Manatees and Seagrass

Manatees inhabit rivers, bays, canals, estuaries, and coastal areas, moving freely among fresh, saline, and brackish waters. Florida estuaries, freshwater lakes, springs and rivers provide extensive beds of seagrass and abundant freshwater aquatic vegetation that serve as manatees' primary food sources.

Manatees are herbivores and feed on a variety of submerged, emergent, and floating plants. Manatees are known to consume all seven species of seagrass found in Florida. Manatees can consume a large amount of seagrass, which helps maintain extensive seagrass beds and promote new growth. Additionally, manatees recycle the nutrients consumed from eating seagrass to further promote new seagrass growth.

What You Can Do

• If you boat over shallow seagrass beds, turn off your engine and tilt it up. You should never use combustion motors to plow through these environmentally-important areas.
• Comply with pole and troll zones that have been established in some areas to protect seagrass. In these areas, only a pole or trolling motor can be used for propulsion.
• Support Boating Restriction Zones (No-Motor, No-Entry). A study in the Indian River Lagoon (Brevard County, Florida) found that the most effective way to restore scarred seagrass beds is to protect them from boat traffic. Natural recovery is faster than any active restoration methods attempted, and is also much less expensive.
• Encourage management practices on the local, state, and federal levels that reduce water pollution from point sources (pollution originating from a single, identifiable source, such as a discharge pipe from a factory) and nonpoint sources (pollution resulting from a wide variety of human activities that can be carried in stormwater runoff).

Learn More

Florida Fish and Wildlife Conservation Commission
• myfwc.com/research/habitat/seagrasses/

U.S. Fish & Wildlife Service
• fws.gov/verobeach/MSRPPDFs/Seagrass.pdf

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What is Seagrass?
Seagrass is one of the most productive plant communities on Earth. It is a flowering plant that lives underwater and, because it requires sunlight, is found mostly in shallow or clear water. Seagrass evolved from land plants millions of years ago and is an important part of the marine environment. Florida has nearly 2.5 million acres of seagrass meadows and seven different species exist in its waters.

Why is Seagrass Important?
Seagrass is important because it provides habitat and food for nearly 70% of all sea life, including manatees, as well as recreationally and commercially important fish and shellfish species. Seagrass is a primary producer, which means it is at the base of the entire marine ecosystem.

Seagrass stabilizes sediments and improves water quality by filtering pollutants from water bodies and increasing dissolved oxygen in the water via photosynthesis. Seagrass also disperses wave energy and can make coastal areas more habitable for less resilient plants and animals.

Threats to Florida Seagrass
Seagrass is disappearing at an alarming rate. Globally, a seagrass meadow the size of a soccer field is lost every thirty minutes. Around the world, seagrass decline is the result of human-related activities as well as natural occurrences.

- The leading cause of seagrass decline is the added nitrogen and phosphorus that run off into the ocean from homes, farms, and industries. These nutrients, in addition to making the water murkier, encourage the rapid growth of algae, which can block sunlight and result in the death of extensive seagrass acreage.

- Scarring from boat propellers is another common cause of damage to seagrass beds. Boat propellers can cause severe damage to seagrass in shallow waters by piercing through the sediment and excavating the entire plant and its root system. Depending on the extent and depth of propeller damage, regrowth of seagrass may slow or cease in damaged areas.

- Short but severe freezes can kill many acres of seagrass near the coast and in estuaries that are more vulnerable to changes in air temperature.

- Powerful storms, including hurricanes, damage seagrass when powerful waves stir up sediments, reducing the depth of sunlight and stunting or halting seagrass growth.

A Story of Success: Tampa Bay
In 1950, Tampa Bay supported over 40,000 acres of seagrass. However, over the next 30 years, Tampa Bay’s human population nearly quadrupled, from 436,000 to to over 1.6 million. Rapid development accompanied this growth, resulting in water pollution from runoff and wastewater discharge. The high levels of nitrate (a form of nitrogen) entering the bay from homes and industry spurred massive increases in algae that shaded and killed seagrass beds. By 1982, only 21,600 acres of seagrass remained. Public outcry during the 1970s led the Florida state legislature to create higher standards for wastewater treatment plants. When upgrades to local plants were completed, 90% less nitrate flowed into the bay. A decade later, seagrass began to return. More than 500 nitrogen-reducing projects have been implemented in Tampa since the 1990s, further reducing nitrate levels in the bay and increasing seagrass coverage back to what is was in 1950.

Data Courtesy of FWC