

GOAL 11: REDUCE THREATS TO INTERNATIONAL CORAL REEFS

KEY THREATS ADDRESSED:

Reducing international threats to coral reefs requires addressing a number of issues critical to the long-term protection of coral reef ecosystems. The figure below is a general summary of the relative importance (H = high, M = medium, L = low) of this goal in addressing the impacts from these threats. A higher ranking suggests that activities under this goal are considered more important to addressing the threat. Lower rankings suggest that although activities under this goal may make significant contributions, they may currently be less important to addressing the threat. The rankings are a summary of input shown in Table 2. The actual importance of this goal to addressing threats to reefs will depend on location and other factors (see Tables 3 and 4 for regional comparisons).

THREATS	Global Warming/ Climate Change	Diseases	Hurricanes/ Typhoons	Extreme Biotic Events	Overfishing	Destructive Fishing Practices	Habitat Destruction	Invasive Species	Coastal Development	Coastal Pollution	Sedimentation & Runoff	Marine Debris	Overuse from Tourism	Vessel Groundings	Vessel Discharges
Reduce Threats to International Reefs	H	L	L	M	H	H	H	M	H	H	H	M	H	H	H

RATIONALE FOR ACTION:

The U.S. has strong political and economic interests in protecting international coral reef ecosystems. Healthy marine ecosystems are critical to U.S. diplomatic and development strategies to promote economic and food security, social stability, democratic governance, improved human health, disaster and climate change mitigation, and biodiversity conservation in many countries. Coral reef ecosystems have great economic, social and cultural importance to many nations and entire regions. These extremely valuable ecosystems constitute the economic

base and future hope for sustained development in many countries, particularly small island Nations.

Coral reefs around the world are seriously threatened by direct and indirect human actions (Best et al 2002). The 1998 *Reefs at Risk* study found that almost 60 percent of the world's coral reefs are potentially threatened by human activity - ranging from coastal development and destructive and over-fishing practices to overexploitation of resources, marine pollution, and land-based sources of pollution (Bryant et al 1998). Runoff from inland deforestation, farming, sewage and municipal discharge decrease coastal water quality and increase sedimentation and excess nutrients on reefs. Global surveys by Reef Check and other organizations have found that most reefs are severely over-fished, with most organisms of high commercial value missing. In addition, the recent global impacts of catastrophic events, such as widespread coral bleaching and mortality and increased storm intensity, compound the more localized human impacts that place reefs at risk (Schuttenberg 2001).

Six billion people now inhabit our planet, twice as many as 40 years ago, and an additional 3 billion are expected in the next 40 years. Population pressures are particularly acute in coastal areas. Presently, almost half a billion people are estimated to live within 100 kilometers of a coral reef, deriving great benefits from reef resources while placing increasing demands on these complex and fragile ecosystems that can no longer sustain such pressures.

STRATEGY TO REDUCE INTERNATIONAL THREATS

The strategy to achieve this goal is outlined in the U.S. National Action Plan to Conserve Coral Reefs and related documents of the International working group of the U.S. Coral Reef Task Force. To accomplish this goal, the U.S. Government will forge and support strategic partnerships with international organizations and conventions, the International Coral Reef Initiative, other governments, non-governmental groups, and the public and private sectors to address international threats and encourage broad stakeholder involvement. Collaboration with our domestic and international partners will strive to conserve international coral reefs, mangrove forests, seagrass meadows, and global biodiversity, while sustaining the human communities that depend on them.

Development and technical assistance efforts will focus on building human and institutional capacity for integrated coastal management, marine park and protected area management, reduction of land-based sources of pollution, sustainable tourism, and sustainable fisheries in coral reef nations. In many cases, these capacity-building efforts will provide the foundation for a governance system based upon the principles of transparent, participatory governance and

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adaptive management. For more detailed information, see www.coralreef.gov. The strategy includes six broad objectives to reduce threats to international reefs from human activities:

- Objective 1: Exercise global leadership in the international arena in shaping and developing environmentally sound and comprehensive ocean and coral reef policy.
- Objective 2: Build human and institutional capacity to manage and conserve reef ecosystems and coastal watersheds through integrated coastal management.
- Objective 3: Promote efforts to prevent, reduce and control land-based sources of pollution and their effects on coral reef ecosystems, including beaches, lagoons, seagrass beds, mangrove forests, shallow reefs, deep reefs and submerged bank reefs.
- Objective 4: Support the creation and effective management of coral reef marine protected areas, particularly those that contain substantial ecological (*i.e.* no-take) reserves.
- Objective 5: Address the impact of global change, coral bleaching, and coral health on reefs and people.
- Objective 6: Address unsustainable and destructive fishing practices and the U.S. role in and impact on international trade in coral reef species. (See goal on International Trade.)

SUMMARY OF ACCOMPLISHMENTS (2001)

The following is a partial summary of recent accomplishments by members of the U.S. Coral Reef Task Force to achieve the goal and objectives. For more detailed information see <http://coralreef.gov/>.

Objective 1 Accomplishments:

- Promoted sound coral reef conservation and policy issues in various international and regional fora -- including the International Coral Reef Initiative (ICRI), Convention on International Trade in Endangered Species of Fauna and Flora (CITES), Convention on Biological Diversity (CBD), Ramsar and the 9th International Coral Reef Symposium. (DOS, USAID, NOAA, DOI, EPA)
- Worked with the International Maritime Organization (IMO) to create a provision for nations to establish international no-anchoring areas under IMO authorities. (NOAA, USCG, DOS and partners)

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- Based on U.S. proposals, the IMO designated the Flower Garden Banks National Marine Sanctuary (FGBNMS) as a no-anchoring area, initially approved 5 no-anchoring areas in the Florida Keys National Marine Sanctuary (FKNMS), and designated the FKNMS a Particularly Sensitive Seas Area (PSSA). (NOAA, USCG, DOS and partners)
- Submitted a proposal for establishing universal coral and PSSA symbols to the International Hydrographic Organization (IHO) to more easily identify these areas on navigational charts. (NOAA and partners)

Objective 2 Accomplishments:

- Improved international capacity for sustainable management and conservation in 25 countries within the Wider Caribbean, Central America, South East Asia, South Pacific, East Africa and Middle East regions. (USAID, NOAA, DOI, EPA, Peace Corps)

Objective 3 Accomplishments

- Strengthened efforts to reduce coastal pollution in at least 20 countries. (USAID, NOAA, USDA, EPA)
- Initiated the “Ridge to Reef” project in Jamaica, which integrates land-based management practices for agriculture, forestry and urban planning with coastal activities, such as improving coastal water quality to protect the reefs. (USAID)

Objective 4 Accomplishments:

- Strengthened site-based and park management, including education and enforcement, in 15 parks of national and international importance. (USAID, NOAA)

Objective 5 Accomplishments:

- Promoted and supported the Global Coral Reef Monitoring Network and the publication of *Status of Coral Reef of the World: 2000* and the *Socioeconomic Manual for Coral Reef Managers*. (DOS, NOAA, USAID)
- Continued providing data on sea surface temperatures and forecasting/tracking coral bleaching events worldwide through the Coral Watch Program. (NOAA and partners)
- Established U.S. - Australia bilateral partnership to develop improved tools for remote sensing of coral reef bleaching and other conditions. (NOAA, Great Barrier Reef Marine Park Authority, Australian Institute for Marine Sciences)

Objective 6 Accomplishments:

- Addressed destructive fishing practices and adverse impacts of international trade in coral reef species through the East Asia and Pacific Environmental Initiative. (DOS, USAID)
- Promoted the adoption of APEC's Destructive Fishing Resolution to address destructive fishing practices associated with the live reef fish trades. (NOAA, DOS, USAID)

IMPLEMENTATION PLAN 2002-2003

Successful implementation of the strategy is contingent on funding and other factors, including effort by a variety of federal and non-federal organizations. The International working group of the U.S. Coral Reef Task Force, working with many partners, provided the following partial summary of key actions needed from government and non-governmental entities in 2002-2003 to help fulfill the objectives. More detailed information is available from the working group or member organizations of the U.S. Coral Reef Task Force (<http://coralreef.gov/>).

To Address Objective 1:

- Promote sound coral reef conservation and policy issues in various international and regional fora -- including the International Coral Reef Initiative, CITES, CBD, Ramsar.
- Promote mutually supportive international trade and environmental policies.

To Address Objective 2:

- Promote best practices to protect coastal watersheds, coastal wetlands and reef resources and reduce coastal pollution through integrated coastal management.
- Develop and disseminate effective management tools.
- Promote understanding of the socio-economic costs and benefits of management measures.

To Address Objective 3:

- Promote coordination with United Nations Environment Program (UNEP) Global Program of Action and Regional Seas Programs to reduce soil erosion and agrochemical runoff, prevent industrial and municipal pollution, and reduce urban solid waste and wastewater.
- Improve coastal water quality through environmentally sound business practices, such as hotel Environmental Management Systems and hotel and beach certification schemes
- Promote long-term economic and community benefits of healthy coral reef ecosystems to tourism, one of the fastest global growth sectors and engage tourists and the private sector in protecting coastal resources.

To Address Objective 4:

- Enhance effective management and establishment of MPA networks by promoting sustainable financing mechanisms and by enhancing sustainable fisheries through ecological no-take areas.

To Address Objective 5:

- Strengthen the Global Coral Reef Monitoring Network and its collaborators
- Expand climate related coral reef observing systems such as Coral Reef Watch early warning system.
- Enhance management strategies as a mitigation strategy for coral bleaching, such as criteria for MPA selection.
- Identify regional bleaching risks based on recent (last 20 years) trends.
- Reduce vulnerability of coastal communities to global change – sea level rise, food insecurity, and coastal storms.

To Address Objective 6:

- Promote effective governance and sustainable management practices for artisan and commercial uses that address over-exploitation, destructive fishing practices, harmful fishing gear and loss of critical fish nursery habitat.
- Incorporate coral reef fisheries into food security considerations at local and global levels.
- Promote mutually supportive international trade and environmental policies.