



Gulf Environmental Benefit Fund (GEBF) Project Pre-proposal

Project Title: RESTORATION OF TIDAL FLUSHING IN SHELL KEY PRESERVE

Project Location: Pinellas County, Florida

Estimated Project Cost: \$3,000,000

Additional Funding Sources: Potential ACOE Beneficial Use Project

Proposed Project Period: July, 2015 through December 2018

Project Lead Agency/Organization: Florida Department of Environmental Protection / Pinellas County

Partner Organizations (if applicable): Tampa Bay Watch, Inc.

Pre-proposal Project Narrative

1. Project Description: *Please provide a brief narrative that outlines the conservation outcome(s) of the project and the proposed scope of work for achieving project outcome(s). Briefly describe how the expected outcome(s) will remedy harm to natural resources of a type affected by the Deepwater Horizon oil spill, consistent with the conservation priorities for the GEBF (e.g., barrier islands, beach/dune habitat, coastal marsh, bays and estuaries, coastal and marine living resources).*

Background:

The Shell Key Preserve is a 1,800-acre Pinellas County ecological preserve established to protect sensitive marine habitats and includes one of the county's largest undeveloped barrier islands (Shell Key) as well as numerous mangrove islands, oyster bars and expansive sea grass beds.

Shell Key has been designated as one of the state's most important areas for shorebird nesting and wintering and it serves as an important study area for these species. It also is an important area for recreation. The Shell Key Preserve is managed by the Florida Department of Environmental Protection and Pinellas County.

Current Conditions:

The Preserve is located immediately south of Pass-a-Grille Beach and St. Pete Beach. Beach communities south of Johns Pass routinely receive beach renourishment sands to fortify the beach communities and maintain economically valuable beachfront lands. However, natural erosional patterns move the beach sands south and onto Shell Key. Up until the last three years the sands have accumulated on Shell Key itself, creating a much larger undeveloped barrier island. Recently, however, the sands have accumulated at the northern pass to the extent where they have choked off natural water flow into the northern half of the Preserve.

The Problem.

As the Northern Pass closes, water circulation is dramatically reduced, if not eliminated, to the Northern half of the Preserve. Water flow and biological access now must come from the southern Bunces Pass area, which greatly



reduces flushing of the area. Problems associated with the closure of the Pass to the ecological conditions of Shell Key include:

- Loss of water flow and flushing will result in the widespread loss of seagrass communities in the northern third of the Shell Key Preserve.
- Water flow reductions and loss of seagrass communities will result in a dramatic decline on the natural fish and wildlife resources that depend upon healthy water quality and habitat conditions. These resources include recreationally important fisheries (spotted sea trout, red fish, snook), commercially important fisheries (mullet, shrimp, stone and blue crabs) and impacts to bird nesting and foraging communities.
- Recreational usage of the area will be restricted due to the loss of access to the northern area and decline on natural resources to the area that are economically important to our community.
- Waterfront homeowners along Westshore Drive no longer have access to a deep water connection to the Gulf and will be forced to travel to the south for access. There are no existing channels that are available to travel to the south. Boaters traveling north/south across the preserve will create significantly more propeller damage to the existing seagrass communities, which is already apparent.
- If the Pass is allowed to close there will be a land bridge access to Shell Key for the first time from Collany Key. Open access to the Shell Key Preserve will allow unrestricted 24 hour access to the Preserve affecting bird and wildlife usage of the island.

The closure of the Northern Pass to Shell Key Preserve can be attributed to the widespread beach nourishment projects to the North. If the Pass is not reopened serious and long term impacts to our natural resources will occur.

The Solution:

A permanent solution to the problem is needed to reopen and maintain the Northern Pass into Shell Key Preserve. The following steps need to be taken to address this growing problem:

- A hydrological analysis of the northern Shell Key area needs to be accomplished to evaluate construction alternatives available to address the problem.
- Alternatives to be considered include the extension of the Pass-a-Grille southern jetty to retain the littoral drift sands on the beach and reduce required renourishment projects in the area.
- The Northern Pass in the Shell Key Preserve will need to be dredged to reestablish water flow and recreational boat access. The spoil material can be used to renourish the northern beaches, used for beneficial fill for historical dredge holes, or stored on adjacent upland areas and hauled off for fill.
- The opening of the Pass should consider dredging the last remnant channel or dredging the historical channel that has greater water depth and allowing improved water flow.
- A physical revetment or other structure should be considered to prevent the return of sand after the Pass has been opened.

Clearly, Pinellas County, the US Army Corps of Engineers, Florida Department of Environmental Protection and many others will need to work together to facilitate a long term solution to this problem. Shell Key is an ecological treasure in our area that needs to be protected and restored for future generations to appreciate.

- 2. Strategic Significance:** *Briefly describe the strategic significance and priority of the project, including how the project relates to established or emerging plans.*

Shell Key Preserve is one of the few undeveloped and limited access barrier island ecosystems within Pinellas County, the most densely populated county in the Gulf of Mexico. In recognition of its unique ecological values the State of Florida and Pinellas County established the Shell Key Preserve to advance its long term protection. The Shell Key Preserve is managed under an adopted Shell Key Preserve Management Plan, and also the Pinellas County Comprehensive Plan. Shell Key Preserve is also part of the Pinellas County Aquatic Preserve system.

- 3. Supporting Material:** *In order to assist NFWF with scheduling and coordinating the required consultation and technical review activities should a full proposal be invited, please list any supporting materials that would be expected to be submitted at that time (e.g. engineering and design documents, construction plans and specifications, real estate appraisals, etc.).*

The majority of background information on the Preserve is available within the Shell Key Preserve Management Plan. The Management Plan includes the strategies in place to facilitate the long term protection of the aquatic resources.

- 4. Other (Optional):** *Provide any further information important for the review of this pre-proposal.*

An aerial time series is included as an attachment. These photos illustrate the historical extent of the Shell Key Pass and the inundation of sand that has closed natural water movements to the Preserve area.

Clearly, this project will support the restoration of tidal flow benefiting the barrier island ecological communities, recreational usage and water quality conditions available to the Gulf of Mexico from the Shell Key Preserve system. All of these ecological and recreational values were affected by the Deepwater Horizon Oil Spill and their restoration and protection is essential to the long term health of our coastal water bodies.