

CHAPTER 10:

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.

An informed, engaged public is fundamental to achieving the goals of the *National Action Plan*. However, reducing human impacts on coral reef ecosystems requires more than information-sharing. It requires changing the human behaviors, beliefs, and decision-making criteria contributing to coral reef decline. Therefore, effective outreach and education activities attempt to understand and address existing barriers to sustainable behavior to enhance the appeal of sustainable behaviors through communications targeting public motivations and needs. Through the effective identification of motivations, managers not only make messages resonate with various segments of society, they also help ensure community needs are met while advancing coral reef conservation strategies. This approach requires ongoing dialogue with stakeholders and decision makers, regular progress assessments to enhance public understanding of the values of and threats to coral reef ecosystems, and ongoing communications based on these assessments

and dialogue. School-based formal education efforts that teach children environmental concepts, as well as the value and importance of environmental stewardship, are also critical to future coral reef conservation success.

The USCRTF participates in a variety of activities to inform and engage reef users, local communities, school children, and the general public in conservation efforts.

Accomplishments by Objective

Objective 1: *Raise public awareness of and appreciation for coral reef ecosystems through targeted and focused communication campaigns.*

Strategic outreach and education campaigns designed to change societal behavior

American Samoa initiated a Rare Pride Conservation Education Campaign using as its flagship species the sea turtle, which is an integral part of coral reef ecosystems and cultural history in American Samoa. Rare Pride Campaigns are intensive, 18-month social marketing programs using over 20 public communications tools to create an increased sense of public environmental stewardship. The campaigns have a powerful influence on emotions, attitudes, and behavior. The campaigns increased awareness and decreased destructive practices in over 28 countries, but few coral reef campaigns have been implemented, so the American Samoa campaign is a pilot approach in U.S. waters. The American Samoa Coral Reef Advisory Group recently finalized the detailed campaign plan to include goals; Specific, Measurable, Achievable, Realistic, Timely (SMART) objectives; activities; and an evaluation process to measure campaign success. With the help of the “Tino the Turtle” mascot, the campaign

is expected greatly increase in local awareness, stewardship capacity, and conservation knowledge.

Hawai‘i’s Living Reef Program is a strategic public communications effort across more than 40 organizations based on approximately 18 months of research and collaboration. Through the collaborative development of key messages, multimedia products, and innovative distribution strategies, the campaign minimizes duplication and message dilution, maximizes resources, and uses consistent messages to reach a much larger audience than would be possible through any one organization. Recent successes include the development of an annual Living Reef Awards program to recognize the organizations, groups, or individuals doing the most to preserve Hawaii’s reef ecosystem (with over 250 attendees in 2005); production of a reef etiquette video for hotel rooms, cruise ships, and airlines; development of a public service announcement campaign featuring billboards as well as radio and TV spots; and development of a major newspaper insert on marine protected areas. The Living Reef Program is a key initiative of the Hawai‘i Coral Reef Outreach Network, an unprecedented public awareness partnership founded in 2001 to cross sectors and agendas and unite Hawaii’s conservation community around integrated coral reef outreach and education. More information on this program is available online at: <http://www.hawaiiireef.org/>.

Guam’s Coastal Management Program conducted a survey of stakeholders’ familiarity with and receptivity to coral reef and coastal resource management outreach products and messages. The results indicated a need for changes in Guam’s outreach approach. As a result, Guam embarked on several new initiatives, and staff from multiple agencies received training on strategic communications and environmental behavior change

Students from Aka'ula School working with their teacher to design stormwater controls during a workshop on Molokai.



techniques. Guam launched a multimedia coral reef awareness campaign to actively target the awareness and behavior of residents and tourists. The campaign produced an airline video, coloring books, street banners, hotel information cards, and other materials. Events each month to educate the community on the importance of Guam's coral reefs and associated environments attracted children and adults throughout the island. This campaign has strengthened ties between the Guam Coral Reef Initiative Coordinating Committee, Guam Visitor's Bureau, and Guam Hotel and Restaurant Association.

Coalition-building to enhance outreach impact and decrease conflicting messages

The Virgin Islands Network of Environmental Educators (VINE) brings together over 60 environmental educators in more than 30 agencies, divisions, and organizations. Founded in 2004, VINE is running two chapters, one each on St. Croix

and St. Thomas/St. John. The goal of VINE is to support sustainable use of natural and cultural resources in the USVI by leveraging available resources and decreasing fragmentation of effort and duplication across programs and by building capacity for environmental education within the territory. Achievements include collaborative participation in teacher professional development workshops; a partnership collaborative with the British Virgin Islands and Caribbean Fishery Management Council; leveraging of funds to provide on-the-job training to local educators; a multi-pronged communications campaign using murals, t-shirts, billboards, and the Internet; promotion of a more comprehensive environmental education curriculum; and the first cross-organizational assessment of outreach and education capacity gaps and staff needs throughout the USVI. More information is available online at: <http://www.stxeastendmarinepark.org/vine.htm>.



Left: Bridge Program: Sea Grant educators have tremendous capabilities to spark youngsters' interest in marine and aquatic sciences, as this science lab demonstrates.



Right: National Park Service Ranger conducts in-water education.

The Southeast Florida Coral Reef Initiative (SEFCRI) includes over 100 partners from government, non-government, research, and industry sectors who come together to carry out Florida's Local Action Strategies and other coral reef conservation initiatives in the South Florida area. Working across the SEFCRI coalition, partners developed and launched a marketable identity for Southeast Florida coral reef communications, including a major new website, logo, key messages, brochures, exhibits, a tagline ("Acting Above to Protect What's Below"), and a seven-page media kit containing key SEFCRI messages. Information about these and other SEFCRI outreach projects is available online at: <http://www.southeastfloridareefs.net>.

CNMI has intensified and improved coral reef outreach and education through the efforts of an interagency environmental outreach group. This group collaborated to produce a coordinated outreach campaign featuring

a column each week in the local newspaper on the environment, a safe snorkeling and diving brochure, beach path signs about coral reefs, and a "Teen Talk Live" TV show on local coral reef protection. Other coordinated outreach initiatives include an Adopt-a-Beach program; a variety of public and student contests including logo, essay, poetry, and recycling contests; and an Environmental Expo in 2005 consisting of talks, exhibits, hands-on conservation demonstrations, a game show, and kids activities to reach over 500 students and adults. To promote environmental stewardship and community pride in a fresh, creative, and engaging way, CNMI partners also hosted an EcoArts Festival in 2005, which included a battle of the bands, film festival, student poetry slam, drama presentations, cooking contest, recycled clothing fashion show, and an art and sculpture gallery. The private sector showed a dramatic response in support of the EcoArts Festival, with dozens of businesses providing a total of over \$30,000 in

monetary and in-kind assistance, resulting in a variety of new public—private conservation partnerships in CNMI.

The USFWS worked with online auction giant e-Bay to help improve the company's efforts to bar auctions of protected species using USFWS information and regulations. As a result of the dialogue with the USFWS, company officials reported success in using comprehensive species and product lists compiled by USFWS Law Enforcement to target and remove e-Bay listings for unlawfully advertised wildlife, including sea turtle shells and shell products.

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

Schools-based education to teach key science concepts and promote stewardship

American Samoa, with assistance from NOAA, increased the marine science teaching capacity of 25 local middle-school and upper-elementary school teachers through a six-day professional development workshop. The *Keys to Science Education* workshop resulted in the development and implementation of marine science lesson plans by the participants. Material support for the implementation of selected lesson plans was provided to teachers through the American Samoa Coral Reef Advisory Group's annual Teacher Challenge Awards.

The SEFCRI hosted two teacher training workshops for K-12 teachers in September and November 2006 in Palm Beach and Broward counties. Eighty-five teachers from Martin, Palm Beach, Broward, and Miami-Dade counties attended the workshops, along with six students. Ninety percent of the teachers who participated were either satisfied

or very satisfied with the content provided in the workshops. There was a 35 percent average increase in knowledge about coral reef resources in southeast Florida, as measured by participant pre-tests and post-tests. The numbers provided in the program evaluations indicate that a minimum of 10,378 students per year within the four-county SEFCRI region will be exposed to coral reef curriculum, activities, and resources that were provided during these two workshops. The purpose of these training programs is to equip teachers to be part of longer-term educational change in order to better prepare the next generation to conserve coral reef ecosystems. To address the high demand for this training, two additional workshops are planned for 2007.

Making creative use of technology to provide widespread access to education materials

NOAA, in partnership with the National Science Teachers Association (NSTA), developed a suite of education and professional development resources for teachers wanting to explore coral reef ecosystem science in their classrooms. The suite includes a half-day symposium, *Coral Ecosystems*, given at the 2006 annual NSTA convention; the *Coral Reef Ecosystem SciGuide*, a comprehensive online guide to coral reef teaching resources and pedagogy developed by several academic, NGO and agency organizations; two online web seminars; and a series of online professional development tools called *SciPack*, created by a team of professional educators and science experts. A total of 194 teachers from 40 states and two countries participated in the symposium and web seminars, and 98 percent reported a desire for more coral reef seminars and teaching resources. The *SciGuide* and *SciPack* will reach thousands of teachers and students each year. More information is available online at: <http://www.nsta.org/>.

The Bridge education website serves as a one-stop portal for juried, peer-reviewed, marine science education materials. It is a growing collection of the best marine education resources available on-line, providing educators with a convenient source of accurate information on global, national, and regional marine science topics, and giving researchers a contact point for educational outreach. The Bridge's coral reef resources include materials from NOAA, the USCRTF, the Census of Marine Life, the states of California and Florida, national and international universities, Reef Protection International, and many others. Several of these coral reef educational resources have been highlighted as "Teacher's Top Picks" by the Bridge's expert Teacher Reviewers of On-Line Learning, (TROLLs). The Bridge is supported by the National Oceanographic Partnership Program (NOPP), the National Marine Educators Association, and Sea Grant. More information is available online at: <http://www.vims.edu/bridge/>.

Objective 3: *Inform the public and policymakers about accomplishments and recommendations of the U.S. Coral Reef Task Force. (See Chapter 13 for more accomplishments and details related to this objective.)*

The Subcommittee on Integrated Management of Ocean Resources (SIMOR) requested a briefing by the USCRTF in fall 2005. SIMOR was established to coordinate the activities of executive departments and agencies regarding ocean-related matters and to facilitate coordination and consultation among federal, state, tribal, and local governments, among others. The USCRTF co-chairs shared examples, challenges, and accomplishments concerning how the USCRTF plays these roles for coral reef ecosystems and its members, federal agencies, states, and territories.

At its May 2006 meeting, the USCRTF

provided a Congressional Briefing, which included NOAA, the DOI (as Task Force co-chairs), and a representative from Hawai'i. The briefing highlighted the USCRTF in general and two specific initiatives: the interagency response to the 2005 Caribbean coral bleaching event and the Local Action Strategies.

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

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

Building the capacity of resource managers to effectively understand and change public behavior

NOAA, in partnership with the seven USCRTF state and territory partners, developed a three-year capacity-building initiative for federal, state, territory, and non-government outreach and education specialists based in these jurisdictions. In 2005, two regional capacity-building workshops kicked off the initiative, involving approximately 70 individuals from almost 50 agencies and organizations. Workshop participants were engaged in designing and planning the trainings and helping to build a network of outreach specialists before the trainings took place. Through a combination of training modules led by global experts, small group practice, and sharing lessons learned, the workshops focused on building participants' skills in strategic communication and outreach planning, program design, message pre-testing, and monitoring and evaluation necessary for designing effective education and communications programs to promote lasting environmental behavior change. To build on the foundation of these regional training workshops, NOAA developed a

semi-competitive small grants program. This program allows the states and territories to continue their capacity-building work through more in-depth and intensive follow-up training and implementation assistance specific to the needs of each jurisdiction. This initiative helps management agencies address human impacts to reef ecosystems by teaching them how to research and then strategically target the individual and societal motivations leading to damaging human behaviors.

Creating new partnerships for coral reef conservation

Through the Sea Partners Program, the USCG launched a public education and outreach initiative to reach an audience of over 270,000 people in 2006. Sea Partners, the USCG Marine Environmental Protection outreach and education program, operates from each of the 45 USCG Marine Safety Offices located in port communities around the Nation, including Puerto Rico and Guam. Sea Partners activities include helping communities develop an awareness of marine pollution issues, improving compliance with marine environmental protection laws and regulations, and providing ways for groups and individuals to take action to protect the marine environment.

The USCRTF, through the USFWS, U.S. Agency for International Development (USAID), and NOAA, has participated for many consecutive years in the Marine Aquarium Conference of North America (MACNA), the major national trade show and conference for the Marine Aquarium Society of North America (MASNA). MASNA is a not-for-profit organization composed of marine aquarium clubs and individual hobbyists from North America totaling several thousand individuals. Among its purposes, MASNA encourages the ethical growth of the marine aquarium hobby, supports captive breeding/

propagation, and supports efforts to eliminate abuses in collecting and transporting marine organisms. The marine aquarium trade targets a large diversity of coral reef species, some of which are collected using cyanide and other destructive practices or are being harvested at unsustainable levels. Over 75 percent of coral and 50 percent of marine fishes (volumes of 16-30 million fish worldwide per year) collected in over 45 countries worldwide are destined for U.S. markets. The MACNA conference affords the USCRTF an opportunity to provide information to aquarium industry officials, wholesalers, retailers, hobbyists, educators, and others about the state of coral reef ecosystems in the United States and abroad, as well as the USCRTF commitment to working with partners to create sustainable marine ornamental fisheries.

NOAA, in partnership with the Puerto Rico Tourism Company (PRTC), created educational materials for distribution throughout Puerto Rico. The materials were distributed in hotels, dive shops, tourist information centers, and other businesses sponsored and managed by the Tourism Company. These guides contained information on preventing damage to coral reefs during recreational activities. A 60-second public service announcement was also produced (as part of a partnership including the Puerto Rico National Parks Company). The announcement was shown in movie theaters across Puerto Rico and was aired on local cable stations to highlight the importance of the coral reef ecosystem—including coral reefs, seagrass beds, and mangroves—in creating and sustaining public beaches, and the importance of conserving these resources for future generations. This work has raised the awareness of the PRTC and the public about the importance of active participation in coral reef conservation initiatives to help protect this valuable tourism resource.