

# Reducing Impacts From International Trade



**GOAL:** Reduce the adverse impacts of the collection of and trade in coral reef animals, encourage more responsible trade, and encourage the conservation and management of coral reef ecosystem, both domestically and internationally.

## Rationale for Action

Coral reefs face increasing pressure from commercial harvesting for export to supply the world's growing demand for food, aquarium organisms, live reef food fish, curios, jewelry, pharmaceuticals, and traditional medicines. In many cases, collection occurs at unsustainable levels leading to a reduction in the abundance and biomass of targeted species, a shift in

species composition, potential large-scale ecosystem degradation, and diminished long-term benefits to local communities. In addition to overfishing and overexploitation, destructive fishing practices (e.g., cyanide use to capture aquarium and live reef food fish) and unsafe diving practices are becoming more widespread as fishermen must access more remote and deeper locations to collect target species.

## OBJECTIVES

**OBJECTIVE 1:** Assess the nature and extent of trade in coral reef species and both positive and negative impacts associated with the trade.

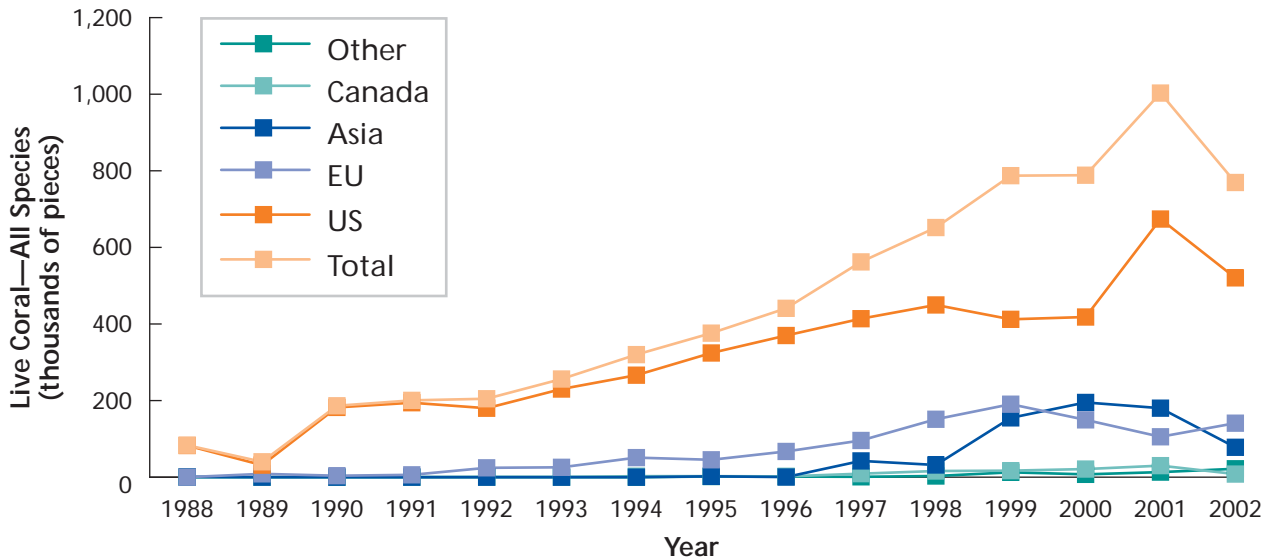
**OBJECTIVE 2:** Evaluate and implement approaches to mitigate negative impacts associated with trade.



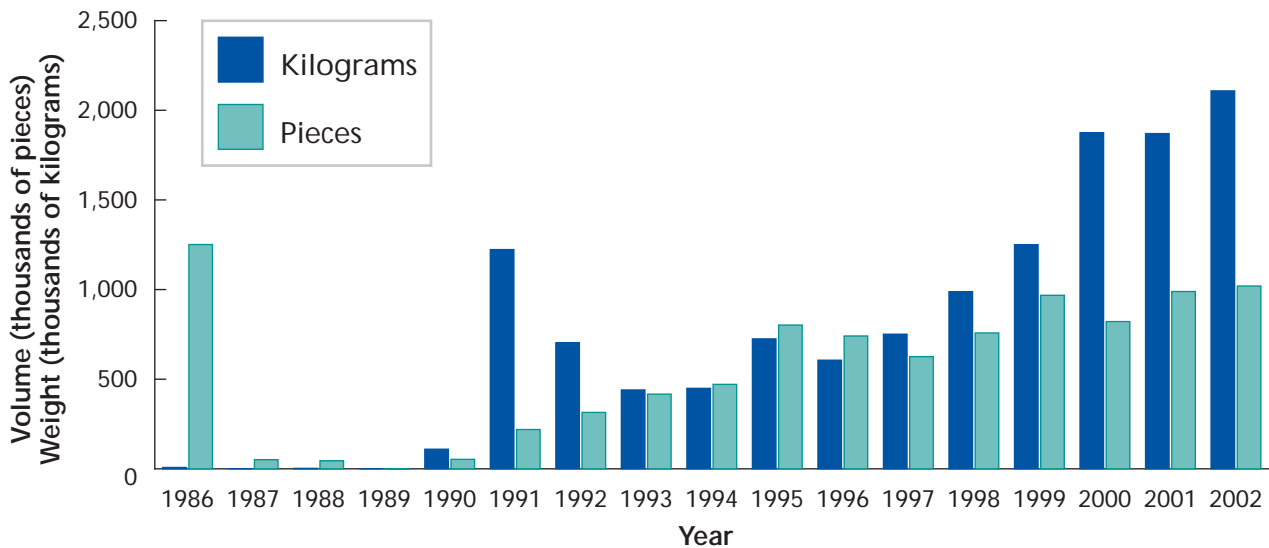
## Figure 4. Total International Trade in Stony Coral: 1986–2002

Figure 4-A shows the number of colonies of live stony corals, reported by genus or species, imported by the United States, European Union, Asia, Canada, and all other countries. The trade has increased by 500 percent over a 10-year period with a temporary decline in 2002 due to a reduction in exports from Indonesia. Figure 4-B shows the number of pieces of reef substrate and kilograms of live rock exported for use in home aquariums. Most of this material is from Fiji, Indonesia, and Vietnam, with 80–95 percent imported into the United States. For trade records prior to 1993, countries often reported unidentified stony corals as *Scleractinia*.

### A. Live Coral Reported by Genus or Species



### B. Live Rock and Reef Substrate Reported as *Scleractinia*



Although trade-driven damage to reef ecosystem is generally less than that associated with dynamite fishing, overfishing for local consumption, and collection of corals for building materials, it is an issue of importance to the United States—the world’s largest consumer of coral reef animals and products for the marine ornamental trade (see figure 4). Domestically, the United States prohibits the use of most destructive fishing practices and the commercial collection of stony corals and live rock in federal, state, and territory waters. Although the United States promotes sustainable management and conservation efforts for domestic coral reef fisheries, many coral reef species and products collected using destructive practices and removed from reefs in an unsustainable fashion in other nations continue to be imported into the country. The United States can help encourage exporting countries to manage coral reef fisheries to ensure they are sustainable, trade is equitable, resource conflicts between users are minimized, and post-harvesting mortalities are minimal. If managed sustainably, trade in coral reef species could provide jobs in predominantly rural, low-income coastal communities, thereby providing strong economic incentives for coral reef conservation in regions with few alternative sources of revenue.

## Summary of Implementation

To respond to the threats to coral reefs from unsustainable harvest and destructive fishing practices to supply international markets, the USCRTF developed the comprehensive trade strategy *International Trade in Coral and Coral Reef Species: The Role of the United States* (<http://www.coralreef.gov>). USCRTF agencies have implemented various components of this trade strategy in partnership with other governments, international organizations, non-governmental organizations, and the private sector.

The Convention on International Trade of Endangered Species of Wild Fauna and Flora (CITES) provides a particularly valuable forum for addressing unsustainable trade. The United States promotes sustainable international trade through CITES by:

- Working to improve compliance with existing listings;
- Participating in CITES Animals Committee working groups and meetings to advance coral reef conservation efforts;
- Implementing notifications, decisions, and policies adopted by the CITES Secretariat and member countries;
- Evaluating the need for additional species listings; and
- Developing listing proposals to protect species from overexploitation.

The United States also works with partners in other multilateral forums (e.g., Asia Pacific Economic Cooperation) and bilateral negotiations that have proved useful in addressing coral reef trade issues.

The U.S. Agency for International Development (USAID), NOAA, the U.S. Department of the Interior, and the U.S. Department of State (DOS) provide assistance to many coral reef countries to address the adverse impacts from international trade. These programs strengthen human and institutional capacity to develop and implement sustainable management plans, enforce relevant laws and regulations, develop environmentally sound collection practices and alternatives, and implement other measures that protect and conserve coral reef ecosystem. USCRTF agencies have also supported voluntary, private sector approaches (e.g., through the Marine Aquarium Council) that engage industry and conservation groups in setting standards for improved management, collection, and handling practices.





Stony corals from Southeast Asia for sale as curios in Hawai'i.

of reef substrate were traded in 2002 with the United States importing 67 percent of all live coral and 89 percent of all live rock. An analysis of coral composition indicates the majority of the corals traded for use as curios are such branching corals as *Acropora*, *Pocillopora*, and *Stylophora*, which tend to be the most common and fastest growing taxa. More than 60 percent of live corals consist of a small number of large polyp taxa, which tend to be less common and exhibit slow growth and low rates of recruitment.

### U.S. Imports of Ornamental Coral Reef Species

The United States imports nearly 50 percent of all marine aquarium fish in international trade, but few data are available to determine specific species or the sustainability of the harvests. In 2002, NOAA supported an analysis of 1 month's data (October 2000) from U.S. Fish and Wildlife Service (USFWS) importation and exportation forms to better characterize the trade. During the 1-month project period, 1,185 shipments contained 1,038 marine fish species from 95 families, representing a dramatic increase over the same period in 1971 (200 species) and 1992 (809 species). Although extrapolating the total annual imports captured by the study is difficult, the report provides a glimpse into the importance of various traded species and the source countries involved.

### Improving the Declaration Process To Promote Compliance With CITES and U.S. Wildlife Laws

Due to the large volume of species of ornamental tropical fish imported by the United States, imports have traditionally been pooled into one category—ornamental fish. Such categorization, however, cannot identify levels of trade in individual species or separate fish according to marine and freshwater

## Highlights of Task Force Member Activities

**OBJECTIVE 1:** Assess the nature and extent of trade in coral reef species and both positive and negative impacts associated with the trade.

### Extent of Trade in CITES Appendix II: Listed Stony Corals

Stony corals harvested from reefs around the world supply international markets with live aquarium animals, curios, jewelry, and other products. All stony corals were added to Appendix II of CITES in 1990. As a result, corals could still be traded internationally, and trade levels were regulated through a system of permits issued by the exporting country based on a finding of nondetriment and legal acquisition. Although stony corals are regulated through CITES, the United States and other countries have expressed concern about the impacts associated with increasing levels of trade. NOAA completed an updated analysis of CITES data on global trade and found that more than 750,000 live corals, 2.1 million kilograms of live rock, and 1 million pieces

taxa. In spring 2003, USFWS introduced a voluntary Internet-based system (eDecs) for declaring wildlife imports and exports, including coral reef species. The system expedites shipment declaration and clearance, improving communication between the import/export community and USFWS enforcement staff, promoting compliance with CITES and U.S. wildlife laws, and facilitating a thorough analysis of trends in the trade of ornamental coral reef fish.

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**OBJECTIVE 2:** Evaluate and implement approaches to mitigate negative impacts associated with trade.

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### Protecting Species Through CITES Appendix II Listings

In a trade involving at least 75 countries, 26 of the 33 known seahorse species are being collected through target fisheries or as bycatch to supply an annual demand for more than 25 million animals for traditional medicines and hundreds of thousands for aquarium pets. Rapid declines in catch reported from the major exporting countries and concerns about a rapidly increasing trade prompted the United States to propose listing all 33 species of seahorses (genus *Hippocampus*) in Appendix II of CITES. All species were successfully added to Appendix II at the 12th Conference of the Parties (COP12) to CITES in November 2002. The United States is committed to providing exporting countries with technical assistance to develop adaptive management measures that will help ensure sustainable harvests and funded an initial workshop on seahorse management in 2004.

### Evaluation of the Need for Additional CITES Listings

Sea cucumbers (also known as beche-de-mer) are an important component of the coral reef fauna and

are under considerable harvest pressure to supply a growing international demand for seafood. As a result, populations of high-value species are being overexploited and fisheries continue to expand into new locations. COP12 adopted the U.S. recommendations to convene a technical workshop to evaluate the status of sea cucumbers and consider appropriate conservation measures, including regional management, domestic fisheries controls, and possible future CITES listings.

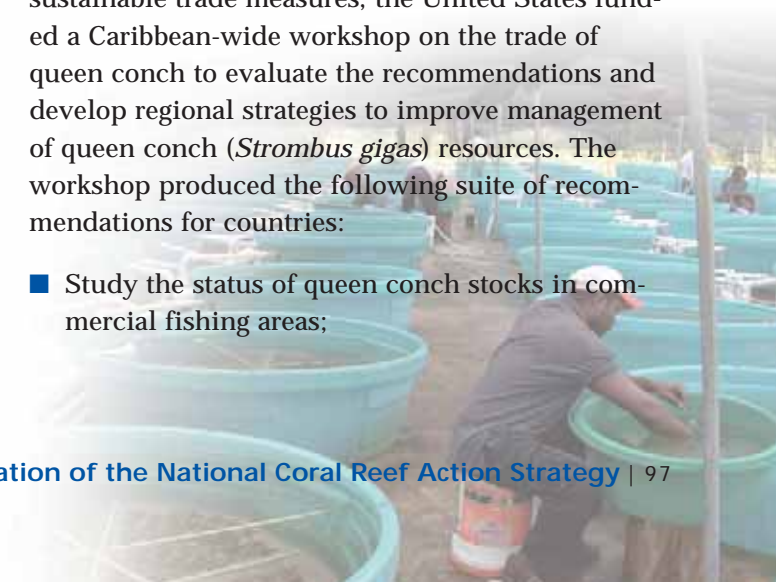
### Improvement of Reporting Requirements for CITES-Listed Corals

NOAA and USFWS participated in the Coral Working Group of the CITES Animals Committee to improve reporting requirements for corals in international trade. New definitions were adopted by CITES to distinguish live coral, dead coral, and coral rock (reef substrate and live rock) in trade, and a list was developed of corals that must be reported to the species and corals that can be identified to the genus on CITES export permits. The working group is also evaluating possible codes to differentiate wild harvested corals from those produced through mariculture (pen-type enclosures within open bodies of water) and aquaculture (pond or confinement systems) and whether non-detriment findings must be based on the impacts to the species in trade or its role in the ecosystem.

### Significant Trade Review for Queen Conch Through CITES

As part of the CITES process to review and enforce sustainable trade measures, the United States funded a Caribbean-wide workshop on the trade of queen conch to evaluate the recommendations and develop regional strategies to improve management of queen conch (*Strombus gigas*) resources. The workshop produced the following suite of recommendations for countries:

- Study the status of queen conch stocks in commercial fishing areas;





Adult Queen Conch (*Strombus gigas*).

- Promote regional management planning;
- Develop standardized trade terminology; and
- Cooperate with law enforcement activities.

The United States also imposed trade restrictions recommended by CITES on queen conch imports from a number of countries. Before trade can resume, each country must implement long-term conservation measures, including scientifically sound species management programs.

### Support for Private Sector Initiatives of the Marine Aquarium Council

The Marine Aquarium Council (MAC) is an international nonprofit organization that brings marine aquarium animal collectors, exporters, importers, and retailers together with aquarium keepers, public aquariums, conservation organizations, and government agencies to promote best management, collection, and handling practices for ornamental coral reef species. NOAA, USAID, DOS, and their partners, in coordination with other USCRTF members, have provided technical assistance in the development of MAC certification standards, funding for training of fishers in the Philippines and elsewhere in environmentally friendly collection practices, and support for outreach efforts by MAC

that were instrumental in these efforts. In October 2002, the first importer was certified in compliance with the MAC standards for trade in marine aquarium organisms, and the first certified reef aquarium organisms were imported to the United States in 2003. There are now certified collectors and sites in the Philippines and Fiji, and certified importers and retailers in the United States, Canada, and Europe are providing certified products.

### Free Trade Agreements

Singapore is one of the largest transshipment centers for coral reef-associated species. In association with the U.S./Singapore Free Trade Agreement, the two countries signed a Memorandum of Intent (MOI) on Cooperation in Environmental Matters (June 13, 2003). The MOI calls for strengthening relationships through compliance, enforcement, and performance cooperation, and improving the environmental protection of endangered species. Increasing cooperation through the MOI will help improve enforcement of CITES commitments.

### Asia-Pacific Economic Cooperation Forum

The United States has been working with the Asia-Pacific Economic Cooperation (APEC) to design a multiyear implementation program to address over-exploitation and destructive fishing practices associated with the live reef food fish trade, an industry involving annual exports of more than 30,000 metric tons of grouper, humphead wrasse, and other vulnerable, long-lived reef fish. Through the creation of a regional research network, the United States, Chinese Taipei, Hong Kong, and Australia developed the capacity to establish a sustainable grouper (*Seranidae*) aquaculture industry that benefits all APEC economies. The effort is reducing destructive fishing practices by providing an alternative source of income and employment to people currently engaged in dangerous and illegal fishing practices.



### Encouraging Sustainable, Environmentally Sound Mariculture To Reduce Wild Harvest

In Komodo National Park in Indonesia, USAID supports efforts to develop environmentally friendly mariculture of grouper and wrasse (*Labridae*) for the live reef food fish trade. The program has developed completely closed mariculture techniques using local species of fish. Once the young fish reach sufficient size in the mariculture facility, they are distributed to local fishers to be raised in fish pens. In 2004, the program expects to produce up to 125 tons of fish for the market.



Live reef food fish trade in Hong Kong.

### Future Challenges

Despite strong U.S. efforts, the adverse impacts of international trade continue to increase, along with U.S. consumer demand for coral reef animals. The United States needs to strengthen its role as an international leader in the development of sound coral reef policy and to provide guidance and technical assistance to exporting countries. Continued implementation of the recommendations of the USCRTF trade strategy is needed with an emphasis on capacity building in countries with coral reefs, domestic enforcement, public education and awareness, and active participation in such international and regional programs as the International Coral Reef Initiative to highlight concerns and promote conservation initiatives. Future efforts can be summarized by the following four key objectives:

#### Strengthen CITES protection of coral reef animals.

Consideration of additional listing proposals and strengthened management strategies are needed for listed coral reef species. The United States needs to support the implementation of CITES requirements for listed species, including technical assistance to exporting countries to:

- Monitor resource trends and harvests;
- Develop management measures to ensure sustainable harvest through an adaptive management process; and
- Devise practical means for addressing bycatch and habitat loss associated with the nonselective harvest of certain species (e.g., seahorses).

The United States also needs to evaluate whether other such species as sea cucumbers, precious corals<sup>6</sup>, mollusks, and coral reef fish qualify for and could benefit from additional protection through CITES.

<sup>6</sup> Species of precious corals include pink coral, *Corallium secundum*, the gold coral, *Geradria* (formally *Parazoanthus*) sp., bamboo coral, *Lepidisis Olapa* (formally *Keratoisis nuda*), and shallow water black coral species including *Antipathes dichotoma*, *Antipathes grandis*, and *Antipathes ulex*.



Examples of coral species produced using environmentally friendly mariculture practices.

**Analyze the trade in coral reef species.** A detailed analysis of trade in coral reef species not currently regulated through CITES is needed to assess future need for management actions. A thorough review and analysis of U.S. imports of non-CITES-listed species are critical to identifying species of concern traded at unsustainable levels that may be inappropriate for trade. The analysis would provide data on trends in exports for individual species by the exporting countries. When combined with data on the natural history and threats, the analysis would help identify potential species needing regional and international protection.

provide more environmentally friendly and stable livelihoods for local communities.

**Evaluate additional measures to help ensure sustainable harvest of coral reef species in trade.**

Evaluation and development of measures to help ensure that coral reef species imported by the United States are harvested sustainably and transported using best management practices is needed. USCRTF members would work with source countries, the aquarium trade industry, and other interested partners to evaluate and develop these measures.

**Develop environmentally friendly mariculture and aquaculture techniques.**

Technical assistance to exporting countries is needed to reduce wild harvest through the development of environmentally friendly mariculture and aquaculture approaches. Currently, 98 percent of traded marine aquarium reef fish come from the wild (Moe 1999), whereas 98 percent of the freshwater aquarium species come from aquaculture facilities. Establishing appropriate and ecologically sound mariculture in developing coral reef countries could help relieve the pressure on reefs and pro-