

# Changing The Local Scenery By Restoring Hernando's Coast

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## Rationale

- Hernando County updated its Noxious Plant Control ordinance to require removal of lead tree (*Leucaena leucocephala*) and Brazilian pepper tree (*Schinus terebinthifolia*).
- 4,367 lead trees and 1,212 Brazilian pepper trees have been removed (Fig. 1); additional removals are scheduled.
- Prompt reestablishment of native vegetation is needed to restore important ecosystem services such as storm protection, pollution filtration, and wildlife habitat.



Figure 1. Lead tree and Brazilian pepper tree removal along canals in Hernando Beach, Florida.

## Response

- Florida Sea Grant, UF/IFAS Extension, and Master Gardeners partnered with local schools to grow native coastal vegetation for the County's designated removal sites.
- A community event (Fig. 2), led by Florida Sea Grant and UF/IFAS Extension Hernando County, was held to raise funds.
- Additional funds were donated by local clubs and businesses.
- FFA Living to Serve and Florida DEP Coastal Partnership Initiative grants awarded in support of the project.
- Intertidal plants were donated by the Florida Fish and Wildlife Conservation Commission and coastal upland plants were sourced from Hernando County Master Gardeners.



Figure 2. Mermaid Chase 4K Paddling Race.

## Results

- Throughout the 2017-2018 school year, volunteers and students dedicated 4,807 hours (valued at \$109,118.90\*) building nurseries and greenhouses, caring for native plants, restoring coast, and teaching others about the project.
- Students demonstrated an increase in scientific skills by using water quality monitoring equipment to collect weekly marsh nursery data. An increase in horticultural knowledge was demonstrated by successfully growing 700 upland plants from cuttings and seeds and propagating 3,000 marsh grass plugs from their original 1,000 plug stock (Fig. 3).
- A portion of the marsh grasses were planted along 270 linear feet of a coastal shoreline where Brazilian pepper had been removed (Fig.4). Over 500 coastal upland plants were used to create 11 vegetated buffers in County coastal parks where invasive vegetation was treated (Fig.5). Sites are monitored by UF intern and citizen volunteers to determine the success.
- School implementing the marsh grass program adopted curricula written by Extension agents into their Oceanography track. After completion, students (n=42) gained 136% increase in knowledge of marsh ecology, natural resources, pollution, and fisheries economics. Twenty-one students taught 13 Florida Master Naturalists, an adult education program, about their project and the importance of the local living shorelines.
- Program was adopted into Hernando County's Coastal Management Element Comprehensive Plan, the Strategic Marine Area Plan, and the RESTORE Act funding priorities.



Figure 3. Marsh grass nursery at local school. Top picture taken day the original 1,000 plugs were installed in nursery. Bottom picture taken upon completion of school year.



Figure 4. Intertidal marsh grasses planted along coastal shoreline in Hernando County.



Figure 5. Vegetated buffer at coastal park in Hernando County.

## Summary

By participating in hands-on-habitat restoration activities, students better understand the value of maintaining a healthy environment and learn the skills needed to properly operate and sustain these nurseries for future classes. Through collaboration with local governments, student-based programs are used to help improve the local marine and coastal environments.

## Additional Partners

