WHY ARE WCAs FULL ? LACK OF FLOW TO FLA BAY

Water Conservation Areas

Fla Bay 2X SALTY as Ocean!

PULL THE "PLUG" SEND WATER SOUTH INTO FLA BAY – NOW !

WATER IN WCAs HAS GONE THRU FILTERS !

FLOOD RISK:
South Dade Conveyance System

A primary mission of the C & SF Project is flood control. Many of the canals, levees and pumps were built, and still must be operated, for that specific purpose. As more water is sent to Everglades National Park, facilities have to be in place to make sure flooding is not made worse for the private property east of Everglades National Park.

This is a key constraint on the design and operation of the Modified Water Delivery and C-111 Projects. These projects were not designed with an assumption of significant additional water coming through the Everglades from Lake Okeechobee.

Groundwater seepage from the Park is a chronic, existing problem, and significantly more water would only add to the challenge.

Current Initiatives:
Completion of Contract 8 & 9 of C-111 South-Dade

Operation of Mod Waters and C-111 South-Dade projects

Investigation of potential additional protection features to further isolate agricultural/urban area from ENP hydrology

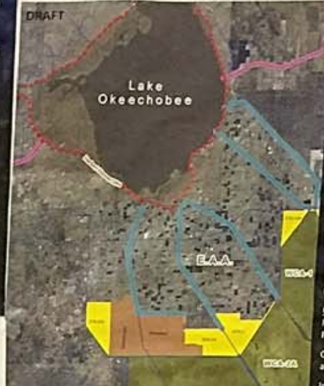
Major Constraints Affecting the Ability to Send Flood Releases from Lake Okeechobee to the South

The C&SF Project was designed by the USACE to provide safe water storage in Lake Okeechobee by construction of the Herbert Hoover Dike with high stage safety relief through discharges primarily to the Caloosahatchee and St Lucie Estuaries. Recent efforts to protect the estuaries have highlighted the difficulty in diverting significant amounts of lake water to the south during wet years when the estuaries have been stressed.

In some circumstances the physical design of the water management system imposes strict structural limits on releasing lake water to the south. These are the result of deliberate design choices made.

In other cases more recent impediments, such as water quality or wildlife considerations inhibit the flow.

This presentation is an attempt to catalog the most important constraints limiting water management options today and the efforts to overcome the challenges.



CANAL CONVEYANCE
Moving water through the existing canals:

EAA canals have multiple purposes: they provide flood control and water supply

At times, the canal capacity is completely taken with local basin runoff (rainfall), or the canals must be drawn down in advance of a forecasted storm.

At other times, meeting the legally permitted supply needs take up the entire canal capacity, leaving none to deliver additional Lake water to the Everglades.

Making large releases from the Lake to the Water Conservation Areas (WCAs) would require a significant enlargement of the primary EAA canals.

People, businesses and cities in the EAA must be protected under any plan to move additional water through the system

Similar constraints to moving water through Caloosahatchee and St Lucie outlets occur at high flow rates.

Current Initiatives:
Restoration Strategies (Construction EAA A1 FEB, L-8 FEB, expansion of Bolles Canal)

Coordination of Lake Releases South when capacity is available

Implementation of Central Everglades Planning Project

CREATE FLA BAY FLOW– WEST OF PINK SHOWN FLOOD AREA !

Used to show a Theoretical alignment of Suggested Fla Bay FLOW. The maker of this chart would not presume to show the engineers the Actual alignment.

ALREADY HAVE GATES SOUTH OF LAKE O – NEED NEW SOUTH FLOW !

Army Corps won't stop Lake Okeechobee discharges despite blue-green algae bloom

Cape Sable Seaside Sparrow
US Army Corps – March – 2016

Sparrow's main cluster

"A" →

US Fish & Wildlife Service

Now or Neverglades Declaration

I support the 200-plus Everglades scientists who believe that increased storage, treatment and conveyance of water south of Lake Okeechobee is essential to stop the damaging discharges to the coastal estuaries; to restore the flow of clean, fresh water to Everglades National Park, Florida Bay and the Florida Keys; to improve the health of Lake Okeechobee; and to protect the drinking water for 8 million Floridians living in Monroe, Miami-Dade, Broward and Palm Beach counties.

Using Amendment 1 and other funds, we must identify and secure land south of the lake without delay, before development in the Everglades Agricultural Area (EAA) or other uncertainties condemn our waters to irrevocable destruction.

Three nationally vital estuaries are in long-term collapse due to the damming, diking and draining of the River of Grass. The Herbert Hoover Dike that contains Lake Okeechobee prevents fresh water from following its historic path southward through the Everglades.

Today, Lake Okeechobee is treated as an impounding reservoir constantly at risk of overflow. To manage lake levels, too much untreated fresh water is discharged into the Caloosahatchee and St. Lucie estuaries. Consequently, the lack of fresh water flow through the Everglades makes Florida Bay, the largest contiguous seagrass meadow in the world and crown jewel of Everglades National Park and the Florida Keys, too salty.

The resulting salinity imbalances in all three estuaries cause seagrass die-offs, dangerous algal blooms, multi-year ecosystem collapse and economic hardship. Florida's $9.7 billion fishing industry (129,000 jobs), $10.4 billion boating industry (83,000 jobs) and $89.1 billion tourism industry (1.1 million jobs) need healthy estuaries.

Additionally, sending water south would improve the water supply for 8 million people (1 out of 3 Floridians) by reducing the threat of saltwater intrusion into drinking wells and the Everglades.

The solution to all these problems is stated simply in a petition signed by 207 respected Everglades scientists on March 12, 2015:

"As a scientist working in the Everglades, ...

Estimates of land required are approximately 15 percent of the EAA, neither eliminating farming nor harming Glades communities. This amount is less than half of the acreage that U.S. Sugar has offered to sell to the State of Florida in an agreement that remains in effect until October 11, 2020.

Water storage, treatment and conveyance in the EAA is the best option to reduce the damaging releases to the St Lucie and Caloosahatchee estuaries and to improve the water flow south. Especially considering the recent devastation to the coastal estuaries and ongoing massive seagrass die-off in Everglades National Park, planning for EAA projects must be expedited and be given top priority over planning for other new Everglades restoration projects.

We can't keep kicking the can down the road. The costs and risks of further delay are staggering. Development plans in the EAA threaten to change the region, permanently severing the link between Lake Okeechobee and Florida Bay.

The science is settled. The money is available thanks to 75% of Florida voters who, in 2014, voted for Amendment 1. Identify and secure the land. It's now or never.

SNAKES Love Bird EGGS! CSS Sparrow is GROUND NESTER ! STUDY Known Glades PREDATORS, Now

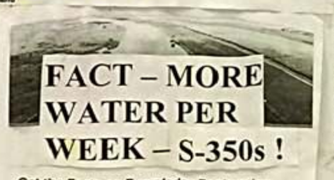
The NEW mile long Tamami Trail Bridge is shown in CIRCLE, ABOVE in WCA 3-B

FACT – 2015 CORPS IDS HAS ALL SOUTH PROJECTS - LAST!

Environmentalist rallying cry vs. blue-green algae in coastal waters: 'Buy the land'

FACT – IF WCAs FULL – MORE LAND – USELESS!

Florida's 3 WCAs are vast tracts of Everglades sawgrass marsh – Spanning some 346,387 acres! Discharges thru the S-12 gates are limited from March 1 thru July 15 – due to CSS Sparrow.



FACT – MORE WATER PER WEEK – S-350s !

Get the Facts on Everglades Restoration

S-350 GATES – 7.72 BILLION GALLONS WEEK OF 7/25/16 - NOT PER YEAR !

FACT – DROP IN BUCKET !

SPECIES PROTECTION:

The Migratory Bird Treaty Act (MBTA) protects nesting birds under federal authority separate and in addition to the Endangered Species Act (ESA).

This presents a major constraint on the operations of the Stormwater Treatment Areas (STAs).

Migratory birds nesting in the STAs limit how much water we can process before moving it south

The US Fish and Wildlife cannot give the SFWMD authority to move water over nests. Putting water in the STAs could be a potential violation of federal law.

The Endangered Species Act has led to very strict limits on hydrologic changes in key areas of the Everglades.

In the case of the Cape Sabal Seaside Sparrow, too much water in the southern Everglades is the problem.

This constrains how much water can be stored in the WCAs and sent south to the Park.

Current Initiatives:
Operation of STA's to keep water levels high enough to discourage nesting at critical elevations

Continued development of Aviation Protection Plans with FWC and FWS

Implementation of Central Everglades Planning Project

Operation of Mod Waters and C-111 South Dade projects

FLOW LIMITATIONS:

For environmental reasons, a canal south of the S-12s that would have allowed large amounts of water from WCA3-A into ENP was never built. Not building it was a good thing for the Everglades, but it restricted how much water can go south.

Three major constrains to moving water south into Everglades National Park have been documented:
Conveyance restrictions imposed at the S-12 structures
Conveyance restrictions imposed by the Old Tamiami Trail
The limited ability to flow water into the east side of the Park.

In addition there is an Endangered Species challenge in the Park, the Cape Sabal Seaside Sparrow.

The Sparrow restricts the operations of the S-12A and S-12B structures. They are shut down, one in November and one in January, through July 15, a period when large Lake releases are often made.

Two emergency projects have been pursued to incrementally improve the first two constraints:
Removing vegetation at S-12A and S-12B
Cutting a new gap in Old Tamiami Trail

A federal process is underway to begin limited flow into the eastern section of the Park. This will be a multi-year effort and does not include the prospect of major releases from the Lake.

This inability to move water out of the south end causes the water to stack up in the WCAs and stops the flow of water moving south.

Current Initiatives:
Construction of the Decomp Physical Model Study
Implementation of Comprehensive Everglades Planning Project
Complete Removal of Old Tamiami Trail
Implementation of Tamiami Trail Next Steps (2.6 mile Bridge)
Operation of Mod Waters and C-111South Dade projects

All WCAs are FULL of WATER ! They are shown → in Moss Green. They are: WCA-1; WCA-2A; WCA 3A & 3B. This water has gone through Filter-Marsh!

SWF Clean Water Movement

Projects in the Queue:
South of the Lake

Three major projects that are necessary to consistently move excess Lake water to the south are either underway or in process. When completed an annual average of 210,000 acre-feet of Lake water can be sent south.

The Restoration Strategies Project (shown in aqua) is an $880 million project so runoff from the EAA, and a limited amount of Lake water, can meet final water quality standards. The project is scheduled to be fully operational in 2029.

The Modified Water Deliveries Project (shown in red) is essentially complete but will not be fully operational until 2020.

The Central Everglades Project (shown in yellow) has a cost estimate of $1.9 billion and is necessary to move additional water south. The plan has been approved by the USACE, but not authorized by Congress. Full operation is forecast in the 2030-2040 time frame.

SFWMD – March – 2015

USE Water Wisely

No CURRENT plans for a Fla Bay SOUTH FLOW Original Plans shelved due to Environmental Concerns CURRENT Lake O Issues MANDATE RESTUDY !