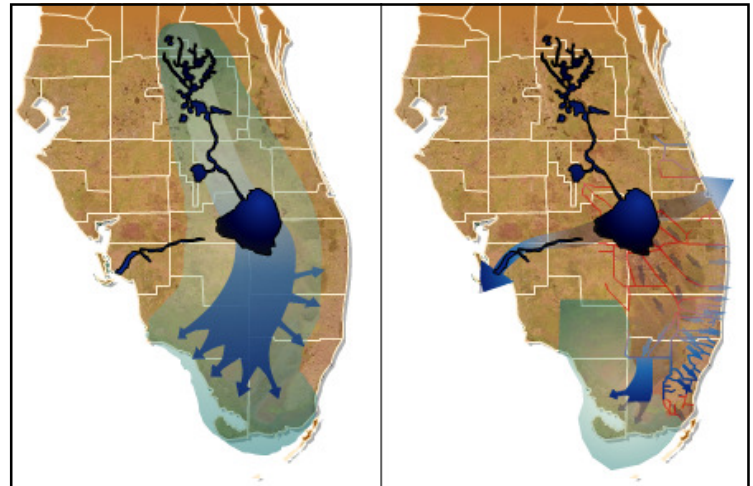




Crisis in the Indian River Lagoon: *Solutions for an Imperiled Ecosystem*

There is an ecological crisis in Indian River Lagoon. Large quantities of water with high levels of nutrient pollution from Lake Okeechobee and the St. Lucie Basin are being discharged to tide, leading to toxic algae blooms in the Lagoon's waters. There have been numerous, mysterious reports of deaths of Pelicans, manatees, and dolphins in the area. Harmful bacteria have also been detected in some areas, making the water dangerous for human contact.

A parallel story is taking place on Florida's Southwest coast. Water from Lake Okeechobee and the Caloosahatchee Basin are being flushed into the Caloosahatchee River, and as with the Indian River Lagoon, the discharges are contributing to algae blooms in the Caloosahatchee Estuary's ecosystem.



Historic Flow

Current Flow

In its natural state, water in the northern Kissimmee Basin meandered south to Lake Okeechobee, flowing into Everglades National Park and eventually Florida Bay. This water had very low levels of phosphorus and nitrogen.

Before human alteration to the ecosystem, the Kissimmee Valley would take six to eight months to release wet season loads into Lake Okeechobee. Now this same water drainage takes place within one month, making the Lake rise at an unnaturally rapid pace.

Fertilizer and storm water add phosphorus and nitrogen to the Okeechobee watershed. The water moves so quickly that it cannot be naturally cleansed before flowing downstream. The Indian River Lagoon and the Caloosahatchee Estuary also receive local runoff, which contribute high flows of nutrient-laden water into the estuaries.

Lake Okeechobee's optimum water level for the ecosystem and for public safety is between 12.5 and 15.5 feet. Higher levels have drowned out as much as 70 square miles of plant communities, damaging foraging, breeding, and nesting habitats for iconic wildlife such as the endangered Everglade Snail Kite.

In addition, the 75-year old Herbert Hoover Dike surrounding the Lake cannot tolerate very high water levels without increasing the risk of a breach. A breach of the levee would expose the nearby towns of Pahokee, South Bay, and Clewiston to dangerous flooding. The United States Army Corps of Engineers is currently repairing the levee, but completion is decades away and it is uncertain how high the water will be able to be held once repairs are complete.

“The estuaries’ troubles this year are both a catastrophe in their own right and symptom of a larger problem — a problem that demands long term solutions” - Jane Graham, Audubon Florida Everglades Policy Associate

The danger from high water levels in the Lake is the reason for the increased mandatory releases to the coastal estuaries. The solution is to clean water and keep it in the ecosystem rather than discharging it to the coast.

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Everglades Restoration Projects

1. **Central Everglades** – This project will allow 217,000 acre feet (70 billion gallons) of water to flow south from Lake Okeechobee and will greatly reduce high flow events to the coastal estuaries. The project’s planning report is awaiting South Florida Water Management District (SFWMD) approval. *This approval is needed for the project to be submitted to Congress for authorization.*
2. **C-44 St. Lucie River Reservoir and STA** – This project will limit discharges and pollution by storing and treating 50,600 acre-feet (16.5 billion gallons) of water from the St. Lucie and Lake Okeechobee watersheds. *Construction of this project that began in 2012 must be accelerated, which requires increased state and federal funding.*
3. **C-43 Caloosahatchee Reservoir** – This project will reduce estuary harm, especially during droughts, by storing 170,000 acre/feet (55 billion gallons) of water from the Lake Okeechobee and Caloosahatchee watersheds. Construction on this project cannot begin until it is authorized by Congress. *Strong support for authorization is needed from Florida leaders.*



White Pelicans

Water Management

4. **Dispersed Water Management** – This innovative program recognizes that water can be stored and treated on private and public lands to reduce flows from the over-drained Lake Okeechobee watershed. Several landowners are receiving modest payments for providing on-farm storage. *This program needs to be assessed for its potential to store even more water and could be extended in a cost-effective way.*
5. **Optimizing the Benefits of Kissimmee River Restoration** – Completing this project will add about 100,000 acre-feet of storage potential to the watershed, much of it by raising the levels of Lakes Kissimmee, Cypress and Hatchinehaw another 1.5 feet. *The SFWMD should work with the Corps to revise the regulation schedule to store more water in the newly restored Kissimmee River floodplain.*
6. **Water Farming** – Unused agricultural land in the St. Lucie basin could provide additional storage capacity. *The SFWMD should explore opportunities to contract with landowners to store more water on private lands.*
7. **South Florida Water Management District Budget** – The agency’s budget has been severely cut leaving it with inadequate resources to plan for and carry out programs and projects that keep excess water from draining into the estuaries. *The Legislature and Governor should allow the SFWMD to increase revenues from ad valorem tax to use on projects and programs to benefit the Lake Okeechobee watershed.*
8. **Lake Okeechobee Water Levels** – Public safety, agricultural water supply, and fish and wildlife protection determine Lake Okeechobee water levels. Those are targeted between 12.5 and 15.5 feet, with some room for flexibility during the peaks of the wet and dry season. The Lake cannot be held too high without substantially increasing the risk of a breach to the levee. *Improved agricultural water conservation could reduce the need to manage the Lake as a reservoir for water supply needs.*

Water Quality

9. **Reducing Nutrient Pollution** - Phosphorus and nitrogen continue to enter the watershed from wastewater, urban stormwater, farm fertilizers and animal feed. The Lake Okeechobee water quality goal is often exceeded by 400%. Plans for reducing nutrients in the estuaries have only recently been established and will have limited effect. *Water quality improvements can be achieved with aggressive new state rules that address treatment of urban stormwater, all sources of wastewater including septic tanks, the use of reclaimed water for landscape irrigation, and the use of sewage sludge for fertilizer. Agricultural practices, including the use of fertilizers, should meet a standard of “no harm” to water quality. We recommend that the state update its rules to provide meaningful limits on the amount of phosphorus from fertilizer and animal feed added to the watershed.*