

A Look Ahead

After six years of discussion and debate, a proposal to designate a research area in Gray's Reef National Marine Sanctuary was released for public comment in September 2010. To date, no live-bottom areas anywhere in the South Atlantic Bight have been set aside for scientific use only, making it difficult for scientists to study reef ecosystems in their natural state, without any human impacts. The proposed research area, which was designed to include a variety of habitats while minimizing displacement of fishermen and divers, will yield a wealth of information about the sanctuary ecosystems and will provide a foundation of knowledge that can be shared with the public through innovative outreach and education efforts.

During the past few years, most research done in the Gray's Reef National Marine Sanctuary has worked to create a baseline for understanding what role shallow live-bottom areas play in supporting many economically valuable species, and how human uses can impact these habitats. The sanctuary's acoustic fish tagging project, benthic habitat and fish assessments, and benthic-pelagic coupling observations all provide important information for management decisions, and will be even more relevant as the sanctuary moves toward establishing a research-only area within the sanctuary.

Supporting Jobs, Communities and Culture

Located 16 miles offshore of Sapelo Island, Ga., the 22-square-mile Gray's Reef National Marine Sanctuary contains rocky ledges and sandy flats. This habitat provides an ideal setting for one of the most popular recreational fishing locations along the Georgia coast. A recent study estimated that expenditures related to recreational fishing in the sanctuary total approximately \$1.5 million annually. Several major sport fishing tournaments occur offshore Georgia every year with Gray's Reef being a premier target for the participants. A small amount of scuba diving by more experienced divers occurs on weekends during warmer months of the year. No commercial fishing occurs in the sanctuary. Over 2.5 million people live along the coast between southern South Carolina and northern Florida. Several major cities, Savannah, Brunswick, Charleston, Beaufort, and Jacksonville, are within close proximity to Gray's Reef.

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.

Gray's Reef National Marine Sanctuary Advisory Council Members

Officers

Chair: Dr. Clark Alexander

Vice Chair: Will Berson

Secretary: Venetia R. Butler

Non-Governmental Members

Living Resources Research: Dr. Daniel Gleason

Non-living Resources Research: Dr. Clark Alexander

Regional Conservation: Mary Conley

Georgia Conservation: Will Berson

K-12 Education: Venetia R. Butler

University Education: Dr. Scott Harris

Charter/Commercial Fishing: Capt. Wendell Harper

Sport Fishing: Tim Tarver

Sport Diving: Kellie Anne Parr

Governmental Members

State Government

GA Department of Natural Resources, Coastal Resources
Division: Spud Woodward
Alternate: Eric Robillard

GA Department of Natural Resources, Law Enforcement
Section (non-voting): Capt. Doug Lewis

Federal Government

U.S. Coast Guard (non-voting): LT Brandon C. Fisher

NOAA Office of Law Enforcement (non-voting):
Al Samuels

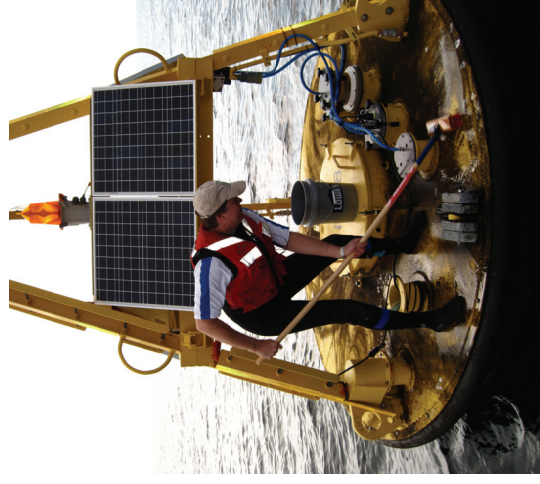
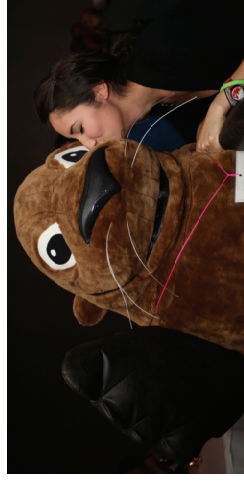
NOAA National Marine Fisheries Southeast Regional Office
(non-voting): Dr. Jack McGovern

NOAA Sapelo Island NERR (non-voting): Dorset Hurley

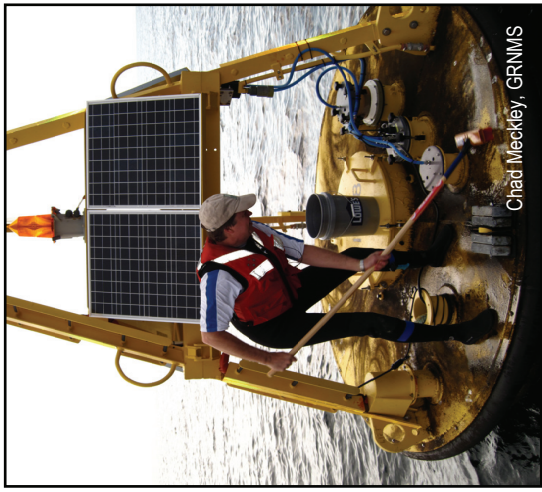
NOAA Gray's Reef NMS (non-voting): George Sedberry

Sanctuary Advisory Council Coordinator
Becky Shortland

2010 ACCOMPLISHMENTS



Gray's Reef National Marine Sanctuary surrounds one of the largest live bottom reefs in the southeastern United States, located just off the Georgia coast. The 22-square-mile sanctuary consists of rocky outcroppings separated by sandy troughs, resulting in a complex habitat of ledges covered by a living carpet of algae and invertebrates ranging from sponges to sea stars. Gray's Reef also supports loggerhead sea turtles, migrating right whales and a wealth of fish species, making the sanctuary a popular sport fishing destination and an occasional diving destination. Established Jan. 16, 1981.



CO₂ Seafloor Observatory

In an ongoing effort to conduct long-term monitoring of potential climate change effects at Gray's Reef, an ocean acidification seafloor observatory has been created and installed in the sanctuary by a university research partner. The observatory records data in conjunction with the National Data Buoy Center and the Pacific Marine Environmental Laboratory. The surface buoy monitors percentage of CO₂ in the air/sea interface in addition to many other physical oceanographic and atmospheric parameters. The sensors installed on the seafloor record pH (a measure of acidity), temperature, salinity, dissolved oxygen, turbidity and CO₂. By monitoring these parameters and collecting long term baseline data, Gray's Reef will be better able to detect changes in the ocean's acidity at the reef should they begin to occur.



Volunteers

Public involvement with Gray's Reef National Marine Sanctuary is at an all-time high, with sanctuary volunteers clocking in at 2,600 hours for 2010. Volunteer opportunities range from Team Ocean volunteer dives, ocean film festival support, to target-species fishing for acoustic tagging during research expeditions. The sanctuary was the first NOAA office to access Volunteers.Gov as a portal to increase stewardship and provide opportunities on a national platform.



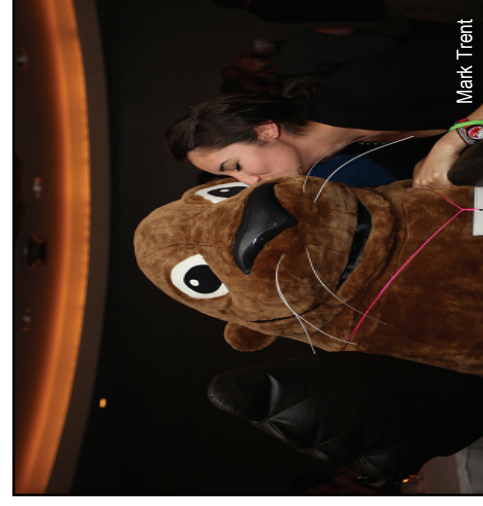
Oral History Archive of Recreational Fishing

Sanctuary staff and volunteers are compiling an oral history archive of recreational fishing along the coast. Individuals, fish merchants and wholesalers, shrimpers and boat captains are being interviewed with a special emphasis on individuals in traditional African-American Gullah-Geechee island communities. Old photographs of both recreational and commercial catches are being archived and old catch records reviewed. The goal of the project, funded by a NOAA Preserve America initiative, is to identify the "shifting baseline" behind how today's recreational anglers view fish populations as well as to capture the flavor of a culture gone by.



Relationships: Reef and Mid-Water Predatory Fish

Research partners at Gray's Reef have spent three years investigating the role of mid-water predators, responses of prey, and linkages to feeding rates and population processes of bottom-dwelling reef piscivores - fish that eat other fish - in the relatively shallow water environment of the sanctuary. They are looking at links between pelagic and reef fish behavior so as to better understand the possible impact of fishing on both communities and the management actions that such impacts might require. In 2010, research partners were able to quantify variation in space and time of the abundance of schooling prey and mid-water predators at mid-shelf reefs. They were also able to quantify rates of prey retreat to seafloor shelter by using time series observations at specific station locations using stationary Didson high frequency sonar. The Didson system was deployed using the sanctuary's R/V Joe Ferguson and remained on the seafloor overnight and was recovered the following day. Divers were also able to quantify behavior, location and rates of predation (attacks, captures) by demersal piscivores which involved direct observations using focal animal and scan survey procedures.



Gray's Reef Ocean Film Festival

During the seventh annual Gray's Reef Ocean Film Festival, more than 40 films were viewed by more than 4,000 people over the course of the three-day event; more than 300 students attended a special Saturday morning program honoring the marine science program at a local elementary school; more than a dozen filmmakers and speakers attended. Our panel of community-based judges made it all work. More than 90 films were submitted for consideration, and 33 were selected for the festival in addition to ten student films. The festival was crafted to focus on films about the Gulf Coast region, an area of special interest in light of the Deep Water Horizon oil disaster. The Gray's Reef Ocean Film Festival remains a free festival with the mission to "Educate, inspire and enlighten coastal Georgia residents about the world's oceans and the issues facing them. We use films to explore the beauty of the sea, the complexity of the marine ecosystem, the creatures that inhabit it, our maritime heritage and humankind's relationship with the oceans and the environment in a positive, healthy, family-oriented format."