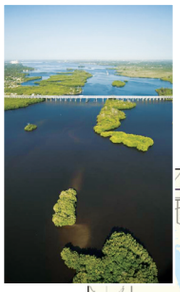
C-43 Reservoir Project –
Critical to Southwest Florida's Economy

For nearly a century, the Caloosahatchee Estuary has been degraded by extremes in flow resulting from an inadequate water control system in the upstream basin. Low flows during critical dry periods adversely affect the estuary, resulting in harmful algal blooms and impacting critical fish and invertebrate spawning patterns. Conversely, high flows depress salinity levels to a point where important estuarine species are killed or flee the area. Both extremes impact the delicate ecosystem balance and economy of Southwest Florida.

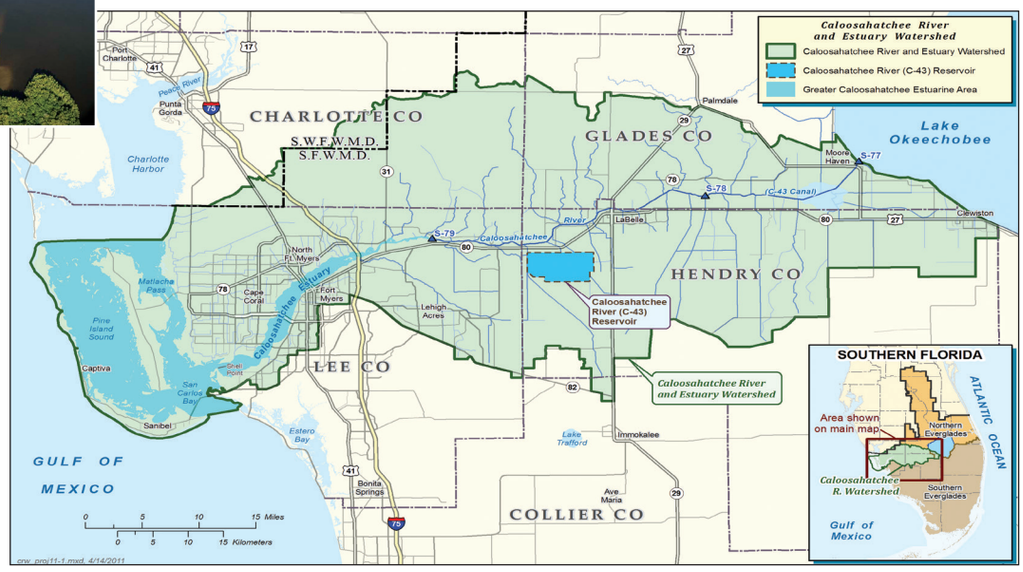
What can be done? The C-43 Reservoir project, a long time component of the greater CERP, was finally authorized in WRDA 2014 and will better manage both wet season and dry season flows to the estuary once completed. However, appropriating the funds to build the project will take years, and sensitive components of the estuary's ecosystem will continue to be impacted.

The primary design criteria included creating sufficient capacity to attenuate excessive storm flows during the wet season while providing adequate storage to augment dry season flows to the estuary to protect ecological resources including sensitive oyster and SAV beds. As currently planned, the C-43 Reservoir will store up to 170,000 ac-ft of basin storm water and overflow from Lake Okeechobee. The C-43 Reservoir is expected to supply enough water to meet the existing Minimum Flow and Level (300 cfs monthly average at S-79) for the Caloosahatchee River 80% of the time.

The project, with an estimated cost of $500 million, was designed with two large cells, a single 1,500 cfs pump station, and a number of gated overflow and discharge structures. Under CERP, the State of Florida and South Florida Water Management District are each responsible for 50% of the total project costs. Historically, the State has generally satisfied their cost share through land acquisition. In this case, however, most of the land was purchased using federal dollars. As a result, the State will be responsible for paying for at least 50% of construction costs.



Given the importance of the Caloosahatchee Estuary and River to the region's commercial, recreational, and ecological resources, it is in the State of Florida's best interest to move forward with construction on the first cell of the C-43 Reservoir. The cost of the first cell is $300 million over 3 years.



Vital Southwest Florida Economic Facts:

- More than 75% of Florida's population lives within an estuary watershed and 78% of Florida's GDP is generated within estuary regions.
- Southwest Florida is experiencing the fastest growth in population, employment, and GDP among all U.S. estuary regions. Protecting or enhancing the region's estuaries is essential to support the regional economy.
- Lee County tourism, which depends on a healthy natural ecosystem, employs 1 in 5 workers. This includes the restaurant and hotel industries as well as ecosystem-based industries such as fishing and boating.
- Sources: Charlotte Harbor National Estuary Program, South Florida Water Management District, and NOAA.

Resource	Hectares	Value per hectare	Total
Seagrasses	18,297	$7697	$140,832,009
Mangroves	1213	$4010	$4,864,130
Estuarine/Bay	9210	$9247	$85,164,502
			$230,860,641 *per year*

Completed to Date:

- All necessary project lands have been acquired.
- The design is complete and can be subdivided into distinct components.
- The water reservation rule for the CERP Caloosahatchee (C-43) West Basin Storage Reservoir has been adopted.

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LEE COUNTY
SOUTHWEST FLORIDA

BOMA/C-43 Water Quality Treatment Testing Facility Project Phase I:

Vital to Southwest Florida's Economy

Unlike the Everglades where phosphorus is the constituent of concern, the Caloosahatchee Estuary is impacted more severely by nitrogen which can result in toxic algal blooms. As a result, the C-43 Water Quality Treatment Facility, also known as BOMA, is focused on finding treatment technologies and processes that have a greater success at nitrogen removal than traditional Stormwater Treatment Areas.

The Caloosahatchee Estuary has been degraded by extremes in flow and water quality for nearly a century. Of the critical large scale projects necessary to begin improving downstream ecosystems, the **C-43 Water Quality Treatment Testing Facility** is among the most important. The required land for this project was acquired by Lee County and the South Florida Water Management District more than 7 years ago at a cost of $37 million for the purpose of providing water quality enhancement (particularly nitrogen) within the Caloosahatchee watershed.

Mesocosms, commonly referred to as test cells, are the first phase of a larger project, known as the **C-43 Water Quality Treatment and Testing Facility Project**, which will demonstrate and implement cost effective wetland-based strategies for reducing loadings of total nitrogen and other constituents, including total phosphorus and total suspended solids.

Contingent upon future funding, the test and field-scale cell phases of the project are to be constructed, operated, and sampled in subsequent phases. Each phase of implementation will build upon the information and "lessons learned" of the previous phase with the goal of having the field-scale cells incorporated into a full-sized facility operating on site. It is anticipated that the knowledge gained from the demonstrations will be used to construct a full treatment facility at the site.

Given the importance of the Caloosahatchee Estuary and River to the region's commercial, recreational, and ecological resources, it is in the State of Florida's best interest to move forward with construction of the full scale project. The estimated project cost is $8 million over eighteen months.