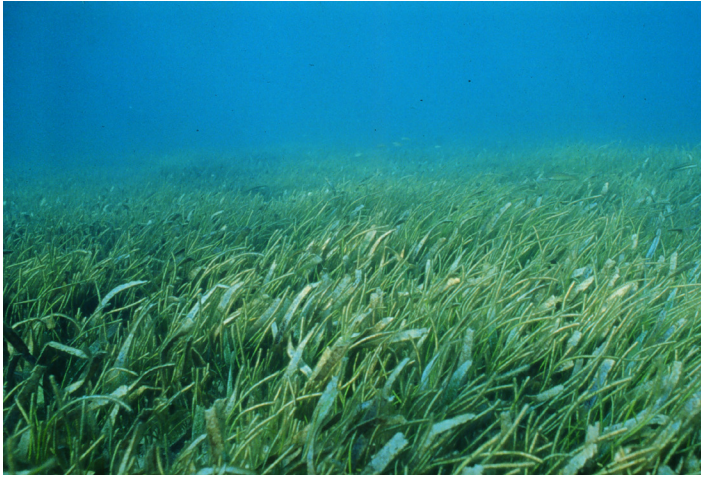




News from...

Rookery Bay National Estuarine Research Reserve

The Scoop on Sea Grass



in coastal waters. They rely on water, rather than insects, to carry their pollen from flower to flower. In southwest Florida, five species can be found. Because our waters are full of nutrients, tannins and sediment, sea grasses typically grow where the water is shallow enough for sunlight to penetrate (usually four feet or less).

Sea grasses help maintain water clarity by trapping fine sediments with their blades and stabilizing the bottom with their roots.

In turn, they require relatively clear water to get energy from the sun for photosynthesis. If turbidity (suspended particles in the water column) levels are too high the plants won't get the sunlight that they need, which can result in increased die-offs. If the plants die, the surrounding turbidity can increase, and can lead to additional loss of sea grasses.

Seagrass beds provide essential habitat for a vast diversity of marine life. **Pinfish, spotted sea trout, gag grouper, and permit are just a few of the commercially and recreationally valuable species that rely on seagrass habitat** either as shelter, hiding places, or forage grounds for part or all of their lives. Many species of scallops and shrimp are found only where sea grasses flourish. Manatees and some species of sea turtles eat sea grasses and are generally found not far from their food. Sea grasses are flowering plants that have adapted to life

Have you mowed the sea grass lately? Hopefully not. When boaters aren't careful or are unfamiliar with water depth, they can run through seagrass beds, inadvertently causing long-lasting damage to these valuable plant communities. **Propellers churning through seagrass beds can chop up their roots leaving barren scars that can take years to recover, if at all!** Prop scars can also dam-

Seagrass Research

Susan Denham, a graduate research fellowship student with Florida Gulf Coast University, is learning a lot about sea grass. In pursuit of her master's degree in environmental science, she chose sea grass as her topic of study so she could provide some insight to the preservation of these dwindling underwater meadows.

Historic information on sea grass density in the Reserve is incomplete, however, a combination of water quality degradation, altered freshwater flows, turbidity, and physical disturbance has contributed to its steady decline.

Denham's thesis is studying the effects of light limitations on seagrass growth in the Ten Thousand Islands. Light levels reaching sea grass vary considerably due a variety of factors, including absorption by microscopic algae, shading by macro algae, and light reduction through the water column due to tannins. The biggest limitation here, however, appears to be the amount of turbidity, or suspended particles in the water.

As a component of her research in the field, Denham has set up a laboratory experiment at the Rookery Bay Environmental Learning Center to find out how sea grasses respond to different amounts of light in a controlled setting. Grass shoots and roots collected (with a permit) in the Reserve were potted in native sediment, and placed into large troughs filled with sea water. To mimic the natural environment, pumps move the water through and provide oxygen and carbon dioxide, while artificial lights imitate sunlight patterns. Screens of different thickness are placed over sections of the tanks to limit the amount of light that reaches the plants.

By studying the growth rates of these plants under various lighting conditions, Denham's work will be extremely useful to submerged-land managers monitoring seagrass beds in the area. It is hoped that with some additional information regarding the growth and light conditions of these plants, managers may be better equipped to work with partners in the community to reduce impacts that are negatively affecting our local coastal waters.

age surrounding sea grasses by accelerating erosion rates and turbidity levels as a result of channelizing the water and increasing current speed.

What's the difference between a boat tearing up sea grass and when a turtle or manatee eats it? The difference is sort of like the difference between a lawn mower and a roto-tiller. Turtles and manatees generally just crop the tops off the grass blades, leaving roots intact and allowing new blades to fill in. Boat propellers can chop up the root systems, destroying the plants and leaving a scar.

Sea grass photo credit: Florida Keys National Marine Sanctuary

Rookery Bay Environmental Learning Center August Events

Summer 2010 Ecotour Providers Series - FREE

August 19, 6:00 - 8:30 PM

Interacting With Wildlife

FREE Fridays for Kids!

Kids 12 and under get in free with an adult. Enjoy guided children's activities based on a different theme. Last Free Friday for the summer is

August 6: Living Reefs

Open: Monday - Friday, 9 am - 4 PM

Admission: \$5 adults, \$3 kids 6-12, under 6 FREE.
Educational programs offered daily 11 AM & 2 PM.

**SAVE THE DATE: Saturday September 25
National Estuaries Day**



Rookery Bay, located in southwest Florida, is recognized as one of the few remaining pristine, mangrove-forested estuaries in the U.S. The Reserve is managed by the Florida Department of Environmental Protection's Office of Coastal and Aquatic Managed Areas, and as part of the National Estuarine Research Reserve System it serves as an outdoor classroom and laboratory for students and scientists from around the world.

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