



FOR YOUR INFORMATION

This fact sheet is provided as a reference to encourage a greater understanding of the various issues related to managing water in South Florida.

C-43 Water Quality Treatment and Testing Facility

The South Florida Water Management District, in partnership with Lee County, is conducting the C-43 Water Quality Treatment and Testing Facility Project to help demonstrate and implement cost-effective, wetland-based strategies for reducing nutrient loadings, particularly nitrogen, to the Caloosahatchee River and its downstream estuarine ecosystems.

Project Background and Goals

- Excess nitrogen in the Caloosahatchee Estuary can lead to algal blooms that harm the ecosystem. The Total Maximum Daily Load (TMDL)—the maximum amount of a nutrient that a water body can receive while still meeting designated use—established by the State of Florida calls for a 23 percent load reduction in total nitrogen into the Caloosahatchee Estuary.
- Most total nitrogen in surface waters of the Caloosahatchee Estuary is in the form of dissolved organic nitrogen (approximately 80 percent), which is difficult to remove. To date, there has been limited work to design treatment wetlands for nitrogen removal, particularly at the low levels found in the estuary. Efforts to reduce these levels even further to meet water quality goals is a challenge that requires new treatment methods.
- Overall, project goals are to design, build and operate a test facility that will demonstrate effective removal or reduction in total nitrogen loads to the Caloosahatchee River Estuary. The project is based on sound science and will aid in determining whether a large-scale project can be implemented at a reasonable cost.

Project Scope and Schedule

Demonstration Phase

- **Phase I** includes bioassays to quantify the dissolved organic nitrogen in the estuary and mesocosms to assess nitrogen removal rates of different plants.
- **Phase II** includes larger demonstrations (test and field cells) that focus on scaling up the most successful treatments of the mesocosms.
- **Schedule.** Sampling and design was done in 2015. Phase I mesocosm construction was completed. The overall demonstration phase could take approximately 8-10 years to complete.





C-43 Water Quality Treatment Testing Facility Location in Glades County

Treatment Phase

- Includes build out of full-scale treatment facility (approximately 1,335 acres)
- Full buildout could begin in approximately 10 years if demonstration phase provides a cost-effective total nitrogen treatment design to achieve the desired concentrations.

Property Highlights

- In 2007, approximately 2,000 acres of land was acquired with funds from Lee County as well as from the District and State of Florida. Currently, the property has mixed uses, with a portion leased for citrus production while other site activities continue. There are also roughly 500 acres of above ground impoundments.
- In addition to planned efforts for the C43-Water Quality Treatment and Testing Project Facility, water storage is also being done on an interim basis, with approximately 5,250 acre-feet per year of operational storage capacity. Pumps can pull water directly from the Caloosahatchee River before it reaches the estuary.
- Under the Dispersed Water Management Project for the property, improvements to northeast and northwest above ground impoundments to increase water storage capabilities were completed in mid-2014.

