussions and initial planning with the USFWS regarding the establishment of a reserve/proposed sanctuary field station at Midway. Aside from these field stations, the reserve has also supported land-based research and management efforts by carrying supplies and personnel aboard chartered vessels and NOAA ships to enhance the ability of our partner agencies to do their work.





RAC members discuss key issues in the draft management plan. Photo: Andy Collins

## Sanctuary Designation

**T**he process of designating the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve as a national marine sanctuary has been the reserve’s primary activity since 2002. The National Marine Sanctuaries Amendments Act of 2000 and the Executive Orders mandated NOAA to initiate the process to designate the reserve as a national marine sanctuary to provide long-term protection for special areas of the marine environment. The reserve is currently undergoing a public process to consider its designation as the country’s 14th national marine sanctuary. This process builds on the reserve’s ongoing efforts to maintain the natural biological communities and protect and enhance NWHI habitats and ecological processes, and to manage activities using an ecosystem-based approach.

NOAA initiated the designation process in 2001, joining in a century-long history of federal actions to protect this region’s ecological richness. Since 1903, six presidents and Congress have recognized the immense value of these ecosystems and acted to safeguard them. Most recently President George W. Bush identified the protection of the NWHI marine region as a national priority in the U.S. Ocean Action Plan (December 2004).

The sanctuary designation process is comprised of four main components: public and inter-agency input, management plan development, draft regulations development, and environmental impact statement development.

## ACCOMPLISHMENTS

### Public and Interagency Input

The hallmark of the sanctuary designation process is active public, RAC, stakeholder, and interagency input and coordination. The scoping phase of the process was initiated on March 26, 2002, and will continue through the completion of the EIS.

Nearly 52,000 public comments have been submitted during several comment periods associated with management of the area — visioning (not under reserve), scoping, and ROP public scoping processes. Most support strong protection. The reserve has gathered valuable public input through a variety of meetings, workshops, and subcommittees including those associated with the RAC, the general public, and those run in cooperation with interagency partners. Collectively this stakeholder involvement has been used to identify key management issues for the proposed sanctuary and develop a draft management plan to address those issues thereby establishing a clear direction for the proposed sanctuary in the future.

Significant milestones in the scoping process to date include:

- Notice of Intent (NOI) issued in Federal Register - January 2001
- Public scoping meetings held in Hawai‘i and Washington, D.C. - April 2002
- Information Needs Workshop - May 2003
- Interagency meetings conducted regularly - 2001 to Present
- RAC and stakeholder meetings conducted regularly - 2001 to Present

### Management Plan Development

The completion of the ROP represents a significant step forward in the sanctuary designation process. The draft sanctuary management plan,

based on the ROP as a foundation, outlines five priority management needs and 22 action plans written in an issue-based, outcome-focused framework. This framework is designed to meet the goals and objectives of the proposed sanctuary that were developed in coordination with the council and interagency partners.

Significant milestones in the development of the draft management plan include:

- Goals and Objectives Statement developed - July 2003 to July 2004
- Reserve Operations Plan finalized - March 2005
- RAC Management Plan Subcommittee meetings - March 2004 to April 2005
- RAC Management Plan Workshop - April 2005

### Regulations and Permits

The NMSA requires that the NMSP develop proposed sanctuary regulations to be released for public comment along with the draft EIS. The reserve is drawing on input from scoping meetings, discussion groups, interagency meetings, and the RAC to develop a draft set of regulations for the proposed sanctuary.

The primary purposes of the proposed regulations are to protect, preserve, and manage the resources and qualities of the sanctuary. The regulations will address issues associated with access, use, and resource extraction within the proposed sanctuary.

The reserve and its interagency partners each have their own regulatory and permitting regimes. However, there is a great deal of overlap among them. As a result, the proposed sanctuary’s draft regulations and permit structure is being developed in a cooperative manner aimed at simplifying application procedures and eliminating redundancy.

This process will take time to be fully implemented, and the draft regulations and permit structure will prepare the way for this process to take place. Such coordination, combined with the detailed analyses discussed above, will help provide a framework for comprehensive resource protection.

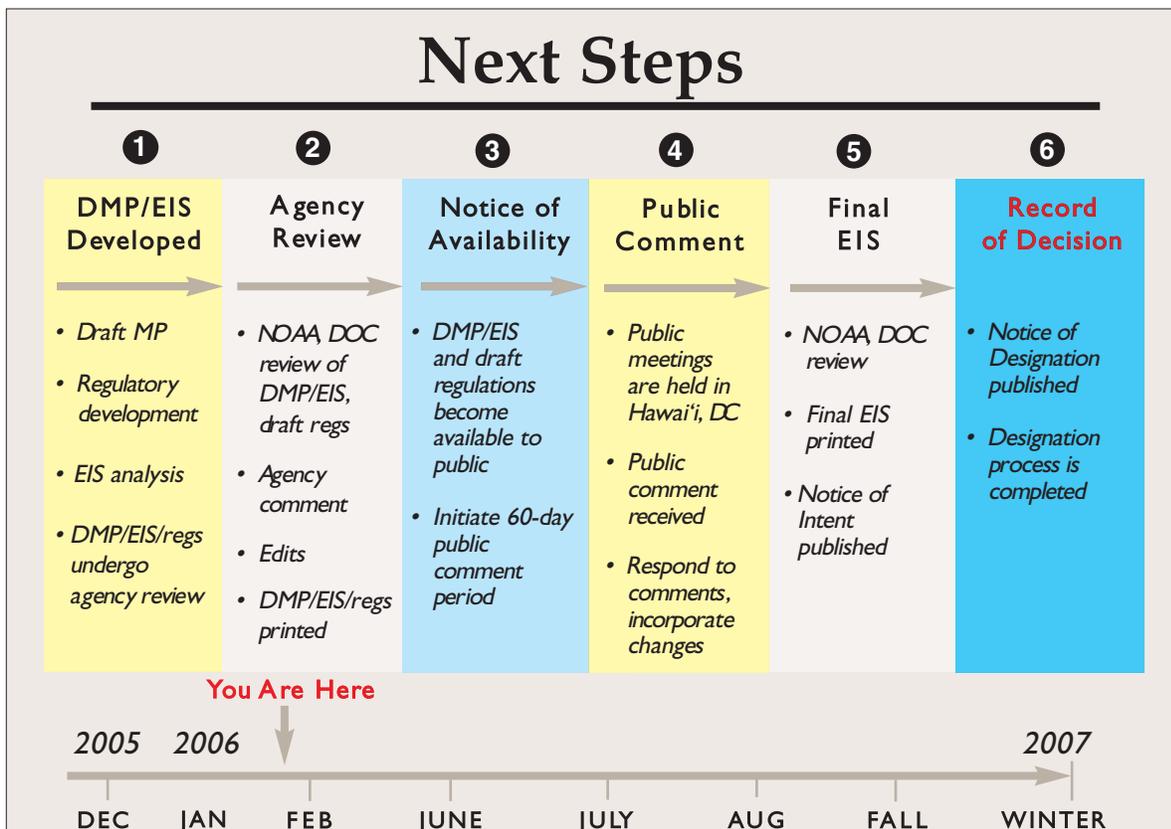
### Environmental Impact Statement

The NMSA requires that an EIS be prepared for all new sanctuary proposals. A draft EIS considering a range of alternatives for sanctuary designation is currently being developed. The draft EIS will describe the purpose and need for sanctuary designation, the alternatives being considered, the affected environment, and potential environmental consequences of each alternative.

Existing information and data from a wide range of sources are being used to prepare the draft EIS. A few examples of these sources are diver surveys conducted during Reef Assessment and

Monitoring Program (RAMP) expeditions, detailed multibeam seafloor surveys to establish geographically based management zones; deep-water bottomfish surveys to aid in resource management decisionmaking; and marine mammal tracking research to identify important habitat for protection. As a result, the range of alternatives in the draft EIS reflect the most current scientific information available. These alternatives are currently under review by the NMSP and, along with the draft management plan and draft regulations, should follow the timeline below.

The draft EIS is projected to be released to the public in Summer 2006 and this will commence a 60-day public comment period. During that time, a series of public meetings will be held in Hawai'i and Washington, D.C. A final EIS will be developed and released to the public, with a record of decision concluding the designation process in 2007.



Spinner dolphins at Midway Atoll. Photo: James Watt



## The Future

**T**he reserve will continue to carry out the mandates specified in the founding Executive Orders, as well as activities documented in the Reserve Operations Plan. The “principle purpose” of the reserve as stated in EO 13178 is “the long-term conservation and protection of the coral reef ecosystem and related marine resources and species of the Northwestern Hawaiian Islands in their natural character.” With broad public participation incorporated into the process, designation of the reserve as a national marine sanctuary will remain our primary focus.

The reserve will continue to collaborate with the State of Hawai‘i and other federal partners (U.S. Fish and Wildlife Service, NMFS, U.S. Coast Guard, U.S. Department of Defense, etc.) to practice unified ocean governance that will benefit the living resources of the region. Forging links of cooperation across jurisdictions to reach constituencies has proven a successful strategy that the reserve will continue to employ in implementing successful ecosystem-based management. Most of the reserve’s activities are already highly collaborative, but coordination, communication and sharing of resources can always be improved to increase effectiveness as well as minimize management and regulatory redundancy.

Through all these efforts, the reserve will also continue to solicit the advice of the Reserve Advisory Council on implementation of the Reserve Operations Plan and designation and management of any sanctuary. The reserve will continue to provide regular updates to the RAC and partners on its continued progress made in implementing the reserve, the ROP, and designation. Additionally, the reserve will also solicit advice from certain key constituencies that are integral to effectively manage the region. The Native Hawaiian, research, fishing, and the conservation communities are a few of these key constituency groups.

The reserve will continue to work with our partners, State and Federal jurisdictional agencies, WPFMC, PIRO, university and other research and conservation organizations, to study, characterize, and monitor the natural ecosystems in the NWHI to better understand them and develop adaptive management approaches to protect them. As new scientific data and developments arise, the reserve will seek to refine and utilize innovative management strategies to maintain the rich biodiversity of the region. Such strategies can contribute to the emerging field of ecosystem science and management and benefit marine protected areas elsewhere.

The proposed designation of the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve as a national marine sanctuary affords the nation the opportunity to affirm that there should be places in our planet's oceans set aside because they are important, unique, and irreplaceable. The establishment of strong ecosystem-based management practices across jurisdictions would foster unified ocean governance throughout the region, unprecedented in this country across such a large geographic area. The reserve has also enabled meaningful involvement of the Native Hawaiian community in managing the region and enhanced our collective ability to conduct landmark research of vast, healthy coral reefs, largely free of human impacts. Most importantly, the reserve and proposed sanctuary in the NWHI provides our nation with the opportunity to preserve and protect the biodiversity, health, heritage, and social and economic value of U.S. coral reef ecosystems in a way that is worthy of this unique and special place.



Over 90% of Hawaii's green sea turtles nest at French Frigate Shoals. Photo: James Watt

# Appendix A

## NOAA's National Marine Sanctuaries



### The National Marine Sanctuary Program

In 1972, exactly 100 years after the first national park was created, the nation made a similar commitment to preserve its underwater treasures by establishing the National Marine Sanctuary Program. Today, NOAA's National Marine Sanctuary Program serves as the trustee for a system of 14 marine protected areas encompassing more than 150,000 square miles stretching from the Florida Keys to American Samoa.

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. National 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.

### The National Oceanic and Atmospheric Administration

The National Oceanic and Atmospheric Administration 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 natural resource management. NOAA's Ocean Service oversees the sanctuary system.





# Federal Register

Thursday,  
December 7, 2000

---

## Part X

## The President

---

Executive Order 13178—Northwestern  
Hawaiian Islands Coral Reef Ecosystem  
Reserve

# Presidential Documents

Title 3—

Executive Order 13178 of December 4, 2000

The President

## Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve

By the authority vested in me as President by the Constitution and the laws of the United States of America, including the National Marine Sanctuaries Act, (16 U.S.C. 1431 *et seq.*), and the National Marine Sanctuaries Amendments Act of 2000, Public Law 106-513, and in furtherance of the purposes of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 *et seq.*), Marine Protection, Research, and Sanctuaries Act (33 U.S.C. 1401 *et seq.*), Coastal Zone Management Act (16 U.S.C. 1451 *et seq.*), Endangered Species Act (16 U.S.C. 1531 *et seq.*), Marine Mammal Protection Act (16 U.S.C. 1362 *et seq.*), Clean Water Act (33 U.S.C. 1251 *et seq.*), National Historic Preservation Act (16 U.S.C. 470 *et seq.*), National Wildlife Refuge System Administration Act (16 U.S.C. 668dd-ee), and other pertinent statutes, it is ordered as follows:

**Section 1. Preamble.** The world's coral reefs—the rain forests of the sea—are in serious decline. These important and sensitive areas of biodiversity warrant special protection. While United States waters contain approximately 3 percent of the world's coral reefs, approximately 70 percent of U.S. coral reefs are in the Northwestern Hawaiian Islands. The 3.5 million acres of coral reefs around the remote, mostly uninhabited Northwestern Hawaiian Islands are spectacular and almost undisturbed by humans. The approximately 1,200 mile stretch of coral islands, seamounts, banks, and shoals are unquestionably some of the healthiest and most extensive coral reefs in the United States. In their own right, the spectacular coral reefs and lands provide an amazing geological record of volcanic and erosive powers that have shaped this area. This vast area supports a dynamic reef ecosystem that supports more than 7,000 marine species, of which approximately half are unique to the Hawaiian Island chain. This incredibly diverse ecosystem is home to many species of coral, fish, birds, marine mammals, and other flora and fauna including the endangered Hawaiian monk seal, the threatened green sea turtle, and the endangered leatherback and hawksbill sea turtles. In addition, this area has great cultural significance to Native Hawaiians as well as linkages to early Polynesian culture—making it additionally worthy of protection and understanding. This is truly a unique and special place, a coral reef ecosystem like no place on earth, and a source of pride, inspiration, and satisfaction for all Americans, especially the people of Hawaii. It is fully worthy of our best efforts to preserve a legacy of America's natural wonders for future generations. Due to the special significance of this area, I have determined that it is in the best interest of our Nation, and of future generations, to provide strong and lasting protection for the coral reef ecosystem of the Northwestern Hawaiian Islands.

On May 26, 2000, I directed the Secretaries of Commerce and the Interior, working cooperatively with the State of Hawaii and consulting with the Western Pacific Fishery Management Council, to develop recommendations for a new, coordinated management regime to increase protection of the coral reef ecosystem of the Northwestern Hawaiian Islands and provide for sustainable use of the area. Upon consideration of their recommendations and comments received during the public visioning process on this initiative, and based on the statutory authorities set forth above, I am issuing this Executive Order.

**Sec. 2. Purpose.** The purpose of this Executive Order is to ensure the comprehensive, strong, and lasting protection of the coral reef ecosystem and related marine resources and species (resources) of the Northwestern Hawaiian Islands.

**Sec. 3. Establishment of Coral Reef Ecosystem Reserve.** There is hereby established in the Northwestern Hawaiian Islands a coral reef ecosystem reserve to be known as the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve (Reserve). The Reserve shall include submerged lands and waters of the Northwestern Hawaiian Islands, extending approximately 1,200 nautical miles (nm) long and 100nm wide. The Reserve shall be adjacent to and seaward of the seaward boundaries of the State of Hawaii and the Midway Atoll National Wildlife Refuge, and shall overlay the Hawaiian Islands National Wildlife Refuge to the extent that it extends beyond the seaward boundaries of the State of Hawaii. The boundaries of the Reserve are described in section 6 of this order.

**Sec. 4. Management Principles.** The Secretary of Commerce, or his designee, (hereafter "Secretary") shall, subject to section 10(b) of this order, manage the Reserve in accordance with the following principles:

(a) The principal purpose of the Reserve is the long-term conservation and protection of the coral reef ecosystem and related marine resources and species of the Northwestern Hawaiian Islands in their natural character;

(b) The Reserve shall be managed using available science and applying a precautionary approach with resource protection favored when there is a lack of information regarding any given activity, to the extent not contrary to law;

(c) Culturally significant, noncommercial subsistence, cultural, and religious uses by Native Hawaiians should be allowed within the Reserve, consistent with applicable law and the long-term conservation and protection of Reserve resources;

(d) The Reserve shall be managed using, when appropriate, geographical zoning and innovative management techniques to ensure that the Reserve resources are protected from degradation or harm;

(e) To the extent consistent with the primary purpose of the Reserve, the Reserve shall be managed to support, promote, and coordinate appropriate scientific research and assessment, and long-term monitoring of Reserve resources, and the impacts or threats thereto from human and other activities, to help better understand, protect, and conserve these resources and species for future generations;

(f) To the extent consistent with the primary purpose of the Reserve, the Reserve shall be managed to enhance public awareness, understanding, and appreciation of Reserve resources, and the impacts or threats thereto from human and other activities;

(g) The Reserve shall be managed to further restoration and remediation of degraded or injured Reserve resources; and

(h) The Reserve shall be managed to facilitate coordinated management among Federal and State agencies and other entities, as appropriate, to provide comprehensive (looking beyond jurisdictional boundaries) conservation of the coral reef ecosystem and related marine resources and species throughout the Northwestern Hawaiian Islands, consistent with applicable authorities and the Management Principles of this section.

**Sec. 5. Implementation.** (a) Management of the Reserve. The Secretary shall manage the Reserve under the National Marine Sanctuaries Act and in accordance with this order.

(b) *Reserve Operations Plan.* The Secretary, in consultation with the Secretary of the Interior and the Governor of Hawaii, shall develop an operations plan to govern the management of the Reserve. In developing the Reserve Operations Plan the Secretary shall consider the advice and recommendations of the Reserve Council established pursuant to paragraph (c) of this section.

The Reserve Operations Plan shall be directed at priority issues and actions that, at a minimum, provide for:

- (1) Coordinated management among the Reserve, Hawaiian Islands National Wildlife Refuge, Midway Atoll National Wildlife Refuge, and the State of Hawaii, consistent with relevant authorities;
- (2) Coordination among Federal agencies and the Director of the National Science Foundation to make vessels and other resources available for conservation and research activities for the Reserve;
- (3) The cleanup and prevention of marine debris in the Reserve;
- (4) The restoration or remediation of any degraded or injured resources of the Reserve;
- (5) Research, monitoring, and assessment of the Reserve;
- (6) Education and outreach about the Reserve and its resources and efforts to conserve them;
- (7) Enforcement and surveillance for the Reserve, including the use of new technologies and coordination with the United States Coast Guard and other relevant agencies;
- (8) Identification and coordination with Native Hawaiian interests, regarding culturally significant, noncommercial subsistence, cultural, and religious uses and locations within the Reserve;
- (9) Identification of potential tourism, recreational, and commercial activities within the Reserve and actions necessary to ensure that these activities do not degrade the Reserve's resources or diminish the Reserve's natural character;
- (10) Use of vessel monitoring systems for any vessel entering or transiting the Reserve, if warranted. To this end, the Secretary in consultation with the Department of State, United States Coast Guard, and the Department of Defense, shall evaluate the need for the establishment of vessel monitoring systems and, if warranted, shall initiate the steps necessary to have the appropriate domestic agencies, and request that the International Maritime Organization, adopt a vessel monitoring system requirement for the Reserve;
- (11) Any regulations, in addition to the conservation measures and Reserve Preservation Areas established under this order, that the Secretary determines are necessary to manage the Reserve in accordance with this order; and
- (12) Coordination of all relevant activities with the process to designate the Reserve as a National Marine Sanctuary, as provided under paragraph (f) of this section.

(c) *Conservation Measures.* The Reserve Operations Plan shall also include the conservation measures in section 7 of this order and the Reserve Preservation Areas in section 8 of this order.

(d) *Memorandum of Agreement.* To further paragraph (b)(1) of this section, and subject to section 10(b) of this order, and in particular to promote coordinated management of the entirety of the shallow areas of the coral reef ecosystem throughout the Northwestern Hawaiian Islands, the Secretary shall work with the Secretary of the Interior and Governor of the State of Hawaii to enter into one or more memoranda of agreement for the coordinated conservation and management of the Reserve, Midway Atoll and Hawaiian Islands National Wildlife Refuges, and State of Hawaii submerged lands and waters within the Northwestern Hawaiian Islands.

(e) *National Marine Sanctuary.* The Secretary shall initiate the process to designate the Reserve as a national marine sanctuary pursuant to sections 303 and 304 of the National Marine Sanctuaries Act (16 U.S.C. 1433, 1434). In doing so the Secretary shall supplement or complement the existing Reserve. The Secretary shall, in consultation with the Governor of the State of Hawaii, determine whether State submerged lands and waters should be included as part of the sanctuary. In designating and managing the

sanctuary, the Secretary shall consider the advice and recommendations of the Reserve Council established pursuant to paragraph (f) of this section.

(f) *Council.* After considering input from the Secretary of the Interior and Governor of the State of Hawaii, the Secretary shall establish a Coral Reef Ecosystem Reserve Council pursuant to section 315 of the National Marine Sanctuaries Act (16 U.S.C. 1445a) to provide advice and recommendations on the Reserve Operations Plan and designation and management of any sanctuary. The Council shall include:

(1) Three Native Hawaiian representatives, including one Native Hawaiian elder, with experience or knowledge regarding Native Hawaiian subsistence, cultural, religious, or other activities in the Northwestern Hawaiian Islands.

(2) Three representatives from the non-Federal science community with experience specific to the Northwestern Hawaiian Islands and with expertise in at least one of the following areas:

(A) Marine mammal science.

(B) Coral reef ecology.

(C) Native marine flora and fauna of the Hawaiian Islands.

(D) Oceanography.

(E) Any other scientific discipline the Secretary determines to be appropriate.

(3) Three representatives from nongovernmental wildlife/marine life, environmental, and/or conservation organizations.

(4) One representative from the commercial fishing industry that conducts activities in the Northwestern Hawaiian Islands.

(5) One representative from the recreational fishing industry that conducts activities in the Northwestern Hawaiian Islands.

(6) One representative from the ocean-related tourism industry.

(7) One representative from the non-Federal community with experience in education and outreach regarding marine conservation issues.

(8) One citizen-at-large representative.

(9) One representative from the State of Hawaii as appointed by the Governor.

(10) One representative each, as nonvoting, *ex officio* members, from the Department of the Interior, United States Coast Guard, Department of Defense, Department of State, the National Marine Fisheries Service, the Hawaiian Islands Humpback Whale National Marine Sanctuary, National Science Foundation, Marine Mammal Commission, and Western Pacific Regional Fishery Management Council.

(g) *Report.* The Secretary shall provide a progress report on the implementation of this order to the Chair of the Council on Environmental Quality within 1 year from the date of this order.

**Sec. 6. Area of the Reserve.** The Reserve includes the waters and submerged lands of the Northwestern Hawaiian Islands as follows:

(a) The seaward boundary of the Reserve is 50nm from the approximate center geographical positions of Nihoa Island, Necker Island, French Frigate Shoals, Gardner Pinnacles, Maro Reef, Laysan Island, Lisianski Island, Pearl and Hermes Reef, Midway Atoll, and Kure Island. Where the areas are not contiguous, parallel lines drawn tangent to and connecting those semi-circles of the 50nm areas that lie around such areas shall delimit the remainder of the Reserve.

(b) The inland boundary of the Reserve around each of the areas named in subparagraph (a) of this section is the seaward boundary of Hawaii State waters and submerged lands, and the seaward boundary of the Midway Atoll National Wildlife Refuge, as appropriate.

(c) The Reserve boundary is generally depicted on the map attached to this order. The Secretary, after consultation with the Governor of the State

of Hawaii, may make technical modifications to the boundary of the Reserve, including providing straight-line boundaries for the Reserve for clarity and ease of identification, as appropriate.

**Sec. 7. Protection and Conservation Measures.** The conservation measures in this section apply throughout the Reserve.

(a) (1) *Commercial Fishing.* All currently existing commercial Federal fishing permits and current levels of fishing effort and take, as determined by the Secretary and pursuant to regulations in effect on the date of this order, shall be capped as follows:

(A) No commercial fishing may occur in Reserve Preservation Areas pursuant to section 8 of this order;

(B) There shall be no increase in the number of permits of any particular type of fishing (such as for bottomfishing) beyond the number of permits of that type in effect the year preceding the date of this order;

(C) The annual level of aggregate take under all permits of any particular type of fishing may not exceed the aggregate level of take under all permits of that type of fishing in the years preceding the date of this order, as determined by the Secretary, provided that the Secretary shall equitably divide the aggregate level into individual levels per permit, and further provided that the Secretary may make a one-time reasonable increase to the total aggregate to allow for the use of two Native Hawaiian bottomfishing permits;

(D) There shall be no permits issued for any particular type of fishing for which there were no permits issued in the year preceding the date of this order; and

(E) The type of fishing gear used by any permit holder may not be changed except with the permission of the Secretary, as provided under paragraph 3 of this section.

(2) *Recreational Fishing.* All currently existing (preceding the date of this order) levels of recreational fishing effort, as determined by the Secretary and pursuant to regulations in effect on the day of this order, shall be capped (i.e., no increase of take levels or levels of fishing effort, species targeted, or change in gear types) throughout the Reserve. However, fishing is further restricted as provided in section 8 of this order.

(3) The Secretary, after consultation with the Secretary of the Interior and Governor of the State of Hawaii, and after public review and comment and consideration of any advice or recommendations of the Reserve Council and Western Pacific Regional Fishery Management Council, may further restrict the fishing activities under subparagraphs (a)(1) and (a)(2) of this section if necessary to protect Reserve resources, or may authorize or require alternate gear types if such gear would offer equal or greater protection for Reserve resources.

(b) In addition to the conservation measures in paragraph (a) of this section, the following activities are prohibited throughout the Reserve:

(1) Exploring for, developing, or producing oil, gas, or minerals;

(2) Having a vessel anchored on any living or dead coral with an anchor, an anchor chain, or an anchor rope when visibility is such that the seabed can be seen;

(3) Drilling into, dredging, or otherwise altering the seabed; or constructing, placing, or abandoning any structure, material, or other matter on the seabed, except as an incidental result of anchoring vessels;

(4) Discharging or depositing any material or other matter into the Reserve, or discharging or depositing any material or other matter outside the Reserve that subsequently enters the Reserve and injures any resource of the Reserve, except fish parts (i.e., chumming material or bait) used in and during authorized fishing operations, or discharges incidental to vessel use such as deck wash, approved marine sanitation device effluent, cooling water, and engine exhaust; and

(5) Removal, moving, taking, harvesting, or damaging any living or nonliving Reserve resources, except as provided under paragraph (a) of this section and sections 8(a) and 9 of this order.

(c) The Secretary may conduct, or authorize by permit the activities listed in subparagraphs (b)(3)-(5) of this section to the extent that they are necessary for research, monitoring, education, or management activities that further the Management Principles of section 4 of this order.

**Sec. 8. Reserve Preservation Areas.**

(a) To further protect Reserve resources, the following areas are hereby established as Reserve Preservation Areas until some or all are made permanent after adequate public review and comment, within which all activities referred to in paragraph (b) of this section are prohibited.

(1) From the seaward boundary of Hawaii State waters and submerged lands to a mean depth of 100 fathoms (fm) around:

(A) Nihoa Island, provided that bottomfishing in accordance with the requirements of section 7(a)(1) of this order shall be allowed to continue seaward of a mean depth of 10fm, unless and until the Secretary determines otherwise after adequate public review and comment;

(B) Necker Island, provided that bottomfishing in accordance with the requirements of section 7(a)(1) of this order shall be allowed to continue seaward of a mean depth of 20fm, unless and until the Secretary determines otherwise after adequate public review and comment;

(C) French Frigate Shoals;

(D) Gardner Pinnacles, provided that bottomfishing in accordance with the requirements of section 7(a)(1) of this order shall be allowed to continue seaward of a mean depth of 10fm, unless and until the Secretary determines otherwise after adequate public review and comment;

(E) Maro Reef, provided that bottomfishing in accordance with the requirements of section 7(a)(1) of this order shall be allowed to continue seaward of a mean depth of 20fm, unless and until the Secretary determines otherwise after adequate public review and comment;

(F) Laysan Island, provided that bottomfishing in accordance with the requirements of section 7(a)(1) of this order shall be allowed to continue seaward of a mean depth of 50fm, unless and until the Secretary determines otherwise after adequate public review and comment;

(G) Lisianski Island, provided that bottomfishing in accordance with the requirements of section 7(a)(1) of this order shall be allowed to continue seaward of a mean depth of 50fm, unless and until the Secretary determines otherwise after adequate public review and comment;

(H) Pearl and Hermes Atoll; and

(I) Kure Island.

(2) Twelve nautical miles around the approximate geographical centers of:

(A) The first bank immediately east of French Frigate Shoals;

(B) Southeast Brooks Bank, which is the first bank immediately west of French Frigate Shoals, provided that the closure area shall not be closer than approximately 3nm of the next bank immediately west;

(C) St. Rogatien Bank, provided that the closure area shall not be closer than approximately 3nm of the next bank immediately east, provided further that bottomfishing in accordance with the requirements of section 7(a)(1) of this order shall be allowed to continue, unless and until the Secretary determines otherwise after adequate public review and comment;

(D) The first bank west of St. Rogatien Bank, east of Gardner Pinnacles;

(E) Raita Bank; and

(F) Pioneer Bank, provided that bottomfishing in accordance with the requirements of section 7(a)(1) of this order shall be allowed to continue, unless

and until the Secretary determines otherwise after adequate public review and comment.

(b) **Activities Prohibited Within Reserve Preservation Areas.**

(1) In addition to the conservation measures in section 7 of this order, which are applicable to the entire Reserve, the following activities are prohibited within the Reserve Preservation Areas listed in paragraph (a) of this section, except as expressly otherwise stated in this paragraph and sections (8)(a) and 9 of this order:

(A) Commercial and recreational fishing;

(B) Anchoring in any area that contains available mooring buoys, or anchoring outside an available anchoring area when such area has been designated by the Secretary;

(C) Any type of touching or taking of living or dead coral;

(D) Discharging or depositing any material or other matter except cooling water or engine exhaust; and

(E) Such other activities that the Secretary identifies after adequate public review and comment, and after consideration of any advice and recommendations of the Reserve Council.

(2) Notwithstanding the prohibitions in this paragraph, the Secretary may conduct, or authorize by permit, research, monitoring, education, or management activities within any Reserve Preservation Area that further the Management Principles of section 4 of this order.

(3) The Reserve Preservation Areas in this section are approximated using fathoms. The Secretary will develop straight line boundaries based on longitude and latitude coordinates to encompass each Reserve Preservation Area, to provide for clarity and ease of identification. The Secretary may make technical modifications to any such boundaries.

**Sec. 9. *Native Hawaiian Uses.*** Native Hawaiian noncommercial subsistence, cultural, or religious uses may continue, to the extent consistent with existing law, within the Reserve and Reserve Preservation Areas identified under section 8 of this order. The Secretary shall work with Native Hawaiian interests to identify those areas where such Native Hawaiian uses of the Reserve's resources may be conducted without injury to the Reserve's coral reef ecosystem and related marine resources and species, and may revise the areas where such activities may occur after public review and comment, and consideration of any advice and recommendations of the Reserve Council.

**Sec. 10. *National Wildlife Refuges.***

(a) The Secretary of the Interior, in managing, through the U.S. Fish and Wildlife Service the Hawaiian Islands and Midway Atoll National Wildlife Refuges pursuant to the National Wildlife Refuge System Administration Act (16 U.S.C. 668dd-668ee) and other applicable laws, shall follow the Management Principles of section 4 of this order, to the extent consistent with applicable law.

(b) Wherever the Reserve overlaps the Hawaiian Islands National Wildlife Refuge, the Reserve shall be managed to supplement and complement management of the Refuge to ensure coordinated conservation and management of the Reserve and the Refuge, consistent with the purposes and policies of the National Marine Sanctuaries Act, the National Marine Sanctuaries Amendments Act of 2000, and this order, and the authorities of the U.S. Fish and Wildlife Service under the National Wildlife Refuge System Administration Act (16 U.S.C. 668dd-668ee) and other laws with respect to management of the Refuge. Nothing in this order shall enlarge or diminish the jurisdiction or authority of the Secretary or Secretary of the Interior in managing the Reserve or Refuge, respectively.

(c) The Secretary of the Interior, through the U.S. Fish and Wildlife Service, shall coordinate with the Secretary and the Governor of the State

of Hawaii, as provided under section 5(b) of this order, to ensure coordinated protection and management among the Reserve, Refuges, and State, consistent with relevant authorities.

**Sec. 11. Administration and Judicial Review.**

(a) *International Law.* Management of the Reserve and any regulations issued pursuant thereto and all other provisions of this order shall be applied consistently with the 1983 Presidential Proclamation on the Exclusive Economic Zone, the 1988 Presidential Proclamation on the Territorial Sea, and the 1999 Presidential Proclamation on Contiguous Zone and in accordance with generally recognized principles of international law, and with the treaties, conventions, and other agreements to which the United States is a party. The Secretary shall consult with the Department of State in implementing this order.

(b) *Agency Responsibilities.* All Federal agencies whose actions may affect the Reserve and any National Marine Sanctuary established by the Secretary pursuant to this order shall carry out such actions in accordance with applicable laws, regulations and Executive Orders, including Executive Orders 13089 of June 11, 1998, and 13158 of May 26, 2000.

(c) *National Security and Emergency Actions.* Consistent with applicable law, nothing in this order is intended to apply to military activities (including those carried out by the United States Coast Guard), including military exercises, conducted within or in the vicinity of the Reserve, consistent with the requirements of Executive Orders 13089 of June 11, 1998, and 13158 of May 26, 2000. Further, nothing in this order is intended to restrict the Department of Defense from conducting activities necessary during time of war or national emergency, or when necessary for reasons of national security as determined by the Secretary of Defense, consistent with applicable law. In addition, consistent with applicable law, nothing in this order shall limit agency actions to respond to emergencies posing an unacceptable threat to human health or safety or to the marine environment and admitting of no other feasible solution.

(d) *United States Coast Guard.* Nothing in this order is intended to limit the authority of the United States Coast Guard to enforce any Federal law, or install or maintain aids to navigation.

(e) *Funding.* This order shall be carried out subject to the availability of appropriated funds and to the extent permitted by law.

(f) *Territorial Waters.* Nothing in this order shall enlarge or diminish the jurisdiction or authority of the State of Hawaii or the United States over submerged or other lands within the territorial waters off the coast of Hawaii.

(g) *Judicial Review.* This order does not create any right or benefit, substantive or procedural, enforceable in law or equity by a party against the United States, its agencies, its officers, or any person.



THE WHITE HOUSE,  
December 4, 2000.

# Appendix C

Executive Order 13196 of January 18, 2001

## Final Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve

By the authority vested in me as President by the Constitution and the laws of the United States of America, including the National Marine Sanctuaries Act, (16 U.S.C. 1431 *et seq.*), and the National Marine Sanctuaries Amendments Act of 2000, Public Law 106–513, and in furtherance of the purposes of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 *et seq.*), Marine Protection, Research, and Sanctuaries Act (33 U.S.C. 1401 *et seq.*), Coastal Zone Management Act (16 U.S.C. 1451 *et seq.*), Endangered Species Act (16 U.S.C. 1531 *et seq.*), Marine Mammal Protection Act (16 U.S.C. 1362 *et seq.*), Clean Water Act (33 U.S.C. 1251 *et seq.*), National Historic Preservation Act (16 U.S.C. 470 *et seq.*), National Wildlife Refuge System Administration Act (16 U.S.C. 668dd–e.e.), and other pertinent statutes, it is ordered as follows:

**Sec. 1. Preamble.** On December 4, 2000, I issued Executive Order 13178 establishing the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve (Reserve) pursuant to my authority under the National Marine Sanctuaries Act, as amended by the National Marine Sanctuary Amendments Act of 2000 (Act). In establishing the Reserve, I set forth a number of conservation measures and created specific Reserve Preservation Areas to protect the coral reef ecosystem and related marine resources and species (resources) of the Reserve. The Act provides that no closure areas can become permanent without adequate notice and comment. Accordingly, I proposed to make permanent the Reserve Preservation Areas and initiated a 30-day comment period on this proposal. I also sought comment on the conservation measures for the Reserve. On my behalf, the Secretary of Commerce received the public comments and held seven public hearings, including six throughout Hawaii. After considering the comments expressed at the hearings and received in writing, I have determined to make permanent the Reserve Preservation Areas with certain modifications set forth below. Further, I have modified certain conservation measures to address concerns raised, particularly regarding commercial and recreational fishing within the Reserve. With this action, the establishment of the Reserve under the Act, including the conservation measures and permanent Reserve Preservation Areas, is complete. The Secretary of Commerce will manage the Reserve pursuant to Executive Order 13178, as modified by this order, under the Act. The Secretary shall also initiate the process to designate the Reserve as a National Marine Sanctuary, as required by the Act.

**Sec. 2. Purpose.** The purpose of this order is to amend Executive Order 13178, and to make permanent Reserve Preservation Areas, as modified below, to ensure the comprehensive, strong, and lasting protection of the resources of the Northwestern Hawaiian Islands.

**Sec. 3. Amendments to Sections 7 of Executive Order 13178.**

1. Section 7(a)(1) of Executive Order 13178 is hereby amended by revising the first sentence to read as follows:

“Commercial Fishing. All currently existing commercial Federal fishing permits and current levels of fishing effort and take, which also includes the non-permitted level of trolling for pelagic species by currently permitted bottom fishers, as determined by the Secretary and pursuant to regulations in effect on December 4, 2000, shall be capped as follows:”

2. Section 7(a)(1)(C) of Executive Order 13178 is hereby revised to read as follows:

“(C) The annual level of aggregate take under all permits of any particular type of fishing may not exceed the aggregate level of take under all permits of that type of fishing as follows:

(1) Bottomfishing—the annual aggregate level for each permitted bottomfisher shall be that permittee’s individual average taken over the 5 years preceding December 4, 2000, as determined by the Secretary, provided that the Secretary, in furtherance of the principles of the reserve, may make a one-time reasonable increase to the total aggregate to allow for the use of two Native Hawaiian bottomfishing permits;

(2) All other commercial fishing—the annual aggregate level shall be the permittee’s individual take in the year preceding December 4, 2000, as determined by the Secretary.”

3. A new section 7(a)(1)(F) is hereby added to Executive Order 13178 and reads as follows:

“(F) Trolling for pelagic species shall be capped based on reported landings for the year preceding December 4, 2000.”

4. Section 7(b)(4) is revised to read as follows:

“(4) Discharging or depositing any material or other matter into the Reserve, or discharging or depositing any material or other matter outside the Reserve that subsequently enters the Reserve and injures any resource of the Reserve, except:

(A) fish parts (i.e., chumming materia or bait) used in and during fishing operations authorized under this order;

(B) biodegradable effluent incident to vessel use and generated by a marine sanitation device in accordance with section 312 of the Federal Water Pollution Control Act, as amended;

(C) water generated by routine vessel operations (e.g., deck wash down and graywater as defined in section 312 of the Federal Water Pollution Control Act), excluding oily wastes from bilge pumping; or

(D) cooling water from vessels or engine exhaust; and”.

**Sec. 4. Amendments to Sections 8 of Executive Order 13178.**

1. Section 8 of Executive Order 13178 is modified by substituting “provided that commercial bottomfishing and commercial and recreational trolling for pelagic species in accordance with the requirements of sections 7(a)(1) and 7(a)(2) of this order, respectively,” for “provided that bottomfishing in accordance with the requirements of section 7(a)(1)” everywhere the latter phrase appears in section 8.

2. Section 8(a)(1)(A) is modified by substituting “a mean depth of 25 fm” for “a mean depth of 10fm.”

3. Section 8(a)(1)(B) is modified by substituting “a mean depth of 25 fm” for “a mean depth of 20fm.”

4. Section 8(a)(1)(D) is modified by substituting “a mean depth of 25 fm” for “a mean depth of 10fm.”

5. Section 8(a)(1)(E) is modified by substituting “a mean depth of 25 fm” for “a mean depth of 20fm.”

6. Section 8(a)(1)(G) is modified by substituting “a mean depth of 25 fm” for “a mean depth of 50fm.”

7. Section 8(a)(1)(I) is revised to read “Kure Atoll.”

8. Sections 8(a)(2)(D) and (E) are hereby deleted and a new section 8(a)(3) is hereby substituted as follows:

“(3) Twelve nautical miles around the approximate geographical centers of

(A) The first bank west of St. Rogation Bank, east of Gardner Pinnacles, provided that commercial bottomfishing and commercial and recreational trolling for pelagic species in accordance with the requirements of sections 7(a)(1) and 7(a)(2) of this order, shall be allowed to continue for a period of 5 years from the date of this order; and

(B) Raita Bank, provided that commercial bottomfishing and commercial and recreational trolling for pelagic species in accordance with the requirements of sections 7(a)(1) and 7(a)(2) of this order, shall be allowed to continue for a period of 5 years from the date of this order; and

(C) Provided that both banks described above in (3)(A) and (3)(B) shall only continue to allow commercial bottomfishing and commercial and recreational trolling for pelagic species after the 5-year time period if it is determined that continuation of such activities will have no adverse impact on the resources of these banks.”

**Sec. 5. Reserve Preservation Areas.** The Reserve Preservation Areas, as modified in sections 3 and 4 of this order, are hereby made permanent in accordance with the Act.

**Sec. 6. Judicial Review.** This order does not create any right or benefit, substantive or procedural, enforceable in law or equity by a party against the United States, its agencies, its officers, or any person.



THE WHITE HOUSE,  
January 18, 2001.



Sunset at  
Gardner  
Pinnacles.  
Photo: Andy  
Collins

## Contact Us:

For more information on the reserve, please visit  
the website at <http://hawaiiireef.noaa.gov>  
or contact:

T. 'Aulani Wilhelm  
Acting Reserve Coordinator  
Northwestern Hawaiian Islands  
Coral Reef Ecosystem Reserve  
6600 Kalaniana'ole Highway, Suite 300  
Honolulu, HI 96825  
808.397.2660  
[Aulani.Wilhelm@noaa.gov](mailto:Aulani.Wilhelm@noaa.gov)

