Habitat Creation at North Lido Beach, Florida Limits Future Storm Impacts

Sarasota Bay Estuary Program

Habitat restoration is an important initiative for the Sarasota Bay Estuary Program (SBEP). While Sarasota Bay is the smallest estuary of the three Florida Gulf Coast NEPs, it has completed many coastal habitat projects with support from an active and progressive environmental community.

A recent habitat restoration project was completed at North Lido Park on Lido Key that will help to limit impacts from storms. The park is contiguous with both the Gulf of Mexico and Sarasota Bay (Pansy Bayou) and is near a popular tourist destination.

The project location is noted in red and the Sarasota Bay watershed in green. Source: adapted from SBEP

The park offers a range of multi-purpose passive recreational opportunities for the public and was restored to improve water quality and provide wildlife habitat.

Wetlands were created

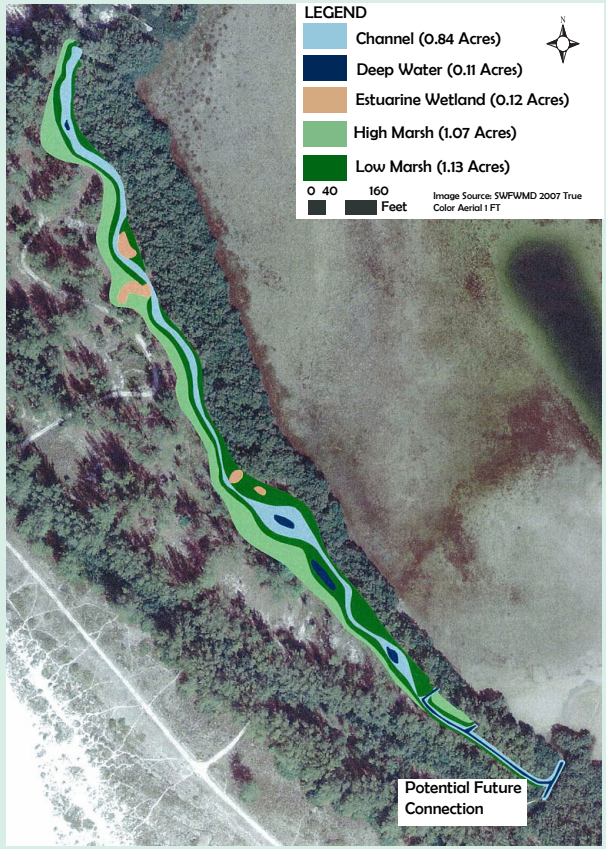
The primary restoration activity was wetland creation. This was accomplished by scraping down upland areas landward of the existing mangrove fringe and mean high water line. The existing upland areas were dominated by exotic vegetation such as Brazilian pepper, carrotwood, and Australia pine; native upland communities were not lost. Two areas of uplands were preserved as coastal hammock. Three wetland zones were created at the following elevations:

- Channel (0.5 to -2.0 feet),
- Deep Water Habitat (- 3.0 feet), and
- Low Marsh (0.5 to 1.5 feet).

Tides incorporated into design

The created wetlands were designed to receive tidal influence to support a salt marsh community. A small tidal channel was created within the low marsh system (not directly adjacent to the mangroves) connecting it to an existing waterway on the south end of the site. This waterway ran perpendicular to both the existing shoreline and the proposed project. Connecting the created tidal creek to this waterway provided the hydrologic connection from the tidal flow to the created wetlands. This connection point was chosen to eliminate the need for dredging landward of the mean high waterline and to reduce the need for future maintenance.

The new tidal creek is connected to Sarasota Bay in an area protected by a mangrove outcropping, which will in turn reduce the risk of sedimentation and future maintenance.



The restoration plan (above) was developed by Scheda Ecological Associates, Inc.

The channel, shown right, extended to the northern end of the property and connected to an existing low area landward of the existing mangrove fringe and mean high water level. Deep water pools were excavated within the channel to create refuge areas for juvenile fish.

Fill material used to create micro-habitats

All of the fill material was contained on-site and was used to create several 20-30 foot tall rolling, coastal dunes within the upland portion, just landward of the created wetlands and the county's Gulf Beach Setback Line. Best Management Practices were used to prevent impacts to wetlands and surface waters. The dunes will provide further protection against storm energy and storm surge. Over time, the Pansy Bayou may breach into the tidal creek, so the project has been designed to evolve. Because of the differing elevations and the lack of artificial barriers, micro-habitats can establish and move and shift as sea level rise occurs.

Community volunteers plant natives

Community involvement was also an important component of this project. The SBEP organized two volunteer events to actively engage the community in restoring the park. A combination of salt marsh cordgrass, seashore paspalum, and sand cord grass was planted within the created wetlands. Other native species such as buttonwood, marsh elder, sea oxeye daisy, seagrape, and seashore paspalum were planted along the landward edge of the created high marsh.

Families plant native bushes along the tidal creek. Photo: Sara Kane

Park withstands Tropical Storm Debby

The newly-created restoration area was tested in June 2013 during Tropical Storm Debby which brought heavy rainfall and flood conditions into many coastal areas. The created tidal creek filled with water, but provided a buffer against flooding for the higher marsh areas. Ecosystem managers were pleased that the park proved resilient during this event and anticipate that it will continue to provide a buffer for upslope areas against flooding and sea level rise.

Major funding for the project was from the Southwest Florida Water Management District and US Fish and Wildlife Service.

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Photos above shows the tidal creek following Tropical Storm Debby and entrance sign. Photos (above and far left): Jay Leverone