

## **Why is Sanibel's Jordan Marsh Water Quality Treatment Park So Cool?**

The Sanibel Slough, known to most of us as the Sanibel River, feeds fresh water into low-lying swales to create Sanibel's interior wetland system. As a result, the health of the Sanibel Slough is critical to the health of those wetlands and hence to the health of the wildlife that inhabits the J.N. "Ding" Darling National Wildlife Refuge. Unfortunately, more than a decade ago, the slough was identified by the Florida Department of Environmental Protection (FDEP) as being impaired for nutrients, meaning that it does not meet state standards for nitrogen and phosphorus. This article will describe a very cool project that is helping to reduce the nutrient concentrations in the slough.

The somewhat recently opened Jordan Marsh is a filter marsh, one side of which abuts Casa Ybel road. The creation of the marsh was funded by the South Florida Water Management District (SFWMD), Lee County impact fees, and the city of Sanibel. A pump located at the rear of the property pulls water out of the Sanibel Slough. As shown in the two graphics below, the water meanders throughout the marsh before it is returned to the slough. Within the marsh, plants such as cattails, bulrush, and pickerelweed, remove excess nutrients.

If the water is pumped into the marsh at a low rate, it spends a lot of time there, and hence the marsh removes a high percentage of the nutrients. In contrast, if the water is pumped in at a high rate, it spends less time in the marsh and as a result, a lower percentage of the nutrients are removed. However, there is a tradeoff. Since the water spends less time in the marsh, it is possible to pump more water through the marsh and hence the marsh can potentially remove a larger amount of nutrients.

One of the reasons why the Jordan Marsh project is so cool is because it represents a close partnership between the city of Sanibel and the Sanibel-Captiva Conservation Foundation (SCCF). One part of that cooperation is that the property on which Jordan Marsh was built is comprised of 6 acres of city-owned land known as the Jordan Marsh Preserve, and a 1.3-acre portion of the 8.5 acres of land that is within SCCF's Wigley Preserve.

The cooperation between the city of Sanibel and SCCF goes much deeper. The city is currently working with SCCF to collect data from the marsh relative to the amount of nutrients that are removed. This data is being analyzed by SCCF's Marine Laboratory scientists and will be used to determine the overall effectiveness of the marsh and the optimal rate at which water should be pumped into the marsh. And speaking of cooperation, SCCF's Marine Laboratory is located on property owned by the Refuge.

Another reason that Jordan Marsh is so cool is that in addition to removing nutrients from the Sanibel Slough, the project also enhances the existing wildlife habitat on the site, provides recreational opportunities such as biking and birding, and educates park visitors on the various techniques being used to improve water quality.

There is no doubt that solving the water quality issues such as cleaning up Lake Okeechobee will take considerable help from the federal government and the state of Florida. There is also no doubt that the biggest reason that Jordan Marsh is so cool is that it is a cooperative effort of many local groups to solve a problem in our own back yard.

In case you missed it: It appears as if the Army Corps may be making changes to the Lake Okeechobee release schedule sooner than expected. See [more](#).



Graphic above courtesy of city of Sanibel; graphic below courtesy of Sarah Ashton

