

Project Name: Littoral Area Planting Retrofit
Project Sponsor: Collier County Natural Resources Department
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Project Type according to the Allowable Uses for RESTORE Act Funds:

- Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region
- Workforce development and job creation
- Infrastructure projects benefitting the economy or ecological resources, including port infrastructure

The Board of County Commissioners has adopted Guiding Principles relating to project proposals:

1. Projects provide positive environmental and economic benefits, including job creation.
2. Projects are consistent with local government comprehensive plans and community priorities.
3. Projects incorporate other funding partners to fully leverage grant resources.
4. Projects meet the funding criteria set forth in the RESTORE Act.
5. Projects selected will be diverse and address all our community's eligible needs, including coastal and ecosystem restoration and development, flood protection, and tourism promotion.

Project location:



Background:

Wet detention ponds are the primary stormwater treatment method in southwest Florida due to our high ground water table and the high cost of land. There are currently upwards of 4,000 wet detention ponds in Collier County and the number will grow with our population. These thousands of neighborhood ponds dominate our area's landscape and have the potential to serve as the "first line of defense" against polluted water reaching our Gulf Coast. If not properly cared for, they could become the most widespread source of pollution to the downstream receiving waters.

Because of the newness of most of the ponds in our area, knowledge of the issues concerning their function and maintenance are often lacking among our first-time pond owners, as well as property management companies and contractors. Increasingly, the County is approached as a source of information for solutions to pond issues such as preventing bank erosion, sediment accumulation, algae control and general aesthetics. As the ponds age, the expense incurred to keep them healthy is expected to increase unless proper steps are taken early in their life to enhance their functioning.

Objective:

The County seeks to retrofit a stormwater wet detention pond with a littoral planting area with the objective of educating property owners, managers and landscape maintenance companies on the benefits they offer. In addition, the project will document the cost of installing and maintaining the feature, and the water quality improvements that result over multiple years. Shoreline erosion control will also be documented. This aligns with the non-structural initiatives (best management practices) for the County's Watershed Management Plan, and the County's National Pollutant Discharge Elimination System (NPDES) MS4 permit.

Project:

A County stormwater detention pond will be chosen that does not have a littoral plant area, and that has historic maintenance records, including cost of maintenance. Ideally the pond will have a history of problems such as algae blooms, algal mats, fish kills and public complaints. The pond will be typical in size (about 1-2 acres) and predate the design standards of the County Land Development Code for Littoral Shelf Planting Area (LSPA) since the LSPA regulations greatly reduce the need for the newer ponds to be retrofitted. It will have easy access for the public. A project brochure will be developed for public distribution and the project will be highlighted on the County's website. Educational signage will be posted at the site. Monitoring will occur over a 4 year period and include: rainfall, water levels, quarterly surveys of pond vegetation and wildlife; monthly photo documentation of the same areas and features, monthly water monitoring for dissolved oxygen, temperature, specific conductance, pH, secchi depth, total phosphorus, ortho-phosphorus, nitrate, nitrite, nitrate/nitrite, total kjeldahl nitrogen, chlorophyll-a, phaeophytin, turbidity, total suspended solids, and copper. Annual reports will be produced that include photos, vegetation and wildlife surveys, water quality data, number of customer contacts and lake management activities with cost.

Total Cost:

Project Funding Activity	RESTORE Act Funding Request	Matching Contribution	Match Source
Plants and installation	\$50,000		
Plant maintenance	\$20,000		
Educational Components		\$2,000	Collier County
Monitoring		\$60,000	Collier County
Reporting		\$10,000	Collier County
Project Administration		\$5,000	Collier County
Total:	\$70,000	\$77,000	
Total Project Cost:	\$147,000		

Suggested implementation timeline:

Baseline monitoring will begin one month after notification that RESTORE funds have been awarded and continue for eleven months before installing the plants. Monitoring will continue for 4 more years. The last annual report will be completed within 6 months of the monitoring period for a total project time span of 5.5 years. Educational signage and website posting will occur after planting occurs.