



NOAA Fisheries

Coral Reef Conservation Program

Program Highlights for Fiscal Year 2003 and Selected Accomplishments for FY 2001 and 2002



FLORIDA AND THE CARIBBEAN

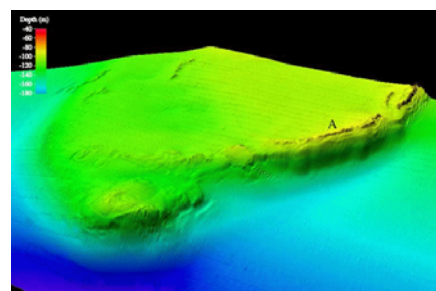
Monitoring Reef Fishes and Habitats in the Florida Keys: In FY-2002, National Marine Fisheries Service (NMFS or NOAA Fisheries) worked with numerous partners to completed the most ambitious fish and habitat census to date of the Florida Keys coral reef ecosystem from Miami to the Tortugas Bank. Results confirmed the high levels of overfishing, but also that numbers and size of fishes in ecological reserves where fishing is not allowed were much higher than outside. Preliminary evidence showed an increase in diversity and abundance of exploited species in the Tortugas Reserve after one year of protection. These monitoring studies will serve as a baseline for assessing future changes in economically important species resulting from the creation of the Tortugas marine reserves.



Diver conducting census

In FY2003, NMFS will work with its partners to continue to monitor the no-take reserves within the Florida Keys National Marine Sanctuary. The project will continue to develop and test MPA theory and effectiveness as a tool for coral reef resource management. Specific tasks include quantifying changes in fish densities and determining probability of occurrence and mean exploitable fish size by species in the protected areas within the sanctuary. NMFS is expanding reef fish monitoring to reef in the southeast Florida. NMFS will also use fishery dependant data to conduct a stock assessment to assess the validity of estimates of stock status generate by visually based, fishery-independent stock assessments conducted for Biscayne National Park, the Florida Keys, and Dry Tortugas National Park.

Mapping and characterizing deep-water reefs of the Florida shelf: In FY-2001, a multi agency effort completed the multi-beam sonar mapping of the major areas of the Northeastern Gulf of Mexico, including the new Madison-Swanson and Steamboat Lumps Marine Protected Areas. These areas were recently protected as important habitats for commercial fishes and contain some deep reefs that likely rival those found in the Flower Gardens National Marine Sanctuary. Additional habitat characterization of deep *Oculina* reefs off the East coast of Florida using



Multi-beam image of Madison Swanson

submersibles and multi-beam sonar revealed significant habitat damage from illegal trawling. The work on the *Oculina* reefs is being done in partnership with the Sustainable Seas Initiative of the National Ocean Service and National Geographic. In FY-2002, mapping of *Oculina* banks was expanded, and other key deep reef resources are being mapped in partnership with the South Atlantic, Gulf of Mexico and Caribbean Fishery Management Councils.

IN FY03, NMFS will continue to support the mapping efforts of the Councils in their respective regions.

Coral decline and impacts of coral diseases: In the Florida Keys and throughout the Caribbean, reefs have been devastated by a combination of human impacts and coral diseases. NMFS studies revealed that elkhorn and staghorn coral, previously the dominant shallow water corals in the region, had decreased by 95% to 98% over the last 17 years at Looe Key. Coral disease is a major cause of this

decline. These two species have been so badly reduced throughout their range that they have been listed as candidates for protection under the Endangered Species Act. We are completing a major status review of these species and continue research, including a population genetic study of elkhorn coral, to better understand and reverse their decline. Together NMFS, NOS and other partners have developed a coral disease consortium to determine the condition of coral reef ecosystems, the biogeographic distribution of diseases and other emerging threats, their causes and impacts and mitigating factors.



White band disease

In FY-2003, NMFS will continue to sample elkhorn coral throughout the Caribbean and Florida to conduct genetic analyses of this species in order to determine population structure. We will also begin investigating species distinctiveness of the *Oculina* corals.

Social Dimensions of Marine Protected Areas (MPAs): IN FY-2003, NMFS will do the ground work for an socio-economic studies in both Puerto Rico and U.S. Virgin Islands(USVI). These studies are intended to provide local managers with a greater understanding of the socio-economic dimensions of establishing MPAs. To achieve this goal, NMFS will conduct a survey to: 1) identify main stakeholders, describe resource use patterns and fishery resource status, stakeholders' perceptions and attitudes toward existing conservation and management practices; 2) determine the features and attributes that MPAs should have to ensure community support and acceptability of MPAs as a fishery management tool; and 3) establish a baseline of socio-economic information to help determine the impact of establishing MPAs and monitor changes in socio-economic conditions over time.



Groupers

Technical Assistance to Puerto Rico and US Virgin Islands: In FY-2002, the NMFS Caribbean Field Office supported several conservation activities in the territories. NMFS and Sea Grant sponsored a coral reef fisheries workshop for USVI and Puerto Rico, which focused on fishery utilization, marine management, fishery regulations and enforcement, and education. To help reduce the impact of fishing and boating on coral reef resources, NMFS held workshops for fishers and supported the development of marine conservation areas in Puerto Rico. Work was also conducted in Puerto Rico to determine important spawning areas for economically and ecologically important reef fishes in order to support designation of essential fish habitat and habitat areas of particular concern.



Fishing boats in Puerto Rico

In FY-2003 the NMFS will conduct a series of workshops for fishers in USVI to disseminate information on fishery regulations and to increase communication between the local fishers and management authorities. Workshops will also be held for Puerto Rico Rangers to enhance their understanding of the biology of coral reef species and coral reef ecosystems they protect. We will assist the government of USVI in instituting a trammel net buy back program to phase out this particularly damaging fishing gear. To help reduce the impact of boating on La Cordillera Natural Reserve, NMFS is helping Puerto Rico design a zoning system for the reserve and installing morning buoys and educational signage throughout the reserve.