

RESTORE Act Ecosystem Restoration Project Proposals
for consideration in the Gulf Coast Ecosystem Restoration Council's Comprehensive Plan
2012

Contact Information: Brandt F. Henningsen				Date of Submittal:			
Name of Project: Rock Ponds Ecosystem Restoration Project				Org and Rank:			
Project Description: The Rock Ponds Ecosystem Restoration Project is a collaborative effort between the Surface Water Improvement and Management (SWIM) Program of the Southwest Florida Water Management District (SWFWMD) and the Hillsborough County Resource Management Section of their Parks, Recreation, and Conservation Department. This project will be the largest single coastal ecosystem project ever performed for Tampa Bay: the creation/restoration/enhancement of 1043 acres of various estuarine, freshwater, and upland habitats. The project emphasizes low salinity habitats, sheetflow restoration, freshwater wetlands, and various coastal uplands. In addition, some stormwater treatment will result in improvements in water quality for the bay.							
Project Location: Southeastern reaches of Tampa Bay (Figures 1 and 2); the overall 2543 acre tract is bracketed to the north by the southern edge of Cockroach Bay, to the south by the Manatee County-Hillsborough County line, to the west by Tampa Bay proper, and to the east by U.S. 41. The tract center point is approximately at 82° 31' 39.84" E, 27° 39' 8.55" N. The entire tract is public property and is designated preserve lands by SWFWMD and as part of the Hillsborough County Cockroach Bay Preserve. In addition, the estuarine portions are part of the Cockroach Bay State Aquatic Preserve and are designated as an Outstanding Florida Waterbody.							
Responsible Party: SWIM/SWFWMD				Partners: Resource Management Section of the Hillsborough County Parks, Recreation, and Conservation Department			
NEP: Tampa Bay Estuary Program		Project Cost: (estimate) \$11,054,334			Dollars Needed: \$7,158,211.00		
Start: December 2012				Completion: December 2014			
Status of Project Design and Permitting: 100% designed; permits received from Florida Department of Environmental Protection and Hillsborough County Environmental Protection Commission. U.S. Army Corps of Engineers permit to be issued October 2012. Hillsborough County Special Use and Operating Permits (for excavation and hauling of fill) under review.							
What Date or Year could Construction Feasibly Begin: December 2012							
Your Proposed Timing of Funding (given permits, phasing, staging, etc.)							
FY	12/13	13/14	14/15	15/16	16/17	17/18	Total
		\$3,579,106	\$3,579,106				
Quantify Environmental Results and How to Measure Them: All acreages quoted here are accurate as a product of GPS/GIS measurements. Minor field adjustments during project construction (to better accommodate extant habitats) may result in small changes to calculated acreages per habitat type. Aside from total acreage restored, percent native plant coverage and wildlife observations will be used to help document habitat success. Concerning water quality improvements, pounds of removed pollutants (i.e., nutrients) can be calculated via SWIM's stormwater engineers.							
Economic Benefits (including ecosystem services): This project complements a recently completed SWIM-Hillsborough County 500 acre ecosystem restoration project on the north side of Cockroach Bay. Like its sister project to the north, the Rock Ponds Ecosystem Project will							

enhance/restore/create a mosaic of habitats typical for the coastal areas of Tampa Bay (Figure 3). This will include various estuarine habitats (e.g., intertidal and subtidal), freshwater wetlands, and various upland communities (i.e., hardwood hammocks, mixed pine-hardwood forests, and pine flatwoods). New intertidal channels and lagoons will provide valuable fisheries habitats, inclusive of improved tidal access and flushing of an abandoned, currently intermittently tidal mining pit (aka the original “Rock Ponds”). A second land-locked borrow pit will be tidally connected to Cockroach Bay and re-contoured to create both intertidal and low salinity/freshwater wetlands. Two altered tidal creeks (“Piney Point Creek”, “Cockroach Creek”, both ditched and diked) will be restored to discharge to extant wetlands and the newly created tidal channels/lagoons, redistributing their freshwater to create salinity gradients, establish low salinity habitats, and reestablish sheetflow delivery of freshwater to the estuary. In addition, offsite drainage will redirect stormwater through a series of cascading freshwater wetlands to not only hydrate the freshwater wetlands but to improve downstream water quality via some stormwater polishing. Polished freshwater will then cascade into new tidal channels/lagoons for additional polishing and, as noted, to help establish salinity gradients and restore the area’s hydrology (delivery of freshwater along a wide-front/shoreline interface, not a single discharge point). In addition, project designs emphasize high marsh and transitional habitats to help accommodate anticipated sea level rise over the next 100 years. Lastly, this public property will be available for passive recreational use such as bird watching, hiking, canoeing/kayaking, fishing, etc. Post project construction will be followed by a contractor performing three years of quarterly maintenance, eradicating non-native and nuisance plants that could pose a threat to the restored native plant communities. Following the three years of contracted maintenance, the site will be managed by SWFWMD and Hillsborough County. Lastly, this restoration project helps fulfill Tampa Bay management plans and goals of the SWIM Program as well as the Tampa Bay Estuary Program (especially as related to low salinity habitats, salt marshes, freshwater wetlands, and improvements to bay water quality). Lisa Beever, with the Charlotte Harbor National Estuary Program, calculated that the economic benefit of this project would be approximately \$115 billion dollars over 100 years.

Estimated number of Jobs Created or Preserved: With the estimated \$11+ million project price tag, it is calculated that at least 170 jobs will be created for project construction and maintenance.

How much Habitat will be restored and conserved?: Estuarine habitats – 267 acres; freshwater wetlands – 131 acres; upland habitats – 645 acres (total footprint = 1043 acres). In addition, it is anticipated that an additional 1500 acres of existing wetland habitat values will be enhanced due to the project’s widespread hydrological improvements.

Quantify pollutant reductions: Calculations of load reductions are unavailable at this time, but polishing of stormwater through freshwater and estuarine wetlands should remove tons of nutrients, sediments, and pollutants prior to them ever making their way to Cockroach Bay and Tampa Bay proper.

What living coastal/marine resources will be improved and by how much?: Project wetlands will be created out of 1) low lying uplands heavily dominated by mature non-native plants (i.e., Brazilian pepper, Australian pine), 2) low lying fallow farm fields dominated by young, maturing non-native vegetation, and 3) abandoned shell/sand mining pits. A breakdown of the various coastal habitats being enhanced/restored/created is provided in the “Summary Rock Ponds Habitat Acreage by Major Type” (Table 1) and the “Rock Ponds Ecosystem Restoration Summary Table” (Table 2). Due to the mosaic of habitats being

enhanced/restored/created, this project will provide opportunities for a wide cross section of species that normally would inhabit and use such coastal habitats. Relic on-site uplands already provide some habitats for various birds, reptiles, and mammals (e.g., owls, hawks, songbirds, various snakes, bobcat, coyote, rabbit, other various small mammals), but avifauna, reptile, and terrestrial mammal use is anticipated to significantly increase with the enhancement/restoration of 645 acres of coastal uplands (i.e., hardwood hammocks, mixed pine-hardwood communities, pine flatwoods). Aside from the project's upland plant communities, emergent estuarine salt marsh habitats total over 82 acres, a habitat specifically targeted by the Tampa Bay Estuary Program. As observed in various other SWIM restoration projects for the bay, it is anticipated that seagrass meadows and oyster bars will naturally recruit throughout the subtidal areas of the project. In addition, the 267 acres of various estuarine habitats should attract a suite of plant, invertebrate and vertebrate species, inclusive of oysters, blue crabs, stone crabs, shrimp, mullet, snook, redfish, trout, black drum, rays, dolphin, and even manatee. In addition, by incorporating two existing altered tidal creeks and one major drainage system into the design, the tidal lagoons should provide valuable, low salinity nursery habitats (critical habitats specifically targeted by the Tampa Bay Estuary and SWIM Programs). The original "Rock Ponds" borrow pit currently is being used as a bird rookery (e.g., various herons including little green herons, various egrets including reddish, various ibis including glossy, cormorants, etc); it is anticipated that bird utilization of the whole project area though will dramatically increase with the increased availability of various wetland and upland habitats. This includes use of restored upland habitats by migrating neotropical songbirds and waterfowl in wetland habitats, phenomena documented for restored upland and wetland habitats on the north side of Cockroach Bay. The Rock Ponds site already has had one recent documented case of whooping cranes "laying over" on site during their migration. In addition, freshwater wetlands will provide 131 acres of opportunity for various amphibians and reptiles as well as bird populations. The lack of nearshore freshwater wetlands has been identified by the Tampa Bay Estuary Program as a severe limiting factor for various wading bird populations that nest by the bay but must feed their young freshwater prey. Lastly, routing of some watershed stormwaters through the freshwater wetlands will provide some stormwater polishing, resulting in improved water quality for the bay.

How will community resilience be enhanced? As noted, in anticipation of sea level rise over the next 100 years, the project design has emphasized high marsh and transitional habitats to help facilitate "migration" of the intertidal and transitional habitats up-gradient. This design approach has been used for all SWIM bay restoration projects implemented over the last 20 years. In addition, the restored/created wetland communities and restored hydrology along an estimated 4.5 miles of coastline will provide additional storm surge and flood protection for adjacent upland and variously developed lands.

Additional Justification: As noted, these public lands will be available for passive recreational use. Educational kiosks are envisioned for preserve visitors. In addition, multiple volunteer marsh plantings will be coordinated with Tampa Bay Watch, a non-profit stewardship program, incorporating hundreds of volunteers installing tens of thousands of marsh grasses that will be harvested from a donor marsh maintained by the Florida Fish and Wildlife Conservation Commission at their Port Manatee Fish Hatchery Facility. This site also will become a project to highlight during the frequent restoration tours performed by SWIM for a variety of interested parties. Requested tours come from groups such as: regional/national/international conference attendees, chapters of Audubon, Sierra Club, and Florida Native Plant Society, city-county-state-federal elected officials, environmental agencies, university classes, international visitors, and

others. Lastly, as noted, currently the SWIM Program has insufficient funds to complete this project as designed. If awarded a RESTORE grant, the funds could make a significant difference in whether this project is completed at one time or in at least fewer steps.

Add any photos or maps that explain project: Please see Figure 1 (Location Map), Figure 2 (Footprint of Rock Ponds Ecosystem Restoration Project), Figure 3 (Restoration Plan), Table 1 (Summary Rock Ponds Habitat Acreage by Major Type), Table 2 (Rock Ponds Ecosystem Restoration Summary Table per habitat).