Gray’s Reef National Marine Sanctuary

8.845 x 6.465 km
5718.3 ha
26.4 km east of Sapelo Island
“Live-Bottom Habitat”

- Rocky substrate with “carpet” of attached organisms
- Foundation for sessile benthic invertebrates
- Habitat and prey for mobile invertebrates and a variety (201 spp.) of fishes; also turtles and Atlantic right whales
GRNMS is an Important Research Site

Over 70 publications on GRNMS
OBIS-USA: Monitoring Biodiversity Through the Census of Marine Life
Climate Change and GRNMS

- GRNMS data buoy provides long-term temperature data: A sentinel site for climate change, ocean acidification, etc.
- Other long-term monitoring data available
- GRNMS geographic location is especially valuable

GRNMS Data Buoy Mar 1988 - Dec 2008

GRNMS Data Buoy: One of the three NDBC moorings that monitor dissolved CO₂
Habitat Map of Gray’s Reef National Marine Sanctuary

Boat Use Locations Indicated N=1140
1998-2007 Data

- Flat sand
- Rippled sand
- Sparsely colonized live bottom
- Densely colonized live bottom (Ledge)
- GRNMS Boundary

- Fishing locations
- Buoy
- Boats (Nov-Apr)
- Boats (May-Oct)
GRNMS
Research Area

4.8 NM
2.2 NM
1.3 NM

GRAYS REEF NATIONAL MARINE SANCTUARY

(protected area: 15 CFR-922; see note A)
Gray’s Reef National Marine Sanctuary Research Area

- What are the research questions?
  - What impacts - *if any* - does fishing and associated impacts have on the reef? Is fishing an impact?
  - What impacts does fishing have on overall fish and invertebrate community?
  - Does fishing affect fish size, movements, spawning?
  - What variability in the natural system is independent of human impact?
  - How well is NOAA conserving the resources of Gray’s Reef National Marine Sanctuary?
  - Lionfish!
2011 Fishing/No Fishing Comparison Site Selection