

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.

GRNMS ADVISORY COUNCIL MEMBERS

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Georgia Conservation: Will Berson (Vice Chair)

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Living Resources Research: Dr. Daniel Gleason

Regional Conservation: Mary Conley

Sport Diving: Vacant

Sport Fishing: Tim Tanver

University Education: Dr. Scott Harris

Governmental Members

State Government

GA Dept. of Natural Resources, Coastal Resources Division:
Spud Woodward

GA Dept. of Natural Resources, Law Enforcement
Section: Sgt. Doug Lewis

Federal Government

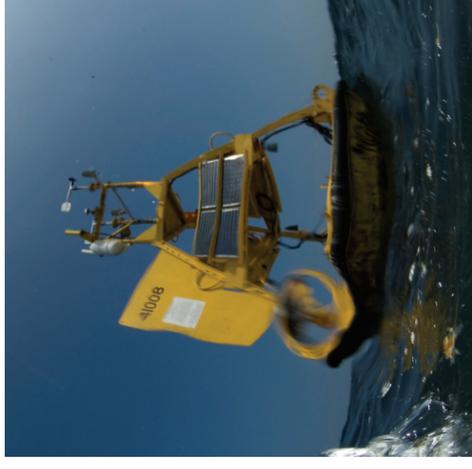
NOAA Fisheries Southeast Regional Office (non-voting):
Dr. Joe Kimmel

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

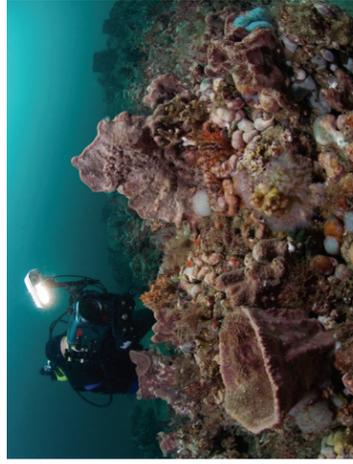
NOAA Sapeelo Island NERR (non-voting): Buddy Sullivan

U.S. Coast Guard (non-voting): LTJG Nathan Downend

2009 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 and diving destination. Established Jan. 16, 1981.



Gray's Reef Tags Fish and Observes Predation

Two research projects are revealing how shallow reefs serve as habitat for fish, how productive these reefs can be in the absence of disturbance, and how a natural balance of large predatory fish and their prey affect the reef and the hundreds of species of invertebrates and fishes that live there. An acoustic tagging project begun in 2008 has expanded to include 14 deployed receivers and 16 tagged fish. Preliminary data have shown the first eight fish tagged have been present and active on the reef. The gag fish from 2008 has been a daily resident since it was implanted with a tag. A red snapper was detected for only a few days when it was first tagged in 2008; however, it has reappeared as daily resident around one receiver since the beginning of November 2008. The data from the fish tagged in 2009 are just beginning to be collected and processed.

Scientists are also observing the interaction between pelagic, or ocean-going, fish like amberjack and Spanish mackerel and reef fish like groupers. The fish species assist each other indirectly as feeding pelagic predators drive bait balls of small fish to the bottom, making them easy prey for bottom-dwelling fish. Public outreach on both projects has generated several print and television stories. Together with lionfish research and response efforts, Gray's Reef boats have spent 80 days underway so far in 2009.



Gray's Reef sanctuary leadership is currently involved in a multi-year public process to consider making part of the sanctuary a research area. This would be a no-take, no diving area, where scientists could observe how the undisturbed ecosystem functions. Together, the two research projects will tell us how much time these large predatory fish spend in the closed area and how they affect populations of prey fish and the ecology of the reef. The data will also give us insight into how closed areas might be helpful in restoring overfished species on local reefs.

Gray's Reef Hosts National Association of Black Scuba Divers Youth Education Summit

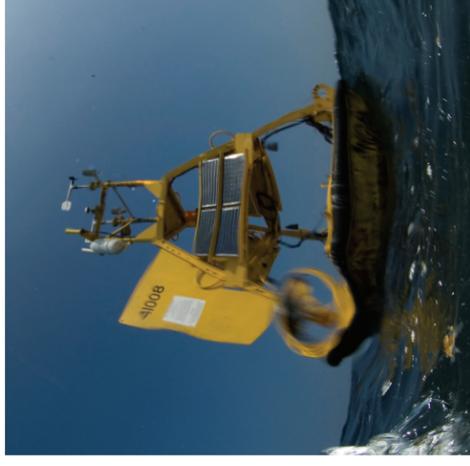
The National Association of Black Scuba Divers (NABS) brought 35 students to Gray's Reef to explore the coastal environment through a series of hands-on learning activities. Students ranged from nine to 18 years old, and many had already completed a basic scuba course with NABS. Student activities included marsh crawls, estuary trawls, building remotely operated vehicles and other activities to promote an appreciation for the marine and coastal environment. The program gives students greater access to marine science professionals from the sanctuary and academic institutions, as well as greater exposure to the marine and coastal environment.



Sanctuary Leads Fight Against Invasive Lionfish

Gray's Reef sanctuary staff organized a meeting of sanctuary leadership from the Southeast Region to formulate a cohesive policy to combat the spread of invasive lionfish, a predatory species of fish with the potential to severely impact the area's marine ecosystems. Reef Environmental Education Foundation staff joined in the effort, conducting a workshop on the safe capture and harvest of lionfish, which was attended by the chairman of the South Atlantic Fishery Management Council. Two days were dedicated to collecting lionfish at sites outside the sanctuary; a total of 58 were captured. At one site, 17 lionfish were captured in 14 minutes.

The sanctuary also organized several public outreach events where REEF personnel spoke about various lionfish issues, focusing on their predation of larvae of commercially and recreationally important fish like groupers. Gray's Reef sanctuary staff supported the Georgia Aquarium's lionfish collection effort for a new exhibit on marine invasive species in the Atlanta facility. The sanctuary is prominently featured in the exhibit, as well as in a lionfish exhibit at the University of Georgia's Marine Extension Aquarium. Gray's Reef personnel also facilitated the making of a short film on lionfish, "Ocean Invaders," which won a BLUE Ocean Film Festival award. The film is being shown in various marine institutions across the country. Several print and television stories were generated by the lionfish outreach effort.



Gray's Reef a Sentinel Site for Climate Research

Carbon cycling on the continental margins is poorly understood and is under-sampled to the point that it is uncertain whether these regions are a net sink or a net source of carbon dioxide to the atmosphere. The Gray's Reef National Marine Sanctuary data buoy, operated by the National Data Buoy Center, is one of only seven buoys worldwide that has surface and subsurface carbon dioxide monitoring capacity. Data have been collected since 2006. The sanctuary works with several partners including the University of Georgia, to establish continuous monitoring for increased levels of carbon dioxide.

Spearfishing Gear Ban to Take Effect

A prohibition against all spearfishing gear in Gray's Reef National Marine Sanctuary is anticipated by the end of 2010. Spearfishing is often used to selectively target larger fish, and can significantly reduce abundance and alter the relative size structure of target species toward smaller fish. Fish populations present at Gray's Reef are regionally overfished or approaching overfished status and researchers have commented on the lack of large snapper and grouper in the sanctuary. The idea to ban spearfishing was raised during the sanctuary's management plan review in the early 2000s, and a public hearing was held in March 2009. The prohibition would provide protection to the fishes and natural live-bottom community for which the sanctuary was designated.