

Improving Outreach and Education



GOAL: Increase awareness and understanding of the ecological, cultural, and socioeconomic importance of coral reef ecosystems among the widest possible audience.

Rationale for Action

Improving outreach and education is critical to helping people understand the value of coral reef ecosystems and ways to avoid damaging them. Reducing human impacts on coral reef ecosystems often requires changing behavior, beliefs, and decisionmaking criteria about conserving these vital ecosystems. An informed, engaged

public (including resource users, policymakers, industry representatives, nongovernmental organizations, and other stakeholders) is fundamental to achieving the goals of the *National Coral Reef Action Strategy*. People will be more likely to alter their actions and support conservation if they understand why coral reefs are important, realize how their actions affect the condition of the reefs, and are

OBJECTIVES

OBJECTIVE 1: Raise public awareness of and appreciation for coral reef ecosystems through targeted and focused communications campaigns.

OBJECTIVE 2: Incorporate coral reef ecosystem issues in education programs to promote understanding of marine conservation.

OBJECTIVE 3: Inform the public and policymakers about accomplishments and recommendations of the U.S. Coral Reef Task Force.

OBJECTIVE 4: Monitor coral reef ecosystems through monitoring and

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Outreach event at NOAA's Hawaiian Islands Humpback Whale National Marine Sanctuary.

aware of coral reef protection activities and how they benefit communities.

The need for effective outreach and education cuts across all goals of the *National Coral Reef Action Strategy*, and progress depends on fully integrating outreach and education into research and management initiatives. The USCRTF has identified lack of awareness as one of the priority issues for the development of local action strategies (LASs).

Summary of Implementation

The USCRTF, with the support of nongovernmental and academic partner organizations, has advanced public awareness activities throughout 2002–2003. USCRTF members reached out to stakeholders by creating and distributing educational materials and by funding outreach and education projects with a variety of partners. Agencies also collaborated to develop workshops and training modules to build the local conservation capacity, develop student education and career development programs, and promote local involvement in conservation management. In addition, both the National Park Service (NPS) and NOAA's National Marine Sanctuaries Program include major coral reef education efforts.

To expand outreach programs, many of the USCRTF members have created and distributed a variety of multilanguage publications, videos, posters, bibliographies, virtual libraries, and public service announcements targeted to reach vast numbers of stakeholders. To complement these broadly focused resources, agencies also developed materials specifically designed for key user groups. For example, the U.S. Department of Defense developed materials for military personnel that outline the crucial role the Armed Forces play in successful conservation efforts. The Virgin Islands National Park also delivered targeted materials on such subjects as the impacts of fishing gear on reef health, illegal removal of corals, and the effects of driving on beaches.

Beyond information dissemination, agencies have conducted community meetings and other initiatives to improve two-way communication and foster community involvement. These activities have allowed managers to better understand stakeholder

motivations and develop educational programs addressing concerns specific to each group. For example, NOAA held a series of workshops with fishermen in Puerto Rico and the U.S. Virgin Islands to discuss community values and the importance of reefs to fishing livelihoods. Also, the U.S. Fish and Wildlife Service (USFWS) documented traditional marine conservation practices at a community-managed reef in Hawai'i and established statewide exchange programs to share the information.

To strengthen local initiatives, the USCRTF increased technical assistance for local capacity building through workshops and training programs. Agencies have supported training programs for local scientists and managers in the application of field and laboratory research tools and methodologies geared toward an improved understanding of coral reef processes, threats, and impacts. Many states and territories funded education and outreach specialist positions to coordinate their outreach efforts, allowing resource management agencies to significantly increase the reach of their activities.

Although formal educational programs for students lag behind informal education and training programs, progress has been made in creating curricula from coral reef research. Activities primarily focus on providing resources and training to teachers, distributing materials, delivering presentations to classrooms, and developing exhibits and displays in museums and aquariums. For example, American Samoa incorporated the ecology and cultural importance of coral reefs into education programs, trained teachers, developed environmental workshops, and participated in a program providing small grants to help teachers design hands-on coral reef projects.

Biannual USCRTF meetings are an important venue for improving local outreach and education.

By increasing the visibility of national, regional, and local efforts to protect coral reefs, the 2002–2003 meetings in Puerto Rico, Guam, and the Commonwealth of the Northern Mariana Islands provided important opportunities to share information and resources and to transfer tools and expertise to local entities.

Highlights of Task Force Member Activities

OBJECTIVE 1: Raise public awareness of and appreciation for coral reef ecosystems through targeted and focused communications campaigns.

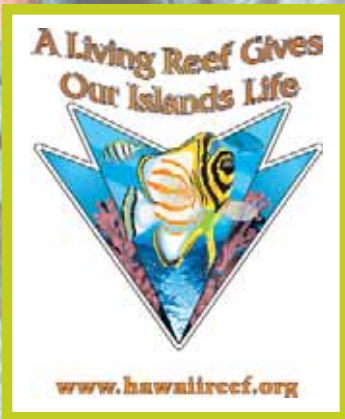
Guam Launched Multimedia Coral Reef Awareness Campaign

In 2003, as part of its Education and Outreach Local Action Strategy, the Guam Coral Reef Initiative Coordinating Committee launched a multimedia coral reef awareness campaign. A unique clownfish character



serves as the campaign mascot and the “teacher” in an educational video for use on incoming flights, movie theater slides, hotel room tent cards, coloring books, advertisements, and streetside banners. In conjunction with Earthweek activities, the campaign sponsored an islandwide children’s contest to name the clownfish character, which was named Professor Kika Clearwater.





Living Reef Program in Hawai'i Raises Reef Awareness

In 2002–2003, more than 40 agencies, nonprofit organizations, and community groups joined together to create the Coral Reef Outreach

Network (CRON)—an organization that worked to launch the Living Reef Program. The goals of the Living Reef Program are to raise awareness about the importance of reefs to communities and what actions individuals can take to minimize harmful impacts. To jump-start the program, a logo and the slogan “A Living Reef Gives Our Islands Life” were created. CRON held several planning meetings and made progress toward a website, an online game for children, and a video starring Alexander Gould (the voice of Nemo in the movie *Finding Nemo*) demonstrating how children can minimize their impacts on coral reefs. In addition, the Living Reef Awards Program was created with sponsor Tiffany & Co. Jewelers, and CRON is hiring a public relations firm to create public service announcements. Hawai'i officially launched the Living Reef Program at a June 2004 ceremony in the Governor's chambers.

OBJECTIVE 2: Incorporate coral reef ecosystem issues in education programs to promote understanding of marine conservation.

USFWS Funds Hawaiian Traditional Knowledge Education

In 2003, USFWS funded a program for high school students in O'ahu's Ewa Beach community to learn

traditional Hawaiian knowledge about the ecology and human uses of local marine algae. The students integrated this information into such scientific techniques as water quality testing. As a result of the program, the community is working with the state to consider establishing a nearshore marine protected area (MPA) at Ewa Beach. USFWS provided funding in 2004 to begin a similar high school program in the predominantly native Hawaiian community of Nanakuli, O'ahu.

NPS Outreach Empowers Boaters To Protect Resources

In 2002–2003, NPS conducted outreach programs to help recreational boaters protect the resources they enjoy in Biscayne National Park. Through partnerships with the Florida Fish and Wildlife Conservation Commission, the U.S. Coast Guard (USCG), and the Miami-Dade Marine Patrol, NPS launched an intensive bilingual Resource Protection Through Boater Education campaign. Park-specific educational programs encouraged responsible boating and navigation, which should reduce groundings on seagrass and coral reefs in the park's 165,000-acre (668-km²) marine area. Exhibits with messages targeted to visitors to the Keys (e.g., “Protect Your Keys,” “Be Safe, Not Sorry”) were installed at two public harbors in the park.

NOAA Develops Curricula Targeted at K–12 Schools

NOAA, through the Sea Grant College Program, has developed multiple curricula for K–12 schools in Puerto Rico, including bilingual textbooks, targeted specifically to coral reefs. In addition, NOAA funded a full-time Sea Grant extension agent in American Samoa. Extension agents are hired by the local community to teach, develop curricula, and build capacity as needed in the region and are helping build a stronger presence for NOAA in the Western Pacific.

Northwestern Hawaiian Islands Discovery Visitor Center Opens

In May 2003, the Northwestern Hawaiian Islands (NWHI) Coral Reef Ecosystem Reserve opened the NWHI Discovery Center in Hilo, Hawai'i. The center raises awareness of the special nature of the NWHI and illustrates why NOAA is working to conserve the area. The center, named "Mokupapapa" after the low-lying coral islets found in the NWHI, interprets the natural science, culture, and history of the NWHI and the surrounding marine environment. Interactive displays, three-dimensional models, and a theater allow visitors to experience the wonder of this unique ocean region. In its first year of operation, the center attracted more than 50,000 visitors, exceeding the projections of a study conducted before the center was opened. School groups regularly visit the center, which has broad community support.



The U.S. Department of the Interior National Park Service works in the communities to promote greater understanding of coral reef ecosystems.

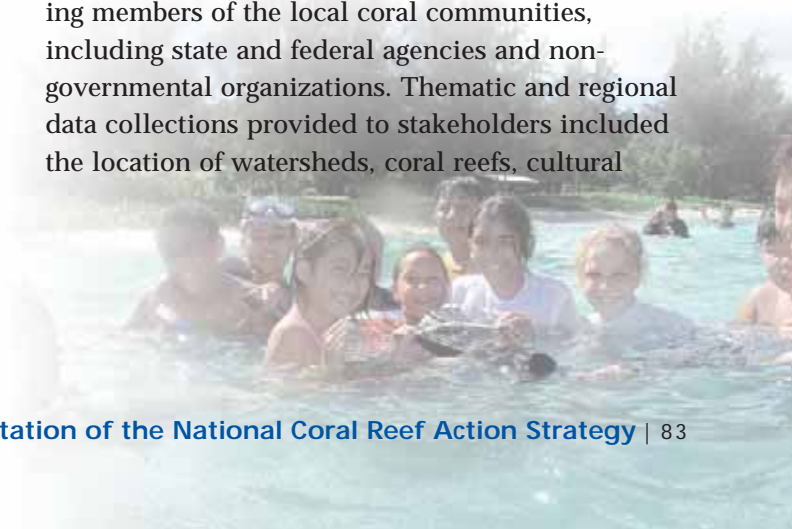
coral reef stakeholders and constituents to provide them with access to CoRIS data sets and to make these data more accessible and understandable. A virtual library was developed to provide online access to coral literature to enhance public knowledge about coral reefs. The Data Outreach pilot project included the University of Hawai'i Sea Grant College Program, University of Hawai'i, American Samoa, Cooperative Institute for Research in Environmental Sciences, The Nature Conservancy, the U.S. Geological Survey, the U.S. Environmental Protection Agency, and NPS.


The project consisted of a series of small-scale meetings in American Samoa and Hawai'i involving members of the local coral communities, including state and federal agencies and non-governmental organizations. Thematic and regional data collections provided to stakeholders included the location of watersheds, coral reefs, cultural

OBJECTIVE 3: Inform the public and policymakers about accomplishments and recommendations of the U.S. Coral Reef Task Force.

NOAA's Coral Reef Information System Team Shares Reef Data

In 2003, NOAA's Coral Reef Information System (CoRIS) team conducted regional meetings with





resources, sea turtle populations, and MPA information. The meetings gave database managers critical feedback and insights from current and potential users of the CoRIS website and generated a dialogue between NOAA scientists and constituent groups. The project served as a model for future NOAA efforts to engage, advise, and inform data-user communities through increased awareness and appreciation of agency science.

OBJECTIVE 4: Increase understanding of coral reef ecosystems through conducting comprehensive assessments of monitoring and coral reef habitats.

Multiagency Educational Partnership Formed for the NWHI

In 2002, NOAA, USFWS, and state and local Hawaiian partners formed a NWHI multiagency education partnership. The partnership focused on education and outreach activities associated with the 2002 NWHI Reef Assessment and Monitoring Program expedition. An education and documentation team, organized by the NWHI Coral Reef Ecosystem Reserve, aboard the *R/V Rapture* posted daily reports, journals, science pieces, video reports, and images from the NWHI to the website <http://www.hawaiianatolls.org> during the voyage. Across the country and internationally, thousands of people followed the voyage and learned about the NWHI. Questions about the voyage were routed through the website and answered by the team aboard the *R/V Rapture*. The video segments were shown to scheduled school groups visiting the NWHI exhibit at the Hawai'i Maritime Center.

The educational partnership continued through 2002–2003 when the Navigating Change project with the Polynesian Voyaging Society began.

Navigating Change seeks to motivate, encourage, and challenge people to take action and improve Hawaii's environmental conditions, especially coral reef ecosystems. In 2003, the partners conducted teacher workshops across Hawai'i in concert with a statewide sailing journey of the famed Polynesian voyaging canoe *Hokule'a*. The canoe traveled around the state and then made a historical voyage to the NWHI in May 2004.

OBJECTIVE 5: Support outreach and education initiatives in states and territories and initiate grants to local community groups.

Supporting Safe and Secure Waterways in Hawai'i

A safe and secure business environment is vital to Hawaii's more than \$3 billion maritime and ocean industry. NOAA has been working through the University of Hawai'i Sea Grant College Program in collaboration with the Hawai'i Ocean Safety Team (HOST), a nonprofit organization formed in 1998. HOST represents commercial and recreational waterfront users with its mission to promote the safe and pollution-free use of Hawaii's waters and provides an open forum to discuss issues related to ocean safety and the ocean environment. Together, NOAA, the University of Hawai'i Sea Grant College Program, HOST, and USCG have been addressing issues related to the establishment of updated port, harbor, and waterway security zones implemented since September 11, 2001. These zones have changed the way maritime and ocean users conduct their businesses in Hawai'i and the Nation.

Grants for Local Conservation Projects

Financial and programmatic partnerships are central to reaching diverse audiences and involving a

range of stakeholders in conservation efforts. To build on these partnerships and support local conservation initiatives, federal, state, and territory agencies and nongovernmental partners funded grant programs aimed at increasing community awareness. Since 2001, the Coral Reef Conservation Fund, operated by the National Fish and Wildlife Foundation, has leveraged \$1.21 million in NOAA funds with \$1.69 million in matching funds for a total of \$2.90 million to support 34 outreach- and education-focused coral reef conservation projects. These projects seek to increase community awareness through the support of public/private partnerships that solve specific outreach and education problems.

Future Challenges

Federal, state, and territory agencies have increasingly taken steps toward creating outreach and education programs that build support for coral reef conservation; however, a widespread lack of public awareness regarding the importance and decline of coral reef ecosystems still exists. Accordingly, many management efforts lack support from communities that could work with agencies to advance reef protection and restoration.

For conservation efforts to succeed, outreach and education programs need to be more strategically planned, involve sustained and direct contact with users of coral reef ecosystems, and be fully integrated into the management process. The activity highlights described above demonstrate positive trends and examples of effective initiatives. Further progress could be realized through USCRTF involvement in the following efforts:

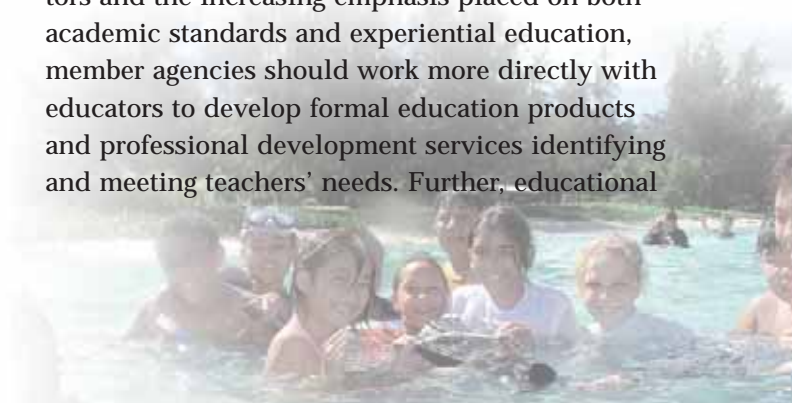
Continue the trend toward interactive, hands-on outreach. Information alone is not sufficient to change behavior. Stakeholders and constituents

may become more aware of the importance and value of coral reef ecosystems, but increased awareness does not automatically result in improved behaviors. Outreach that includes constituent meetings, training workshops, and capacity-building technical assistance will better identify barriers to change, promote increased agency transparency, improve stakeholder buy-in, and ultimately support more sustainable, community-based conservation initiatives.

Strategically plan key messages, identify intended audiences, and develop appropriate communications vehicles. A more targeted communications and outreach approach using focus groups and other planning tools will improve the effectiveness of communications campaigns.

Improve coordination between resource management and outreach goals. Coral reef scientists, managers, outreach coordinators, and educators should work together to translate scientific findings and management goals into specific outreach initiatives that build public support for achieving those goals. At the same time, outreach specialists should help resource managers better understand potential barriers to sustainable reef use, develop culturally sensitive communications, solicit meaningful and sustained feedback, and create incentives for sustainable behavior.

Focus more resources on educational programs for students, particularly formal curriculum development. Youth education builds a foundation for future reef management and stewardship. Recognizing the limited resources of many educators and the increasing emphasis placed on both academic standards and experiential education, member agencies should work more directly with educators to develop formal education products and professional development services identifying and meeting teachers' needs. Further, educational





Students at the Saipan International School in the Northern Mariana Islands learn about water quality testing as part of a volunteer marine monitoring program with the Coastal Resources Management Agency and the Division of Environmental Quality.

activities should focus on effectively translating agency science and management directives into creative activities that build wider public support for conservation and service-learning projects that simultaneously serve educational and community purposes.

Prioritize outreach efforts that explicitly address LASs, in particular the Lack of Awareness Local Action Strategy. In addition to the *National Coral Reef Action Strategy* goals outlined above, LASs have been developed for each state and territory to guide coral reef conservation efforts. Additional focus is needed for outreach projects that explicitly address the goals outlined in both the national strategies and LASs.