



BACKGROUND

As a County committed to the protection and restoration of our environment, Martin County responded to the declining oyster population in both the St. Lucie and Loxahatchee estuaries by establishing the Oyster Reef Restoration Program. The two estuaries have followed the worldwide trend with oyster populations declining by as much as 90 percent. Restoration projects are vitally important to reviving these depleted oyster populations. This program fosters significant long-term ecological improvements to the health of the estuaries and also provides vital recreational and economic benefits to the community. The Oyster Reef Restoration program contributes to sustained efforts toward meeting the Comprehensive Everglades Restoration Plan (CERP) goal to restore historic oyster population levels.





The Importance of the Estuaries

Estuaries and the lands surrounding them are areas of transition from land to sea, and from freshwater to saltwater. They are among the most productive ecosystems in the world and can be thought of as the “cradle of the ocean.” More than 70 percent of Florida’s recreationally and commercially important fish, crustaceans, and shellfish spend the early part of their lives in estuaries, usually in the juvenile or breeding stages.

Community Participation

Martin County continues to spearhead oyster restoration in the estuaries. One component of the program that depends heavily on community volunteer assistance is the construction of living shorelines. Volunteers first create the building blocks of the shorelines by making Reef Balls and bagging recycled oyster, clam and mussel shells collected from local restaurants. The volunteers then gather at the project site to create oyster habitat by placing the Reef Balls and bags in nearshore waters.

Landward of these protective reefs, the volunteers plant mangrove, cordgrass and other shoreline plants to reduce erosion, thereby decreasing sediment deposition in the estuary. In addition to reducing the impact of wave-induced erosion, living shorelines create valuable habitat for critters that play an important part in the food chain. The combined effect of these efforts will increase the resiliency of shorelines to sea level rise. Citizen involvement not only provides a low cost construction option, but also serves as an educational tool, resulting in a greater awareness and support. Restoration efforts will continue to improve water quality in both the Loxahatchee and St. Lucie Rivers enabling expanded growth of seagrass and supporting both estuarine and marine fish nurseries. Monitoring efforts allow adaptive management of this project and have provided useful information on the success of our efforts to build reefs that not only recruit oyster settlement, but also the suit of marine animals that inhabit them.

What is Oyster Spat?

Spat are oysters that have just settled to the bottom, hopefully finding some structure (prop roots, dock pilings, oyster shell, or natural rock) where they will attach and grow.

What are Reefballs™?

The Martin County Artificial Reef Program’s River Reefs Project is a community based program created to enhance and restore marine habitat while promoting environmental awareness. Participants involved in the program aid in the fabrication and deployment of Reefball™ artificial reefs while learning the value of marine habitat preservation and restoration. These artificial reef units provide hard substrate for the colonization of oysters, mussels and other encrusting species such as bryozoans, tunicates and barnacles. The reefs also provide valuable nursery habitat for a number of juvenile fish species within the Indian River Lagoon. The Reefball™ are self-contained habitat that have a higher vertical relief, but function much like the piles of shells or bags in these restoration efforts.







Why Do Oysters Matter?

Oyster reefs are vital to the health of an estuary, effectively filtering nutrients, fine sediments and toxins from the water and improving water quality. These reefs support the plants and animals that form the base of the estuarine food web. When coupled with other coastal restoration efforts—such as mangrove and marsh grass plantings—bagged material becomes a part of create a living shoreline.

What is cultch?

Cultch is any hard material - most often fossilized shells, limestone or other hard material - that is placed in the estuary to enhance oyster habitat or create oyster reefs.

Benefits of Oyster Reef Restoration

-  The reefs will provide essential habitat for oysters and many other species including shrimp, clams, crabs, snails and a variety of fish.
-  One adult oyster filters 20 to 50 gallons of water per day!
-  Improved water quality will lead to expanded seagrass coverage which creates important fish nursery habitat.
-  Habitat restoration activities facilitate oyster population recovery from extreme events such as hurricanes and tropical storms, extended releases from Lake Okeechobee, climate change and sea level rise by supporting a larger, more resilient oyster population.
-  Oyster reefs along with mangrove and other vegetation are effective shoreline stabilizers.
-  The marine industry is a significant economic engine in southeast Florida and the health of the marine environment is inextricably linked to the health of our economy.



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