



PROTECTED SPECIES BENEFITS

- Tidal wetlands, primarily mangroves in the Sarasota Bay, are essential nursery areas for many aquatic species. Mangrove forests are one of the world's most threatened tropical ecosystems and are critical to the health of Florida's estuaries, including Sarasota Bay. Development pressure along the coastline has impacted marine fisheries specifically due to the loss of this habitat. A majority of fish and shellfish species inhabit shallow mangrove areas at least at some point in their life cycles. In fact, mangroves are considered essential nursery habitat for species such as the goliath grouper (*Epinephelus itajara*) that remain in these areas for the first 5-6 years of their lives. Other locally occurring species commonly found in mangrove swamps include grunts (*Haemulon spp.*), gray snapper (*Lutjanus griseus*), snook (*Centropomus undecimalis*), sheepshead (*Archosargus probatocephalus*), spotted seatrout (*Cynoscion nebulosus*), and red drum (*Sciaenops ocellatus*).

- Federally protected animal species which have been documented utilizing the Neville Preserve include: the piping plover (*Charadrius melodus*), and the West Indian manatee (*Trichechus manatus*). Another potential shorebird that may be present would be the red knot (*Calidris canutus rufa*). Both the piping plover and red knot, federally threatened species, could be found in the vicinity of the Jim Neville Marine Preserve and forages in tidal flats. Another factor to consider is that an adjacent restoration project that was constructed in 2011, Palmer Point, resulted in increased beach habitat and utilization by shorebirds. Therefore, the protection or creation of tidal

flat areas to the east as part of the Neville Preserve restoration, project would be beneficial to this listed species. Currently, numerous nuisance raccoons utilize the preserve for foraging and are destructive to the bird population, by lowering the existing Australian pine areas, the raccoons would no longer have access to the preserve. Habitat for the Western Indian manatee (listed as Threatened) is located throughout Sarasota Bay, especially in areas of seagrasses located near the islands.

- Southwest Florida is also within the range of the smalltooth sawfish (*Pristis pectinata*), which inhabit shallow coastal estuarine habitats, usually over muddy and sandy bottoms. The historic range of this once common species includes peninsular Florida; however, available data suggests that the numbers of smalltooth sawfish have dramatically declined. The species decline is related to entanglement in gill nets and discarded fishing line, as well as from the loss of mangrove habitat which serves as a nursery area for juveniles. As a result, the smalltooth sawfish is the only domestic marine fish and elasmobranch listed under the Endangered Species Act (ESA). Under the ESA, it is illegal to catch or harm the endangered sawfish.



- Saltern communities are very rare ecotones which have been disproportionately impacted in this region of Florida. Salterns are areas that experience short periods of tidal inundation that cause rapid algal production. Typically, the areas are slight impoundments that have increased salinities as a result of evaporation. The algae provide the base of the food chain via the grazing of the algal cells by organisms such as fiddler crabs, etc. The Jim Neville Marine Preserve currently contains this rare and productive habitat and the restoration would increase the acreage of saltern. Saltern communities also provide essential avifaunal habitat known to utilize these important ecotones. Numerous field inspections have revealed high utilization of this particular area by wading birds; particularly after very high tide events. The 4 acres of existing 'saltern' areas (non-vegetated salt flats) are not going to be disturbed, because they are considered good foraging habitat for the federally listed piping plover.

REFERENCE

US Army Corps of Engineers, Jacksonville District, Section 1135 Ecosystem Restoration Report and Environmental Assessment, Sarasota Bay, Sarasota County, Florida. November, 2002, Revised March 2003

CONTACT

Sarasota Bay Estuary Program

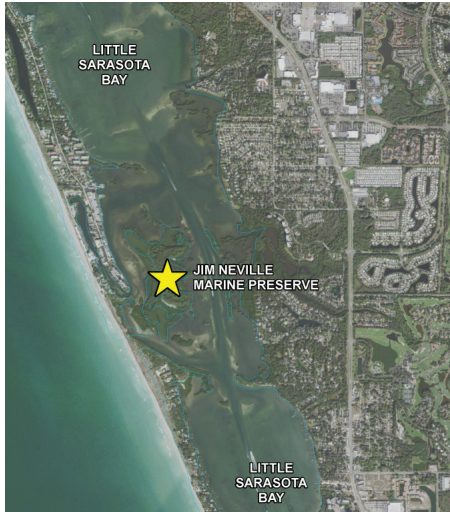
www.sarasotabay.org



Jim Neville Marine Preserve Habitat Restoration Project

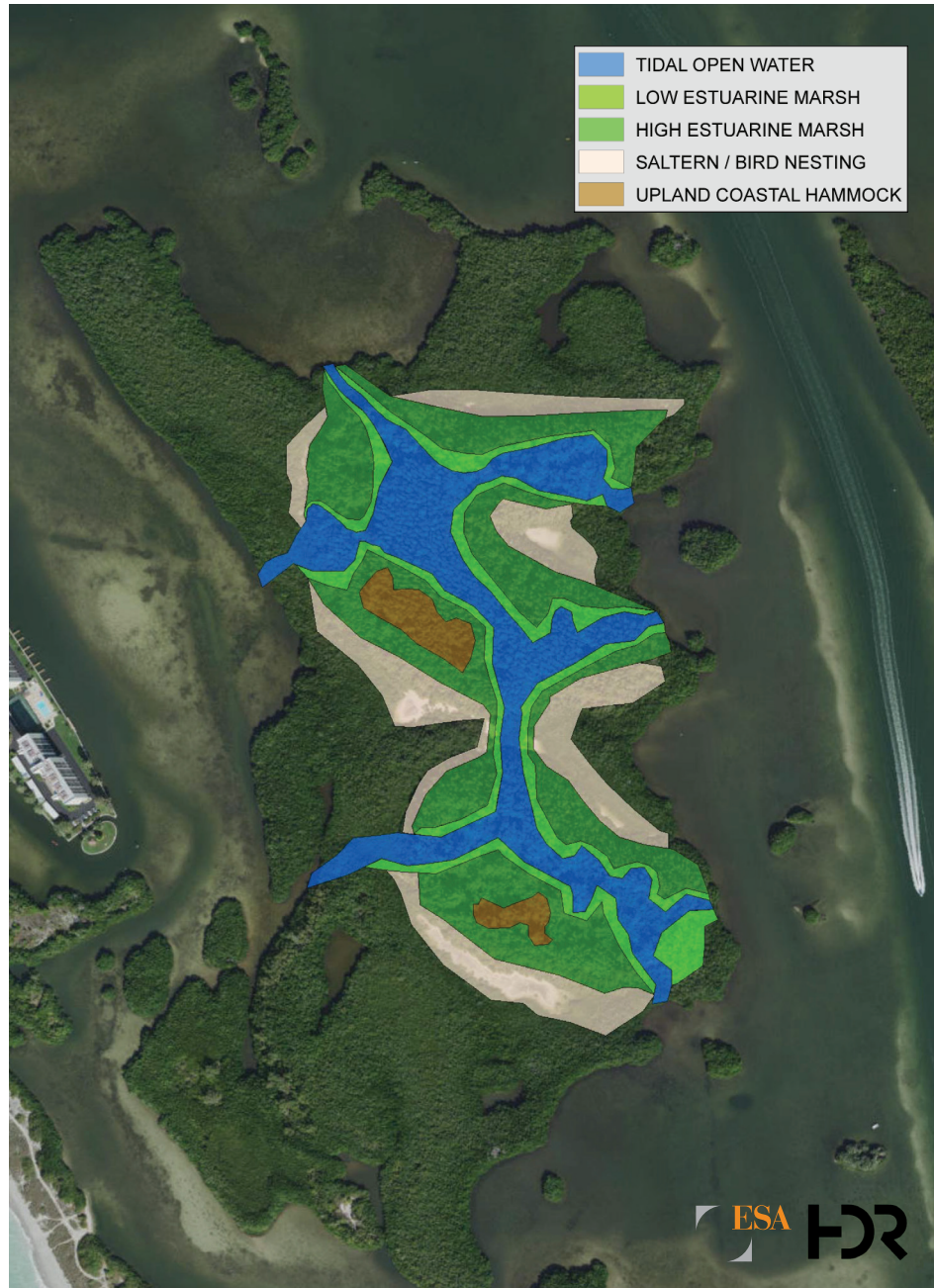
During the construction of the Gulf Intracoastal Waterway project in the 1950's and early 1960's, some of the material dredged from the channel was placed within Sarasota Bay, specifically in areas of mangroves and shallow water bay bottom, creating upland disposal islands. In 2002-2003, the US Army Corps of Engineers (USACE) conducted a feasibility assessment under the authority of Section 1135 of the 1986 Water Resources Development Act (WRDA), to look at restoration projects that could potentially restore dredged material spoil islands. The primary benefits of the projects must be associated with improvements to fish and wildlife resources. The alternatives analyzed in the feasibility study concentrated on restoring high quality natural habitats that once occurred along the mainland and the barrier islands, but have been lost due to extensive development in the area. These habitat types include mangrove forests, tidal lagoons, mud flats, high and low salt marshes, and coastal sub-tropical hardwood hammocks. Restoration includes removing most of the dredged material and re-grading the islands to appropriate elevations, and replacing the currently existing invasive exotic plants with native vegetation. One of disposal islands that was identified as a candidate for restoration, Jim Neville Marine Preserve, continues to offer the opportunity to utilize a variety of restoration techniques that could provide a mosaic of habitats including tidal lagoons, mangrove forests, mud flats, high and low salt marshes, saltern and coastal hammock ecosystems.





PROJECT LOCATION

Sarasota Bay is located on the central west coast of Florida, adjacent to Sarasota and Manatee Counties. It is a 50-mile long coastal lagoon and consists of a series of smaller bays and tributaries that are separated from the Gulf of Mexico by a string of barrier islands. Multiple inlets, or passes, connect the estuarine waters of Sarasota Bay to the Gulf of Mexico and separate the lands that comprise the narrow barrier islands. The Sarasota Bay watershed is highly developed and consists of agricultural, residential, commercial, and light industrial land uses. Thus, restoring the spoil island will provide the previously lost fish and wildlife habitat.



OVERVIEW

- Restoring Neville Preserve, will not only benefit the altered areas which now comprise this island complex, but will also help with the restoration of the entire Sarasota Bay ecosystem by contributing a significant amount of viable nesting, shelter, and foraging habitat for a multitude of different bird, fish, shellfish, and other wildlife species, as well as by providing additional wetlands to help restore the water quality in the bay by the uptake of nutrients and the prevention of erosion.
- The Jim Neville Marine Preserve is a publically owned parcel and the proposed habitat restoration project would be supported by multiple public entities working together to garner grants and/or RESTORE Act funding for this large scale project.
- A preliminary concept plan has been developed and vetted by the public.
- Environmental restoration of Neville Preserve in Sarasota Bay will have no adverse impacts on navigation along the GIWW. None of the spoil material will be placed in or along the channel so that it could erode and reduce the authorized depth of the channel.
- This would also provide increased opportunities for public involvement with volunteer planting events and educational signage that illustrates the importance of these estuarine habitats.



EXISTING CONDITIONS

Jim Neville Marine Preserve is a 35-acre, two-island preserve complex owned by Sarasota County. This island complex is located to the west of the Gulf Intracoastal Waterway (GIWW) toward the southern end of Siesta Key. It is situated adjacent to a former pass/inlet to the Gulf of Mexico (Midnight). The southern island of the spoil island has gentle topography with a slight ridge running in the northwest to southeast direction. The highest point of this area is elevation 7 feet MSL. The northern island has gentle topography with a high point of 10.5 feet MSL located near the north end. Historically, a large mangrove island and a small area of adjoining open waters of Little Sarasota Bay occupied the area that is now the Jim Neville Marine Preserve. During past dredging operations associated with the construction of the GIWW, the dredged material was deposited over much of the eastern portions of the island and adjacent bay waters. This created the present characteristic of the island which is an upland area, slightly elevated above surrounding mangroves. The wetlands surrounding the upland areas of Jim Neville Marine Preserve are in fairly good condition. These areas have a wide diversity of wetland native vegetation and community types. There is a mix of mangrove swamps as well as a diverse expanse of saltwater marshes with some encroachment of Brazilian pepper (*Schinus terebinthifolius*) primarily in the mangrove fringe and at the center of the northern end of the island. The interior upland portion of the preserve is in a degraded condition primarily due the encroachment of a dense canopy of invasive exotic vegetation, including primarily Australian pines, Brazilian pepper, with some melaleuca (*Melaleuca quinquenervia*). This monoculture of Australian pine has totally disrupted the natural upland plant community. There are virtually no native trees in the canopy or sub-canopy with only scattered Florida privet (*Ligustrum lucidum*) and saltbush (*Baccharis halmifolia*) in the shrub cover. The dense shade and Australian “pine needle” groundcover has virtually excluded the natural plant community. The dredged material on the Jim Neville Marine Preserve predominately consists of a mix of fine sands, shell fragments, limestone, phosphate, and silt (USACE report).



American white pelican (*Pelecanus erythrorhynchos*)

PROPOSED RESTORATION

During the initial feasibility study, several alternatives were examined and vetted in public workshops. The concept plan below was developed from public input at the February 2000 workshops for this project. This concept involves connecting the two portions of the preserve with a tidal lagoon network. This alternative also extends that tidal lagoon to provide more openings to the bay on the west, east and north sides of the island. A total of 10.0-acres of proposed tidal lagoon network is included in this concept. In addition, low marsh and mangroves (16.6-acres) would surround the tidal lagoon network on the island with occasional upland areas (2.0-acres) at some of the high points of the island. This alternative will require the excavation of approximately 127,250 cubic yards of material and the total project was estimated to cost approximately \$3.3 million back in 2000. Please note that the concept plan will likely need to be adjusted to work with the current site condition as this plan was developed over eighteen years ago, however, the idea of creating this mosaic of habitats is still the anticipated plan.

