Lake Okeechobee on Life Support

Lake Okeechobee is vital to the Greater Everglades Ecosystem, and links the lakes, rivers, and estuaries to the north, east, and west. Recently, the lake’s health has deteriorated, impacting water quality, water supply, and wildlife in South Florida.

Lake Okeechobee’s Water Quality is Suffering
Large amounts of phosphorus from agricultural and urban sources, such as fertilizer, sewage sludge, stormwater, and treated wastewater drain into the lake from the Okeechobee basin. Phosphorus levels in Lake Okeechobee’s water column are currently three to four times higher than the goal of 40 parts per billion (Figure 1). Further, as phosphorus accumulates in the system over time, it becomes more difficult to remove.

Excess phosphorus leads to massive blooms of toxin forming blue-green algae (cyanobacteria) of up to several hundred square miles. These blooms are a human health hazard, can kill fish, and cause the loss of invertebrates in the water column and the lake’s bottom. This pollution also leads to the accumulation of muck sediments, fish lesions, murky water, and decreased seagrass. Oozing from Lake Okeechobee, the pollution similarly impacts Everglades National Park, and the St. Lucie and Caloosahatchee estuaries.

Overly Drained Landscape Disrupts Flow
Lake Okeechobee’s water quality problems are compounded by water management problems. Water that historically meandered and trickled south is now released in huge volumes rushing through canals. This rapid movement of water upsets the ecosystem’s balance. Following seasonal wet weather, water is dumped to tide instead of nourishing the Everglades and recharging water supply. As a result, the severity of water shortages during dry periods is heightened.

Wildlife are Vulnerable
These impacts place Florida’s wildlife in a precarious position. For instance, Everglade Snail Kites depend on Lake Okeechobee for habitat and a food source. Without a healthy Lake Okeechobee, this endangered bird has no back-up plan for survival; the current population is less than 700. Also, Largemouth Bass provide a tremendous boost to the local economy by attracting fisherman to the area. With a degraded ecosystem, bass populations decrease, impacting not just the fate of the fish, but the sustainability of communities dependant on fishing and tourism.

Figure 1: SFWMD. 2008. South Florida Environmental Report, Chapter 10. West Palm Beach, FL.
Audubon offers the following suggestions to the Florida Legislature to restore Lake Okeechobee.

**Cost-Effective Water Quality Improvements**
In these tight economic times, cost-effective water quality solutions should be pursued. Pollution prevention is the cheapest option.

**Improve Best Management Practices Effectiveness**
Many landowners are enrolled in the Agricultural Best Management Practices (BMP) program, an incentive-based program for farmers aimed at controlling pollution and improving water quality. While promising, the program has not reached its full potential. Agencies need adequate funding and specific policy direction to enhance BMP success.

- Fund appropriate agency budgets for full implementation and monitoring of BMPs.
- Urge agencies to develop a schedule of efforts to reevaluate and revise BMPs.

**Stop Sewage Sludge Contamination**
Urban governments sell sewage sludge at low costs to farmers, but it comes with a high cost to the environment. A recent rule amendment phased out sewage sludge in one form, Class B, but not Class AA, which contains just as many harmful nutrients.

- Revise regulations to assure that Class AA biosolids are not dumped in the basin, unless site-specific soil and plant tissue tests demonstrate the need for fertilizer.

**Control Pollution from Urban and Suburban Areas**
Florida's Stormwater rule is over thirty years old. Since then, data shows the harmful impacts of urban stormwater and reclaimed water on water quality. The proposed Unified Statewide Stormwater Rule updates the rule with science-based information to control urban pollution sources.

- Adopt the Unified Statewide Stormwater Rule.

**References**
Caloosahatchee River Watershed Protection Plan (Northern Everglades) 2009. SFWMD, FDEP, FDACS.
St. Lucie River Watershed Protection Plan (Northern Everglades) 2009. SFWMD, FDEP, FDACS.

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