

U.S. CORAL REEF TASK FORCE



S U M M A R Y O F 2 0 0 1 A C C O M P L I S H M E N T S

Coral reefs are among the most diverse and biologically complex ecosystems on earth. The rich diversity of these rainforests of the sea provides economic and environmental services to millions of people as sources of food, jobs, recreation, tourism, and pharmaceuticals; as protection from coastal storms; and as areas of natural beauty. Threatened from multiple stresses, coral reefs are deteriorating at alarming rates. The destruction of coral reef ecosystems has significant environmental, social, economic, health and safety consequences worldwide.

According to the Global Coral Reef Monitoring Network (*Status of Coral Reefs of the World 2000*; www.coral.noaa.gov/gcrmn), approximately 27% of the world's reefs have been effectively lost due to a variety of impacts including over-fishing, destructive fishing practices, shoreline development, pollution from agriculture and other land-use practices, ship groundings and climate change. Without major action to reduce and eliminate that 60% of the world's



these impacts, experts estimate coral reefs could be lost by 2030.

This report highlights some of the 2001 accomplishments of the United States Coral Reef Task Force (CRTF). The CRTF was formed in 1998 by Executive Order 13089 to help strengthen United States government efforts to conserve coral reef ecosystems and sustain the important services reefs provide.

Co-chaired by the Secretary of the Interior and the Secretary of Commerce, the CRTF includes the heads of eleven federal agencies, the governors of seven states and territories, and leaders of the Freely Associated States (Palau, Marshall Islands, and the Federated States of Micronesia). In 2000, the CRTF adopted the National Action Plan to Conserve Coral Reefs (NAP),

the first national blueprint for U.S. domestic and international action to address the growing coral reef crisis.

Working with government and non-government partners, CRTF members made important advances in 2001 to implement portions of the National Action Plan and help conserve coral reef ecosystems in the U.S. and globally. The National Action Plan identified two fundamental action areas (Understand coral reef ecosystems; Reduce adverse human impacts) and 13 major goals to help conserve coral reefs. This report summarizes some of the 2001 accomplishments in each goal area. Fulfilling these goals will require long-term commitments, innovative partnerships, sound science and global action.



UNDERSTANDING CORAL REEF ECOSYSTEMS

MAP U.S. CORAL REEFS

The National Action Plan calls for mapping all U.S. coral reefs by 2009 to help managers and stakeholders make sound management decisions for conservation and use of coral reef ecosystems. Maps are critical to effective management, designing research activities, conducting damage assessments, tracking status and trends, and evaluating results of management efforts. Significant progress has been made using a combination of satellite, airborne, and ship-based technologies. The Task Force Mapping and Information Working Group has helped to implement and coordinate mapping efforts, improve products, and share resources.

ACCOMPLISHMENTS IN 2001:

— *Developed the first generation of global, low-resolution, ocean color maps using SeaWiFS satellite imagery highlighting*

shallow water habitats, including sand and water containing chlorophyll. <http://seawifs.gsfc.nasa.gov/reefs> (NASA)

- *Completed GIS maps of the shallow-water coral reef ecosystems of the U. S. Virgin Islands and developed draft maps for Puerto Rico.* http://biogeo.nos.noaa.gov/benthicmap_caribbean (NOAA)
- *Collected ship-based sidescan and multi-beam data to help identify and map deep reef areas for inclusion in the Tortugas Ecological Reserve.* (NOAA)
- *Collected ship-based sidescan and multi-beam data to create reserve base maps of the Flower Gardens National Marine Sanctuary, Gulf of Mexico.* (DOI, NOAA)
- *Collected high-resolution bathymetric data using airborne LIDAR from selected reef areas in Hawaii and Guam. Representative examples can be viewed at* <http://coralreefs.wr.usgs.gov/>. (DOI, DOD)

- *Collected aerial imagery in Hawaiian Islands to detect fresh-water plumes from ground-water discharge and to assess effects of November 2001 floods on sedimentation on reefs.* (DOI)
- *Initiated new mapping efforts in the main Hawaiian Islands to acquire various imagery types (Landsat and Ikonos satellite, Aviris hyperspectral, color aerial, etc.), compare approaches, and establish cooperative programs to develop draft coral reef maps.* (NOAA, USFWS, USGS, HI, University of Hawaii, University of California Santa Cruz)
- *Collected high-resolution acoustic and side scan data from Hawaiian Island reefs to map thickness of Holocene reef growth.* (DOI)
- *Collected satellite imagery needed to map coral reefs in the NWHI, the U.S. Flag Pacific Islands and Freely Associated States.* (NOAA)
- *Initiated efforts to revise and reprint NWHI nautical charts, providing the level of accuracy required for accurate bathymetric and coral mapping in this region.* (NOAA, UH, and UC Santa Cruz)
- *Collected ship-based sidescan, ROV, and multi-beam data to document Pulley Ridge corals communities for possible protection on the West Florida Shelf. Data are currently being processed into digital map products.* (DOI, National Geographic Society and academic partners)
- *Continued grant support to U.S. states/territories to build capacity for long-term monitoring, and develop a coordinated nationwide coral reef monitoring network.* (NOAA, DOI)
- *Maintained long-term sites for monitoring changes in Hawaiian coral health and growth.* (DOI and partners)
- *Added two new monitoring stations (USVI and NWHI) to NOAA's "early warning" coral reef monitoring program to provide real-time data on coral reef bleaching and other coral reef conditions.* (NOAA and partners)
- *Submitted final reports for 1996 and 1998 biennial inventories of significant marine species at U.S. Army Kwajalein, Republic of the Marshall Islands.* (USFWS)
- *Conducted annual coral reef monitoring at Farallon de Medinilla, CNMI and provided assistance to U.S. Navy to monitor impacts of military training activities.* (USFWS)
- *Established, resurveyed, and maintained ten permanent coral reef monitoring transects at Howland, Baker, Jarvis, Kingman and Palmyra National Wildlife Refuges in the U.S. Pacific Islands and 11 more in the NWHI.* (USFWS, NMFS)
- *Completed the first "Ecosystem Report Card" on the coral reef ecosystem of the Florida Keys National Marine Sanctuary.* (NOAA, EPA, DOI, Florida, academic and other partners)
- *Developed State of the Reef reports using monitoring information.* (Guam, CNMI)
- *Conducted fish and benthic habitat assessments and monitoring in the Florida Keys, the U.S. Virgin Islands, Puerto Rico and live bottom habitats in the Gulf and Atlantic.* (NOAA, EPA and partners)

ASSESS, MONITOR, and FORECAST CORAL REEF HEALTH

Monitoring and assessing coral reef condition is essential to sound management. Monitoring allows managers to assess reef conditions, diagnose reef problems, prioritize and implement solutions, evaluate the results of management decisions, and forecast future conditions. The National Action Plan calls for building an integrated, nationwide coral reef monitoring system to (1) profile and track the health of U.S. coral reefs, and (2) measure the effectiveness of management actions.

ACCOMPLISHMENTS IN 2001:

- *Developed standardized monitoring techniques for National Parks with coral reefs, including bilingual monitoring manuals, fish survey methods, video transect techniques and water quality assessment protocols.* (DOI)
- *Developed new technology for measuring the in-situ health of reef communities using large benthic habitat chamber.* (DOI)
- *Monitored and evaluated the recovery of west Atlantic reef species that are candidates for listing under the Endangered Species Act.* (NOAA and partners)
- *Drafted the first-biennial report on The Status of U.S. Coral Reef Ecosystems.* (NOAA and partners)
- *Installed submarine groundwater wells in Biscayne National Park to monitor nutrient-rich water seeping through coral reefs.* (DOI)
- *Established land and reef-mounted camera systems to monitor changes in sediment delivery to the Molokai HI coral reef.* (DOI)

CONDUCT STRATEGIC RESEARCH

Research is critical to understanding how coral reef ecosystems function, how human activities impact reef processes, and how managers and the public can reduce or eliminate these impacts. The National Action Plan calls for conducting strategic research to help identify the causes, consequences and solutions to reef declines.

ACCOMPLISHMENTS IN 2001:

- *Provided \$18 million for new research to better understand and sustainably manage coral reef ecosystems.* (NSF, NOAA)
- *Developed a successful, simple, low-cost method for coral reef restoration (Virgin Islands National Park) using naturally produced coral fragments.* (DOI, national NGO, and local community)
- *Initiated an inventory of coral reef-associated fishes in Buck Island Reef National Monument.* (DOI)
- *Initiated multi-disciplinary pilot study of atmospheric deposition of chemical and microbial contaminants to Caribbean and tropical north Atlantic coral reefs; documented effects of global atmospheric transport systems on coral reef health.* (DOI and partners)
- *Continued to support the Hawaii Coral Reef Initiative Research Program and the National Coral Reef Institute, programs that bring the scientific community together to focus on critical research issues.* (NOAA)
- *Developed and refined a model to track and predict the effects of biotic and physical changes in the main Hawaiian Islands and the Northwestern Hawaiian Islands.* (NOAA, DOI, Hawaii and partners)
- *Deployed instrument packages on Hawaiian reefs to continuously measure waves, currents, and suspended sediment to better understand reef development.* (DOI and partners)
- *Studied changes in coral tissues as biological indicators of stress to establish sedimentation and damage thresholds for beach nourishment project in South Florida.* (DOI, NOAA, Nova Southeastern University)
- *Examined the effects of predators and disease on coral survival and mortality in no take MPAs and reference areas in the Florida Keys.* (NOAA, DOI, FL, EPA, academic partners)
- *Deployed current tracking devices to assess how protected areas in the Northwestern Hawaiian Island (NWHI) coral*

reef ecosystem contribute to larval fish transport and recruitment throughout Hawaii. (Multiple partners)

- *Developed a pilot Coral Health and Disease Consortium (CHDC) to coordinate the investigation of (1) factors that influence the transmission of coral diseases and (2) the biotic and abiotic agents responsible for the diseases.* (NOAA, EPA, DOI, academic and private sector partners)
- *Characterized responses of corals and symbiotic algal cultures to climate change through exposure to altered UV, elevated temperatures, and elevated carbon dioxide.* (NOAA, DOI, EPA, academic and private sector partners)
- *Established a new coral reef research facility in the USVI.* (DOI)
- *Conducted the Islands in the Stream expedition, a three-month scientific mission to explore coral reef marine protected areas (MPAs) and MPA candidate sites in Belize, Mexico and the Southeastern United States. Using submersibles, SCUBA, remotely operated vehicles, and satellite tracked buoys, scientists from the U.S., Mexico, and Belize investigated connections among the region's coral reef and hard bottom habitats, particularly fish spawning grounds.* (NOAA and partners)

UNDERSTAND SOCIAL and ECONOMIC FACTORS

Understanding the value and human use of coral reefs is critical to reducing threats and sustaining healthy coral reef ecosystems. This is particularly important among many of the U.S. Islands, in which traditional uses of coral reef resources, including subsistence fishing, have been an integral part of local communities for generations. The National Action Plan calls for strategic research to better understand the social and economic factors necessary for effective conservation of coral reef ecosystems.

ACCOMPLISHMENTS IN 2001:

- *Produced the Socioeconomic Manual for Coral Reef Management with the Global Coral Reef Monitoring Network, and conducted socioeconomic training workshops for coral reef managers in East Africa and South Asia. The manual is designed to help users and managers evaluate the use and*

value of coral reefs for more effective management actions. <http://wcpa.iucn.org/biome/marine/socioecon.html>. (NOAA and partners)

- Conducted socioeconomic assessment surveys with community groups in USVI. (NOAA and partners)
- Began a survey of commercial trap fishing in coral reefs to provide managers with socioeconomic information to assist in management of reef fisheries in the U.S. Caribbean. (NOAA)

- Implemented a monitoring program on the value and use of artificial reefs in Florida. (NOAA and partners)
- Supported the Global Coral Reef Monitoring Network in its effort to provide critical information and data on the value and use of coral reef ecosystems. (DOS, NOAA)
- Conducted reef valuation studies in Florida, Guam, and Hawaii. (NOAA, others)



REDUCING ADVERSE IMPACTS OF HUMAN ACTIVITIES

MARINE PROTECTED AREAS

The National Action Plan identifies marine protected areas (MPAs) as important tools to help sustain healthy coral reef ecosystems. The Plan calls for building networks of coral reef MPAs by working with stakeholders to strengthening the effectiveness of existing MPAs, and establishing new MPAs where appropriate. The Plan also calls for protecting 20% of U.S. coral reefs in each region as ecological reserves by the year 2010.

ACCOMPLISHMENTS IN 2001:

- Implemented the Tortugas Ecological Reserve in the Florida Keys National Marine Sanctuary. This 151nm² fully protected zone conserves unique, deep-water reef resources and fish communities. With a companion 46 nm² fully protected Research Natural Area inside the Dry Tortugas National Park (DOI/NPS) that protects critical shallow water resources, these areas comprise the largest, permanent marine reserve in U.S. marine waters. (NOAA, DOI, Florida)
- Designated the Virgin Islands Coral Reef National Monument and expanded Buck Islands Reef National Monument. (DOI and partners)
- The Government of the Commonwealth of the Northern Mariana Islands established the Tinian Marine Sanctuary in CNMI; surveyed areas, including reefs of the Northern Islands, for potential designation as MPAs; and drafted regulations for management of Managaha Marine Conservation Area. (CNMI)
- Developed a marine park management plan for a proposed new East End Marine Park on St. Croix. If implemented, this would be the first marine protected area established by USVI. <http://rps.uvi.edu/VIMarinePark.html>. (USVI)
- Developed a portfolio of marine and terrestrial conservation areas representing the full array of ecological communities, plants and animals for possible additional protections. (Federated States of Micronesia and partners)
- Reviewed and updated the National Park Service's General Management Plans (GMPs) for parks with coral reefs. The Dry Tortugas National Park GMP was completed; Biscayne National Park GMP is underway; and funding was approved for VI and Buck Island GMPs. (DOI)
- Improved management of National Parks by instituting long-term inventory and monitoring programs for the National Parks with coral reefs; added coral reef coordinators for the

parcs; and obtained administrative jurisdiction over authorized park boundaries. (DOI)

- *Established Palmyra Atoll National Wildlife Refuge on 515,232 acres of coral reef and adjacent ocean habitat in the central Pacific. (DOI)*
- *Established Kingman Reef National Wildlife Refuge to protect 483,702 acres of coral reef and adjacent ocean habitat in the central Pacific. (DOI)*

REDUCE IMPACTS of FISHING

Fishing is one of the largest and most widespread threats to coral reef ecosystems worldwide. Most reef fisheries in U.S. waters are small-scale, involve multiple species, and are inadequately monitored, managed, and enforced. The National Action Plan calls for reducing the adverse impacts of fishing and increasing the sustainable management of coral reef fisheries through improved scientific information, coordination, enforcement and management approaches.

ACCOMPLISHMENTS IN 2001:

- *Initiated efforts to improve enforcement of existing and planned no-take fishery reserves in federal waters off the Northwestern Hawaiian Islands (NWHI) and Tortugas region of the Florida Keys. (NOAA and partners)*
- *Continued assessments of essential fish habitat in coral reef areas, identified effects of fishing on these areas, and implemented actions to reduce these effects. (NOAA)*
- *Enhanced coordination with the U.S. territories in the Caribbean and western Pacific on coral reef fishery issues; supported efforts of the Regional Fishery Management Councils to incorporate ecosystem-scale considerations into Fishery Management Plans for coral reef areas. (NOAA, DOI)*
- *Maintained and enforced seven National Wildlife Refuges (NWR) (Howland, Baker, Jarvis, Kingman, Rose, Hawaiian Islands and Guam) as no take areas, three NWRs as catch-and-release (Johnston, Midway and Palmyra) areas, and one NWR (Navassa) as an area for only limited artesian fishing. (DOI)*
- *Established three new laws to reduce overfishing, habitat destruction and other impacts on reef systems. (CNMI)*

- *Established precedent-setting criminal convictions for illegal importation of protected corals and Caribbean spiny lobsters. (DOJ)*

REDUCE IMPACTS of COASTAL USES

States, territories and some federal agencies have responsibilities for managing resources and human activities within the nation's coastal zones. Human activities are generally concentrated in coastal areas, and the impacts on reefs in many areas have been severe. The National Action Plan calls for reducing the impacts on coral reefs of land and water-based human activities such as land-use, coastal development, dredging, tourism, recreation, and shipping.

ACCOMPLISHMENTS IN 2001:

- *Reduced the impacts of dredging and beach nourishment projects on coral reefs through the relocation of dredge materials, creation of artificial reefs, implementation of monitoring programs, and establishment of contingency plans for beach nourishment projects. (DOI, NOAA and the Florida Department of Environmental Protection)*
- *Developed a prototype recreational nautical chart symbol to depict areas of sensitive coral reef habitat. This denotation will raise recreational boaters' awareness of the habitat and help prevent damage to coral reefs. (NOAA)*
- *Initiated examination of impacts to coral reefs from previous significant federal projects that were reviewed through Fish and Wildlife Coordination in the development of a report to document types of mitigation, loss of reef resources, and effectiveness of mitigation. (USFWS)*
- *Installed permanent moorings for recreational boats used by military and civilian personnel on Johnston Atoll. (DOD/Air Force, DOI)*
- *Worked with local communities to determine the impacts of local water sport activities on the Saipan Lagoon coral reef ecosystem. (CNMI)*
- *Continued clean-up of chemical contaminants from coral reef ecosystems at Laysan Island and French Frigate Shoals, Johnston and Palmyra National Wildlife Refuges in the U.S. Pacific. (DOI)*

REDUCE POLLUTION

Pollution is the primary driver of reef degradation and loss in many areas. Pollutants enter reef ecosystems from land, sea and air. In many areas, land-based activities such as agriculture, logging, coastal development, road construction, and on-site waste water management systems release sediment, nutrients and other contaminants that are carried to the reefs via rivers and runoff. Other sources include specific point sources such as sewage pipes and vessel discharges, fisheries and other industries and produce marine debris, automobiles and power plants that produce airborne emissions, and the introduction of biological “pollutants” or invasive species. Conserving the nation’s coral reef ecosystems requires reductions in the amounts and cumulative impacts of pollution from a variety of sources. The National Action Plan calls for major actions to reduce the quantity and impacts of sediment, nutrient, debris, biological and all other pollutants on coral reef ecosystems.

ACCOMPLISHMENTS IN 2001:

- *Prevented approximately 398,000 tons of soil from being eroded from agricultural land and damaging Caribbean coral reefs by providing over 6,400 customers with conservation education assistance in developing sound conservation plans.* (USDA and partners)
- *Provided technical assistance in jurisdictions with coral reef resources to help reduce sediment and nutrient runoff from over 100,000 acres of land.* (USDA)
- *Produced two management plans focused on the reduction of pollution: “American Samoa Wetland/Stream Restoration and Enhancement Plan” and the “Guidance Manual for Runoff: Preventing Erosion, Sedimentation and Pollution of Receiving Waters in American Samoa.”* (AS)
- *Increased cleanup of marine debris in the main and Northwestern Hawaiian Islands (NWHI). Removed 30 tons of marine debris from NWHI coral reefs in three months. A marine debris cruise throughout the main Hawaiian Islands removed 22 tons of fishing gear from shallow reef and inter-tidal areas.* (NOAA, HI, DOI, USCG, USN, and other partners)
- *Initiated a damage prevention program to reduce future accumulation of marine debris in the Hawaiian archipelago. The program seeks to identify the source of derelict fishing gear; track the gear using satellite remote sensing, surface*

drifters and oceanographic models; and intercept its movement before it impacts coral reef habitats. (NOAA)

- *Identified hotspots for marine debris, its assessment and removal.* (Hawaii)
- *Designing a comprehensive database of abandoned vessels affecting NOAA and DOI trust resources and identifying potential sources of funding to assist with removal.* (NOAA, DOI)
- *Developed Environmental Sensitivity Index (ESI) Atlases for Puerto Rico, USVI, British Virgin Islands, the main and Northwestern Hawaiian Islands for use in planning and in emergency response to hazardous material spills.* (Hawaii, University of Hawaii, NOAA, DOI, USCG and partners)
- *Published the document “Nutrient Criteria Technical Guidance Manual for Estuarine and Coastal Marine Waters” to help states, Tribes and territories establish scientifically defensible nutrient criteria for their coastal and estuarine waters.* (EPA)
- *Supported a marine survey of alien species at Johnston Atoll National Wildlife Refuge (NWR) and French Frigate Shoals Hawaiian Islands NWR, and developed “Marine Alien Species Workshop and Guidebook” to be published by the Bishop Museum and University of Hawaii.* (DOI and partners)
- *Minimized potential damage to corals by identifying suitable shallow-water relocation site and environmental documentation during the recovery and relocation of the R/V Ehime Maru off of Hawaii.* (DOD, USFWS)

RESTORE DAMAGED REEFS

During 2001, Task Force agencies supported a number of efforts to help restore damaged coral reefs. Restoring damaged coral reefs is a costly, difficult, and long-term activity. The National Action Plan calls for increasing the capability of federal and non-federal managers to efficiently and effectively restore injured or degraded coral reefs where appropriate.

ACCOMPLISHMENTS IN 2001:

- *Monitored and evaluated three large-scale coral transplantation projects in Hawaii. Initial results indicate that transplantation of some corals may be appropriate in some environments where storm waves were absent.* (NOAA, DOI)

- Continued experiments off Florida to restore deep-water *Oculina* coral reef habitat severely damaged by fishing gear. Installed artificial structures with live coral fragments attached to try and speed recovery efforts for this important fish habitat. (NOAA, DOI)
- Began a two-year project to develop an aquaculture facility at the Tampa Aquarium to grow coral colonies for possible use in reef restoration. (NOAA and partners)
- Developed low-impact boat mooring programs to protect sensitive reef environments in Puerto Rico and the U.S. Virgin Islands from anchor damage. (DOI, PR, USVI)
- A Legacy project in the Los Machos and Red Mangrove Forests restored over 1000 acres of mangroves to support the recovery and protection of nearby coral reefs. Mangroves benefit coral reefs by filtering pollutants in runoff, increasing coastal habitat, and, depending on proximity, protecting coral reefs from hurricane damage. (DOD, DOI)
- Developed a pilot coral restoration project in Puerto Rico. (DOI, PR)
- Continued the Restoration and Assessment of Coral Reef Ecosystems (RACE) program to recover compensation for injuries to coral reef resources of the Florida Keys National Marine Sanctuary caused by vessel groundings. (NOAA, FL, DOJ), private partners)
- Continued restoration of mangrove habitats in Puerto Rico's Culebra and Cabo Rojo National Wildlife Refuges, and assisting in restoration efforts within reserves or coastal forests of Puerto Rico. (DOI, PR)

IMPROVE OUTREACH and EDUCATION

The National Action Plan calls for increasing public understanding of the value of coral reefs, the threats to their survival, and how to help sustain coral reef ecosystems. Activities that inform and engage reef users, local communities and the general public in conservation efforts are essential for effective management and long-term protection of coral reefs. Non-governmental organizations play a key role in this area (see box).

ACCOMPLISHMENTS IN 2001:

- Provided over 6,400 customers with conservation education assistance in developing sound conservation plans, preventing approximately 398,000 tons of soil from being eroded from agricultural land and damaging Caribbean coral reefs. (USDA and partners)
- Coordinated a multi-island community event to observe and celebrate coral spawning, and produced an information brochure on spawning events in Hawaii. (Hawaii)
- Distributed 30,000 coral reef teacher guides throughout the U.S., Mexico, and Belize, and hosted virtual teacher workshops on coral reefs for 1000 teachers, including a session in Spanish. (Multiple partners)
- Provided over 120 books on coral reefs to the public library system in American Samoa. (AS)
- Established a new grants program with the National Fish and Wildlife Foundation (NFWF) to provide matching grants to support public-private partnerships for coral reef education and outreach. (NOAA)



NGOs!

KEY ROLE IN CORAL REEF CONSERVATION

The United States Coral Reef Task Force recognizes the key role of non-governmental organizations (NGOs) in communicating the value and importance of conserving coral reef ecosystems. Education is an essential part of effective coral reef conservation, and non-governmental organizations play a critical role in outreach and education efforts. Through individual efforts and partnerships with government entities, a variety of groups including environmental and industry organizations, zoos, aquariums, and universities help provide information and opportunities for public involvement in coral reef conservation. The following are a few of the many examples of coral reef education and outreach efforts by non-governmental partners:

- Developed “Protect the Living Reef,” a new training program teaching low-impact diving or snorkeling techniques. The videos and teachers guides were incorporated into a new Coral Reef Conservation Specialty Course certified by the Professional Association of Dive Instructors (PADI) and the Reef Condition (RECON) Monitoring Program.
- Developed and conducted volunteer diver programs to monitor reefs and fish to help generate long-term data sets and involve the public in reef conservation. Included a rapid-assessment protocol for recreational divers and students to survey the condition of stony corals, the presence of key indicator organisms, and conspicuous human-induced damage to reef systems in the wider Caribbean. Trained instructors and divers in the Florida Keys, U.S. Virgin Islands, and Puerto Rico.
- Developed media campaigns and displays targeted to visitors and residents to explain how to protect coral reefs locally and globally.
- Developed educational materials for teachers and educational programs for students, including field trips to the reefs.
- Developed educational videos, guides, and newsletters for reef users including divers and dive operators.
- Conducted workshops and training on sustainable dive tourism for tour operators.
- Organized conferences to bring together scientific researchers, educators, resource managers, and policy planners to analyze and address research and conservation issues.
- Developed certification programs for use in the marine aquarium industry.
- Developed a resource library of coral reef awareness materials and a photo bank of downloadable reef images.
- Creating a web-based coral reef community, which includes an event calendar and a contact database.
- Led community-based initiatives such as Dive In To Earth Day and International Beach Clean-up Day.

For more information, please see the International Coral Reef Information Network website: www.coralreef.org/.

REDUCE THREATS to INTERNATIONAL CORAL REEFS

The National Action Plan calls for U.S. action to reduce threats to coral reef ecosystems internationally, and promote sustainable management of reef resources world-wide. The U.S. has strong interests in helping to protect coral reef ecosystems internationally. Many U.S. reefs depend on international reefs for reproductions, recruitment and survival. Healthy coral reefs are also critical to U.S. efforts to promote economic and food security, social stability, good governance, improved human health, disaster and climate change mitigation, and biodiversity conservation in other countries. These valuable ecosystems constitute the economic and biological foundation for sustainable development in many countries, particularly small island nations. Conserving coral reefs is a challenge of global dimensions.

ACCOMPLISHMENTS IN 2001:

- *Supported projects in over 25 countries and regional activities in 6 regions (Caribbean, Central America, South East Asia, South Pacific, East Africa and Middle East) that increased international capacity for sustainable management and conservation of coral reefs and associated watersheds.* (USAID)
- *Strengthened site-based management, including education and enforcement, in 15 parks of national and international importance.* (USAID)
- *Developing integrated coastal management and participatory governance to help protect coral reef ecosystems in Tanzania, Indonesia, the Philippines, Mexico and Jamaica.* (USAID)
- *Supporting implementation of the Global Program of Action (GPA) to address marine degradation from land-based activities in countries with coral reefs.* (USAID, DOS, NOAA, EPA)
- *Supported the Global Coral Reef Monitoring Network and its efforts to expand international cooperation and coordination of global monitoring networks, for example, in Caribbean and the Freely Associated States of Micronesia.* (DOS, NOAA)
- *Provided financial and technical support for the successful 9th International Coral Reef Symposium.* (NOAA, USAID, DOI, EPA)
- *Obtained International Maritime Organization (IMO) approval of the U.S. initiative to create new international law providing for the establishment of “no anchoring areas”*

to protect coral reefs and other fragile areas of the marine environment. (USCG, NOAA, DOS)

- *Obtained IMO approval to establish the first six mandatory no anchoring areas to protect the coral reefs of Flower Garden Banks National Marine Sanctuary (NMS) and the Florida Keys NMS.* (NOAA, USCG, DOS)
- *Led successful initiative by the Asia Pacific Economic Cooperation forum to adopt and begin implementing the Destructive Fishing Resolution.* (DOS, NOAA, USAID)
- *Helped support establishment of networks of fisheries and MPA experts in Southeast Asia and the Caribbean to protect biodiversity and fisheries.* (USAID)
- *Completed agreement among federal agencies to coordinate with U.S. Embassies on U.S. supporting international development projects or military assistance projects that may affect international coral reefs. U.S. Embassies are encouraged to seek technical assistance from the U.S. Coral Reef Task Force for future projects.* (DOS, federal agencies)
- *Developed guidelines with international partners for designation of coral reefs, seagrasses, and mangrove habitats as Wetlands of International Importance.* (DOI)

REDUCE IMPACTS from INTERNATIONAL TRADE

As the world's largest importer of ornamental coral reef animals, the United States has responsibilities and opportunities to eliminate destructive collection practices and ensure sustainable use and conservation of valuable coral reef resources. Many of the coral reef animals and products imported into the U.S. may be captured using methods that destroy reefs and may be overexploited. Eliminating destructive collection practices and overfishing can help local communities and the marine aquarium industry sustain jobs and income, and help ensure that U.S. consumers have access to quality products that do not destroy wild reefs. The National Action Plan calls for reducing the adverse impacts of collection and trade in coral reef organisms, promoting responsible trade practices, and conserving coral reef ecosystems internationally.

ACCOMPLISHMENTS IN 2001:

- Supported international programs to address destructive fishing practices and improve management of coral reef ecosystems. (USAID, NOAA)
- Provided financial and technical support to the Pacific Regional Workshop Sustainable Management of the Marine Ornamental Trade in Fiji, February 2001. (USAID, DOS, NOAA)
- Sponsored and organized the International Coral Trade Workshop: Development of Sustainable Management Guidelines in Jakarta, Indonesia, April 2001. A series of recommendations for best harvest practices, sustainable management approaches and monitoring techniques were developed. (DOS, NOAA)
- Enhanced interagency efforts to collect and analyze accurate U.S. trade data for coral species and live marine aquarium fishes. Completed an analysis of CITES data on trade in reef organisms in 1999. (NOAA)
- Continued implementation of a comprehensive trade strategy to reduce adverse impacts of trade by building human and institutional capacity in developing countries. (USAID, NOAA, DOI)
- Recommended to Congress that new measures be adopted to ensure that U.S. consumer demand does not contribute to the degradation of coral reefs. (USCRTF)
- Assisted in international effort to improve reporting requirements for corals in trade, and allow differentiation of corals harvested from the wild from those produced through mariculture on farms. (NOAA, USFWS)
- Provided continual review of permit applications to export CITES listed corals from the United States. Such review determines if the specimens were obtained legally and without detriment to wild populations, as per the requirements of the CITES treaty. (DOI)
- Worked with non-governmental groups to develop international certification programs to promote sustainable collection, transport and use of coral reef species in the aquarium industry. (NOAA, DOI, USAID and partners)

Cleaning Up Marine Debris from Reefs

IN THE NORTHWESTERN HAWAIIAN ISLANDS

One of the most serious human impacts to coral reefs in the Northwestern Hawaiian Islands is marine debris, mostly derelict fishing nets and gear from distant water fisheries in the North Pacific. Marine debris abrades coral reefs and entangles marine wildlife such as the critically endangered Hawaiian monk seal. In 2001, NOAA led a major interagency partnership to clean up existing concentrations of marine debris in the Northwestern Hawaiian Islands by 2004. NOAA is collaborating with the State of Hawaii, U.S. Fish and Wildlife Service, U.S. Coast Guard, University of Hawaii Sea Grant, and other agencies and NGO partners. Three charter vessels and the NOAA R/V *Townsend Cromwell* collected nearly 70 tons of debris, primarily at Pearl and Hermes and Kure Atolls – more than had been collected in all previous years combined. Reefs at Kure Atoll were essentially cleared of all major debris.

All-Islands

CORAL REEF INITIATIVE

The U.S. All-Islands Coral Reef Initiative (USAICRI) is a cooperative effort between the U.S. Flag Islands of American Samoa, Guam, Hawaii, the Commonwealth of Northern Mariana Islands (CNMI), Puerto Rico and the U.S. Virgin Islands to protect and sustainably use coral reef ecosystems. Since 1994, the USAICRI has worked to identify coral reef management needs and priorities in the U.S. Islands and build local, regional, and federal partnerships to support local coral reef management programs. In 1998, the six governors of the USAICRI became members of the United States Coral Reef Task Force. In 2001, members of the USAICRI implemented a number of new efforts to increase and improve management of coral reef ecosystems. Some of these efforts are highlighted below. For more information see http://www.hawaii.edu/ssri/IS_CRI.html/.

- USAICRI members received and implemented \$1.5 million in coral reef grants from NOAA and DOI for new projects addressing priority coral reef conservation issues.
- Hawaii funded over \$100K in community-based education, management and monitoring activities to help protect coral reefs.
- Guam and Hawaii conducted economic valuations of their coral reefs.
- Guam completed the first phase of remaking and upgrading its coastal atlas.
- American Samoa produced two reports: “American Samoa Wetland/Stream Restoration and Enhancement Plan” and the “Guidance Manual for Runoff: Preventing Erosion, Sedimentation and Pollution of Receiving Waters in American Samoa.”
- American Samoa hired a Coral Reef Initiative coordinator to increase effectiveness.
- The Governor of American Samoa banned spearfishing with underwater-breathing apparatus to halt severe over-fishing of parrotfishes and other species by commercial fishers.
- Three coastal villages on the main island of Tutuila in American Samoa established three protected areas where fishing is prohibited on areas of the coral reef adjacent to the villages.
- The CNMI integrated bleaching and disease tracking into marine monitoring surveys.
- The U.S. Virgin Islands produced a CD of the benthic habitats of the USVI.
- Conducted baseline characterization of coral reef and seagrass communities in Puerto Rico.
- Puerto Rico conducted an assessment on human uses and impacts on Puerto Rico coral reefs.
- Puerto Rico planned the designation strategy for a natural reserve in the Rincon’s coral reefs, one of the best remaining areas of elkhorn coral reefs.
- Puerto Rico drafted a management plan for the Desecheo Marine Reserve, designated in 2000.
- Puerto Rico installed mooring buoys throughout the island to reduce damage from recreational and commercial vessels.

The challenge of conserving the U.S. and international coral reefs requires both concerted efforts and sustained collaboration by many partners concerned with the fate of coral reefs. The United States Coral Reef Task Force would like to thank the many public and private entities, including, scientists, coastal resource managers, non-governmental organizations, and volunteers, who participated in the efforts to help preserve coral reef ecosystems world-wide.

For more information on the Task Force, accomplishments, and future needs, please see: <http://coralreef.gov/>.

MEMBERS OF THE U.S. CORAL REEF TASK FORCE

DOI

Department of the Interior

DOC / NOAA

Department of Commerce
National Oceanic and Atmospheric Administration

EPA

Environmental Protection Agency

USDA

Department of Agriculture

DOJ

Department of Justice

DOT

Department of Transportation

NSF

National Science Foundation

NASA

National Aeronautics and Space Administration

DOS

Department of State

DOD

Department of Defense

USAID

Agency for International Development

HI

State of Hawaii

FL

State of Florida

GU

Territory of Guam

PR

Commonwealth of Puerto Rico

USVI

Territory of the U.S. Virgin Islands

CNMI

Commonwealth of the Northern Mariana Islands

AS

Territory of American Samoa

Freely Associated States

Republic of Palau

Republic of the Marshall Islands

Federated States of Micronesia