Protect Central Florida's Shorelines for the Future

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What is wrong with this shoreline?

- Seawalls are physical barriers that eliminate the intertidal zone and decrease habitat (hard-armor).
- Seawalls deflect waves, creating more erosion in surrounding areas.
- Seawalls are static structures, and will eventually be breached with rising sea levels (about 2 mm per year).
- Seawalls can be very expensive to build and maintain.

What is right with this shoreline?

- Living shorelines prevent erosion using native plants and animals (soft-armor).
- Living shorelines absorb wave energy and trap sediment, reducing erosion.
- Living shorelines are dynamic and can keep pace with sea level rise.
- Living shorelines are cost-effective to build and require little maintenance.
Mangroves are salt-tolerant trees and shrubs that live in the intertidal zone of estuarine shorelines. The above-ground roots of mangroves help protect the shoreline by slowing waves and stabilizing sediment. In Florida, you can find three species of mangroves: red mangroves (*Rhizophora mangle*), black mangroves (*Avicennia germinans*), and white mangroves (*Laguncularia racemosa*). Mangroves create habitat used by many other species, including fish, crabs, shrimp, and wading birds.

Smooth cordgrass is one type of salt-tolerant grass found in estuaries. This grass (*Spartina alterniflora*) grows up to six feet in height and forms thick stands of shoots by sending out rhizomes (underground stems). Smooth cordgrass protects the shoreline by slowing waves and stabilizes the sediment with its complicated underground system of roots and rhizomes. Smooth cordgrass provides safe places for fish, birds, and invertebrates to hunt for food and hide from predators.

An Oyster is an animal known as a bivalve mollusk, which means it lives inside of a hinged shell. In Florida the eastern oyster *Crassostrea virginica* creates large, intertidal reefs. Oyster reefs growing in front of mangroves and smooth cordgrass protect the shoreline by blocking wind and boat waves. These reefs also provide important habitat for estuarine species, including fish, blue crabs, stone crabs, sea squirts, conch, seaweeds, and birds.

What can you do to help?
1. **Protect shorelines**: Decrease erosion by maintaining safe boating distances from shorelines and avoid trampling vegetation when walking on shorelines.
2. **Conserve shorelines**: Support the use of soft-armoring over hard-armoring of shorelines in your area.
3. **Restore shorelines**: Volunteer to help restore damaged shorelines or create your own living shoreline if you live on the water.