

The Guana Marsh Renovation Project

FAST FACT

The project area spans 8,300 acres in Duval and St. Johns counties.

History

The Guana Basin is an 8,300-acre area in the northeast corner of St. Johns County and the southeast corner of Duval County.

Historically, the 15-mile-long narrow marsh drained gradually into the Guana River, which flows southward into the Tolomato River.

The Guana River is a brackish (slightly salty) estuary. The system was altered beginning in the late 1700s by structures that restricted marsh flow and allowed the upper part of the river to become predominantly freshwater.

The freshwater flushed salt out of the soil to support agricultural efforts, including rice and corn cultivation.

After World War II, development began in the upper basin and the first causeways — Solano Road, Corona Road, Stockton Road and Mickler Crossing — were constructed roughly perpendicular to the path of the basin.

The problems

Over time, the Guana Marsh basin has been dammed and crossed by causeways for agricultural and residential development. With construction of the Guana Dam in 1961, natural tide and salinity cycles for the entire Guana Marsh watershed were disrupted.

Loss of saltwater exchange and an increase in nutrients due to the use of fertilizers have led to the heavy growth of cattails and willows, which have clogged the historic water channel.

Vegetation blocking the channel and flow structures caused increasingly more severe, frequent and longer-lasting occurrences of flooding in the Ponte Vedra residential neighborhoods within the Guana Basin.

The gradual elevation of water tables in the basin has resulted in widespread septic tank failures and saturated septic drainfields. Water

quality has gradually decreased as the amount of bacteria and nutrients in the system have increased.

What has been done

In 1996, St. Johns County, along with the Ponte Vedra Municipal Service District and the St. Johns River Water Management District, funded the development of a Guana Basin Master Plan.

The plan calls for a series of marsh improvements, including alleviating the frequency and duration of flooding, maintaining the habitat and channel through the Guana Marsh and ensuring water quality is maintained throughout the Guana Marsh watershed.

In 1997 and 1998, the Florida Legislature appropriated a total of \$1.23 million to conduct a watershed study, develop plans, obtain permits and construct structures to improve water quality and water flow.

Working on solutions

Construction of water quality and flow structure improvements were completed in spring 2000.

Work included:

- Re-establishing the historic channel through harvesting of nuisance aquatic plants (cattails and willows)
- Replacement of inadequate or failing flow structures with box culverts at Corona Road and in the Seawalk and Sawgrass entrance causeways
- Construction of a water control weir at Corona Road to provide water level control and to provide storage for water quality treatment
- Installation of water level control structures at Mickler Road and the Sawgrass resort entrance causeway to prevent overdrainage of Guana Marsh
- Construction of structural flow improvements on Sawgrass Golf Course holes four and five, funded by the golf course



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Maintaining Outstanding Florida Waters

A work group of representatives from St. Johns County, the District and the Florida Fish and Wildlife Conservation Commission (formerly the Florida Game and Fresh Water Fish Commission) has been established to address water quality and flooding issues and ongoing monitoring, maintenance and management needs for this state-designated Outstanding Florida Water.

A plan to monitor, evaluate, enhance and maintain water quality is being developed. The plan will be included in the project permit and implemented to reduce nutrients in the system and improve discharges from the basin into the Guana River Wildlife Management Area. The area has been designated by the state as an Outstanding Florida Water.

Other ongoing activities in the area include:

- Supporting efforts to remove septic effluent from affected waters by replacing them with a central sewer system
- Maintaining the historic channel through continued harvesting of nuisance aquatic plants
- Supporting local efforts to reduce the levels of fertilizer entering the system
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- Establishing a watershed education program through the Florida Yards, Neighborhoods and Ponds program
- Continuing water quality monitoring activities
- Development of a proposed vegetation collection area to facilitate removal of nutrients through the harvesting of aquatic plants in the Guana Marsh
- Working with golf courses and landscape professionals to develop and implement best management practices for existing and new developments

