International Year *of the* Reef 2008

The Year in Review

Compiled by F. Staub and L. Chhay

ICRI
International Coral Reef Initiative

環境省
Ministry of the Environment

PROJECT AWARE

CRISP
Coral Reef Initiatives for the Pacific
Initiatives Coralliennes pour le Pacifique

IYOR MISSION

To raise awareness of, and action regarding, the value of coral reefs and associated ecosystems, threats to their health, and management solutions; and to facilitate public involvement in coral reef conservation-related activities in all countries.

This report was funded by the U.S. National Oceanic and Atmospheric Administration (NOAA, http://www.noaa.gov), Project AWARE Foundation (http://www.projectaware.org), the Government of Japan (http://www.env.go.jp/en), the Coral Reef Initiatives for the Pacific (http://www.crisponline.net), and the U.S. Department of State (http://www.state.gov) and compiled by Francis Staub (AJH Environmental Services, http://www.environmentservices.com) and Lauren Chhay (NOAA Coral Reef Conservation Program, http://coralreef.noaa.gov).

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Note: The [CD] means that the "resource" is available on the CD

Foreword

From landlocked urban centers to coastal villages, from scientists and business professionals to artists and traditional fishers, the 2008 International Year of the Reef (IYOR) provided a tremendous opportunity to celebrate the wonders and values of coral reefs, bring attention to their peril, and inspire action to support their protection.

During the first IYOR in 1997, coral reefs around the world experienced massive bleaching due to elevated sea surface temperatures associated with the El Nino of 1997–1998. In the years since, coral reefs have continued to suffer from similar bleaching events. Over the last decade we also have gained new understanding of another terrible threat from climate change: ocean acidification. The growing threat of climate change should compel us to tackle greenhouse gas emissions and redouble our efforts to address more tractable threats, such as land-based sources of pollution and unsustainable fishing. While the situation is daunting, much encouraging news exists.

The last decade has witnessed inspiring actions to conserve the most diverse and pristine coral reefs on the planet, including declarations of the Micronesia and Caribbean Challenges and the Coral Triangle Initiative, and designations of the world's largest marine protected areas, including the Phoenix Islands of Kiribati, the Papahānaumokuākea Marine National Monument in the Northwestern Hawaiian Islands, and most recently, the Pacific Remote Islands, Rose Atoll, and Mariana Trench Marine National Monuments. Together, these initiatives are helping to protect thousands of square miles of coral reefs, mangroves and seagrasses and immeasurable numbers of associated coral reef species.

We have also begun to develop and share new tools to address the threats to coral reefs, such as improved forecasting of bleaching events, stronger education and outreach programs, and increased attention to enhancing the welfare of coastal communities and promoting their participation in coastal and coral reef management. Other particularly promising endeavors, inspired by IYOR 2008, include efforts to educate a new generation of leaders so they can meet the rising challenges of coral reef conservation.

The IYOR campaign of 2008 has come to a close but the mission is not over – it is a new beginning to reinforce commitments and build new partnerships, inspire the next generation of conservation leaders, and empower local communities in support of coral conservation and sustainable development around the globe.

—Kacky Andrews
Program Manager
Coral Reef Conservation Program
National Oceanic and Atmospheric Administration, USA

A Note from the Coordinator

△ *IYOR 2008 Poster (Patricia Hord Graphik Design).*

Nations, organizations, and individuals around the world have joined the International Year of the Reef 2008 (IYOR 2008)—from international to national, from university to village children, and every level in between—to raise awareness about the value and importance of coral reefs and threats to their sustainability and to motivate people to take action to protect them. A tremendous amount of material (in several languages) was produced during the year, including educational DVDs, posters, children's books, and much more. More than 630 events were organized in over 65 countries, territories, and economies around the world.

I would like to thank you for your support and your commitment to the marine environment. Special thanks to the National Oceanic and Atmospheric Administration (NOAA) for their financial support. Without NOAA, IYOR 2008 would not have been possible. Special thanks to the U.S. Department of State, which made possible the organization of side events at major international venues and provided feedback and guidance throughout the year.

Bringing the Light, 2008 (38" x 28", oil on canvas), Troy Hotard

This report is a compilation of accomplishments, highlighting only a few examples of activities that took place throughout the year. It was not easy to choose among the many actions, projects, activities and programs. We should be proud of our work; IYOR 2008 was the catalyst for the development of some critical actions that we expect will have significant positive impacts on coral reef conservation in the near future.

Even though 2008 has come to an end, the spirit of IYOR 2008 lives on. There are many upcoming events we will continue to support to help build awareness of coral reefs and the threats they face.

Thank you again for your support and your commitment.

—Francis Staub,
IYOR 2008 Coordinator

> ***We ourselves feel that what we are doing is just a drop in the ocean. But the ocean would be less because of that missing drop.***
>
> **—Mother Theresa**

Background

△ *Coral reefs support some of the highest biodiversity per unit area of any ecosystem on earth.*

The international year of the reef was an international campaign designed to effectively communicate to disparate target audiences the value and importance of the world's coral reefs and the threats to the reefs' sustainability and to motivate these audiences to take action to protect coral reefs. The first IYOR was declared and implemented in 1997 in response to the increasing threats and loss of coral reefs and associated ecosystems. It was a global effort to raise awareness and understanding of coral reefs and the threats they face and to support related conservation, research, and management efforts. Despite its success in raising global awareness of coral reefs and associated ecosystems, ten years later, there remained an urgent need to increase awareness and to take action to further conserve and manage coral reefs and associated ecosystems and appreciate their value to humanity. With this in mind, the International Coral Reef Initiative (ICRI) and its members designated 2008 as the International Year of the Reef 2008 (IYOR 2008) during its General Meeting in October 2006.

The International Coral Reef Initiative (ICRI)

The International Coral Reef Initiative (ICRI) is a unique public-private partnership that brings together governments, international organizations, scientific entities, and non-governmental organizations (NGOs) committed to reversing the global degradation of coral reefs and related ecosystems, such as mangrove forests and seagrass meadows, by promoting the conservation and sustainable use of these resources for future generations. Since its establishment in 1995, ICRI has been a driving force behind scientific, governmental, and civil society efforts to protect coral reefs and related ecosystems. The ICRI approach is to provide a platform for information sharing as well as to mobilize governments and a wide range of other stakeholders in an effort to improve management practices, increase capacity and political support, and share information on the health of these fragile ecosystems. During IYOR 2008, the ICRI secretariat was co-chaired by the governments of the United States and Mexico. Find out more by visiting *http://www.icriforum.org*.

IYOR 2008 was a year-long campaign of events and initiatives hosted by governments, individuals, non-governmental organizations (NGOs), corporations, and schools around the world to promote conservation action and strengthen long-term constituencies for coral reef conservation. Anyone was welcome and actively encouraged to participate in this campaign.

IYOR 2008 GOALS

- Strengthen awareness about ecological, economic, social, and cultural value of coral reefs and associated ecosystems
- Improve understanding of the critical threats to reefs and generate both practical and innovative solutions to reduce these threats

- Generate urgent action to develop and implement effective management strategies for conservation and sustainable use of these ecosystems

IYOR 2008 LOGO

The IYOR 2008 logo was the result of a worldwide contest organized by the ICRI. Twenty-seven proposals from around the world were received for consideration. The final vote for the logo was made during the ICRI General Meeting held in Japan in April 2007. The designer of the winning logo was Mr. Masami Nakamine, the Art Director and Designer at Project Core Inc., a design company founded by Mr. Bokunen Naka, a famous woodblock print artist. The logo was translated into more than ten languages and a few countries made their own logos.

IYOR 2008 logo, designed by Mr. Masami Nakamine.

LAUNCH OF IYOR 2008

The International Year of the Reef 2008 was officially launched on the evening of January 24, 2008, in Washington D.C., at a celebration event hosted and sponsored by The World Bank. Guests gathered from all over the world to attend the event, including representatives from governments, organizations, embassies, the private sector, and the conservation and scientific communities. Remarks were given by Claudia McMurray, U.S. Department of State, Assistant Secretary for Oceans, Environment and Science; Noah Idechong, Vice Speaker of the Palau House of Delegates; Vice Admiral Conrad Lautenbacher, Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator; and Drew Richardson, President and Chief Operating Officer of the Professional Association of Diving Instructors (PADI); among others, demonstrated the importance of the IYOR 2008 campaign.

The launch was preceded by a press conference that highlighted planned international activities for the year. A report on the 2005 coral bleaching event in the Caribbean that affect-

IYOR National Launches

December 9, 2007 » Japan national launch
December 14, 2007 » The county of Maui (HI) proclaims 2008 as the Year of the Reef [ ]
January 9, 2008 » Barbados national launch
January 18, 2008 » Commonwealth of Northern Mariana Islands proclaims 2008 as the Year of the Reef [ ]
January 25, 2008 » Hawai`i proclaims 2008 as the Year of the Reef
January 25, 2008 » Germany national launch
February 1, 2008 » Guam proclaims 2008 as the Year of the Reef [ ]
February 4, 2008 » France national launch
February 7, 2008 » The Bahamas proclaims 2008 as the Year of the Reef [ ]
February 8, 2008 » Turks and Caicos Islands national launch
February 20–24, 2008 » Malaysia national launch
February 25–29, 2008 » Regional launch of the Pacific Year of the Reef
March 3, 2008 » Fiji national launch [ ]
March 16, 2008 » Belize national launch
March 28, 2008 » Indonesia national launch
April 9, 2008 » Brazil national launch
April 9, 2008 » Solomon Islands national launch
April 17, 2008 » American Samoa launch
April 22, 2008 » Palau proclaims 2008 as the Year of the Reef [ ]
June 24, 2008 » IYOR 2008 Declaration in Florida, USA [ ]
August 9, 2008 » Singapore national launch

ed more than 80 percent of the reefs in the region was also released [ ]. Minister Estrosi, Secretary of State in charge of French Overseas Territories, and Claudia McMurray addressed the press conference. The press conference provided a brief glimpse into the phenomenal effort that the coral reef community and general public were putting into making the year a success. On the 25th of January, a mini-symposium was held at the Mexican Cultural Centre in Washington, D.C., to showcase in more detail selected activities planned for IYOR 2008 around the world. Opening remarks were given by His Excellency Arturo Sarukhan, Ambassador of Mexico to the United States of America, an avid diver and lover of the ocean.

Global Initiatives

Participants of the "Marine Biodiversity and the International Year of the Reef" event at the Ninth meeting of the Conference of the Parties to the Convention on Biological Diversity (May 2008).

THE ICRI SECRETARIAT

The ICRI secretariat capitalized upon IYOR 2008 to promote coral reef and associated ecosystems at major international events and international conventions throughout the year. The following side events were organized by the ICRI secretariat:

- "Marine Biodiversity and the International Year of the Reef" event at the Ninth meeting of the Conference of the Parties (COP 9) to the Convention on Biological Diversity (May 2008)
- A "coral reef" event at the International Union for Conservation of Nature (IUCN) World Conservation Congress Marine Pavilion (October 2008)
- An "ICRI International Year of the Reef" event at the 10th Conference of Parties to the Ramsar Convention on Wetlands (November 2008)

IYOR 2008 was recognized during the G8 Environment Ministers Meeting 2008 that was held in Kobe, Japan at the end of May, 2008. At the meeting, the ministers adopted the "Kobe Call for Action for Biodiversity" [] to call upon countries to work together to promote actions to protect biological diversity. The Call for Action specifically welcomed "...the International Year of the Reef: 2008 in this context as a means to raise awareness of the vital environmental and economic importance of coral reef ecosystems to people worldwide and to promote improved coral reef conservation..."

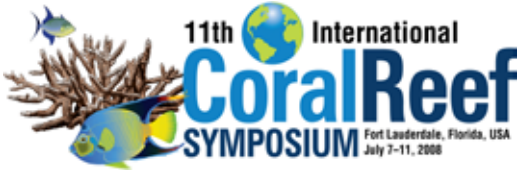
The ICRI secretariat also initiated several partnerships with ongoing initiatives in order to maximize efforts. As part of its partnership with the IYOR 2008 campaign, the World Water Monitoring Day (WWMD) program encouraged citizens around the globe to monitor their oceans in celebration of IYOR 2008. Thus, WWMD donated nearly 100 water test kits to low- and middle-income countries that contain coral reefs, and did the same in 2009.

Several countries (e.g., Palau, Jamaica, and Costa Rica) chose to celebrate IYOR 2008 in conjunction with World Ocean Day (June 8), as the theme for 2008 was "helping our climate / helping our ocean," with a special focus on coral reefs.

11TH INTERNATIONAL CORAL REEF SYMPOSIUM: CALL TO ACTION

The following is excerpted from the Call to Action:

At the 11th International Coral Reef Symposium (ICRS) held in July 2008, ...over 3,000 experts from 75 countries assembled to face some hard truths: coral reefs are teetering on the edge of survival and it is our fault. High levels of carbon dioxide in the atmosphere have produced a lethal combination of hotter and less alkaline seawater. Pervasive overfishing, pollution, coastal development, and physical damage further undermine reef health, and consequently, that of the



people and ecosystems depending upon them....

Coral reefs feed, protect, and provide livelihoods for hundreds of millions of people around the world. They create homes for billions of fish and other animals, buffer coastlines from the ravages of storms, and provide rich economic opportunities through tourism and fishing. Their value to society has been estimated at more than $29 billion (U.S. Dollars) per year. Reefs are the dynamic centers of the most concentrated biodiversity on Earth. Losing coral reefs would rob the world of one of nature's most precious gifts.

Despite these challenges, it is not too late to save coral reefs. The 11th ICRS gave a renewed sense of purpose and hope for the future. A consensus emerged that society has both the knowledge and the tools to bring coral reefs back from the brink. The only question is—will we act?... [ ]

THE STATUS OF CORAL REEFS OF THE WORLD: 2008

In December 2008, the "Status of Coral Reefs of the World: 2008" report, edited by the Global Coral Reef Monitoring Network (GCRMN), was released. The report includes the expert opinions of 372 coral reef scientists and managers from 96 countries, territories, and economies and it states that:

- The world has "effectively lost" 19 percent of the original area of coral reefs since 1950;
- 15 percent of coral reefs are in a "critical" state with loss possible within the next 10 to 20 years;
- 20 percent are seriously "threatened" with loss predicted in 20 to 40 years; and
- 46 percent of the world's reefs are regarded as healthy and not under any immediate threat of destruction... except for "currently unpredictable" global climate threats.

"Effectively lost" means that these coral reefs are not functioning because: there are few live corals and the remaining corals are either broken, diseased, or covered in sediment; fish populations are seriously over-fished with very few large predators and algal-grazing fish remaining; there is clear evidence of pollution with poor-quality, turbid water; and reefs are being over-grown with macro-algae, sponges, or other organisms favored by polluted waters. This also means that the 500 million people dependent on these coral reefs could be deprived of reef goods and services in food, coastal protection, and income from tourism in the near future.

Predictions of "critical" and "threatened" are based on a "business as usual" scenario assuming that human stresses will continue to increase and no dramatic improvements will occur in coral reef management. Moreover, these predictions do not factor in the threats of global climate change—which are predicted to be inevitable, but without clear timelines.

The global climate change threats of ocean warming, increasing ocean acidification, and more intense tropical storms are now regarded by the world's leading scientists and managers as the greatest threats to all of the world's coral reefs; unless urgent action is taken soon to reverse the rate of greenhouse emissions, there will be massive losses of coral reefs around the world. This will mean extinction of species, diminished food supplies, loss of tourism potential, and a reduction of coastal protection for low-lying areas near coral reefs.

Since the last GCRMN report was issued in 2004, overall, the coral reefs of the world have effectively "marked time" because of a near balance between reef recovery and degradation. Reefs in the Indian Ocean and western Pacific have recovered well after the climate change-induced bleaching in 1998 and human damage. But, the Indian Ocean tsunami, more bleaching, and human pressures have slowed or reversed recovery on many of these reefs. Those reefs in the Caribbean have been less fortunate, due to the effects of the 2005 mass bleaching event.

The critical finding emerging from the 2008 GCRMN report was that approximately 500 million people have some level of dependence upon coral reefs for food resources and/or supplementary income from fishing, coastal protection, building materials, and income from tourism. Of this number, about 30 million are almost totally dependent on coral reefs. [CD]

SOCIOECONOMIC CONDITIONS ALONG THE WORLD'S TROPICAL COASTS: 2008

NOAA participated in the U.S. release of two NOAA-supported Global Coral Reef Monitoring Network (GCRMN) reports: the "Status of Coral Reefs of the World: 2008" and "Socioeconomic Conditions along the World's Tropical Coasts: 2008." NOAA leadership, Deputy Assistant Secretary Timothy Keeney, and National Ocean Service Assistant Administrator John Dunnigan participated in an evening reception at the Washington D.C. National Aquarium on December 9. On December 10, the NOAA Coral Reef Conservation Program (CRCP) Director, Kacky Andrews and the reports' editors, Drs. Clive Wilkinson and Christy Loper, attended a press event at the Australian Embassy. Reporters from seven news outlets attended either at the press briefing or reception. Additional partners for the launch events included the U.S. State Department, Conservation International, Project Aware, the International Union for Conservation of Nature, and World Resources Institute.

Synthesizing data from close to 14,000 household interviews in 29 countries, the "Socioeconomic Conditions Along the World's Tropical Coasts: 2008" report highlights dependence on coral reefs by local communities in developing countries, provides information on perceived threats to coastal resources, and points to the inability of coastal managers to effectively implement decades-old recommendations as a significant barrier to coral reef protection.

"Socioeconomic Conditions Along the World's Tropical Coasts: 2008"

△ *Vance, Age 12, Philippines – AWARE Kids IYOR Art Contest Winner 2008 (Project AWARE Foundation).*

is the first regional and global synthesis of socioeconomic data looking at the importance of healthy coral reefs for communities located along the world's tropical coasts. The Global Socioeconomic Monitoring Initiative (SocMon) is an initiative aimed at helping coastal managers better understand and incorporate the socioeconomic context into coastal management programs. This initiative is being implemented at the global and regional levels and the coordinator for the program is part of the NOAA CRCP.

The socioeconomic report is the first-ever comprehensive analysis of data from SocMon and was produced in partnership with Conservation International [ ].

ART FOR THE REEFS

The art industry has always played a critical role in provoking thought and generating dialogue to generate environmental awareness. Many marine artists share this vision and, through their work, raise awareness and educate the public about the beauty and fragile nature of the ocean's coral reef systems. Five of these artists/studios donated their work to support the International Year of the Reef; Artistic Visions Studios, Ronald Wedell, Tanya Haynes, Troy Hotard Studio, and Wyland. For more information, visit *http://www.iyor.org/gallery*. In addition, IYOR 2008 included several other artistic initiatives, as described on the following page.

Project Aware Kids IYOR 2008 Art Contest

Children ages 3–12 took creative action to help protect reefs by entering their artwork and conservation messages in this unique global art contest. Nearly 1,400 entries were received by Project AWARE Kids from children around the world featuring stunning artwork on the theme "Celebrate the Reef – Every Act Counts." Special thanks to the celebrity art contest judges, famed artists and conservationists, Wyland and Rogest, for taking part. Congratulations to the winning Coral Reef Ambassadors from Belarus, Canada, Columbia, Indonesia, the People's Republic of China, the Philippines, Slovenia, the United Kingdom, and the United States; their artwork can be viewed at *http://www.projectaware.org/kids/html/iyotr08_artcontest.asp*.

Reef Check IYOR 2008 Song

The Year of the Reef Song was written for IYOR 2008 by Russ Lesser, Reef Check Board Member and Body Glove President. Russ and his band, Thin Ice, donated it to Reef Check as an additional tool to engage the general public through music. Reef Check Foundation launched an International Singing Contest featuring the song, with the goal of engaging young people in learning more about coral reefs. Youth groups from American Samoa, Taiwan, Columbia, Comoros, the Dominican Republic, Egypt, India, the Netherlands Antilles, and Trinidad and Tobago sub-

Save Me

by Shany John*, Class VIII, JNV, Minicoy

I am a little polyp
Who builds the coral paradise
I am the little builder
Who makes this Island
I made this island
With the remnants of me
The rising heat starves me
The raging pollution scares me
The damaged waste stifles me
The plying vessels deafen me
My skin gets bleached
My vision gets blurred
My lungs crave for fresh air
My beauty is on the wane
If you don't bother soon
Nature will destroy us soon
Lend an ear to my cries
Think smart and act wise
If you save me
I will save you back
We both will make our abode
And make it a heaven under the sky!

* Winner of the best conservation poem on coral reefs amongst the work of both Andamans and Lakshadweep students

mitted entries. Over 230 people from 30 countries, territories, and economies voted for their favorite videos; the first place entry came from St. Nicholas School in Trinidad and Tobago. Watch all the winning videos at *http://www.reefcheck.org/video/video_contest.php*.

EDUCATIONAL VIDEOS

Coral Bleaching: Resistance and Resilience Video

The IUCN/ Coastal Oceans Research and Development in the Indian Ocean/IYOR 2008 Coral Reef Resilience DVD is an educational tool useful for reef managers, teachers, coral reef practitioners, or anyone who is interested in learning more about coral reefs and climate change. It focuses on coral bleaching and how coral colonies and coral reef ecosystems can resist and recover from bleaching stress. The DVD explores various environmental and ecological factors that affect a coral reef's resilience to, or capacity to recover from, bleaching, and is a good introduction to the subject. The DVD was used in training of marine park rangers in many countries around the world, specifically in resilience training workshops in Kenya, Tanzania, and Madagascar, among others.

Project Aware IYOR 2008 Public Service Announcement

Project AWARE Foundation, along with artist Wyland and Olympic gold medalist Heather Pease Olson, teamed up to personalize the plight of coral reefs through a public service announcement (PSA) viewed on more than 100 websites. The PSA suggested three actions individuals can take to aid conservation: reducing their carbon emissions, preventing daily runoff, and protecting habitats by refusing to purchase coral reef-related products. View it online at *http://www.projectaware.org*.

INSPIRING EXAMPLES

The International Year of the Reef 2008 was celebrated around the world in a variety of ways, including the following inspiring examples. Expanded reports for most of the countries, territories and economies that participated in IYOR 2008 are available on the CD included with this publication.

North America and the Caribbean Region

North America

MEXICO

To celebrate IYOR 2008, Telmex, the largest telecommunication company in Latin America, released three telephone cards with pictures of reefs on them. The cards were distributed widely throughout Mexico.

During 2008, IYOR 2008 played a significant role in the establishment of 11 natural protected areas and was successful in raising awareness about coral reefs at the regional and national levels using many different media types, including television, radio, and press.

Mexican telephone card.

UNITED STATES OF AMERICA

U.S. IYOR 2008 activities were primarily conducted by the National Oceanic and Atmospheric Administration (NOAA), specifically through the Coral Reef Conservation Program and National Ocean Service International Programs Office. NOAA played a key role in support of IYOR 2008; the agency funded the international coordination of IYOR 2008 and also funded a number of activities at national and local levels.

IYOR 2008 activities were conducted throughout the U.S., including in seven states and territories that contain coral reefs: American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, Hawai`i, Puerto Rico, and the U.S. Virgin Islands. Activities held in the U.S. territories of American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and the U.S. Virgin Islands are presented in the Pacific and Caribbean regional sections of this document, respectively.

U.S. action message poster (NFWF, NOAA, and SQN, Inc.).

IYOR 2008 Creative

The National Fish and Wildlife Foundation (NFWF) collaborated with NOAA and the U.S. Coral Reef Task Force (USCRTF) Education and Outreach Working Group to develop a unified messaging campaign for IYOR 2008. With the assistance of SQN, Inc., a communications firm, the partners held a workshop and conducted surveys in order to develop five clear, action oriented messages for both general and regional audiences. These messages were presented on icons, posters, and merchandise that were available for free download during IYOR 08. These messages were utilized in many ways. For instance, the 2008 Ocean Discovery Day, an annual event at the NOAA Galveston Lab, focused on the coral reefs of the Flower Garden Banks National Marine Sanctuary and sharing the IYOR 2008 action messages.

IYOR 2008 U.S. Public Service Announcements: Every Act Counts

NOAA, the National Fish and Wildlife Foundation, the UrbanArts Institute at Massachusetts College of Art and Design, and other marine and ocean conservation non-governmental organizations (NGOs) supported the production and distribution of a series of 30-second television public service announcements (PSAs). A PSA was created for each of the five IYOR 2008 Creative action messages, as well as a general coral reef conservation PSA. The PSAs were broadcast on major U.S. television stations, such as the Discovery Channel, as well as on several Websites like http://www.iyor.org/tv.

Main message for the U.S. IYOR 2008 messaging campaign:

Whether you live one mile or one thousand miles from a coral reef, your actions affect the reef's future and the reef's future affects yours. As the natural guardians of our shores, reefs play a vital role in our global ecosystem. With climate change, pollution, and overfishing contributing to coral reef degradation, we can all play a role in protecting our land, sea, and sky. And all it takes is a few simple changes to your daily routine.

The 2008 Coral Reef Educational Resources CD

The 2008 Coral Reef Educational Resources CD is a collection of coral reef education and outreach materials created by state and federal agencies as well as non-profit organizations that are part of the Education and Outreach Working Group of the USCRTF. The materials cover a wide-range of topics related to coral reefs, including basic coral biology, coral reef ecosystems, human use, threats, and conservation efforts. For more information, visit *http://coralreef.noaa.gov/education/educators/resourcecd/welcome.html*.

Reef Fest

Several night clubs in South Florida, Tennessee, and Texas

hosted Reef Fest events to highlight threats to coral reefs and help raise funds for their protection. Two clubs in South Florida held Reef Fest concerts every week. Additionally, larger Reef Fest events were held in Fort Worth, Texas and in Nashville, Tennessee. In addition, concerts were held for two consecutive evenings in Fort Lauderdale, Florida coinciding with the 11th International Coral Reef Symposium.

Official Artist of U.S. IYOR 2008: Wyland

Renowned marine life artist and conservationist, Wyland, was asked to be the official U.S. artist of IYOR 2008. In that capacity, he created "Year of the Reef", a seven-foot by four-foot canvas, to celebrate IYOR 2008 and to inspire action to preserve and protect the world's reefs. The powerful artwork features green sea turtles swimming along a vibrant Florida coral reef, along with a great hammerhead shark and other reef creatures. The artist considers it one of his best works to date and it has been utilized with his permission in a number of IYOR 2008 products. Wyland also dedicated two of his monumental Whaling Wall murals (Pago Pago, American Samoa, and North Lauderdale, Florida) to the beauty and diversity of coral reefs. At each event, children were invited to take part to create their own reef masterpieces and to learn about the issues facing these valuable ecosystems.

Reef Identification Training in Florida

The Florida Department of Environmental Protection's Coral Reef Conservation Program led 14 reef identification classes for the local southeast Florida community on the topics of fish, coral, and marine invertebrate identification. The classes incorporated the Professional Association of Diving Instructors (PADI) Project Aware specialty course. A total of 236 stakeholders attended the classes in and around Miami, Florida, during each month of IYOR 2008.

Additionally, a special IYOR 2008 workshop was held for 50 teachers from southeast Florida. These teachers were selected from over 90 appli-

cants, based on the scope and scale of classroom and/or campus-wide coral reef education that they were implementing in celebration of IYOR 2008.

More than 96 percent of the teachers indicated that they were satisfied or very satisfied with the IYOR 2008 teacher training and they also indicated that the information and resources provided in the workshop would be shared with over 14,000 students annually.

The Hawai`i Campaign

On January 25, 2008, Hawai`i kicked off IYOR 2008 at the Hawai`i State Capitol. Proclamations were made by Governor Linda Lingle, Mayor Mufi Hannemann (O`ahu), and Mayor Charmaine Tavares (Maui). More than 30 ocean-related organizations and 300 people—including schoolchildren and lawmakers and their staff—attended the launch. The highlight of the event was a moving keynote presentation by Nainoa Thompson, navigator of the Polynesian Voyaging

△ *"IYOR Sunset on the Beach" event on Waikiki Beach.*

Society. This was the beginning of an action-packed year.

The Hawai`i campaign worked with numerous partners from government, businesses, and non-profit organizations and leveraged significant funding and in-kind resources to conduct a broad and far reaching statewide campaign. The Hawai`i campaign reached every island in the Hawaiian chain, including the remote Ni`ihau. The committee in Maui County worked especially hard to conduct an array of activities engaging its mayor as a key proponent.

The International Year of the Reef – Hawai`i campaign's public service announcement, "Bad Neighbors" won first place at the Hawai`i Ocean Film Festival in the "marine resources short" category. The creative production team was led by Shooters Film Production and Montaj 9. Services were provided pro-bono with additional support from Malama Hawai`i, The Nature Conservancy, the Hawai`i Division of Aquatic Resources, the Hawai`i Tourism Authority, and the generous homeowner hosts in East Honolulu.

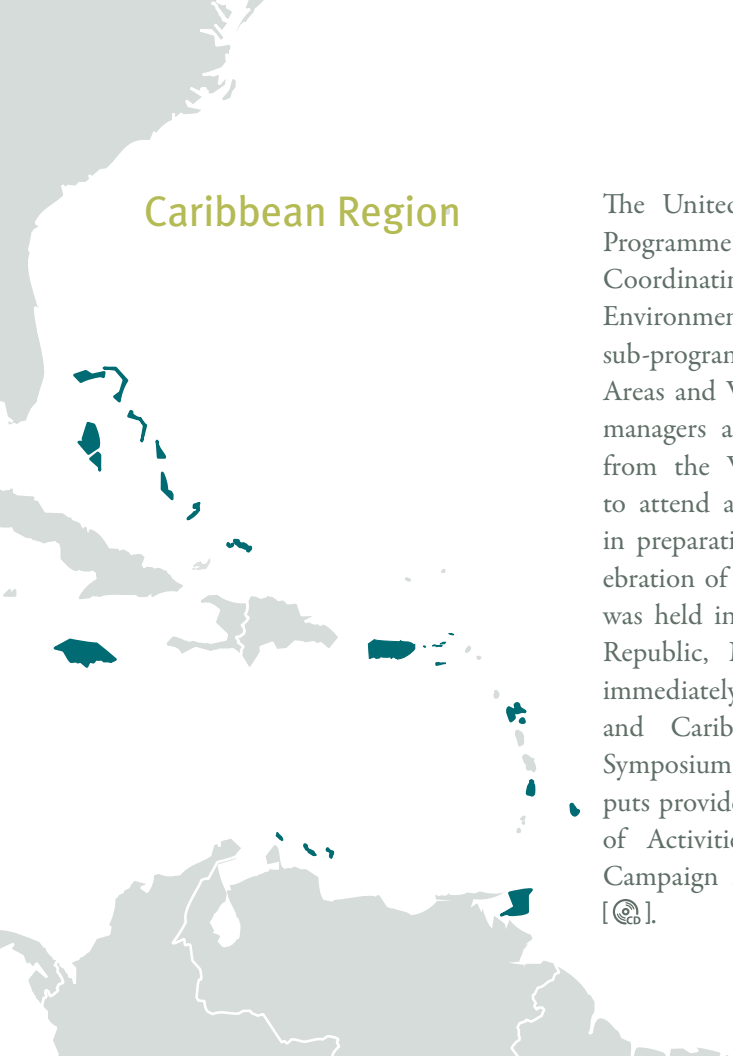
The Hawai`i campaign will continue to keep its website active (*http://www.givethereefabreak.org*) for at least another year so that the momentum built from the campaign leads to continued learning and action to improve the health of precious coral reefs.

IYOR 2008 Reef Night

IYOR 2008 Reef Night was a major community event held in June of 2008, drawing approximately 1,000 residents and visitors to the Maui Ocean Center.

Highlights of the event included an invasive species (ta`ape) cook-off, 20 exhibits on coral reef ecosystems and management, a student poster contest, live entertainment, and the "Pono... Do What Is Right!" fashion show. The Mayor's IYOR 2008 task force, made up of over 40 individuals representing conservation agencies, businesses, and non-profit organizations, collaborated to plan and facilitate the event.

Caribbean Region



The United Nations Environmental Programme's (UNEP) Regional Coordinating Unit for the Caribbean Environment Programme, through the sub-program for Specially Protected Areas and Wildlife, invited coral reef managers and relevant organizations from the Wider Caribbean Region to attend an informal brainstorming in preparation for the upcoming celebration of IYOR 2008. The meeting was held in Punta Cana, Dominican Republic, November 10–11, 2007, immediately following the 60th Gulf and Caribbean Fisheries Institute Symposium. The discussions and inputs provided resulted in an "Outline of Activities for the IYOR 2008 Campaign in the Wider Caribbean" [ ].

BAHAMAS

Weekly News Column on Coastal Awareness – Week in Reefview

On February 7, 2008, the prime minister of the Commonwealth of the Bahamas, Hubert Ingraham, proclaimed the year 2008 as the International Year of the Reef in the Bahamas.

During the IYOR 2008 campaign a featured column of TheBahamas Weekly.com, "Week In Reefview," provided weekly articles on how the key threats of climate change, habitat destruction, invasive species, pollution, and overfishing impact the coral reef ecosystem and gave possible solutions to address these issues. Articles were submitted by representatives of vari-

ous partners including, but not limited to, the Bahamas Environment, Science & Technology, The Nature Conservancy, the Bahamas Reef Environment Educational Foundation, the Department of Marine Resources, Grand Bahama Dive Association, and other independent authors with knowledge of coral reefs.

BARBADOS

Art and Science Exhibition

Art inspired by coral reefs and oceanographic equipment used in the field was exhibited from February 25 through March 8, 2008 at the Central Bank of Barbados. At the exhibition talks were given on climate change, coral reefs of Barbados, and management of coral reefs. The exhibition was visited by local schools and was extremely well received.

BRITISH VIRGIN ISLANDS

Marine Awareness Guide

The "Marine Awareness Guide" is a magazine focused on educating visitors and locals about what they can do to ensure the sustainability of natural resources in the British Virgin Islands (BVI). The magazine was launched at a cocktail reception co-hosted by the Ministry of Natural Resources and Labour and The Moorings Hotel and Restaurant. The magazine was distributed to all the charter yacht companies as well as schools and several hotels in the BVI.

Stamp Design Contest

A photo contest was launched in July by the Conservation and Fisheries Department and the BVI Post Office. Entries were judged by Dr. Giorgio Migliavacca of the BVI Philatelic Society. The winning photos were the first in a BVI postal stamp series on "Protecting Our Environment, Safeguarding Our Future." The first series highlighted coral reefs and was launched in 2009.

JAMAICA

World Ocean Day Expo

As a part the celebrations held for National Environmental Awareness Week, June 1–7, 2008, the Ecosystems Management Branch of the National Environment and Planning Agency

hosted a booth in celebration of World Ocean Day and IYOR 2008. Held June 5 on the lawns of the historical Devon House in Kingston, the Expo was well attended, primarily by local schools, with students ranging from kinder to tertiary level. The booth featured a "touch tank" aquarium with a variety of marine life, including a mangrove prop root community with oysters and an assortment of fish, sting rays, sea stars, crabs, lobsters, sea urchins, sea cucumbers, sponges, and a sea squirt. The booth also displayed examples of different types coral skeletons, turtle shells, and preserved exhibits of a nurse shark and lionfish. Printed material was available for perusal, along with pamphlets reminding guests that everyone can play a part

National Environment Awareness Week Expo, Kingston, Jamaica.

in saving the ocean. During the course of the day, a short television interview and a 15-minute radio broadcast were conducted, highlighting World Ocean Day and IYOR 2008 and calling for a concerted local effort to protect Jamaica's ocean and reefs. Stickers, drawstring tote bags, and water bottles, each printed with the message: "Protect our ocean, save our reefs," were given away as souvenirs to booth visitors.

NETHERLANDS ANTILLES

Bonaire International Year of the Reef Week

From June 21–28, 2008, a week-long event to celebrate IYOR 2008 took place on the island of Bonaire. Filled with exciting activities, interesting seminars, prizes, and giveaways, the program for "International Year of the Reef Week," part of Bonaire Dive Into Summer 2008, was adventure-filled and ideal for those looking to add an educational element to their vacation. Each day offered visitors the flexibility to enjoy their planned vacation on the island, and, as an added bonus, the option to take part in interactive dives and seminars. As a highlight of the program, The Coral Reef Alliance's Program Manager, Bryan Dias, and EarthEcho International's co-founders, Janice and Alexandra Cousteau, led specialized dives and conservation-related seminars throughout the week. Activities were held at Sand Dollar Condominium Resort, the host hotel of "International Year of the Reef Week," and other Bonaire locations.

PUERTO RICO

To celebrate IYOR 2008 and disseminate the current status of reefs and reef research in Puerto Rico, the Caribbean Coral Reef Institute (CCRI) sponsored the "2008 End of the International Year of the Reef Symposium" on December 3, 2008. The Symposium was held in San Juan on the campus of the University of Puerto Rico (UPR) and was comprised of 16 presentations covering a broad spectrum of topics, including land-based impacts to Puerto Rico's reefs; the deteriorating status of coral reefs, especially following the continu-

ing impacts of the 2005 bleaching/disease event; new techniques for mapping fish spawning aggregations and reefs; and basic reef ecology. A special session on mesophotic reefs, those from 30–100 meters depth, included five talks focused on the structure of mesophotic reefs and their fish and invertebrate communities. Presenters at the symposium included scientists from NOAA, and representatives from other agencies and institutions such as the Puerto Rico Department of Natural and Environmental Resources (PR DNER), UPR, and the U.S. Environmental Protection Agency. Over 70 individuals attended the event, including university researchers and students, PR DNER, and representatives from five federal agencies and five NGOs. The event also included a series of radio interviews featuring CCRI and symposium participants.

SAINT LUCIA

On July 9, 2008, an open-house exhibition was held at the Soufriere Fishermen's Cooperative Complex and launched with an official ceremony to educate the public on the value, importance, and threats to the sustainability of coral reefs. In addition to the Soufriere Marine Management Area booth, information was available about the Piton Management Area Heritage site. The Department of Fisheries presented information and artifacts on a variety of marine life. The event was also highlighted on the local news channel, Diaher Broadcasting Service.

TRINIDAD AND TOBAGO

From September to December 2008, a library display was assembled for the commemoration of IYOR 2008 at the Institute of Marine Affairs. The purpose of the display was to provide general information on coral reefs and their inhabitants; information on the economic and other values of local coral reefs was also included.

"Counting Costs: Communities, Coral Reefs, Climate Change"

The Buccoo Reef Trust's (BRT) symposium, "Counting Costs: Communities, Coral Reefs, Climate Change," was held

to commemorate IYOR 2008. Guests were invited from local government and NGOs along with students and teachers from Tobago's schools. The Minister of Housing, Planning and Environment, Dr. Emily Gaynor Dick-Forde, attended to give the main address. BRT started the event with the launch of their new video on climate change, "Islands on the Edge." This was followed by Ms. Lauretta Burke, of the World Resource Institute, presenting findings from three years' of work on the economic valuation of the coral reefs of Tobago. Coral Cay Conservation gave an update on the Tobago Coastal Ecosystem Mapping Project, which was warmly received by those present and followed by many questions about the progress of the project and how to get involved. The day was an enormous success and hopefully will encourage others to do their parts to help the marine environment.

TURKS AND CAICOS

The Ministry of Natural Resources, Fisheries and the Environment declared 2008 as the Year of the Coral Reef under the theme: "Achieving the Right Balance: Protecting Our Reefs - Prosperity for Our Future." This declaration brought attention to one of the territory's most prized assets: the coral reef. An official launching ceremony was held on February 8, 2008, in Providenciales. The Ministry of Natural Resources conducted a number of activities in celebration of the IYOR 2008, including a public awareness campaign that incorporated the use of literature and the creation of educational programs for coral reefs and their associated systems, such as mangroves and seagrass beds. An underwater cleanup was held in April for Earth Day, and a delegation from the Ministry participated in the event as divers.

U.S. VIRGIN ISLANDS

A grassroots effort to raise local funds for coral reef education yielded the first annual St. Croix Reef Jam, held on Sunday, May 25, 2008 at Rainbow Beach in Frederiksted. Popular local musician Kurt Schindler and his wife, Janelle, spearheaded the all-day Reef Jam event, which drew more than 1,000 attendees and raised over $7,000

(U.S. Dollars) in funds to be used for a "Reef Responsible" certification process, coral PSAs, and community snorkel clinics on the island of St. Croix. Reef Jam included underwater photography contests, an activity corner, live music, guest speakers, raffles, t-shirt sales, and more. As a result of the success of Reef Jam 2008, Reef Jam will continue as an annual Memorial Day weekend event on St. Croix. In addition, Reef Jam was expanded to include events on the islands of St. John and St. Thomas in 2009. St. Thomas also began planning for a territory-wide social marketing campaign, "The Reef is Closer Than You Think Community Campaign," which was implemented in 2009. The campaign employed tools such as PSAs, murals, an ocean film festival, and educational signs. In conjunction with Earth Day, the U.S. Environmental Protection Agency presented Environmental Quality Awards to representatives from three projects across the U.S. Virgin Islands for their efforts to protect the environment. The "Environmental Education" award was given to the International Year of the Reef 2008 St. Croix Planning Committee, a local grassroots group that was formed to raise community awareness about the importance and fragility of coral reefs. In 2008, the group held 17 community events to promote coral reef awareness and stewardship to over 1,500 residents. The group's media outreach led to 13 local newspaper articles and produced two PSAs that provided information about local fishery regulations and encouraged listeners to leave marine resources—coral, sand, shells and animals—in their natural habitats.

△ *Karlyn Langjahr and the St. Croix IYOR Committee worked to expose underserved USVI youth to the marine environment during IYOR 2008.*

Central and South America

Central America

BELIZE

△ *Honorable Prime Minister Dean Barrow and the "Little Mini Universe" pageant winner of the Caribbean and Central America.*

Reef Rally: A Rapid Assessment of Belize's Marine Life

The "Reef Rally: A Rapid Assessment of Belize's Marine Life" was established in conjunction with IYOR 2008 in efforts to capture and record unique marine life sightings in Belize, including marine cetaceans, reptiles, vertebrates, and invertebrates. This long-term project was established to act as a repository for reports of unique marine life sightings that had previously gone unreported. Targeted groups included visiting divers and snorkelers, tour operators and guides, and local artisanal fishermen.

The International Year of the Reef Symposium, held at the Radisson Fort George Hotel and Marina on November 14, 2008, highlighted local and international reef related conservation efforts achieved during IYOR 2008. The World Resources Institute launched their final findings on the economic valuation of the reef and mangrove system for Belize, which included the fact that reef-related activities generated between $350–500 million (U.S. Dollars) in 2007. The Healthy Reefs Initiative also launched an ecological health report card for the Mesoamerican Reef (MAR) and the Belize Barrier Reef System. Only six percent of the MAR received a grade of "good" while 47 percent received a "poor" grading. The symposium was followed by a reef gala attended by seven ministers, in addition to the Prime Minister.

COSTA RICA

Carlos Hiller Community Mural

On June 8, 2008, a community mural was created at Playas del Coco, Guanacaste by marine artist Carlos Hiller. In celebration of IYOR 2008, the theme of the mural was coral reefs. During the creation of the mural, more than 70 local children painted the outlines of marine life around the coral reefs. They also wrote letters and created drawings to send to different governmental institutions, indicating their perceptions, desires, and hopes about the importance of protecting the marine environment. This mural is the first mural created as part of Hiller's national campaign to encourage Costa Rican towns to simultaneously educate and raise awareness about the importance of protecting marine resources. Hundreds of children and

Public mural painting by Hiller, Playas del Coco, Costa Rica.

parents attending this event also unified to clean the beaches, build sand sculptures, and experience boat rides.

South America

Zumbi dos Palmares/ Maceio International Airport at Alagos State, Brazil.

BRAZIL

In April 2008 at the Brazilian Chamber of Deputies, the launch of the Brazilian IYOR 2008 served as an opportunity to discuss the creation of a Brazilian Coral Reef Initiative with the government.

Brazilian Coral Reef Exhibition

The Brazilian Coral Reef Exhibition was an itinerant exhibit composed of 14 posters describing Brazilian coral reefs and associated ecosystems—such as mangroves; national activities, such as coral reef research and monitoring and conservation and awareness campaigns; and a map showing important coral reefs sites. The exhibition traveled to 16 locations on the Brazilian coast and was visited by many students and tourists.

COLOMBIA

Coral Reef Day

In October 2008, the Ministry of Environment, Housing and Territorial Development announced the creation of a "Colombian National Day of the Reef" to be held annually on December 5. To celebrate the first Colombian National Day of the Reef, the technical committee for coral reefs, which included non-governmental organizations, members of academia, and government agencies, joined many groups of divers for a dive to enjoy the coral reefs of the National Park Corales del Rosario. The purpose of the Colombian National Day of the Reef is to raise awareness about the social responsibility to protect coral reefs for future generations.

Asia and the Pacific Region

Asia

The South Asia Coral Reef Task Force, established in July 2007 to address the growing concerns of coral reef conservation in the South Asian Seas region, launched a commemorative First Day Cover Stamp to celebrate IYOR 2008 on November 25, 2008. The launch was held at the auditorium of the Postal Headquarters in Colombo, Sri Lanka and was attended by the Hon. Minister Mr. Mahinda Wijesekara, Minister of Posts and Telecommunication, Ministry of Posts and Telecommunication, Government of Sri Lanka.

IYOR awareness activities held at Minicoy, Lakshadweep Islands (India).

INDIA

Gulf of Mannar

Under funding from the United Nations Environment Programme (UNEP) Coral Reef Unit and facilitated by the International Coral Reef Action Network (ICRAN), the Suganthi Devadason Marine Research Institute conducted IYOR 2008 activities in the Gulf of Mannar reef region of south-eastern India. This work was completed in association with the Tuticorin District Administration, Gulf of Mannar Biosphere Reserve Trust, Gulf of Mannar Marine National Park, the Coastal Oceans Research and Development in the Indian Ocean, and the International Union for Conservation of Nature (IUCN). Activities included a television media campaign, radio broadcasts, community education in five villages, printing and distribution of 10,000 posters, and the production of a documentary on the value and importance of coral reefs.

Andaman Island

The Children's Perception of the Environment project was carried out between April and November 2008 as part of the IYOR 2008 activities. The concept and activities were developed by the Centre for Action Research on Environment Science and Society (CARESS) to address the need for a communications and outreach program in coral reef areas. An environmental education toolkit for educators in South Asia, developed by CARESS/IUCN South Asia, was tested out during a series of workshops for teachers. A total of 16 teachers from four schools and 16 volunteers from five organizations were trained to carry out awareness activities for coral reefs and associated ecosystems. Following the training, the teachers and volunteers demonstrated their new skills and reef knowledge by leading field activities for 150 children from four schools. The field activities included a boat trip, snorkeling, and interviews with fishermen and elders from the local community. Awareness exhibits were also displayed during the workshops, and the children had an opportunity to create their own awareness posters.

INDONESIA

The Ministry of Marine Affairs and Fisheries (Departemen Kelautan dan Perikanan, DKP) has overall responsibility to protect, conserve, and develop the Indonesian nation's marine resources. One highly relevant activity of the DKP is the Coral Reef Rehabilitation and Management Program (COREMAP) II. COREMAP II is the second phase of a 15-year national conservation program operating in eight provinces and 15 districts. The program is funded by the Asian Development Bank, the World Bank, the Global Environmental Facility, and the Indonesian government. The main purpose of COREMAP II is to protect coral reefs through the reduction of dependency on the reef ecosystem by creating alternative sources of income, increasing public awareness of the importance of coral reefs, and strengthening capacity. Thus, COREMAP II was in charge of IYOR 2008 activities in Indonesia. COREMAP II coordi-

nated with the organizing committee of DEEP Indonesia 2008, Indonesia's international diving, adventure travel and water sports exhibition, to allocate a time in the opening ceremony for the launching of IYOR 2008 Indonesia by the Minister for Marine Affairs and Fisheries. In addition to participation in DEEP 2008, COREMAP II's public campaign in 2008 included a national level high school "Q&A" quiz, national youth reef ambassadors, drawing and coloring competition for children, a reef-themed song composing competition, a journalist traveling seminar and writing competition, a second national conference on coral reefs, and a range of activities at COREMAP II district villages and centers.

JAPAN

Japan was very active in IYOR 2008 with the creation of a Japanese IYOR 2008 national committee that planned many activities all year long. One of the main events was the "IYOR 2008 Coral Reef Festival", held in Tokyo on June 22, 2008. The festival raised awareness of coral reef conservation through a symposium, a concert, and hands-on programs provided by non-governmental organizations (NGOs). The festival was attended by more than 1,200 participants.

©Ministry of the Environment,Japan

The Ministry of the Environment of Japan took the IYOR 2008 as an opportunity to launch the development of an action plan to conserve coral reefs in Japan and to launch an ICRI regional strategy for an east-asian MPA network.

Another very successful IYOR 2008 activity was the organization of a contest for the "mascots" of the Japanese campaign. More than 2,000 entries were submitted for the names and designs of one primary and six secondary mascots, and the results were announced during an event on March 2, 2008, in Tokyo. Winners ranged from the ages of seven to 76. The winning mascot, Shota (reef boy) is pictured.

The Sango Map Project

The Sango (Coral) Map Project, a web-based system to gather information on coral occurrence from various

stakeholders (snorkelers, divers, environmental educators, researchers, etc.) was also launched during IYOR 2008. The data will be used to validate coral distribution maps prepared by the Ministry of the Environment. This project was a great success in Japan and encouraged collaboration between various stakeholders for coral reef conservation. It also served to motivate the public to participate in other monitoring programs such as ReefCheck and CoralWatch.

MALAYSIA

Malaysia created a national IYOR 2008 committee with Y.Bhg. Datin Seri Normala Shamsuddin, the wife of the Minister of Natural Resources and Environment, serving as a "patron" for the national campaign and Ms. Maya Karin, a well renowned actress, serving as an ambassador. The national campaign was launched in February at One Utama New Wing Mall with remarks from the Minister of Natural Resources and Environment.

Coral Reef Camp

The Department of Marine Park Malaysia (DMPM), together with Reef Check Malaysia and the United Nations Development Programme, organized a Coral Reef Camp, which involved schoolchildren from the island of Pulau Tioman, Pahang. This camp is the first phase of a larger, sustainable program entitled "Rainforest to Reef" School Programme, target-

Ministry of Natural Resources and Environment Secretary General (Malaysia).

As part of the Malaysian Government's initiative for the International Year of the Reef 2008, we will try to develop the children's knowledge on island ecosystems and the importance of conservation for marine biodiversity. This will definitely help to improve the state of our underwater heritage in the long run.

—Encik Ab Rahim Bin Gor Yaman, Head of the Corporate Planning Section of DMPM.

ed specifically to island schoolchildren. During the camp, the children were taught about the importance of coral reefs and marine life and the functions of the DMPM through interactive and hands-on activities such as arts and crafts, surveys, role playing, and snorkeling. Parents of the children involved were also invited to the closing night of the camp for a prize-giving ceremony; they were pleasantly surprised to find that the program headmaster also participated in the camp. Plans to replicate the camp at four primary schools from other islands are underway.

SINGAPORE

IYOR 2008 Singapore was initiated by a diverse group of individuals and organizations active in marine conservation that came together in recent years as the Marine Round Table. Two consultative sessions were held, one in 2006 and the other in 2007. This Marine Round Table formed the IYOR 2008 Singapore Organizing Committee, an open and inclusive Committee serving only to initiate and coordinate activities. On August 9, 2008, Singapore launched the International Year of the Reef 2008 during a day of celebration.

Blue Plan 2008

IYOR 2008 Singapore produced the "Blue Plan 2008," and presented to the Government of Singapore for consideration and implementation. The Blue Plan is a document with a comprehensive overview of the state of coral reef ecosystems in Singapore, the challenges and opportunities that lie ahead, and recommendations for its continued conservation. The Blue Plan was a result of collaborations, consultations, and negotiations between members of the marine conservation community, civil society, and leading academic and research institutions in Singapore. The Blue Plan will also be used by the marine conservation community to plan and monitor its strategies over the next five years.

TAIWAN

The week from April 28 to May 3 was designated the "Week of Coral Reef Conservation" in Taiwan, jointly or-

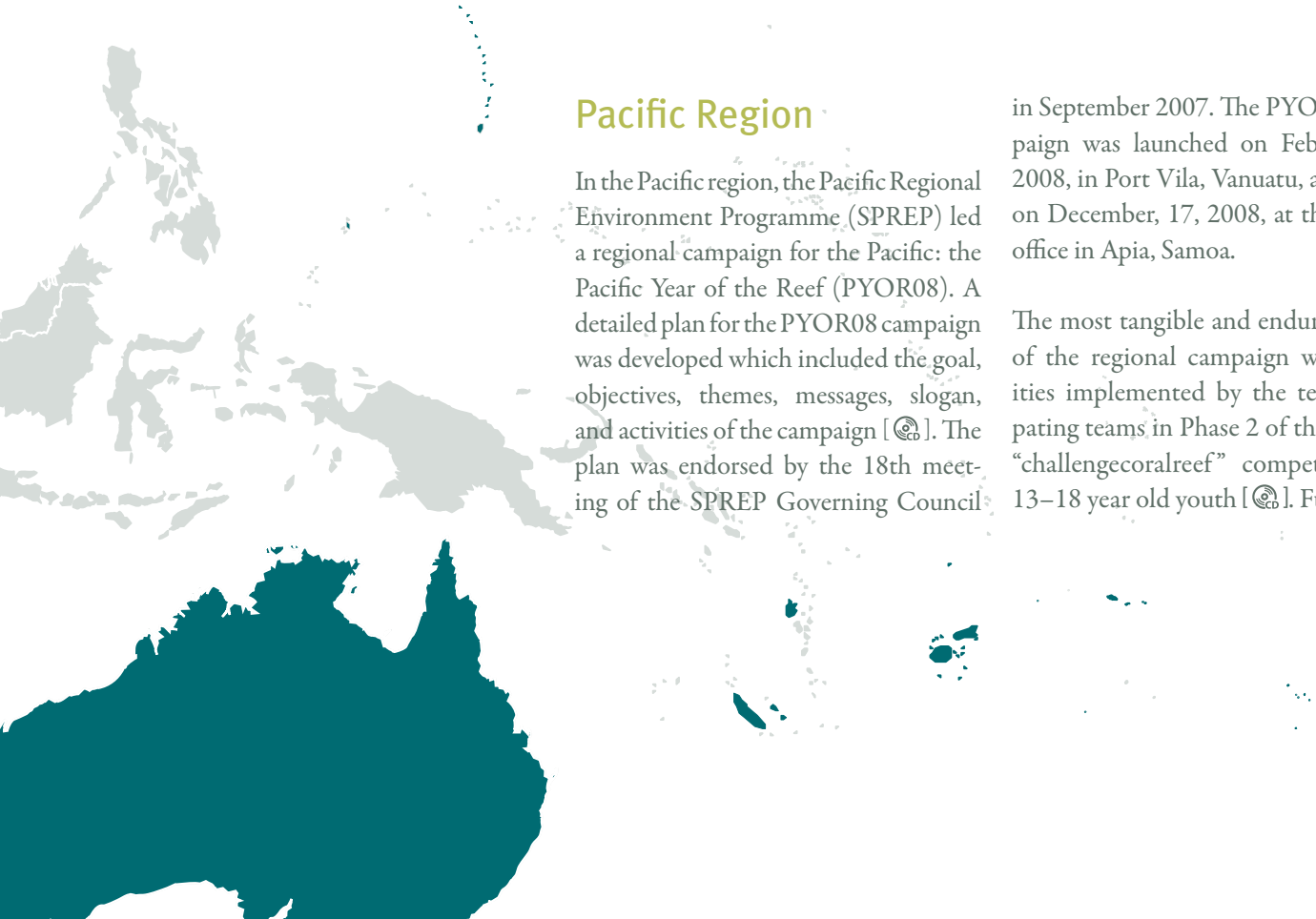
ganized by the Taiwanese Coral Reef Society, the Chinese Underwater Photographers Association, and Kenting National Park. Activities involved the announcement of Tiaoshi, a new marine protected area (MPA), a conference on coral reef conservation, beach clean-ups, and real-time image broadcasting of coral spawning.

THAILAND

In May 2008, a seminar on coral reef research and management was organized to celebrate IYOR 2008 at the Phuket Marine Biological Center. A total of 110 participants from government and NGOs joined the meeting. The conclusions of the workshop were presented to the Department of Marine and Coastal Resources.

The second Green Fins International Coastal Cleanup, held on September 13–14, 2008 was also an occasion to promote coral reef awareness. During the cleanup, more than 4.5 tons of garbage were collected by 760 volunteers.

COTS collecting day new Phuket Island, Thailand.



Pacific Region

In the Pacific region, the Pacific Regional Environment Programme (SPREP) led a regional campaign for the Pacific: the Pacific Year of the Reef (PYOR08). A detailed plan for the PYOR08 campaign was developed which included the goal, objectives, themes, messages, slogan, and activities of the campaign [ ]. The plan was endorsed by the 18th meeting of the SPREP Governing Council in September 2007. The PYOR08 campaign was launched on February 28, 2008, in Port Vila, Vanuatu, and closed on December, 17, 2008, at the SPREP office in Apia, Samoa.

The most tangible and enduring result of the regional campaign were activities implemented by the ten participating teams in Phase 2 of the regional "challengecoralreef" competition for 13–18 year old youth [ ]. Funds were

Wyland's murals at the Executive Office Building in Utulei (American Samoa).

provided to teams of secondary school students in the Cook Islands [ ], Fiji, Kiribati, New Caledonia (2), Samoa, Solomon Islands (3 [ ]), Vanuatu, and Wallis and Futuna to implement activities that the teams designed to help save a reef. Their chosen plans of action included community consultation and educational visits, shore clean-ups, construction of signage at marine managed areas, development of an underwater trail for swimmers and divers, improvement of waste disposal practices in communities and at well-used beaches, coral restoration, and mangrove planting.

Another important achievement of the PYOR08 campaign was the consolidation of an existing network of national SPREP environmental and marine education contacts who enthusiastically worked on their national campaigns. The Coral Reef Initiatives for the Pacific (CRISP) program funded the campaigns and provided opportunities for presentation of results of the Pacific campaigns at international fora such as the 11th International Coral Reef Symposium, 2nd International Pacific Marine Educators Network Conference, 2nd International Youth Coastal Conference, and the IUCN World Conservation Congress.

AMERICAN SAMOA

Wyland Community Mural

As part of the IYOR 2008 celebration and as a result of an invitation that was extended by Governor Togiola Tulafono, the world-renowned ocean and wildlife artist and muralist, Wyland, painted a marine life mural at the Executive Office Building in Utulei. Wyland's murals provide a lasting message of the importance to conserve and protect our oceans and marine life. Children were not only able to observe the world famous painter up close, but they and their art teachers were also able to work side-by-side with him on their very own mural projects, as well as participate in a variety of other environmentally themed educational activities. The Coral Reef Advisory Group collaborated closely with the Department of Education, the American Samoa Community College, and private schools to make sure that the childrens' activities were both fun and educational.

AUSTRALIA

Science Meets Parliament

"Science Meets Parliament" is an annual event allowing the science community to engage with Australian Commonwealth Ministers, parliamentarians, and their staff on current science issues. In March 2008, the theme of "Science Meets Parliament" was biodiversity and the event included a forum entitled "The Great Barrier Reef in 2050" in honor of IYOR 2008.

Graduation Pack Featuring IYOR 2008

Several schools in Australia decided to offer to students a graduation pack featuring IYOR 2008 and a list of things their graduates can do to save coral reefs. The packs were comprised of IYOR 2008 information as well as a

Puppet Show troupe educates community about coral reef conservation through a unique puppet show performance on Rota and Saipan in CNMI.

class/group photo and a personalized graduation certificate.

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

On January 18, 2008, the Commonwealth of the Northern Mariana Islands (CNMI) kicked off the IYOR 2008 with Governor Fitial proclaiming 2008 as the Year of the Reef. This was the beginning of an action-packed year with events conducted nearly every month [ ]. Activities in CNMI included, among others, the creation of a reef food web poster that has been reprinted by the National Oceanic and Atmospheric Administration, educational coral reef puppet shows on the islands of Rota and Saipan, installation of educational signage in MPAs, cooking contests featuring reef fish recipes and education on sustainable fishing, and an IYOR 2008/Earth Day harbor cleanup.

FIJI

The Great Fiji Butterflyfish Count

From November 2–8, 2008, the "Great Fiji Butterflyfish Count" was conducted to identify and count butterfly fish, an important reef herbivore, in all the regions of Fiji. Volunteers used a "Great Fiji Butterflyish Count" waterproof slate with the IYOR 2008 logo on it as they conducted their counts. The event received overwhelming support and participation from various resorts, dive operations, youth groups, village groups, NGOs, institutions, and individuals. A total of 277 fish counts conducted by over 200 people in ten regional sites documented hundreds of butterflyfish, including all 27 species known to exist in Fiji. The Coral Reef Alliance was a major sponsor of this event. Another "Great Fiji Butterflyfish Count" was conducted in October 2009.

GUAM

The Guam Year of the Reef Education and Outreach Campaign was a multimedia campaign that included a variety of resources and activities to engage the residents of Guam in the celebration of IYOR 2008. On February 1,

2008, the Governor of Guam signed a proclamation [] declaring 2008 as International Year of the Reef for Guam. The proclamation recognized that Pacific Islanders have relied on coral reef ecosystems for food, protection from storms, and economic activity for hundreds of years. The theme for the year was "Our reefs, our future."

Public Service Announcement Contest

Members of the community were invited to create their very own Public Service Announcement about coral reefs for the Guam Year of the Reef. Over 30 entries were received and hundreds of people visited the website to view and vote for their favorites: *http://www.guamiyor08.com/vote.html*.

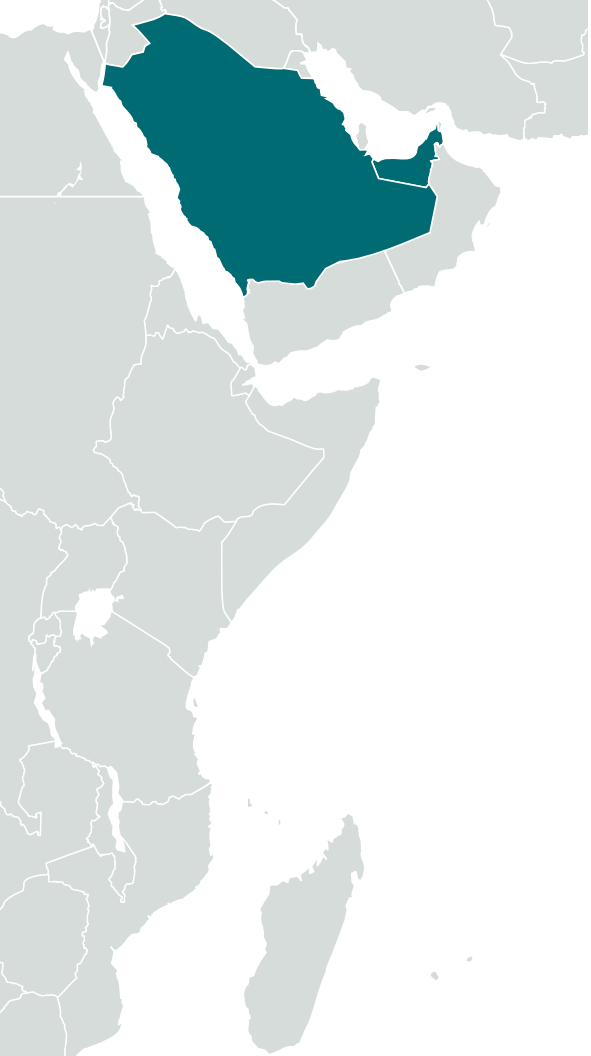
PALAU

In April 2008, Tommy E. Remengesau Jr., president of the Republic of Palau, proclaimed 2008 as the Palau Year of the Reef [].

Two major student activities were held to celebrate IYOR 2008. The first activity, the Coral Reef Exploration Student Training, was held for 6th–8th grade students from June 23–July 4, 2008. The second activity, the Upward Bound Math & Science event, was held for 9th–12th grade students from June 9–July 7. Through interdisciplinary, hands-on learning, the students were given the opportunity to develop knowledge and understanding of the complexity of coral reefs and their surroundings. Classroom activities encouraged awareness of the value of coral reefs, and helped students develop skills in drawing conclusions about actions that may result in negative impacts to coral reefs.

TONGA

The Coral Reef Awareness Day aimed at providing education and awareness for the children and parents in Vava'u, Kingdom of Tonga. Four divers conducted coral health surveys and these surveys were followed by a children's event that was attended by 27 kids ranging from 5–13 years old. It included the screening of the movie, "Coral Reef Adventure," as well as some coloring activities.



Middle East

The United Nations Environmental Programme (UNEP) Coral Reef Unit presented and chaired a very productive IYOR 2008 side event held at the 9th Global Meeting of the Regional Seas Conventions and Action Plans in Jeddah, Saudi Arabia. The event provided information on IYOR 2008 and stressed that coral reefs are highly valuable as they provide food, income, and jobs for half a billion people and are worth more than $29 billion (U.S. Dollars). The purpose of the event was to encourage Regional Seas communities to become engaged and involved in the IYOR 2008.

SAUDI ARABIA

Marine Litter Program

On September 7, 2008, the Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) used a clean-up event to spread the word about IYOR 2008. Desert-Sea-Divers, a local diving center in Jeddah, organized the event in collaboration with the Professional Association of Diving Instructors' Project AWARE.

PERSGA participated in this event through its "Regional Marine Litter

Programme" and added a monitoring dimension to this cleanup campaign; the collected debris were sorted and quantified. Fifty dedicated volunteer divers, each of whom made three dives to clean three dive sites, participated in this event. During the opening ceremony, PERSGA staff distributed the IYOR 2008 brochure to all the participants.

△ *PERSGA clean-up campaign.*

UNITED ARAB EMIRATES

The Emirates Diving Association (EDA), with technical guidance and support from the International Coral Reef Action Network, undertook several activities throughout the United Arab Emirates (UAE) to raise awareness of IYOR 2008. At the Dive Middle East Exhibition, held on 11th–15th March, EDA distributed several informative materials in Arabic about coral reefs [CD].

The Blue Scarf Campaign

The Blue Scarf Campaign is a Dubai-based program to support IYOR 2008. Blue scarves were distributed as a symbol of the UAE's environmental pride and preservation of the country's maritime legacy. Through wide distribution of the Blue Scarf in schools in Dubai, to EDA partner corporations, and to over 1,000 EDA members, the campaign aimed to raise awareness of international and regional efforts to support coral reefs.

The campaign was very successful, and met its goal to provide more than 5,000 students and professionals with the "blue scarf" package, comprised of one scarf and some educational material and stickers. Proceeds generated through the "Blue Scarf" campaign support EDA's Coral Reef Awareness and Monitoring Programme in the UAE.

Europe

FRANCE

The French Initiative for Coral Reef (Initiative Française pour les Recifs Coralliens) was in charge of the national campaign. Two major exhibitions were held in 2008. One was held in Paris, at the Aquarium of Porte Dorée. It was entitled: "Les récifs coralliens de la France d'Outre-mer" (*Coral reefs in French overseas territories*), and was visited by more than 60,000 people. The second exhibition, held in Brest at the Océanopolis Aquarium, was entitled: "Chaud les coraux" and was viewed by 200,000 visitors [CD].

An educational comic book was also produced and a total of approximately 7,000 copies were distributed to the French overseas territories.

Several IYOR 2008 activities were also held in the French overseas territories that contain coral reefs: Éparses Island, French Polynesia, Guadeloupe, Martinique, Mayotte, New Caledonia, Réunion, and Wallis and Futuna.

GERMANY

A special exhibition developed at the Museum für Naturkunde in Berlin showed past and present reef systems and conveyed recent knowledge on the origin, evolution, and threats to reefs, as well as causative environmental conditions. The central theme of the exhibition was a demonstration of the threats posed by climate change to coral reef diversity. The exhibition was shown in Berlin from April–December 2008, and was later shown in Munich and Stuttgart.

UNITED KINGDOM

Reef Conservation UK, a partnership of several marine conservation organizations in the United Kingdom (UK), led an IYOR 2008 campaign. The 11th Reef Conservation UK Meeting assembled a very interesting program to illustrate the impressive array of coral reef interests and activities undertaken by UK researchers and organizations around the world. There were over 20 presentations addressing a range of research topics. To commemorate the end of a successful IYOR 2008, a summary talk was given by Dr. Simon Harding, of Coral Cay Conservation (CCC), reporting on the IYOR 2008 activities held in the UK or implemented by UK-based organizations overseas. A poster summarizing these events [CD] and activities was produced and displayed, with organizations involved with IYOR 2008 supplying hard copies of a range of examples of awareness-raising materials created during the year.

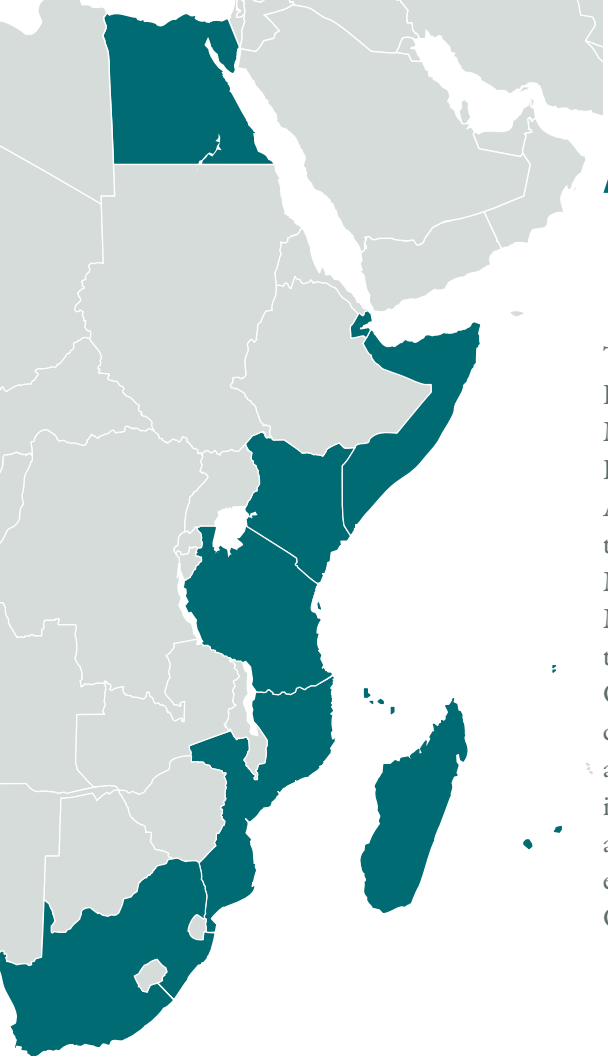
IYOR 2008 activities were also conducted in the UK territories of Turks and Caicos and the British Virgin Islands. Features on these territories are included in the "North America and the Caribbean" section of this document.

CCC Coral Reef Conservation Scholarship Programme

The Jack Petchey Foundation founded the CCC Coral Reef Conservation Scholarship Programme. The scholarship was targeted at underprivileged youths in and around the London and Essex area. More than 1,400 pupils from 27 schools took part in environmental awareness workshops. This was followed by an intensive two-day "expedition training course" for 50 pupils, 20 of whom were selected to join a four-week CCC expedition.

Rockin' Reef Weekend

The "Rockin' Reef Weekend" was held in Scotland during April 2008 and was organized by Deep Sea World. It was a weekend packed full with great reef games and presentations about the importance of coral reefs and how people can all work to conserve them.



Africa

Ten African nations of the Western Indian Ocean (WIO; Comoros, Kenya, Madagascar, Mauritius, Mozambique, Reunion, Seychelles, Somalia, South Africa, and Tanzania,) are signatories to the Convention for the Protection, Management, and Development of the Marine and Coastal Environment of the Eastern African Region (Nairobi Convention). In response to the increasing pressures on marine and coastal ecosystems in the WIO and the importance of coral reefs and associated ecosystems to the livelihoods and economies of the WIO, the 3rd Nairobi Convention Conference of Parties established the Coral Reef Task Force (CRTF). The CRTF organized a regional workshop in Zanzibar, Tanzania, to develop a Coral Reef Action Strategy: "Strengthening Capacity for the Sustainable Management of Coral Reefs in the Western Indian Ocean: A Regional Coral Reef Action Strategy."

COMOROS

Camp for Young Environmental Leaders

A week-long environmental camp for young environmental leaders was held on Grande Comore. Participants learned

about marine ecosystems, particularly coral reefs, and went snorkeling for the first time in their lives. Like the majority of Comorian youth, they had never seen below the waves. From this camp, a branch of "Junior Ecoguards" was established on Grande Comore; they will work with Community Centred Conservation on future awareness-raising activities.

Junior Ecoguard – Young Environmental Leaders' Marine adventure camp in Mitsamiouli, Grande Comore, August 2008.

DJIBOUTI

In celebration of the IYOR 2008, the Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) organized a coral reef survey in Djibouti from April 21–March 4, 2008. At this occasion, PERSGA raised awareness about coral reefs to several governmental officials and to the diving industry sector.

EGYPT

Nabq Visitor Center

The visitor center in the Nabq Managed Resource Protected Area, an important tool for public awareness, needed a makeover to become more attractive and informative. IYOR 2008 was utilized as the occasion to improve the visitor center by bringing a number of informative posters about mangrove, seagrass, and coral reef ecosystems, fossil reefs, and the threats to existing reefs. A new section about the fauna of Nabq was also added to the center.

SOUTH AFRICA

The United Nations Environmental Programme's Coral Reef Unit supported the printing and dissemination of an 80-page, "Underwater Reefs–Educator's Guide", produced by the Sea World Education Centre of the South African Association for Marine

Biological Research (SAAMBR). Copies of this guide have been distributed to 82 schools and education centers in South Africa.

The Oceanographic Research Institute of SAAMBR and the Sea World Education Centre further coordinated SAAMBR's IYOR 2008 activities with the educational program of the nature conservation authority, Ezemvelo KwaZulu-Natal Wildlife. Ezemvelo KwaZulu-Natal Wildlife provides information and posters on coral reefs in the iSimangaliso Wetland Park. Sea World Education at the uShaka Marine Park in Durban runs similar educational programs for all sectors of society, providing information on marine conservation in general.

The impact of these products is considerable as Sea World and the Sea World Education Centre receive 600,000 and 100,000 visitors, respectively, per year.

TANZANIA

To help plan for IYOR 2008 events in the Zanzibar archipelago a working committee was established with members from the Institute of Marine Sciences, Western Indian Ocean Marine Science Association, Chumbe Island Coral Park, Department of Fisheries, One Ocean Divers, Bahari Divers, the Community Development and Environmental Conservation of Zanzibar, the Commission for Tourism, and the Ministry of Education. One of the main events organized by the committee was a Crown-of-Thorn Starfish collection day on three reefs around Zanzibar on June 1, 2008. Many organizers, volunteers, and representatives from relevant authorities, as well as local media, participated in the event, which resulted in more than 700 crown-of-thorn starfish being removed from the reefs.

It is important to note that the working committee continued regular meetings after the conclusion of IYOR 2008, both to finalize some of the activities and to continue the awareness-raising work begun in the region during IYOR 2008.

△ *Rockfish take refuge among deep-sea octocoral of the Primnoidae family in the Olympic Coast National Marine Sanctuary.*

Cold-Water Corals

The International Year of the Reef 2008 not only addressed tropical coral reefs, but also associated ecosystems, such as mangroves and cold-water corals. Cold-water corals, also called "deep-sea" or "deep-water" corals, are a taxonomically and morphologically diverse collection of organisms distinguished by their occurrence in deeper or colder oceanic waters. Such corals lack symbiotic algae (zooxanthellae) characteristic of most reef-building shallow water tropical corals, and generally grow much more slowly than tropical corals. The calcified skeletons of some branching stony coral species can form large reefs in deep water, whereas others occur either singly or in tree-like thickets ("coral gardens"). Both reefs and gardens provide habitats for many fishes and invertebrates and enhance the biological diversity of many deepwater ecosystems, similar to tropical coral reefs.

Cold-water coral assemblages are particularly vulnerable to damage from bottom trawling; thus most recent conservation efforts have focused on preventing fisheries damage. These unique communities may also be damaged by energy

exploration and development, deployment of submarine cables and pipelines, and changes in water chemistry (e.g. ocean acidification due to climate change). Recovery may take decades to centuries as most cold-water corals grow slowly. In recent years there has been a rapidly increasing awareness of, research on, and action to protect, these vulnerable cold-water counterparts to tropical coral reefs. Activities to raise awareness for the conservation needs of these ecosystems were incorporated into the IYOR 2008 events of some countries.

OSPAR SIDE EVENT

In June 2008, an International Coral Reef Initiative (ICRI) event on corals and IYOR 2008 was held in Brest, France, in conjunction with the annual meeting of the Oslo/Paris Convention for the Protection of the Marine Environment of the Northeast Atlantic (OSPAR). The event was co-organized by the government of France, the World Wildlife Fund, and the United Nations Environmental Programme (UNEP), with presentations on ICRI/IYOR 2008, cold-water corals, deep-sea research, and the Charlie-Gibbs Fracture Zone proposal for a high seas marine protected area. The event was attended by senior governmental officials from the European Commission and all European countries bordering the Northeast Atlantic.

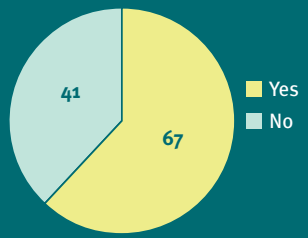
DEEP SEA CORAL SYMPOSIUM

In addition to supporting several IYOR 2008 activities on tropical reefs in the Caribbean, East Africa, and South Asia, UNEP also supported IYOR 2008 activities with respect to coldwater corals. In order to encourage and build cold-water coral expertise and capacity in developing countries, UNEP provided participation support to experts and students from Brazil, Colombia, and Russia to attend the 4th International Deep Sea Coral Symposium that was held from December, 1–5, 2008 in Wellington, New Zealand.

The Year in Figures »

More than **630** events...

2/3 of the countries, territories, and economies that contain shallow water coral reefs were involved in IYOR 2008...



Plus »

- **20** national and regional launches
- Logo translated into **12** languages
- **2500** emails registered to the IYOR newsletter
- **15** videos produced

Conclusion

The International Year of the Reef 2008 campaign made significant strides in bringing attention to not only the beauty of coral reefs, but also their value as a source of sustenance, coastal protection, and income to over 500 million people around the world. IYOR 2008 succeeded in achieving one of its primary objectives; to strengthen global awareness of the ecological, economic, social, and cultural values of coral reefs and the threats they face. The campaign's educational programs introduced coral reefs to a multitude of students and teachers, planting seeds for the next generation of conservation leaders. IYOR 2008 events, such as beach and underwater cleanups and reef surveys, introduced citizens to the reef environment while allowing them to make a tangible contribution to conservation efforts.

Although progress was made during the IYOR 2008, much work remains to save our reefs. Moving forward, we hope the many activities associated with the IYOR 2008 campaign will continue to raise awareness and inspire action to support coral reef conservation around the globe.

The first International Year of the Reef in 1997 coincided with the worst coral bleaching ever recorded up to that time. In the years since, severe bleaching events have become a more regular occurrence around the globe with major events observed in Australia in 2002 and the Caribbean in 2005. As this publication goes to press, scientists from NOAA's Coral Reef Watch Program report that conditions are favorable for significant coral bleaching to occur in the Caribbean and central to eastern Pacific in 2010. Climate models have shown that, even if green house gas emissions are dramatically reduced, within the next two to three decades bleaching events will likely be more severe and occur more frequently as a consequence of greenhouse gases already in the atmosphere. A potentially greater threat to coral reefs, also related to the buildup of atmospheric carbon dioxide, is ocean acidification. Recent studies have shown that the growth of coral in Australia's Great Barrier Reef has already slowed to the lowest rate in at least 400 years, partly as a result of this threat. Unchecked, ocean acidification has the potential to cause catastrophic destruction, not only to shallow and deep-water coral reefs, but also to many other calcium carbonate based marine organisms, including marine algae that are responsible for producing half the world's oxygen. Other threats, such as overfishing and land-based pollution, exacerbate the impacts of climate change on coral reefs. Many scientists warn that, unless these threats are aggressively addressed, most coral reef systems will disappear by the end of the century.

While there is still time to make a difference, the "Status of Coral Reefs of the World: 2008" recommended the following priority actions to conserve coral reefs for future generations:

- Urgently combat global climate change;
- Maximize coral reef resilience;
- Include more reefs in marine protected areas (MPAs);
- Protect remote reefs;
- Improve enforcement of MPA regulations; and
- Improve decision making with better ecological and socioeconomic monitoring.

The "Socioeconomic Conditions Along the World's Tropical Coasts: 2008" report, also released during the IYOR 2008, recommends incorporating local community members in decision making to achieve effective coastal and marine resource management. Aspects of all of these actions took place during IYOR 2008, and outcomes of these and new actions will continue to manifest in the future. To further implement the priority actions above, we must work to strengthen and expand the global network of coral conservation advocates, from grassroots communities to heads of government, carrying the banner of coral conservation.

We hope that the activities inspired by IYOR 2008 will encourage you to take action to save coral reefs; the need is great and the time is now.

> ***In the end, we will protect only what we love. We will love only what we understand. We will understand only what we are taught.***
>
> **—Baba Dioum, Senegalese poet and naturalist**

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Note: Any conclusions or recommendations provided in this report are solely the opinions of the authors, contributors and editors and do not constitute a statement of policy, decision, or position on behalf of the participating organizations, including those represented on the cover.

Over 500 million people have some level of dependence upon coral reefs for food resources and/or supplementary income from fishing, coastal protection, building materials, and income from tourism. Of this number, 30 million are almost totally dependent on coral reefs. *(Global Coral Reef Monitoring Network)*

IYOR 2008

INTERNATIONAL YEAR OF THE REEF