

Tortugas marine reserve yields more, larger fish

February 4 2013

A new NOAA research report finds that both fish populations and commercial and recreational anglers have benefited from "no-take" protections in the Tortugas Ecological Reserve in the Florida Keys National Marine Sanctuary.

The report, "An Integrated Biogeographic Assessment of [Reef Fish](#) Populations and Fisheries in Dry Tortugas: Effects of No-take Reserves," is the first to evaluate how the 151-square nautical mile Tortugas Ecological Reserve affects the living marine resources of the region and the people whose livelihoods are connected to them.

The report's analysis of long-term socioeconomic and scientific information found that after the ecological reserve was designated in 2001:

- Overfished species such as black and red grouper, yellowtail and mutton snapper increased in presence, abundance and size inside the reserve and throughout the region;
- Annual gatherings of spawning mutton snapper, once thought to be wiped out from overfishing, began to reform inside the Reserve;
- Commercial catches of reef fish in the region increased, and continue to do so; and
- No financial losses were experienced by regional commercial or recreational fishers;

"The findings in this report are good news for NOAA management efforts to enhance fisheries and other natural resources in the Florida Keys," said Holly Bamford, Ph. D., NOAA assistant administrator for the National Ocean Service. "The results are equally important in other areas where NOAA science provides support to management decisions that are made to best utilize and protect our natural resources."

To assess economic effects of the area closure, social scientists from NOAA's Office of National Marine Sanctuaries and University of Massachusetts analyzed catch landings and revenues from commercial fishers (reef fish, shrimp, spiny lobster and king mackerel) and surveyed [recreational fishing](#) guides operating within the Tortugas region before and for five years after reserve protection.

"This research shows that marine reserves and economically viable fishing industries can coexist," said Sean Morton, sanctuary superintendent. "The health of our economy is tied to the health of our oceans. They are not mutually exclusive."

Key West commercial fishery landings had an estimated value of \$56 million in 2011, up from \$40 million in 2001, according to NOAA's Fisheries of the United States reports. Ocean recreation and tourism support approximately 33,000 jobs in the Florida Keys.

Contributors to the report also included researchers from NOAA's National Centers for Coastal Ocean Science, NOAA Fisheries Service, Southeast Fisheries Science Center, and University of Miami.

The 151-square nautical mile Tortugas [Ecological Reserve](#) was designated by the Florida Keys sanctuary in 2001, and its design involved extensive collaboration between commercial and recreational fishermen, divers, scientists, conservationists, citizens-at-large and resource managers. The reserve is closed to all consumptive use,

including fishing and anchoring, and a portion of it is open to permitted marine researchers only.

Provided by NOAA Headquarters

Citation: Tortugas marine reserve yields more, larger fish (2013, February 4) retrieved 23 May 2024 from <https://phys.org/news/2013-02-tortugas-marine-reserve-yields-larger.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.