

FY17 Accomplishments

BACKGROUND

Gray's Reef was designated on January 16, 1981, and is the only protected natural reef area on the continental shelf off the Georgia coast. The natural live-bottom reef is teeming with marine life and is part of the endangered North Atlantic right whale's calving ground. Loggerhead turtles rest at the reef, where scientists have identified more than 200 fish species.

Gray's Reef National Marine Sanctuary is part of the National Marine Sanctuary System, which is a network of underwater parks encompassing more than 600,000 square miles of marine and Great Lakes waters from Washington state to the Florida Keys, and from Lake Huron to American Samoa. National marine sanctuaries are managed for the conservation of their natural and cultural resources, while supporting sustainable recreation, tourism and compatible commercial activities. The network includes a system of 13 national marine sanctuaries and **Papahānaumokuākea and Rose Atoll** marine national monuments.



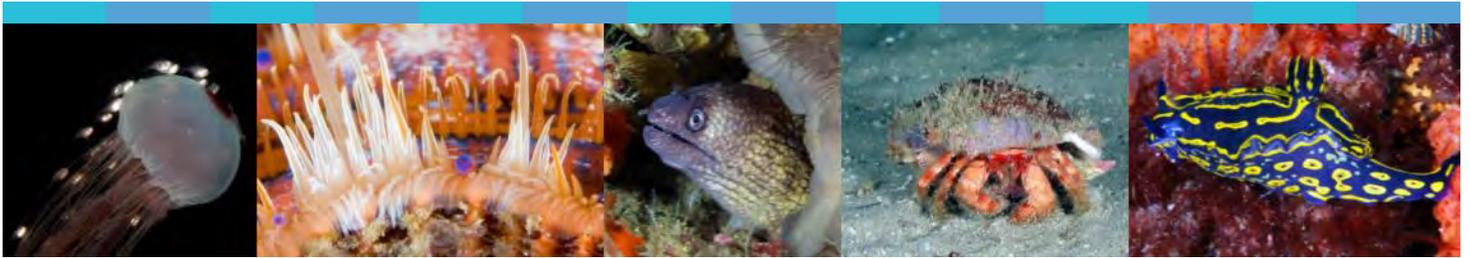


Photo: Cindy Hill/Georgia Public Broadcasting

Livestream features staff from the sanctuary, Georgia Public Broadcasting, and University of Georgia research.



Photo: Alicia Reigel

Georgia Southern University professor conducts research on invertebrates in Gray's Reef National Marine Sanctuary.



Photo: Ed Williams/Robo Nautica, LLC

Robo Nautica, LLC is currently creating a rover to observe benthic ecosystems.

“Live Exploration of Gray’s Reef” addresses ocean stewardship via livestream. Gray’s Reef National Marine Sanctuary, in collaboration with Georgia Public Broadcasting (GPB), created a livestream, virtual dive event using underwater footage of Gray’s Reef and featuring experts from the sanctuary and the University of Georgia. More than 45,000 viewers tuned in, from as far away as Romania. The livestream included a Q&A session during which students submitted questions via Twitter. The program is archived on GPB’s website for several years and includes supplemental materials aligned to Georgia’s K-12 Education Standards.

Ocean acidification research expands at Gray’s Reef

Research partner and Georgia Southern University professor Daniel Gleason, Ph.D., received a Sea Grant Georgia award for his proposal, **“Sensitivity of Gray’s Reef Invertebrates and Algae to Ocean Acidification and Implications for the Ecosystem.”** The project examines 10 reef species by exposing them to two different acidification scenarios and measuring responses through time. The significance of the work is to provide a baseline across the ecosystem and enhance ocean acidification research and monitoring at Gray’s Reef National Marine Sanctuary, making this sanctuary a sentinel site for acidification monitoring.

Small business innovation research underway at Gray’s Reef

Made possible by a Small Business Innovation Research grant, Gray’s Reef National Marine Sanctuary requested inventors to design an “affordable, lightweight, wireless-control remotely operated vehicle (ROV) for sustained observation of benthic ecosystems.” The tool will provide real-time untethered observations of underwater environments from a surface station such as a vessel or from a shore station. The partnership with Robo Nautica, LLC will involve creating ROV construction plans and testing a prototype. Testing trials of the ROV began in late 2017.

Gray’s Reef National Marine Sanctuary Looking Ahead to FY18

- Gray’s Reef National Marine Sanctuary is developing a relationship with a local dive shop to provide regular citizen science training workshops and hold lionfish removal “rodeos” in the future.
- Gray’s Reef National Marine Sanctuary is evaluating its acoustic telemetry array to make it more effective and applicable to current research partners and sanctuary management needs.
- The sanctuary’s Recreational Fishing Working Group will organize barotrauma workshops to promote anglers’ use of descending devices, and create outreach materials showcasing a video on recreational fishing.