

CHAPTER 5:

Improving the Use of Marine

Protected Areas



Goal:

Improve management of coral reef resources through a strengthened and expanded network of coral reef marine protected areas.



The federal, state, and territorial agencies represented on the USCRTF recognize that successful conservation of coral reef ecosystems requires identification and management of ecologically important reef areas within the broader marine environment. As a result, the USCRTF has provided formal acknowledgement of MPAs as an important coral reef management tool, and has taken measures to incorporate this tool into their marine resource management efforts. Creating a network of well-managed MPAs helps protect the biodiversity and resilience of coral reef resources. MPAs can also play an integral role in an ecosystem-based approach to management and conservation. MPAs can protect critical habitats and endangered species, enhance tourism and recreation, and play important roles in public education and outreach. MPAs can also provide a framework for the application of adaptive management, maintaining feed-back loops between science, management, and policy decisions.

The *National Action Strategy* of 2002 calls for “improving the use of marine protected areas in coral reef ecosystems.” The USCRTF also called for strengthening the Nation’s existing network of MPAs¹ with particular attention to increasing the number of “no-take” marine reserves²—areas where extractive uses are prohibited—with the goal of protecting at least five percent of all coral reefs and associated habitats in each major island group and Florida by 2002, at least ten percent by 2005, and at least 20 percent by 2010. In addition, the USCRTF called for designing coordinated networks of coral MPAs in U.S. waters and other areas to ensure the long-term viability, ecological integrity, and sustainable use of coral reefs.

In 2004-2006, federal and state/territory members of the USCRTF worked with partners to expand coral reef MPA networks and strengthen the effectiveness of existing coral reef MPAs. As a result of these efforts,

Established eleven new MPA sites, including the Papahānaumokuākea Marine National Monument located in the Northwestern Hawaiian Islands—one of the single largest conservation areas under the U.S. flag;

Development of new MPA management plans is underway in all seven domestic jurisdictions on the USCRTF as well as the Pacific Freely Associated States;

Published the first inventory and

assessment of MPAs managed by state and territory governments in the seven U.S. states and territories with coral reef ecosystems;

Established a new network of Pacific Island MPA managers to help build MPA management capacity; and

Commitment by USCRTF jurisdictions in Micronesia to expand effective conservation of marine and terrestrial resources through the Micronesia Challenge.

Accomplishments by Objective

Objective 1: *Conduct and support national, state, and territory assessments of the effectiveness and gaps in the existing system of U.S. coral reef MPAs.*

Ongoing monitoring and assessment of resources within and surrounding designated MPAs provides essential data to determine their effectiveness. For example, with assistance from the USFWS, Guam, conducted inshore fisheries surveys and stock assessment surveys of marine preserves³ and control sites, and provided technical assistance to quantify sedimentation and its effects on fish populations and benthic habitat.

The USFWS and NOAA cooperated in an expedition to reassess the status and biodiversity of coral reefs at seven National Wildlife Refuges in the Central Pacific and the islands of

¹ Marine Protected Area is used as defined in the MPA Executive Order 13158 as “any area of the marine environment that has been reserved by federal, state, territorial, tribal or local laws or regulations to provide lasting protection for part or all of the natural or cultural resources therein.”

² Reserve in this case is defined in the National Action Plan to Conserve Coral Reefs. Ecological reserves are no-take zones used for maintaining biodiversity, productivity, and ecological integrity of coral reefs and other habitats.

³ The Government of Guam uses the term “preserves” to refer to no-take ecological reserves.

American Samoa. Reports and a photo library were prepared of surveys at over 120 sites.

NOAA has also been monitoring the abundance of several reef fish species with economic importance at two deeper, offshore MPAs in the northern Gulf of Mexico—Madison-Swanson and Steamboat Lumps. Work at Madison-Swanson has shown a rate of increase about an order of magnitude greater than the eastern Gulf as a whole. These increases are for gag grouper, the species these MPAs were designed to help; other members of the shallow-water grouper-snapper complex have shown similar results, although not as pronounced as seen for the gag grouper species. Steamboat Lumps, farther offshore than Madison, has shown slower rates of increase of economically important grouper species than in the general eastern Gulf.

DoD completed an inventory of coral reef

ecosystem resources at the Marine Corps Base Hawai‘i (MCBH) at Kāne‘ohe Bay, O‘ahu, Hawai‘i. Noteworthy biological resources were documented, such as indicator or ecologically significant species; rare, endemic or alien species; valuable benthic habitat; and significant symbiotic species associations. In addition, potential natural and human threats to significant coral reef resources were identified. Recommendations to augment existing protection and management of base resources will be developed based on the survey.

In addition, DoD conducted baseline assessments and monitoring for threatened and endangered sea turtles, endangered monk seals, and Essential Fish Habitat and coral reef ecosystems at four geographic locations used heavily by DoD—the Pearl Harbor Entrance Channel, adjacent areas offshore of Hickam Air Force Base, and the Bellows Beach portion of MCBH. Within each of these areas, surveys

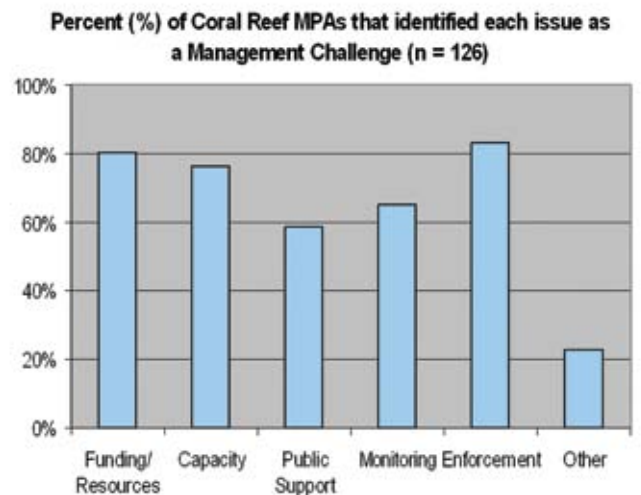


Left: Ecosystem of the Madison-Swanson Reserve and South Atlantic Bight proposed marine protected areas.

Right: USVI National Park Underwater Trail.

Report on the Status of Marine Protected Areas in Coral Reef Ecosystems of the U.S. Volume 1: Marine Protected Areas Managed by U.S. States, Territories, and Commonwealths

In conjunction with state, territorial, and federal partners on the USCRTF, NOAA completed the first assessment of U.S. coral reef protected areas. The report focuses on MPAs managed by state and territorial governments in the seven jurisdictions on the USCRTF—American Samoa, the CNMI, Florida, Guam, Hawai'i, Puerto Rico, and the USVI. This report provides an inventory of existing coral reef MPAs and MPA management efforts in these seven jurisdictions, and is the first of several assessments needed for understanding the scope and effective use of MPAs for coral reef conservation in the United States. The report uses data collected in the National Marine Managed Inventory (<http://www.mpa.gov>) as well as the expertise of NOAA and state and territory co-authors to explore the management status of 207 MPAs located across the jurisdictions. Most of these sites are permanent (86 percent) and provide constant protection throughout the year (97 percent). Twenty-nine percent (49 sites) offer some level of no-take protection. While many sites have ongoing management activity, only 20 percent (42 sites) have approved management plans. Eighty-one sites contain fish spawning areas and threatened or endangered species have been observed in 164 sites. Finally, and perhaps of greatest significance, of the 126 sites providing information on challenges to effective management, the majority of sites identified five main challenges that must be addressed to help MPAs achieve management goals and objectives: enforcement, funding/resources, management capacity, monitoring, and public support. The ultimate success of these MPAs is contingent upon the resolution of these obstacles to effective management challenges.



are being conducted to assess the distribution and health of stony corals and selected macroscopic benthic invertebrates. Results of the long-term monitoring at these sites will be used to evaluate the effectiveness of mitigation measures applied to military activities in these locations. Data will be collected from existing long-term monitoring stations, and additional stations will be established.

Objective 2: *Enhance the effectiveness of existing MPAs and strengthen their capabilities to protect coral reef resources through existing authorities, management plans, programs, and the involvement of all constituencies.*

Hawai‘i formed two new community groups to assist in community-based management in the two most-used MPAs: Pūpūkea, O‘ahu, and Honolulu, Maui. These groups are assisting in a variety of projects to raise the level of awareness and mitigate impacts of recreational misuse in coral reef habitats.

Draft management plans were produced for the Luis Pena Channel, Cordillera, and Mona Island Natural Reserves, and the Tres Palmas Marine Reserve in Puerto Rico. The Luis Pena Channel, Tres Palmas and Cordillera processes are cooperative efforts between the local communities and the Department of Natural and Environmental Resources (DNER) and will serve as a model for cooperative MPA management for other sites within Puerto Rico’s marine and natural reserve system. DNER prioritized additional sites (La Parguera and Caja de Muertos) within their natural reserve system for management plan development over the next five years.

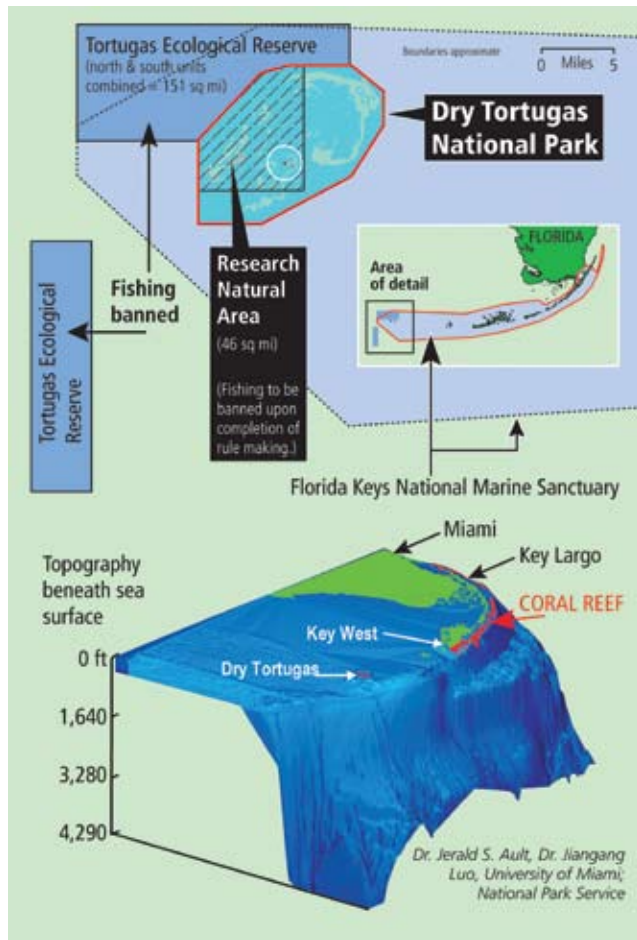
The USFWS and NOAA have provided support to enhance CNMI’s MPA management. CNMI hired an MPA specialist who has taken the initial steps to assist CNMI

in developing an MPA Plan. At one particular MPA—the Sasanhaya Bay Fish Reserve—the USFWS funded a project involving Rota High School students in demarcating the boundaries of the existing reserve by constructing and deploying MPA markers. Students will also conduct community outreach to inform local users about the existence and purpose of the MPA.

In 2006, American Samoa held a Participatory Learning and Action workshop for several villages participating in the DMWR Community Fisheries Management Program. Community members learned techniques for identification of problems, causes, and solutions; threat prioritization; stakeholder analysis; and Community Action Plan development. The participating communities will use their Community Action Plans as guides to better manage and plan projects to improve their MPA sites and resources.

The Pacific Islands Marine Protected Area Community

In 2005, a new network of Pacific Islands MPA managers was developed. The Pacific Islands Marine Protected Area Community (PIMPAC) was established to address the unique challenges faced by Pacific Island MPA managers such as isolation, lack of human and financial resources, and lack of capacity-building opportunities. PIMPAC was initiated in September 2005, when over 50 MPA managers and practitioners from ten Pacific Island jurisdictions came together to discuss the development of a regional MPA community to share information, resources, and technical assistance. PIMPAC is represented by the Pacific Island jurisdictions of American Samoa, the CNMI, Guam, Hawai‘i, Republic of Palau, and Republic of the Marshall Islands and the FSM (including the states of Chuuk,



Schematic showing the Dry Tortugas National Park Research Natural Area (RNA).

Kosrae, Pohnpei, and Yap). The main goals of this network are to improve MPA management effectiveness through information-sharing, training, peer-to-peer learning, leveraging resources, and exchange visits. In October 2006, the first PIMPAC training event was held in Chuuk, Micronesia, where 27 MPA managers from the ten PIMPAC jurisdictions learned how to facilitate processes to develop MPA management plans.

Objective 3: *Establish additional coral reef MPAs where needed, including the establishment of no-take ecological reserves in a balanced suite of representative U.S. coral reefs and associated habitats, with the*

goal of protecting at least five percent of all coral reefs and associated habitats in each major island group and Florida by 2002, at least ten percent by 2005, and at least 20 percent by 2010.

A 2005 management agreement reaffirmed the critical partnership between the National Park Service and State of Florida in conserving Dry Tortugas National Park and facilitated NPS implementation of the Dry Tortugas National Park Research Natural Area (RNA). The RNA is a “no-take” marine reserve occupying 46 percent of the park, including much of the coral reef habitat (54 percent of park waters remain open to recreational fishing). In

February 2007, the NPS published the Final Rule to establish the RNA and implement other regulatory changes at the Park. The RNA is designed to restore and protect fish populations essential to the marine ecosystem, to maintain spawning and recruitment of regional fish stocks, and to protect coral reefs and other benthic habitats from anchor damage (anchoring is prohibited). The Tortugas region is also seen as important because spawning fish and invertebrates in this region are thought to be the larval source for many fish species that support the multi-billion dollar recreational and commercial fisheries in the Florida Keys. The RNA complements the adjacent Tortugas Ecological Reserve managed by the FKNMS, and now comprises the largest marine reserve in North America. The Park Service and the State of Florida are developing a science plan for evaluating and monitoring the RNA.

American Samoa established three additional sites in their Community Based Fisheries Management Program, for a total of 11 sites in this system, which is designed to assist villages in managing and conserving their inshore fishery resources. DMWR received increased support in 2005 to begin implementing the former Governor's 20 percent no-take MPA declaration. The MPA program aims to create new no-take areas in order to ensure various and diverse marine resource habitat, and to ensure that spawning stocks are available to populate reefs on a regular basis and after disasters. The MPA Program has filled three new staff positions, including an MPA program leader, an environmental specialist, and a technician.

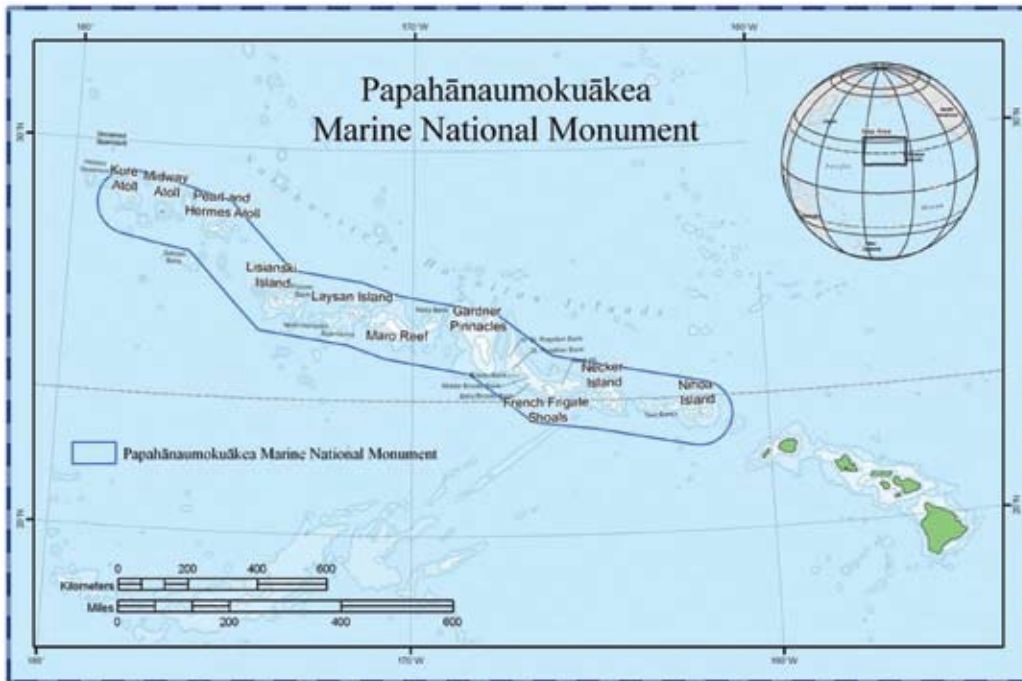
In 2004, Puerto Rico designated the Tres Palmas Marine Reserve to protect the threatened elkhorn coral (*Acropora palmata*). Two new sites in Puerto Rico's natural reserve system were also established: Boqueron

State Forest and Cienaga las Cucharillas. In addition, existing sites were strengthened by the passage of the Puerto Rico Fishing Regulation No. 6768, which declared 0.5 nautical miles of the waters surrounding existing sites in their natural reserve system—including Monito, Isla de Mona, and Isla de Desecheo—as no-take areas. These regulations also identified a new no-take area in Laguna del Condado.

Objective 4: *Strengthen and support cooperation with and among the Freely Associated States and international partners to establish networks of MPAs to protect and conserve reef ecosystems.*

In 2006, the USCRTF island jurisdictions of Palau, the FSM, the Republic of the Marshall Islands, the Territory of Guam, and the CNMI presented the Micronesia Challenge to the U.N. Convention on Biological Diversity. The Micronesia Challenge is a commitment by each of these island jurisdictions to provide effective conservation of 30 percent of nearshore marine resources and 20 percent of terrestrial resources by 2020.

The USFWS has worked with local partners in both Palau and the FSM to increase capacity for managing and enforcing MPAs. In the FSM, the USFWS provided technical assistance for community-based planning and management of MPAs, which included creating management plans, training community stewards, and delineating and marking boundaries. And in Palau, the USFWS funded a project to assist the local community of Hatohebei State to delineate and manage an existing 259,000 square meter MPA at Helen Reef Atoll. Funds will be used to help the community finalize and mark the protected area and to assist them in management, monitoring, and educational activities.



Our Sea of Islands: A Regional Forum for Oceania on Marine Managed Areas and World Heritage.

Co-sponsored by NOAA, DOI, and the United Nations Educational, Scientific and Cultural Organization World Heritage Programme, this forum brought together representatives from over 20 Pacific states to build local and regional pride across Oceania (i.e., Micronesia, Melanesia, Polynesia, and Australia) and enhance our natural and cultural heritage through information-sharing, relationship building, and adaptive use of management tools regarding marine managed areas. The Forum included work sessions with topics such as: Science—An Integral Element of Effective Management, Customary Marine Management Practices in Oceania, Marine Managed Area Representation, Remote Surveillance and Enforcement, Conservation Finance, and World Heritage Designation. This forum provided an opportunity for managers, government officials, and practitioners from around Oceania to discuss shared experiences.

Papahānaumokuākea Marine National Monument

The Papahānaumokuākea Marine National Monument in the Northwestern Hawaiian Islands was created by Presidential proclamation on June 15, 2006. The Monument is one of the largest conservation areas under the U.S. flag and the largest marine conservation area in the world. It encompasses 362,062 square kilometers of the North Pacific Ocean—an area larger than all the U.S. national parks combined. The extensive coral reefs found in Papahānaumokuākea—truly the “rainforests of the sea”—are home to over 7,000 marine species, one-quarter of which are found only in the Hawaiian Archipelago. Many of the islands and shallow-water environments are important habitats for rare species such as the threatened green sea turtle and the endangered Hawaiian monk seal. Papahānaumokuākea is also of great cultural importance to Native Hawaiians with significant cultural sites found on the islands of Nihoa and Mokumanamana.

The NWHI was designated a Coral Reef Ecosystem Reserve in 2000 by Presidential Executive Order, and, in 2006 NOAA initiated an extensive administrative and public review process for designating the NWHI as a National Marine Sanctuary under the National Marine Sanctuaries Act. Before final action was taken on this designation, however, President Bush declared the NWHI to be a National Monument through a Presidential Proclamation, using his authority under the Antiquities Act of 1906.

In September 2005, Hawai'i Governor Linda Lingle proclaimed the NWHI state waters and lands as a State Marine Refuge, a no-take reserve with commercial fishing phased out over five years and allowing only limited sustenance fishing, while recognizing Native Hawaiian cultural practices. This conservation action paralleled the management practices of the USFWS, which has had jurisdiction over the Hawaiian Islands National Wildlife Refuge since 1909 and over Midway Atoll National Wildlife Refuge since 1998. The Monument was designated in June 2006, and was later given the Hawaiian name Papahānaumokuākea Marine National Monument in a ceremony on March 2, 2007. Under this proclamation, the DOI and DOC, with the State of Hawai'i, are identified to co-manage the Monument, including the Federal National Wildlife Refuges, the State reserve areas, and the waters of the coral reef ecosystem reserve, in a seamless fashion. A joint (USFWS, NOAA, and State of Hawai'i) set of regulations and a permit process for the Monument has been implemented as well as joint management plans, including research and operations, are being developed with opportunity for public review and comment.