RESTORE Act Interest Form

Project Name: Henderson Creek Diversion

Project Sponsor: Big Cypress Basin, South Florida Water Management District

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Project Type: Restoration and protection of the natural resources, ecosystems, marine and wildlife habitats; mitigate damage to fish, wildlife and natural resources; infrastructure project benefiting economy and ecological resources; activities to promote tourism and seafood in the Gulf coast region; workforce development and job creation.

Project Location: Golden Gate Canal and Henderson Creek Canal, Naples, Collier County, Florida

Project Description:

Urban and agricultural developments in Collier Country, associated with rapid population growth over the past four decades, have created increasing pressure on environmental resources of the region. The drainage canal system and roads have virtually eliminated natural sheet-flow, and altered the timing and distribution of freshwater flows into Rookery Bay and Naples Bay, the two important estuaries of the Gulf of Mexico in southwest Florida.

Large fluctuations in freshwater inflows from the Golden Gate and Henderson Creek canals have led to detrimental effects on fish and invertebrate species in Rookery Bay and Naples Bay. The rapid decline of salinity to near freshwater levels during the wet season has caused prolonged salinity stresses and eliminated a high proportion of the benthic, midwater and fish plankton communities in the two bays. Seagrass meadows are no longer prevalent in Naples Bay; instead, bare sandy mud and algal areas predominate. Rookery Bay also undergoes high salinity conditions during the dry season, which are outside the preferred range of a number of estuarine fish species. Suppressed plankton development has resulted in very low relative abundance of midwater fish and caused a considerable drop in shellfish harvest levels. The impact on commercial and recreational fisheries has been significant.

The Big Cypress Basin, with strong support from Collier County, the City of Naples, and the local units of the State and Federal agencies, has long outlined a plan of diverting a portion of the freshwater...
flow of the Golden Gate Canal to Henderson Creek Canal to reduce damaging freshwater discharges to Naples Bay, and also to provide regulated release of freshwater to Henderson Creek flowing into Rookery Bay. The first phase of the project (Figure 1) will involve construction of a 100 cfs pumpstation and 5,400 LF of diversion canal. Water will flow into Henderson Creek through an existing box culvert under I-75. A second phase long term plan will also involve diversion of a larger amount of Golden Gate Canal flows to the inlets and bays of Rookery Bay as sheet flows through the eastern wetlands of the Henderson Creek – Belle Meade watershed.

Figure 1 – Henderson Creek Diversion – Location and Project Features
Total Cost: $ 6,000,000
Requested Funding: $3,000,000

Implementation Timeline:
- Project Final Design: December 2013
- Land Acquisition of the Diversion Canal Route: June 2014
- Complete Construction: December 2015

Guiding Principles of the Project:

1. Project Benefits:

   A. Environmental: The project will reduce the volume of annual freshwater discharge to Naples Bay by about 10 percent, and increase the volume of water entering Rookery Bay by about 33 percent. Regulated release of freshwater, in terms of volumes and timing, will improve salinity balance to benefit estuarine habitats for fish and macro-invertebrates in both Naples Bay and Rookery Bay.

   B. Economical: The reduction of freshwater shock loads and enhanced salinity distribution will improve water quality conditions in both the Naples Bay and Rookery Bay. Based on the ecosystem service evaluation conducted earlier, the project will provide a combined ecosystem services value of approximately $19,000,000 per year as a result of enhanced recreational and commercial fishing and related ecotourism features.

2. Consistency with Local Government Plans:

   The Henderson Creek Diversion project has long been a priority project of the Big Cypress Basin’s strategic plan in its effort to restore the health of Naples Bay. It is also a key element of the Surface Water Improvement and Management Plan (SWIM) plan for Naples Bay, adopted by the South Florida Water Management District Governing Board (January 2006). The Collier County Watershed Management Plan (November 2011) has evaluated the project with the highest performance score of 10 in terms of estuarine discharge benefits amongst all of the plan’s recommended projects, and a B/C ratio of 3.5. A joint workshop of the Board of Collier County Commissioners, the City Council of the City of Naples, and the Big Cypress Basin Board (April 2011) had collectively recommended the project as the top most priority for implementation for the community.

3. Leverage of funding partner’s grant resources:

   The Big Cypress Basin’s current budget (FY 2013) has provision of $140,000 for design and land acquisition processing for the project, and allotments of $1M and $1.5 M in the projected budgets for FY 2014 and FY 2015 respectively.

4. Consistency with RESTORE Act Funding Criteria:
As mentioned in item 3 above, the Big Cypress Basin has made preparation for implementation of the project. In spite of the limited ad valorem revenue, the Basin Board is committed to provide additional resources to fulfill grant funding criteria of the RESTORE act.

5. **Diverse objective needs of the Community:**

The proposed diversion canal and the pump station will be a part of the Big Cypress Basins primary canal and water control structures network. The operation of the pumpstation and flow diversion structure will be framed to achieve the Basin’s other three mandated missions for flood control, protection and improvement of water supply and water quality of the receiving waters. Overall, the operation of the diversion canal will contribute toward meeting the following diverse objectives of the community:

- Flood protection in the urbanizing Golden Gate Canal and Henderson Creek watersheds by providing an additional outlet for release of floodwaters during extreme hydrologic conditions.
- Better management of the aquifer recharge during the dry season, including providing additional sources of recharge to the lakes and ASR intakes of the City of Marco Island water supply.
- Improved water quality and ecological health of Naples Bay and Rookery Bay by achieving the desired changes in timing, quantity, and quality of water.
- Enhanced economic benefit to the community through increased activities of eco-tourism, recreational and commercial fishing, and employment in the related sectors.