

Northern Estuaries Resource Recovery

The Northern Estuaries Resource Recovery is a pilot recovery program to re-establish vital estuarine habitats of oyster reefs and seagrass beds within the Northern Estuaries; St. Lucie Estuary/Indian River Lagoon and the Caloosahatchee Estuary. The Northern Estuaries have received tremendous volumes of freshwater discharges from Lake Okeechobee which have resulted in major losses in the critical habitats. In the St. Lucie Estuary recent surveys reveal 99% mortality of oysters and an estimated 70% loss of seagrasses in the outer estuary, Indian River Lagoon, caused by the discharges.

Florida Oceanographic has been actively working to restore oyster reefs and seagrasses since 2005. The adult broodstock of native oysters have been kept in the shellfish hatchery at the Florida Oceanographic Coastal Center on Hutchinson Island and the Indian River Lagoon. Several spawns have produced literally millions of oysters for restoration programs including oyster gardening and establishing oyster reefs on substrate such as reef balls and recycled oyster shell units produced at the Center. The restored oyster reefs in the St. Lucie Estuary have been a part of programs in conjunction with Martin County to help re-establish 23 acres of oyster reefs in the St. Lucie Estuary.

Five common native species of seagrass have been growing at the Florida Oceanographic Coastal Center for testing different grow-out configurations and success studies. Seagrass units are being developed to deploy into the Indian River Lagoon and St. Lucie Estuary as a pilot program for restoration of these habitats. Seagrasses, particularly Johnson's Seagrass listed as a Threatened Species, has been dramatically impacted by the freshwater discharges from Lake Okeechobee. At the Willoboughy Creek site surveys showed Johnson's Seagrass reduced from 95% to 2% coverage as a result of recent discharge events. There were approximately 700 acres of seagrass habitat in the outer St. Lucie Estuary and Indian River Lagoon near the St. Lucie Inlet which has been impacted by prolonged destructive freshwater discharges into the estuary.

Similar estuarine habitat resources have been impacted and losses have occurred as described above in the Caloosahatchee Estuary. The Northern Estuaries Resource Recovery program would establish pilot restorations of oyster reef and seagrass, submerged aquatic vegetation (SAV), habitats in both the St. Lucie Estuary/Indian River Lagoon and the Caloosahatchee Estuary. Using native broodstock from both Northern Estuaries, restoration sites would be established and monitored for success rates. At the conclusion of the pilot program restoration strategies and plans would be proposed to expand the efforts into the appropriate areas of the estuaries for resource recovery.

Florida Oceanographic Society would work in conjunction with the Sanibel Captiva Conservation Foundation and establish a resource recovery team in collaboration with area scientists to develop the pilot recovery program for oysters and SAV, spawn, propagate and deploy the resources and monitor the success for one year. At the conclusion of the effort an expanded resource recovery plan would be developed to continue the restoration of these vital estuarine habitats. This Northern Estuaries Resource Recovery effort is compatible with the RECOVER performance measures and the Northern Estuaries Watershed Protection Plans for the St. Lucie and Caloosahatchee Estuaries.

The funding request for the Northern Estuaries Resource Recovery initial program as outlined above is \$ 500,000 to cover each estuary for a total request of \$ 1,000,000.

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