

A Look Ahead

In October 2010, scientists convened for the first-ever conference devoted exclusively to science and management of Florida Keys marine ecosystem. The conference highlighted the considerable progress made toward effective management of Florida Keys National Marine Sanctuary over its 20-year history and the necessity that high-quality, comprehensive, and bold science serve as the basis for management action.

To this end, in 2011, the sanctuary will embark on its annual coral health and disease research cruise. These annual surveys, which occur at fixed locations each year, provide information on the connections between human-induced and environmental stressors and coral health. Collected data will provide reef managers with information to make effective policy decisions to protect and conserve coral reefs in the region. With over a decade's worth of information, this annual monitoring provides a long-term data set used to compare trends in reef health over time, which in turn contributes to management decisions and directs future research priorities.

Supporting Jobs, Communities and Culture

Florida Keys National Marine Sanctuary protects the third largest coral barrier reef ecosystem in the world. This habitat provides a unique and valuable setting for a multitude of recreational and commercial activities for the more than 70,000 year-round residents of the surrounding Monroe County and for approximately four million annual visitors. Each year, residents spend an estimated \$114 million on recreational activities such as fishing, snorkeling, scuba diving, wildlife viewing, and boating; visitors spend \$2 billion on these types of activities. Commercial fisheries, including shrimp, spiny lobster, stone crab and fish such as Spanish mackerel, account for five to eight percent of the total income or jobs in the Florida Keys.

NOAA's Office of National Marine Sanctuaries is committed to supporting lives and livelihoods across the nation and in sanctuary communities through socioeconomic research and monitoring to understand the economic and social drivers of sanctuary resources and improve management practices.

Florida Keys National Marine Sanctuary Advisory Council Members

Officers

Chair: Bruce Popham

Vice Chair: Ken Nedimyer

Non-Governmental Members

Boating Industry: Bruce Popham
Alternate: vacant

Citizen at Large – Middle Keys: Dolly Garlo
Alternate: vacant

Citizen at Large – Lower Keys: David Hawtof
Alternate: Walter Drabinski

Citizen at Large – Upper Keys: David Makepeace
Alternate: vacant

Conservation and Environment: Jason Bennis
Alternate: Jessica Puffer

Conservation and Environment: Chris Bergh
Alternate: Peter Frezza

Diving – Lower Keys: Don Kincaid
Alternate: Bob Smith

Diving – Upper Keys: Rob Mitchell
Alternate: Scott Fowler

Education and Outreach: Martin Moe
Alternate: Alex Brylske

Fishing – Charter Fishing Flats Guide: Richard Grathwohl
Alternate: Stephen Friedman

Fishing – Charter Sports Fishing: Steven Leopold
Alternate: Brad Simonds

Fishing – Commercial - Shell/Scale: Jeff Cramer
Alternate: Bill Kelly

Fishing – Commercial – Marine/Tropical: Ken Nedimyer
Alternate: Ben Daughtry

Fishing - Recreational: Jack Curlett
Alternate: Bruce Frerer

Research and Monitoring: David Vaughan
Alternate: Art Itkin

South Florida Ecosystem Restoration: Jerry Lorenz
Alternate: Joseph Boyer

Submerged Cultural Resources: Corey Malcom
Alternate: Bill Chalfant

Tourism – Lower Keys: Bob Holston
Alternate: Clinton Barras

Tourism – Upper Keys: Debra Illes
Alternate: Susan Ford Hammaker

Governmental Members

Local Government

Elected County Official: George R. Neugent
Alternate: Heather Carruthers

State Government

Florida Department of Environmental Protection (non-voting): Kent Edwards

Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute (non-voting): John Hunt

Florida Fish and Wildlife Conservation Commission, Division of Law Enforcement (non-voting): Major Alfredo Escanio
Alternates: Capt. Pat Langley, Capt. Christian Rodriguez

South Florida Water Management District (non-voting): Thomas Genovese

Federal Government

National Park Service (non-voting): Tracy Ziegler

U.S. Coast Guard (non-voting): LCDR Michael Herring
Alternate: Phil Goodman

U.S. Environmental Protection Agency (non-voting): Patricia Bradley

U.S. Navy (non-voting): Edward Barham

U.S. Fish and Wildlife Service (non-voting): Anne Morkill
Alternates: Karen Hillier, James Bell

NOAA Office of Law Enforcement (non-voting): Kenneth Blackburn
Alternate: John O'Malley

NOAA Office of General Counsel Southeast Region (non-voting): Karen Raine

NOAA Florida Keys NMS (non-voting): Sean Morton

Sanctuary Advisory Council Coordinator
Lilli Ferguson

National Marine Sanctuaries
National Oceanic and Atmospheric Administration

FLORIDA KEYS NATIONAL MARINE SANCTUARY



2010 ACCOMPLISHMENTS



Florida Keys National Marine Sanctuary surrounds the Florida Keys archipelago and supports one of the most diverse marine ecosystems in North America. The sanctuary is home to the continent's only living coral barrier reef and beckons divers from around the world. The shallow waters of the 2,900-square nautical mile sanctuary also contain mangrove fringed islands and lush seagrass meadows. Together, these complex ecosystems provide the basis for the valuable tourism and fishing industries that are vital to Florida's economy. Established Nov. 16, 1990.



Over \$30,000 in Settlements Paid for Sanctuary Violations

In fiscal year 2010, NOAA processed eight civil cases involving violations of the National Marine Sanctuaries Act, including vessel groundings, illegal anchoring, and poaching in the Florida Keys and violators paid more than \$30,000 in civil settlements. Cases included a \$6,000 civil penalty for a sailboat that ran aground in Florida Keys National Marine Sanctuary, injuring a coral reef. The owners and operators of three recreational vessels each paid civil penalties of \$5,000 in grounding cases impacting seagrass in the sanctuary. Additional cases included a \$12,000 civil penalty settlement with the owner and operator of a charter fishing vessel for anchoring and fishing within the Tortugas Ecological Reserve in 2009. These cases illustrate what can be achieved through cooperative law enforcement to conserve, manage, and protect coastal and marine resources.



Staff Finalize Rule Prohibiting Waste Discharges into Sanctuary

Throughout the 2010 fiscal year, sanctuary staff worked to finalize a new NOAA rule that will prohibit vessel operators from discharging sewage into all waters of Florida Keys National Marine Sanctuary and require vessel marine sanitation devices to be secured to prevent discharges within sanctuary boundaries. Vessel sewage discharge has been prohibited in state waters of the sanctuary since their designation as a No Discharge Zone by the U.S. Environmental Protection Agency in 2002. Under the new rule, both state and federal sanctuary waters will be protected from vessel sewage discharge. Staff collected and incorporated feedback from public meetings and an open comment period into the rule, which took effect in December 2010. The new sewage discharge rule follows other efforts to better protect the sanctuary's coral resources and improve water quality in the Florida Keys.



Sanctuary Staff Respond to Deepwater Horizon

While oil from the MC252 Deepwater Horizon Oil Spill did not reach the Florida Keys, sanctuary staff were prepared for the possibility and provided direct and immediate support to response efforts throughout the incident. Florida Keys National Marine Sanctuary scientists conducted shoreline surveys and helped to develop and implement a plan to sample water and sediment around the sanctuary, to collect baseline data should oil reach the sanctuary. Staff helped collect data and information to assess potential spill impacts on corals and developed a plan to monitor and assess impacts to submerged aquatic vegetation potentially resulting from the spill. Staff also participated in Shoreline Assessment and Cleanup Teams and served on various Natural Resource Damage Assessment teams. Through their knowledge and experience, sanctuary personnel helped to protect and restore Gulf resources and minimize injury to our national marine sanctuaries.



Solar Panels and Exhibit on Solar Energy at Eco-Discovery Center

In December 2009, in partnership with the Florida Municipal Power Agency and Keys Energy Services, more than 200 photovoltaic panels were installed on the roof of the Florida Keys Eco-Discovery Center, providing up to 30 percent of the building's energy. A new exhibit featuring information on renewable energy and climate change was unveiled in March. The exhibit features a real-time "dashboard" of the energy being generated by the photovoltaic panels and the various carbon and energy offsets provided by it; the dashboard is also available online (<http://keysecosolar.com>). The addition of this solar technology demonstrates NOAA's commitment to resource conservation and provides visitors a look at steps they can take to increase energy efficiency in their own homes and businesses. The Eco-Discovery Center is located in Key West, Fla., and is managed by the sanctuary. The Center, which is free to the public, was voted "Best Nature Center in Florida" for 2010 by *Florida Monthly* magazine.



Sanctuary Staff Support Florida Keys Tarball Response

During the MC252 Deepwater Horizon Oil Spill response, the Florida Keys Tarball Response Unified Command was established to address numerous reports of tarballs washing ashore at various locations in the Keys. Sanctuary staff provided scientific support to the Unified Command, including leading the Environmental Unit of the response, surveying the shoreline for pollution, assessing the scope of impact, providing recommendations for cleaning up impacted beaches, and helping to develop a plan for Dry Tortugas National Park. Staff also coordinated with the incident Joint Information Center to field inquiries from members of the media. While the tarballs were found not to be related to the Deepwater Horizon incident, responding to the tarballs provided an opportunity to test the effectiveness of oil countermeasures and shoreline cleanup options.



Dive Community Aids in Removal of Invasive Lionfish

During fiscal year 2010, Florida Keys National Marine Sanctuary partnered with the non-profit Reef Environmental Education Foundation (REEF) to train members of the Florida Keys diving community on proper techniques to remove the invasive Indo-Pacific lionfish from sanctuary waters. Lionfish threaten the biodiversity of the sanctuary as they reproduce quickly, eat large numbers of important fish species, and have no known predators. In addition to holding training workshops, REEF and the sanctuary partnered to host three lionfish 'derby roundups,' providing cash and prizes to teams bringing in the most lionfish and the biggest and smallest lionfish. During the first derby, held in September 2010, over 500 lionfish were caught in the Upper Keys. The derbies represent another way to involve the dive community in reducing the population of this marine invader.



Sanctuary Team Responds to Cold-Water Bleaching Event

In January and February 2010, Florida Keys National Marine Sanctuary staff responded to the first cold-water coral bleaching and mortality event since the late 1970s. Coral bleaching is typically associated with elevated water temperatures, but stress also occurs when water temperatures drop. During the first two weeks of January 2010, water temperatures in some parts of the Keys dropped 20 degrees Fahrenheit lower than "normal." Sanctuary scientists worked with partners to collect and assess coral reef field data throughout the sanctuary. The team found the hardest hit areas were the inshore and mid-channel reefs, while offshore reefs were buffered by warmer waters of the Florida Current and spared severe impact. Monitoring the health of the reefs after the event will help shed light on how reefs respond to natural and human-induced events and will guide efforts to protect these critical habitats.



Team OCEAN Nets Over 10,000 Pounds of Marine Debris

In fiscal year 2010, Team OCEAN (Ocean Conservation Education Action Network) volunteers participated in 12 cleanup events, collecting over 10,000 pounds of debris at locations throughout the Florida Keys. These shoreline cleanups help beautify natural areas, improve habitat quality, and reduce entanglement and ingestion threats to wildlife. Team OCEAN is an educational program managed by the sanctuary and designed to promote safe and enjoyable public use and protection of sanctuary waters. During the year, sanctuary staff and Team OCEAN volunteers also educated boaters on the principles of safe vessel operation and navigation of sanctuary waters through classroom trainings, attendance at community events, and on-the-water interactions. Together, these efforts promote a better understanding of the coral reef ecosystem and the role of the sanctuary in protecting it.