

## SOUTHEAST REGIONAL PRIORITIES

### Science Staff Provide Support for Southeast Region

The Southeast Region of the NOAA Office of National Marine Sanctuaries provides direct support to the sanctuary sites through its regional science coordinators, who are active in a wide range of projects within NOAA as well as with other agencies and academia. In 2009, the region's science coordinator worked to support the science program at Florida Keys National Marine Sanctuary, in addition to several national initiatives such as the Southeast Atlantic and Caribbean Regional Team. The region's associate science coordinators helped Flower Garden Banks National Marine Sanctuary prepare an environmental impact statement that will support the site's proposed sanctuary expansion; represented the sanctuary on NOAA's Gulf of Mexico Regional Collaboration Team; served as the co-chief scientist for the Gray's Reef sanctuary cruise aboard the NOAA ship *Nancy Foster* that supported four separate research projects and involved 12 organizations and numerous volunteers; and helped lead an acoustic study of fish movement underway at Gray's Reef.

### Collaborative Efforts Help Protect U.S. Coral Reefs

The region has been an active part of the U.S. Coral Reef Task Force and has worked closely with NOAA's Coral Reef Conservation Program to help implement programs and steer the future direction of the United States' coral reef protection efforts. The Southeast Region director chairs the land-based sources of pollution task force working group that has developed strategies for addressing water quality decline in coral reef areas of the U.S. These collaborations with the Coral Reef Task Force and with NOAA's Coral Reef Conservation Program are testament to the important role that our sanctuaries play in research, education and management of coral reefs and in demonstrating the success of coral reef conservation policies.

### Regional Staff Focus on Climate Change, Fisheries Management Issues

The region has taken a leading role in helping to guide local, regional and international responses to climate change and its impacts. Staff have been invited to several conferences and participated in panel and roundtable discussions with state governments, academic institutions and conservation groups to help direct science and policies in response to climate change and its impact on coastal and marine environments. These efforts have helped to promote the value of the sanctuary system as sentinel sites, locations with particular importance in understanding and monitoring climate change impacts on marine ecosystems.

The region also represented the Office of National Marine Sanctuaries at meetings of South Atlantic and Gulf of Mexico regional fisheries management councils and commissions in 2009. These opportunities have ensured our participation in regional habitat monitoring, catch assessment and law enforcement programs established by these organizations. The meetings have also shown the national marine sanctuaries' commitment to fisheries management and conservation strategies and to fully engaging resource users in sanctuary management plans. The Southeast Regional Team also worked closely with the Florida Institute of Oceanography, the Coral Reef Conservation Program and sanctuary headquarters to keep SeaKeys operating, and is continuing to work to integrate the system into the NOAA Integrated Ocean Observing System Network. SeaKeys is one of the longest-standing networks of oceanographic monitoring stations.

## FGBNMS ADVISORY COUNCIL MEMBERS

### Officers

Research: Larry McKinney (Chair)  
 Recreational Diving: Frank Burek (Vice Chair)  
 Commercial Fishing: Joe Hendrix

### Other Non-Governmental Members

Commercial Fishing: Michael Jennings  
 Conservation: Rafael Calderón  
 Conservation: Page Williams  
 Diving Operators: Darrell Walker

### Federal Government (all non-voting)

Environmental Protection Agency: vacant  
 Minerals Management Service: James Sinclair  
 NOAA Fisheries: Rusty Swafford  
 NOAA Office of Law Enforcement: Charles Tyer  
 U.S. Coast Guard: LCDR Carmen DeGeorge

Diving Operators: Frank Wasson

Education: Dale Loughmiller

Education: Jacqueline Stanley

Oil & Gas Production: Clint Moore

Oil & Gas Production: Rebecca Nadel

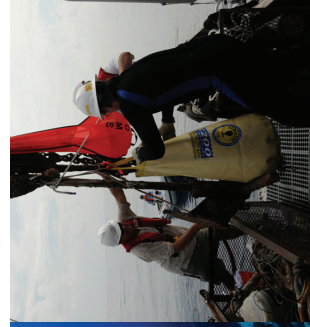
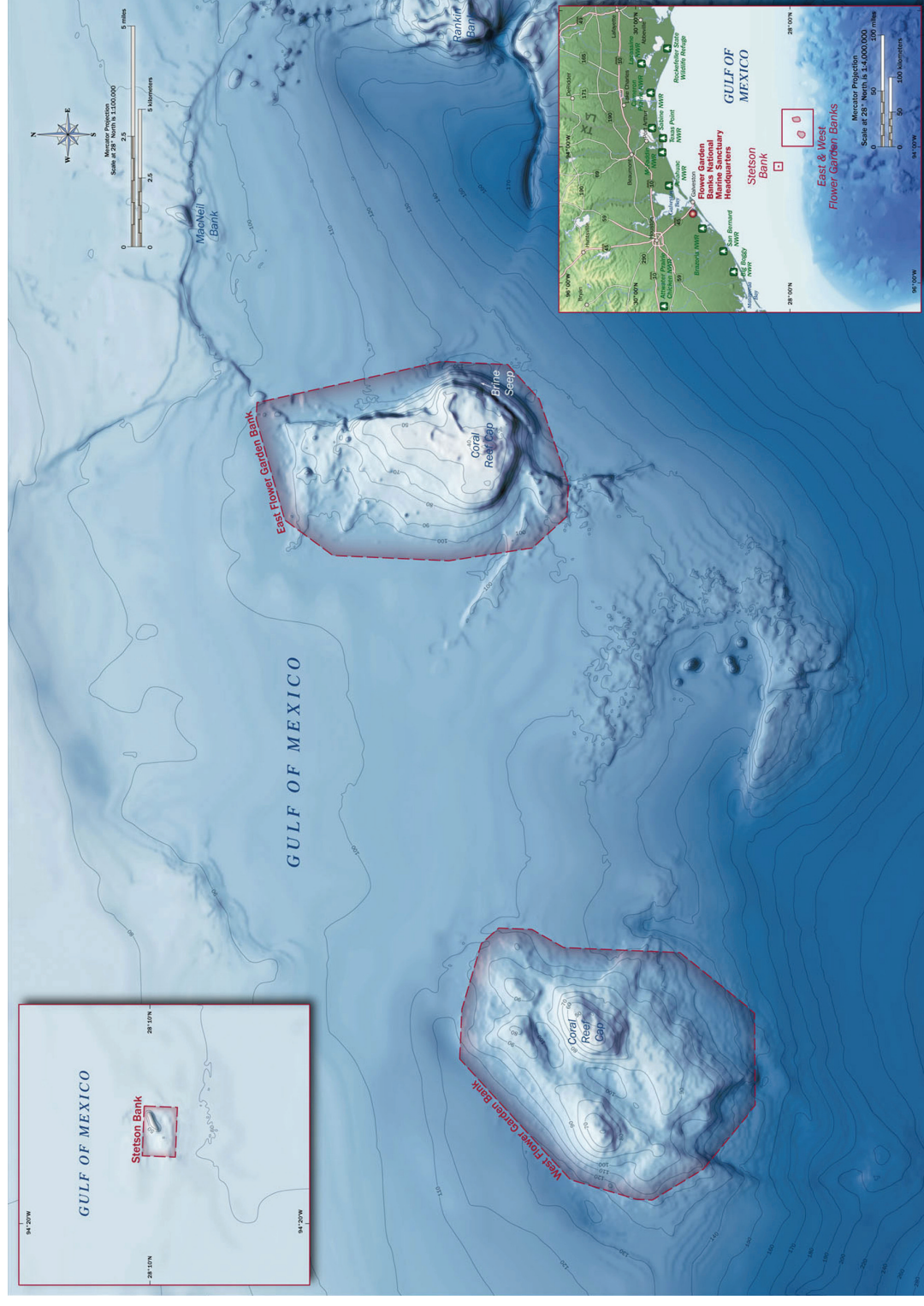
Recreational Diving: Lori Traweck

Recreational Fishing: Iby W. Basco

Recreational Fishing: Matt Burn

Research: Will Heyman

## 2009 ACCOMPLISHMENTS



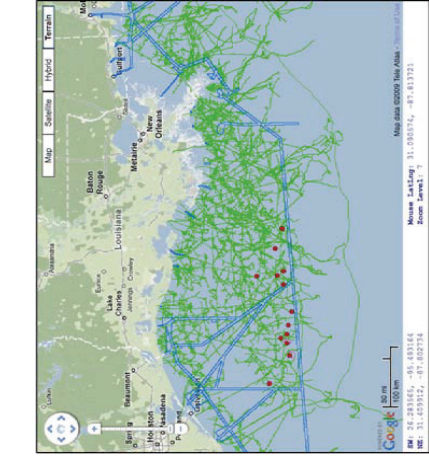
**Flower Garden Banks National Marine Sanctuary** lies 70 to 115 miles off the Texas-Louisiana coast, where underwater "gardens" emerge from the depths of the Gulf of Mexico. The sanctuary encompasses three submerged features called salt domes that harbor the northernmost coral reefs in the continental United States. These premier diving destinations feature numerous Caribbean reef fish and invertebrate species and are frequented by majestic whale sharks and graceful manta rays. Established Jan. 17, 1992.



NOAA

## Flower Garden Banks Reefs Among Healthiest in Caribbean

A three-year partnership culminated in 2009 with a report titled "A Biogeographic Characterization of Fish Communities and Associated Benthic Habitats" within Flower Garden Banks National Marine Sanctuary. The sanctuary's research team worked with National Ocean Service's biogeography team to design and implement a protocol to detect and track long-term changes in fish populations and sea floor community structure. The study revealed that sanctuary reefs are among the healthiest coral reef ecosystems in the tropical Caribbean and Gulf of Mexico. It also cautions that despite the sanctuary's relatively healthy condition, it may be more susceptible to environmental impacts than previously thought. The monitoring methods developed during this project will be used for evaluating future management actions, such as a proposed experimental fishing closure. Information from this and other studies can help us better understand how threats from climate change and other stressors will impact the ecosystem.



## Web-Based Marine Spatial Planning Tool Developed

Flower Garden Banks National Marine Sanctuary staff partnered with National Coastal Data Development Center to develop an interactive map tool that will inform resource managers and the public about the complexity of issues in the offshore areas of the northern Gulf of Mexico. The online database provides layers of geo-referenced information for the sanctuary, as well as the surrounding northwestern Gulf of Mexico region. Users can turn map layers on or off, and zoom into areas of interest. The long-term goal of the project is to provide a portal for research data, images, videos, bathymetry, infrastructure, regulatory boundaries and more.

Some of the features already incorporated into the map are bathymetry for over a dozen reefs and banks, sanctuary boundaries, biological habitat zones in the sanctuary, regulatory zones, lease blocks, Habitat Areas of Particular Concern, oil and gas infrastructure, shipping fairways, and oceanographic data buoys. Over 100 remotely operated vehicle surveys are also available, with more than 1,200 associated images. The sanctuary research team will continue to add new information as it becomes available.

## Monitoring Program Receives Partners in Conservation Award

Secretary of the Interior Ken Salazar presented a Partners in Conservation Award to the Flower Garden Banks National Marine Sanctuary Long-Term Monitoring Program for its long-standing commitment to the protection of the Flower Garden Banks reef ecosystem in the Gulf of Mexico. This effort is one of the longest continuous coral reef monitoring programs in the world. Monitoring and restrictions on nearby oil and gas exploration since the early 1970s, first by the Minerals Management Service (MMS) and later in partnership with NOAA, have ensured the health and resiliency of the reefs.

The program has been outsourced in recent years, with co-funding from the sanctuary and MMS. This year, sanctuary staff began conducting the program in-house. Two significant developments made this an effective action. First, the sanctuary acquired a new research vessel in 2008. This allows quick trips to the sanctuary to download data from instruments and to gather additional information between dedicated monitoring trips. Second, the sanctuary has developed a strong partnership with Texas A&M University at Galveston. The university's Scientific Dive Program provides the number of trained science divers necessary to conduct the monitoring while giving students valuable field experience. This new approach provides additional flexibility to quickly adapt monitoring procedures as information needs change in response to emerging issues.



Joyce & Frank Burek



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## Marine Life Tagging Reveals International Connectivity

For several years, the sanctuary research team has collaborated with Wildlife Conservation Society on an acoustic tagging project for sharks and rays. During this time, receivers were deployed at East and West Flower Garden Banks, Stetson Bank, Bright Bank, and Sonnier Bank, and six manta rays were tagged with acoustic transmitters. The unique code on each tag identifies an individual animal. Data collected thus far confirms that individual mantas do travel between banks. Additionally, data from the Bright Bank receiver revealed that a female whale shark tagged near the Yucatan Peninsula in July 2008 moved into the Northwestern Gulf of Mexico in November 2008. This animal's migratory journey connects the Mesoamerican Barrier Reef to the northwestern Gulf of Mexico, demonstrating the importance of looking outside sanctuary boundaries when making management decisions. The research team will continue to tag new animals and expand the receiver array.

## Marine Debris Removal at Stetson Bank

The surface of Stetson Bank is sprinkled with shrimp trawl nets, boat anchors, twisted metal, fishing line and various other items. All of these items pose potential threats to sanctuary resources. One of the challenges in removing the debris is the depth at which much of it is located — too deep for standard scuba diving operations. To meet this challenge, the sanctuary research team recruited expert technical divers to assist with the work. During a five-day expedition, divers removed three large anchors, an engine block and a net from Stetson Bank. Back on land, a Web page dedicated to the project offered the public a glimpse of what is involved in a sanctuary expedition. Daily blogs and photos described everything from testing the one-person portable decompression chamber to collecting coral samples to using lift bags to hoist heavy objects from the seafloor. The effort was a collaboration between NOAA's Office of National Marine Sanctuaries and National Undersea Research Center, and was funded through the NOAA Marine Debris Program.



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## Science at Sea Education Workshop Premiers

In August 2009, the sanctuary education team introduced a new workshop called Science at Sea. The workshop was designed to familiarize educators with the operation of a research vessel, while involving them in a variety of scientific activities. To pilot the project, a handful of educators already familiar with other sanctuary workshops were invited to help test the schedule of activities and refine the design before the workshop is offered for general enrollment. Participants learned about connections between land, estuary, nearshore and offshore environments. They collected and identified phytoplankton, comparing samples from various environments. They also collected water samples, analyzing and comparing differences between those collected close to land versus those collected 70 miles offshore. Finally, participants learned to pilot a remotely operated vehicle, first in an enclosed aquarium environment, then in the field. Sanctuary staff will use feedback from the participants to further develop this workshop, which will be offered annually to local educators.



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## Sanctuary Staff Meets Challenge of Hurricane Recovery

In September 2008, Hurricane Ike passed directly over Flower Garden Banks National Marine Sanctuary, leaving a trail of dislodged boulder corals, fields of crushed pencil corals, sheared off barrel sponges and rearranged sand piles in its wake. However, overall injury to the reef was relatively minor. The hurricane then made landfall at Galveston Island, home of the sanctuary office, destroying the homes of several sanctuary employees. Damage to the main office was minor. One year later, the reefs and staff are all well on their way to full recovery from Hurricane Ike's impacts.



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