The Florida Senate

BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Environmental Preservation and Conservation

BILL:	SB 10
INTRODUCER:	Senator Bradley
SUBJECT:	Water Resources
DATE:	February 6, 2017
REVISED:	

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Istler	Rogers	EP	**Pre-meeting**
2.			AEN	
3.			AP	

I. Summary:

SB 10 establishes options for additional water storage south of Lake Okeechobee to reduce the damaging discharges to the St. Lucie and Caloosahatchee estuaries. The bill provides the following three options:

- (A) The South Florida Water Management District (SFWMD) is required to seek proposals from willing sellers of land within the Everglades Agricultural Area for land that is suitable to build one or two reservoirs with a total storage capacity of 360,000 acre-feet.[1]
- (B) If the SFWMD is unable to acquire such land then the option to purchase lands from the United States Sugar Corporation, which is available pursuant to the 2010 agreement,[2] must be exercised.
- (C) If land is not acquired pursuant to the first two options then Legacy Florida funding is increased by $50 million annually for the Comprehensive Everglades Restoration Project (CERP), including the Everglades Agricultural Area Reservoir project component.

Under each option the SFWMD, unless other funding is available, is required to begin the planning study under the CERP for the Everglades Agricultural Area Reservoir project component by certain dates. If land is acquired under Options A or B, the bill authorizes the distribution of $1.2 billion in Florida Forever bonds and provides contingent appropriations for the debt service payments on such bonds. The bill requires that the SFWMD seek any applicable federal credits towards the reservoir project.

[1] One acre-foot of water equals 325,851 billion gallons of water.

[2] See Second Amended and Restated Agreement for Sale and Purchase (2010), *available at* https://www.sfwmd.gov/sites/default/files/documents/rog_0_amended_restated_agt_for_sale_and_purchase.pdf (last visited Jan. 31, 2017).

II. Present Situation:

Lake Okeechobee and the Central Everglades Overview

In the mid-1800s the state began planning for the development of central and south Florida, with the primary obstacle being water.[3] Extensive drainage projects were implemented to enable land development for urban and agricultural uses. In the early 1900s the St. Lucie and Caloosahatchee Rivers were widened and deepened for navigation and to serve as outlets from Lake Okeechobee to the east and west, respectively. After major hurricanes devastated the region in the 1920s and 1940s, the state partnered with the federal government, through the United States Army Corps of Engineers (USACE), to implement additional flood control projects that were necessary for the land development to progress. Congress authorized the Central and Southern Florida Project (C&SF) in 1948.[4]

The C&SF included channelizing the Kissimmee River; draining the area south of the lake, known as the Everglades Agricultural Area, for agricultural production; and diking Lake Okeechobee for flood protection.[5] Additionally, central portions of the Everglades were diked to create water conservation areas (WCAs) to store water for water supply in the lower east coast and for deliveries to Everglades National Park.[6] While some fish and wildlife value was expected to remain in the WCAs, the only area intended for preservation in its natural state was Everglades National Park.[7]

[3] United States Army Corps of Engineers (USACE) and South Florida Water Management District (SFWMD), *Central and Southern Florida Project Comprehensive Review Study, Final Feasibility Report and Programmatic Environmental Impact Statement*, 1-1 (April 1999) [hereinafter *Restudy*], *available at* http://141.232.10.32/pm/projects/project_docs/pdp_asr_combined/052808_asr_report/052808_asr_ch1_restudy_feas_rpt_prog_eis.pdf (last visited Jan. 31, 2017).
[4] The Flood Control Act of 1948 (P.L. 858, 80th Congress, 2nd Session).
[5] *Restudy* at 1-1.
[6] *Id*.
[7] *Id*.

Kissimmee River Basin

The Kissimmee River Basin extends from Orlando southward to Lake Okeechobee and encompasses approximately 3,000 square miles.[8] The C&SF project turned the once meandering 103 mile Kissimmee River into a 56-mile long, 30 foot deep canal called the C-38.[9] The resulting floodplain, the remnant river channels, and the C-38 canal are collectively referred to as the channelized system.[10] Prior to channelization the flow of the river inundated much of the floodplain for a majority of the year.[11] While the project proved successful for flood control, it had a significant impact on the wetland ecosystem.[12] The first public hearing to discuss the restoration of the Kissimmee River was held just one year after the channelization was completed.[13]

Lake Okeechobee

Lake Okeechobee is the second largest freshwater lake located entirely within the contiguous United States, covering approximately 730 square miles.[14] The waters of the lake were impounded by a system of encircling levees, collectively referred to as the Herbert Hoover Dike.[15] The lake is managed as a multi-purpose reservoir for navigation, water supply, flood control, and recreation.[16]

Thirty-nine percent of the water that comes into the lake is from direct rainfall, 31 percent comes from the Kissimmee River, and then a smaller percentage of the water flows from other areas such as Fisheating Creek and Taylor Creek/Nubbin Slough.[17] Prior to the construction of the Herbert Hoover Dike water would flow from the Kissimmee River Basin into the lake and, once the lake would fill, water would overflow the lake's southern rim and deliver sheet flow runoff to the Everglades.[18]

Because of the acceleration of the flows into the lake as a result of C&SF and land use modifications, the water quality in the lake has degraded over time due to high phosphorous loadings.[19] The Total Maximum Daily Load for Lake Okeechobee proposes an annual load of 140 metric tons (mt) of phosphorous to achieve an in-lake target phosphorous concentration of 40 parts per billion (ppb) in the pelagic zone of the lake.[20]

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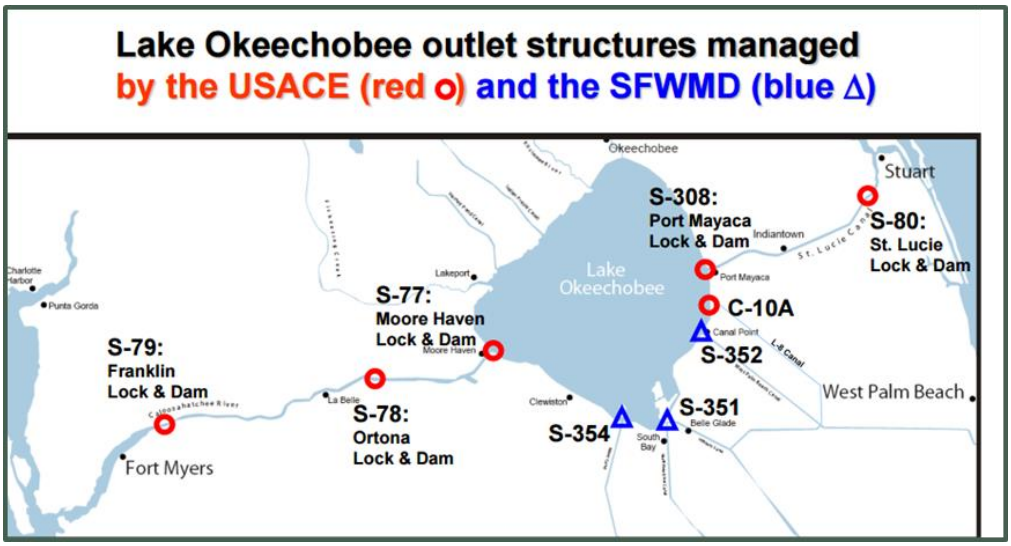
[8] *Id*. at 1-10.
[9] SFWMD, *Kissimmee River Restoration Studies*, 1 (Sept. 2006), *available at* https://www.sfwmd.gov/sites/default/files/documents/krr_exec_summary.pdf (last visited Jan. 31, 2017).
[10] *Id*.
[11] *Id*.
[12] *Id*.
[13] *Id*.
[14] Florida Department of Environmental Protection (FDEP), *Lake Okeechobee*, http://www.dep.state.fl.us/everglades/lakeo.htm (last visited Jan. 31, 2017).
[15] *Restudy* at 1-13.
[16] *Id*.
[17] FDEP, *Total Maximum Daily Load for Total Phosphorous¸ Lake Okeechobee, Florida*, 6 (Aug. 2001), *available at* http://www.dep.state.fl.us/water/tmdl/docs/tmdls/final/gp1/Lake_O_TMDL_Final.pdf (last visited Jan. 31, 2017).
[18] *Id*. at 6, 7.
[19] FDEP, *Lake Okeechobee*, http://www.dep.state.fl.us/everglades/lakeo.htm (last visited Jan. 31, 2017).
[20] FDEP, *supra* note 17, at 1.

The lake's outlets with the largest capacity include eastward (S-308) through the St. Lucie Canal to the Atlantic Ocean and westward (S-77) through the Caloosahatchee River Canal to the Gulf of Mexico.[21] Additionally, water flows out of the lake through the four major agricultural canals-the West Palm Beach Canal (S-352), the Hillsboro and North New River Canals (S-351), and the Miami Canal (S-354).[22]



The USACE, in conjunction with the South Florida Water Management District (SFWMD) regulates the outlet structures to manage lake levels.[23] After back-to-back hurricanes in south Florida in 2004 and 2005 and the devastation in Louisiana caused by Hurricane Katrina, the USACE launched a major effort to rehabilitate the Herbert Hoover Dike in light of concerns regarding its structural integrity. Concerns regarding the dam's ability to perform satisfactorily for Lake Okeechobee levels above an elevation of 15.5 ft. resulted in the labeling of the project as high-risk.[24] The Lake Okeechobee Regulation Schedule Study was initiated to design an alternative schedule to lower the normal operating limits of the lake.[25]

The Lake Okeechobee Regulation Schedule (LORS) was implemented in April of 2008. The revised schedule lowered the maximum stage of the lake from 18.5 ft. to 17.25 ft. with the primary goal of maintaining the lake between 12.5 ft. and 15.5 ft. The areas most affected by a change to the lake's regulation schedule were the lake itself, particularly the littoral and marsh areas of the lake, and the St. Lucie and Caloosahatchee estuaries.[26] Additionally, because the

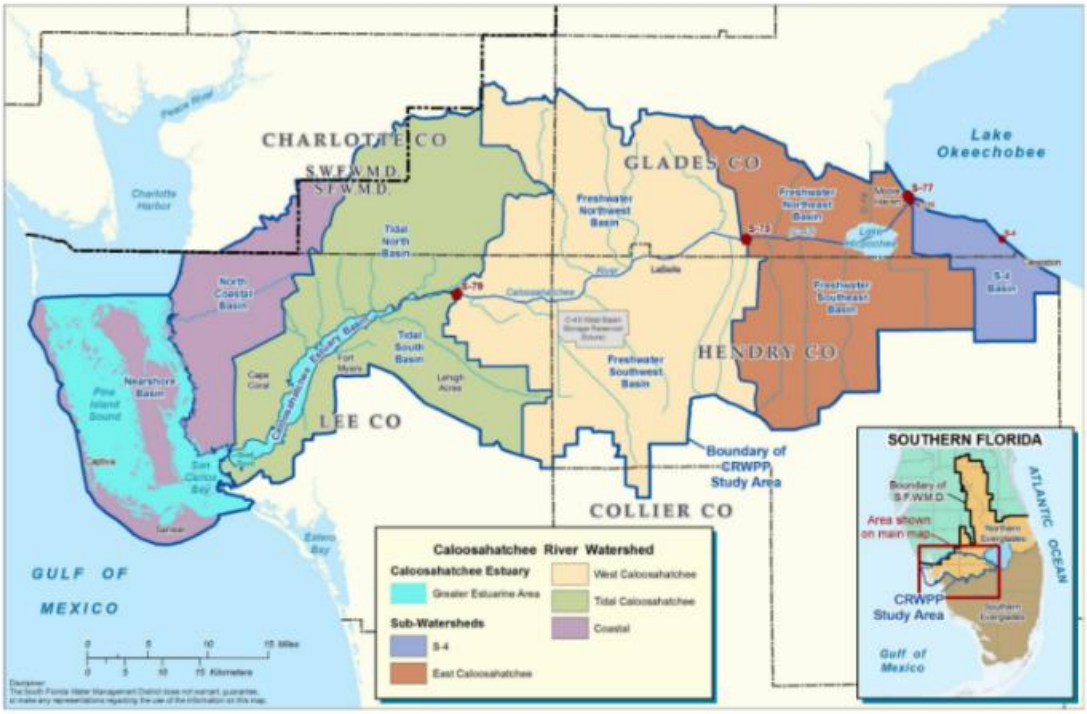
[21] *Restudy* at 1-13.
[22] *Id*.
[23] FDEP, *supra* note 17, at 7.
[24] USACE, *Herbert Hoover Dike Dam Safety Modification Study Final Environmental Impact Statement*, 1 (June 2016), *available at* http://www.saj.usace.army.mil/Portals/44/docs/Planning/EnvironmentalBranch/EnvironmentalDocs/Multiple%20Counties/Herbert_Hoover_Dike_Dam_Safety_Modification%20Study_FEIS_Main_Report.pdf?ver=2016-05-31-131919-377 (last visited Jan. 31, 2017).
[25] USACE, *Lake Okeechobee Regulation Schedule, Final Supplemental Environmental Impact Statement*, ii (Nov. 2007) [hereinafter *LORS FSEIS*], *available at* http://www.saj.usace.army.mil/Portals/44/docs/h2omgmt/LORSdocs/ACOE_STATEMENT_APPENDICES_A-G.pdf (last visited Jan. 31, 2017).
[26] *Id*. at 1.

LORS high management band is 1.00 to 1.75 ft. lower than the previous schedule, the revision to the schedule resulted in a loss of storage ranging from 460,000 to 800,000 acre-feet depending on the time of year.[27]

The USACE expects to operate under the LORS until the earlier of the implementation of a new Lake Okeechobee schedule as a component of the system-wide operating plan to accommodate Everglades restoration projects or the completion of Herbert Hoover Dike seepage berm construction or equivalent dike repairs.[28] According to the latest Integrated Delivery Schedule, rehabilitation of the Herbert Hoover Dike should be completed by 2025 and initiation of a new lake regulation schedule study would begin in 2022.[29]

Caloosahatchee River Watershed

The Caloosahatchee River was originally a shallow, meandering river with headwaters near Lake Okeechobee.[30] In the early 1900s, the river was modified and now functions as the C-43 canal. The canal is divided into freshwater and marine segments by a series of locks.[31] The river



[27] The National Academies of Sciences, Engineering, and Medicine, *Progress Toward Restoring the Everglades: The Sixth Biennial Review*, 133 (2016) [hereinafter *The Sixth Biennial Review*], *available at* https://www.nap.edu/catalog/23672/progress-toward-restoring-the-everglades-the-sixth-biennial-review-2016 (last visited Jan. 31, 2017).
[28] *LORS FSEIS* at 2.
[29] USACE and SFWMD, *Integrated Delivery Schedule 2016 Update* (Dec. 2016), *available at* http://www.saj.usace.army.mil/Portals/44/docs/Environmental/IDS/IDS_PLACEMAT_05JAN2017_web.pdf?ver=2017-01-07-164638-380 (last visited Jan. 31, 2017).
[30] *LORS FSEIS* at 108.
[31] Caloosahatchee Estuary Basin Technical Stakeholders and FDEP, *Final Caloosahatchee Estuary Basin, Basin Management Action Plan for the Implementation of Total Maximum Daily Loads for Nutrients Adopted by the FDEP*, 1 (Dec. 2012), *available at* http://www.dep.state.fl.us/water/watersheds/bmap.htm (last visited Jan. 31, 2017).

conveys freshwater to the Caloosahatchee Estuary through the S-79 structure from both runoff from the Caloosahatchee River Watershed and releases from Lake Okeechobee.[32]

Approximately half of the volume of water that reaches the Caloosahatchee Estuary is water that passed through the S-77 structure from Lake Okeechobee.[33] The hydrological changes have affected the timing distribution, quality and volume of freshwater entering the estuary which has resulted in negative ecological impacts.[34] Excess water that is released results in an unnatural surge of freshwater to the Caloosahatchee River and reduces the estuarine salinity levels.[35] Alternately, during the dry season, little to no water is released to the river which causes the salinity levels to increase.[36] Both high and low salinity levels trigger die-offs of seagrasses and oysters, species that are indicators of the estuary's overall health.[37]

St. Lucie River Watershed

In the 1800s local residents dug an inlet to provide direct access to the Atlantic Ocean, effectively changing the river into an estuary.[38] Then in the early 1890s the St. Lucie River was altered to provide an outlet from Lake Okeechobee to the Atlantic Ocean. The inland portion of the St. Lucie Estuary is composed of a North Fork and a South Fork, which converge at the Roosevelt Bridge to form a single waterbody that extends eastward and joins the Indian River

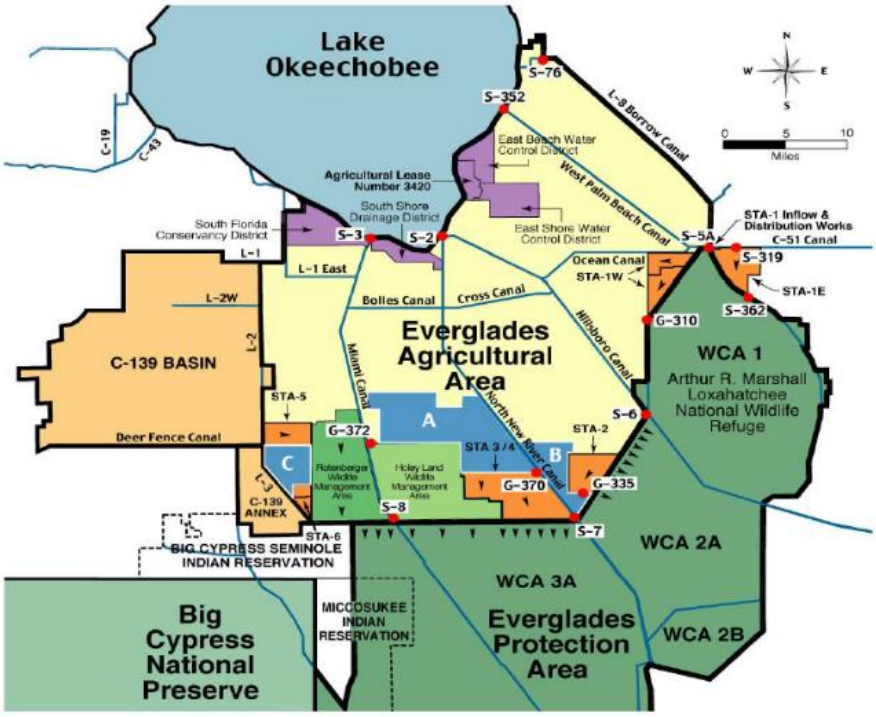
[32] *LORS FSEIS* at 108.
[33] *Id*. at 3.
[34] *Id*. at 108.
[35] USACE, *Fact Sheet: Caloosahatchee River (C-43) West Basin Storage Reservoir* (Jan. 2016), *available at* http://www.saj.usace.army.mil/Portals/44/docs/FactSheets/C-43_FS_January2016_web.pdf (last visited Jan. 31, 2017).
[36] *Id*.
[37] *Id*.
[38] *LORS FSEIS* at 110.

Lagoon.[39] The St. Lucie River, referred to as the C-44 Canal, is used for navigation and releases from Lake Okeechobee.[40] The C-44 Canal is the largest overflow canal for Lake Okeechobee.[41]

Home to more than 4,300 species of plants and animals and supporting an annual economic contribution of more than $730 million, the St. Lucie Estuary and the Indian River Lagoon are two of the country's most productive and threatened estuaries.[42] The estuary is affected by freshwater runoff from agricultural and urban sources in the watershed and freshwater releases from Lake Okeechobee.[43] Approximately 42 percent of the freshwater inflows from canals that discharge into the St. Lucie Estuary are from Lake Okeechobee and these discharges carry significant nutrient loads, which have a known impact on the estuary.[44]

Everglades Agricultural Area

The Everglades Agricultural Area (EAA) consists of lands located within the eastern portion of Hendry County and western portion of Palm Beach County.[45] This area includes approximately 700,000 acres of fertile agricultural land, a large portion of which is dedicated to the production



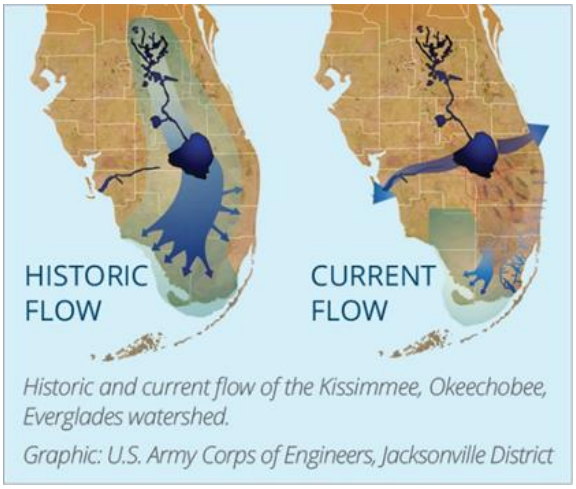
[39] *Id*.
[40] *Id*.
[41] *Restudy* at 1-14.
[42] USACE, *Fact Sheet: Indian River Lagoon – South* (Jan. 2017), *available at* http://www.saj.usace.army.mil/Portals/44/docs/Environmental/C-44/IRL_FactSheet_January2017_web.pdf?ver=2017-01-18-122229-807 (last visited Jan. 31, 2017).
[43] *Id*.
[44] St. Lucie River and Estuary Basin Technical Stakeholders and FDEP, *Final Basin Management Action Plan for the Implementation of Total Maximum Daily Loads for Nutrients and Dissolve Oxygen by the FDEP in the St. Lucie River and Estuary Basin*, xiv (May 2013), *available at* http://www.dep.state.fl.us/water/watersheds/bmap.htm (last visited Jan. 31, 2017).
[45] *LORS FSEIS* at 7.

of sugarcane.[46] This area is considered one of the most important agricultural regions in Florida.[47] Water is supplied and managed in the EAA through conveyance and drainage canals including the Miami, the North New River, the Hillsboro, and the West Palm Beach Canals, which traverse north and south, and the Bolles and Cross Canals, which traverse east and west.[48]

Restoration Efforts

Beginning in the 1970s concerns regarding the effects of the C&SF began mounting. The design of system, while effective for flood control, resulted in unintended consequences including:

- Extreme fluctuations in high and low water levels in the lake;
- Extreme fluctuations between too much and too little freshwater discharged into the coastal estuaries;
- Detrimental hydrological conditions in freshwater wetland habitats; and
- Unsuitable freshwater flows to Florida Bay, Biscayne Bay, and the Lake Worth Lagoon.[49]



Historic and current flow of the Kissimmee, Okeechobee, Everglades watershed.
Graphic: U.S. Army Corps of Engineers, Jacksonville District

With nearly half of the original footprint of the Everglades system drained and converted to urban and agricultural uses, there has been a substantial acceleration in the flow of water through the system and a significant reduction in water storage capacity.[50] The Central and Southern Florida Project Comprehensive Review Study Final Integrated Feasibility Report and Programmatic Environmental Impact Statement (Restudy) concluded:

> The lack of storage in the system, particularly during wet periods, has led to ecological damage of Lake Okeechobee's littoral zone and damaging regulatory releases to the St. Lucie and Caloosahatchee estuaries. Conversely, in dry periods, this lack of storage has led to water supply shortages for both the human and natural environment.[51]

[46] *Restudy* at 1-15.
[47] *LORS FSEIS* at 7.
[48] *Restudy* at 1-15.
[49] *Restudy* at iii.
[50] *Id*. at 1-2.
[51] *Id*. at 1-2.

Kissimmee River Restoration (KRR)

The Kissimmee River Restoration project (KRR) was authorized by Congress in 1992 with the goal of restoring a third of the river flood plain system that was altered when the river was channelized back in the 1960s. The project includes backfilling 22 miles of canals, removing water control structures, and reconnecting remnant river segments. The KRR is designed to attenuate peak flows into Lake Okeechobee and, once complete, the project is expected to provide an additional storage capacity of 130,000 acre-feet.[52] When restoration is complete in 2020, more than 40 square miles of river-floodplain ecosystem will be restored, including almost 20,000 acres of wetlands and 44 miles of the historic river channel.[53]

Three construction phases are now complete, and a continuous water flow has been reestablished to 24 miles of meandering river.[54] The environmental improvements resulting from the project have already been documented.[55] In October of 2016, testing began to evaluate the ability to retain additional water in the Kissimmee River basin to reduce flows into Lake Okeechobee and, consequently, into the Caloosahatchee and St. Lucie estuaries.[56]

Comprehensive Everglades Restoration Plan (CERP)

In light of the unintended consequences of the C&SF, Congress required the USACE to reevaluate the performance and impacts of the project and to provide recommended improvements and modifications to restore the south Florida ecosystem and to protect the water quality in, and reduce the loss of freshwater from the Everglades and Florida Bay.[57] The USACE, in coordination with the state, developed the Restudy which provided a recommended plan for Everglades restoration. The Comprehensive Everglades Restoration Plan (CERP) was approved by Congress in the Water Resources Development Act of 2000.[58]

The Water Resources Development Act of 2000 provided the framework for the CERP as a 50/50 cost-share program between the state and the federal government. The CERP covers approximately 18,000 square miles and includes all or part of 16 counties in central and southern Florida, constituting about one-half of the State's population.[59] The future progress of the CERP projects and their relationship among other relevant state and federally funded South Florida ecosystem restoration projects is outlined in the Integrated Delivery Schedule (IDS).[60] The IDS is not an action or decision document, rather it is a guide for planning, design, construction

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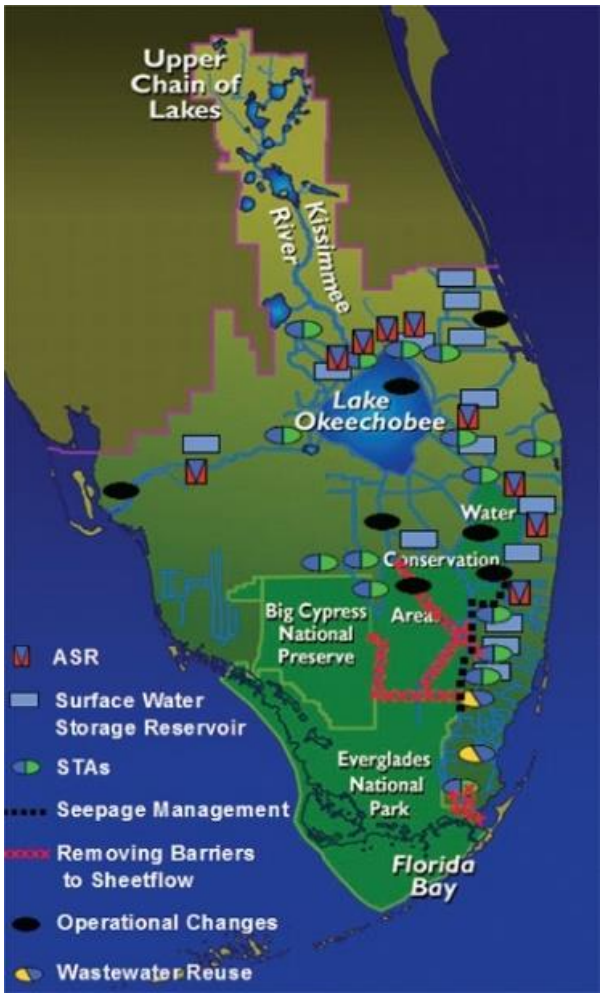
[52] USACE, *South Florida Ecosystem Restoration (SFER) Program Overview* (June 2016), *available at* http://www.saj.usace.army.mil/Portals/44/docs/Environmental/Everglades%20Restoration%20Overview%20Placemat_June2016_web.pdf?ver=2016-08-08-154107-193 (last visited Jan. 31, 2017).
[53] USACE, *Kissimmee River Restoration Project* (Jan. 2017), *available at* http://www.saj.usace.army.mil/Portals/44/docs/Environmental/Kissimmee/Kissimmee_FS_January2017_web.pdf?ver=2017-01-18-114834-273 (last visited Jan. 31, 2017).
[54] SFWMD, *SFWMD Begins Historic Test to Help Reduce Discharges to the Coastal Estuaries* (Oct. 12, 2016), *available at* https://www.sfwmd.gov/sites/default/files/documents/nr_2016_1012_kiss_headwaters_test.pdf (last visited Jan. 31, 2017).
[55] USACE, *Kissimmee River Restoration Project* (Jan. 2017).
[56] SFWMD, *SFWMD Begins Historic Test to Help Reduce Discharges to the Coastal Estuaries* (Oct. 12, 2016).
[57] The Water Resources Development Act of 1996 (P.L. 104-303, Oct. 12, 1996).
[58] The Water Resources Development Act of 2000 (P.L. 106-541, Dec. 11, 2000).
[59] United States Department of Interior Office of Everglades Restoration Initiatives, *Comprehensive Everglades Restoration Plan, CERP: The Plan in Depth – Part 1*, http://141.232.10.32/about/rest_plan_pt_01.aspx (last visited Jan. 31, 2017).
[60] *The Sixth Biennial Review* at 46.

sequencing, and budgeting.[61] The IDS serves as a communication tool that reflects diverse stakeholder input.[62]

The CERP includes more than 68 project components which focus on improving the water delivery and timing within the Everglades system by increasing the size of natural areas, improving water quality, releasing water in a manner that mimics historical flow patterns, and storing and distributing water for urban, agricultural, and ecological uses. Major features of the CERP include surface water storage reservoirs, water preserve areas, management of Lake Okeechobee as an ecological resource, improvement of water deliveries to the estuaries, underground water storage, treatment wetlands, improvement of water deliveries to the Everglades, removal of barriers to sheet flow, storage of water in existing quarries, reuse of wastewater, and the improvement of water flows to Florida Bay.[63]



[61] *Id*.
[62] *Id*. at 47.
[63] *Restudy* at vii-ix.

CERP: Aquifer Storage and Recovery

The CERP recommended the construction and operation of up to 333 Aquifer Storage and Recovery (ASR) systems located throughout south Florida.[64] ASR systems are designed to store large volumes of water in the Floridan Aquifer System during the wet periods for subsequent recovery during dry periods. In 2015 the ASR Regional Study was completed and found that large capacity ASR systems could be built and operated in south Florida; however, due to groundwater monitoring evaluations, the study recommended that the overall number of wells be reduced to 131, or about one-third of the original proposed amount.[65] Overall, the amount of water that can be stored through ASR was reduced by about 60 percent.[66] Additionally, two pilot projects were completed: one in the Kissimmee Basin and one near the Hillsboro Canal, which determined that ASR systems north of Lake Okeechobee could achieve a rate of recoverability of upwards of 100 percent of stored water due to the freshwater quality of the aquifer in that region, but, conversely, ASR systems south of the lake, because of the brackish quality of the aquifer in that region, would require successive cycles over a few years to achieve a target of 70 percent recoverability.[67]

CERP: C-43 Basin Storage Reservoir

The Caloosahatchee River (C-43) West Basin Storage Reservoir project is designed to help ensure that a more consistent, natural flow of freshwater is delivered to the estuary. The project is designed to capture and store runoff from the local basin along with a portion of water discharged from Lake Okeechobee to be released slowly to the estuary as needed.[68] The project includes an above-ground reservoir with the total storage capacity of 170,000 acre-feet.[69] The first phase of construction began in late 2015 and is anticipated to be completed in 2020.[70]

CERP: Indian River Lagoon – South

The Indian River Lagoon–South (IRL-S) project is designed to help restore the balance of fresh and salt water in the lagoon and estuary and capture, store, and treat runoff from the local basins before it enters the natural system.[71] The IRL-S includes one above-ground storage reservoir in the C-44, C-23, C-24, and C-25 basins, with a total storage capacity of approximately 200,000

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[64] USACE, *Aquifer Storage and Recovery (ASR) Regional Study Fact Sheet* (June 2015), *available at* http://www.saj.usace.army.mil/Portals/44/docs/FactSheets/ASR_FS_June2015_web.pdf (last visited Jan. 31, 2017).
[65] USACE and SFWMD, *Final Regional Aquifer Storage and Recovery Technical Data Report*, xx (May 2015), *available at* http://www.saj.usace.army.mil/Portals/44/docs/Environmental/ASR%20Regional%20Study/Final_Report/ASR_RegionalStudy_Final_2015.pdf.pdf (last visited Jan. 31, 2017).
[66] *Id*. at 131.
[67] *Id*.
[68] USACE, *Fact Sheet: Caloosahatchee River (C-43) West Basin Storage Reservoir* (Jan. 2016), *available at* http://www.saj.usace.army.mil/Portals/44/docs/FactSheets/C-43_FS_January2016_web.pdf (last visited Jan. 31, 2017).
[69] USACE, *South Florida Ecosystem Restoration (SFER) Program Overview* (June 2016).
[70] USACE and SFWMD, *Integrated Delivery Schedule 2016 Update* (Dec. 2016), *available at* http://www.saj.usace.army.mil/Portals/44/docs/Environmental/IDS/IDS_PLACEMAT_05JAN2017_web.pdf?ver=2017-01-07-164638-380 (last visited Jan. 31, 2017).
[71] USACE, *Fact Sheet: Indian River Lagoon – South* (Jan. 2017), *available at* http://www.saj.usace.army.mil/Portals/44/docs/Environmental/C-44/IRL_FactSheet_January2017_web.pdf?ver=2017-01-18-122229-807 (last visited Jan. 31, 2017).

acre-feet, and three stormwater treatment areas (STAs).[72] Additionally, water from the C-23/C-24 basin will be redirected to the North Fork of the St. Lucie River to attenuate freshwater flows to the St. Lucie Estuary.[73] Construction is completed on some features included in the C-44 reservoir, including intake and drainage canals, access roads, and staging areas. Construction also began on the C-44 reservoir pump station and STA, with reservoir construction expected to be completed in 2019.[74]

CERP: Central Everglades Planning Project (CEPP)

The Central Everglades Planning Project (CEPP) consists of a suite of the CERP projects whose purpose is to improve the quantity, quality, timing, and distribution of water flows to the Northern Estuaries, central Everglades, Everglades National Park, and Florida Bay while increasing the water supply for urban and agricultural users.[75] The CEPP received Congressional authorization in the 2016 Water Infrastructure Improvements for the Nation Act.[76]

The project is designed to send an annual average of approximately 210,000 acre-feet of water south from Lake Okeechobee and set the foundation for restoring the central portion of the Everglades ecosystem.[77] The project includes:

- Increasing storage, treatment and conveyance of water south of Lake Okeechobee;
- Removing canals and levees within the central Everglades; and
- Retaining water within the Everglades National Park and protecting urban and agricultural areas to the east from flooding.[78]

Some of the features included in the CEPP are an A-2 Flow Equalization Basin (FEB)[79] that will be integrated with the A-1 FEB, a project that is part of the Restoration Strategies Plan; removal of approximately six miles of the Old Tamiami Trail road; construction of seepage barriers; and increases in structural capacities.[80]

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[72] *The Sixth Biennial Review* at 70; Stormwater Treatment Areas, or STAs, are constructed wetlands that remove and store nutrients through plant growth and the accumulation of dead plant material that is slowly converted to a layer of peat soil; See SFWMD, *Water Quality Improvement*, *available at* https://www.sfwmd.gov/our-work/wq-stas (last visited Feb. 6, 2017).
[73] *Id*.
[74] USACE and SFWMD, *Integrated Delivery Schedule 2016 Update* (Dec. 2016), *available at* http://www.saj.usace.army.mil/Portals/44/docs/Environmental/IDS/IDS_PLACEMAT_05JAN2017_web.pdf?ver=2017-01-07-164638-380 (last visited Jan. 31, 2017).
[75] USACE and SFWMD, *Central Everglades Planning Project Final Project Implementation Report and Environmental Impact Statement*, 1-3 (July 2014), *available at* http://www.saj.usace.army.mil/Portals/44/docs/Environmental/CEPP/01_CEPP%20Final%20PIR-EIS%20Main%20Report.pdf (last visited Jan. 31, 2017).
[76] The Water Infrastructure Improvements for the Nation Act (P.L. 114-322, Dec. 16, 2016).
[77] USACE, *Central Everglades Planning Project*, Facts & Information (Jan. 2017), *available at* http://www.saj.usace.army.mil/Portals/44/docs/FactSheets/CEPP_FS_January2017__revised_web.pdf (last visited Jan. 31, 2017).
[78] *Id*.
[79] A flow equalization basin (FEB) is a constructed storage feature used to capture and temporarily store peak stormwater flows. Water managers can move water from FEBs to Stormwater Treatment Areas (STAs) at steady rates to optimize STA performance and help achieve water quality improvement targets. See SFWMD, *Just the Facts: A-1 Flow Equalization Basin (FEB)*, *available at* https://www.sfwmd.gov/sites/default/files/documents/jtf_a1_feb.pdf (last visited Jan. 31, 2017).
[80] *Id*.

Northern Everglades and Estuaries Protection Program (NEEPP)

The Northern Everglades and Estuaries Protection Program (NEEPP) was established to promote a comprehensive, interconnected watershed approach to protect Lake Okeechobee and the Caloosahatchee and St. Lucie watersheds. It includes the Lake Okeechobee Watershed Protection Program and the Caloosahatchee and St. Lucie River Watershed Protection Programs.[81] The NEEPP led to the creation of the Lake Okeechobee Phase II Technical Plan in 2008 which requires, in part, that the SFWMD:

- Provide for additional measures, including voluntary water storage and water quality improvements on private land, increase water storage and reduce excess water levels in Lake Okeechobee, and reduce excess discharges to the estuaries; and
- Develop the appropriate water quantity storage goal to achieve the desired Lake Okeechobee range of lake levels and inflow volumes to the Caloosahatchee and St. Lucie estuaries while meeting the other water-related needs of the region, including water supply and flood protection.[82]

The NEEPP provided the basis for the development of Basin Management Action Plans (BMAPs). A BMAP is the blueprint for restoring impaired water by reducing pollutant loadings to meet a Total Maximum Daily Load (TMDL). The BMAP is a comprehensive set of strategies including water quality and water storage projects, permit limits on wastewater facilities, urban and agricultural best management practices (BMPs), and conservation programs, to implement the nutrient load reductions necessary to achieve a TMDL.

The 2016 Legislature enacted, ch. 2016-1, Laws of Florida, to update and restructure the NEEPP to reflect and build upon the Department of Environmental Protection's implementation of BMAPs for Lake Okeechobee, the Caloosahatchee River and Estuary, and the St. Lucie River and Estuary. The BMAP will include the construction of water projects, water monitoring programs, and the implementation, verification, and enforcement of BMPs within these watersheds. The BMAPs are now required to include 5-, 10-, and 15-year milestones towards achieving the TMDLs for those water basins within 20 years.[83]

River of Grass – U.S. Sugar Land Acquisition

In 2008, Governor Charlie Crist announced a plan to acquire more than 180,000 acres of agricultural land for Everglades restoration from the United States Sugar Corporation. The River of Grass planning process was started to evaluate the lands to be acquired under the plan and analyze how the land would affect the future of Everglades restoration. During this planning process, additional treatment capacity necessary to achieve state and federal Everglades water quality standards and the volume of storage needed to reduce damaging discharges and move more water south of the lake was evaluated.[84]

Because of the magnitude of the acquisition, restoration projects were effectively put on hold during the re-evaluation process. Ultimately, the SFWMD approved an agreement on August 12, 2010, to purchase approximately 26,800 acres of land, substantially less land than

[81] Section 373.4595, F.S.
[82] *Id*.
[83] Chapter 2016-1, Laws of Fla.
[84] *Id*.

originally envisioned, because of a decline in the SFWMD revenues.[85] Under the Second Amended and Restated Agreement for Purchase and Sale (Agreement), the SFWMD took ownership of approximately 17,900 citrus acres in Hendry County and 8,900 sugarcane acres in Palm Beach County.[86]

Under the Agreement, the SFWMD retained the following various options to purchase the remaining 153,200 acres of land over the next ten years:

- An exclusive 3-year option to purchase either a specified 46,800 acres or the entire 153,200 acres at a fixed price of $7,400 per acre. This option expired in 2013.
- After the expiration of this exclusive option period, a subsequent 2-year non-exclusive option to purchase approximately 46,800 acres at fair market value. This option expired in 2015.
- A subsequent 7-year non-exclusive option to purchase the remaining acres at fair market value. Because the previous options were not exercised, the entire remaining option property, approximately 153,200 acres is available to be purchased. This option will expire in 2020.[87]

Restoration Strategies

After years of litigation concerning the water quality in the Everglades Protection Area (EPA), a consent decree was entered in the case of *United States v. South Florida Water Management District* in 1992.[88] The consent decree, as implemented by the Everglades Forever Act in 1994, set forth a two-pronged approach consisting of building STAs and implementing best management practices (BMPs) in the EAA to reduce the total phosphorous levels in the Everglades Protection Area. The plan originally consisted of the construction of four STAs covering 35,000 acres, but by 2006 the need for additional STA acreage became clear. By 2010, approximately 57,000 acres of STAs were built and operating.[89] Subsequently conversations began between the United States Environmental Protection Agency and the SFWMD and, in 2012, they were able to reach a consensus on a new strategy for improving the water quality in the Everglades called the Restoration Strategies Regional Water Quality Plan.[90]

Restoration Strategies is a $800 million technical plan to complete a suite of projects intended to expand water quality improvement projects necessary to achieve phosphorous water quality standards. Under these strategies, the SFWMD must complete six projects that will create more than 6,500 acres of new STAs and 110,000 acre-feet of additional water storage.[91]

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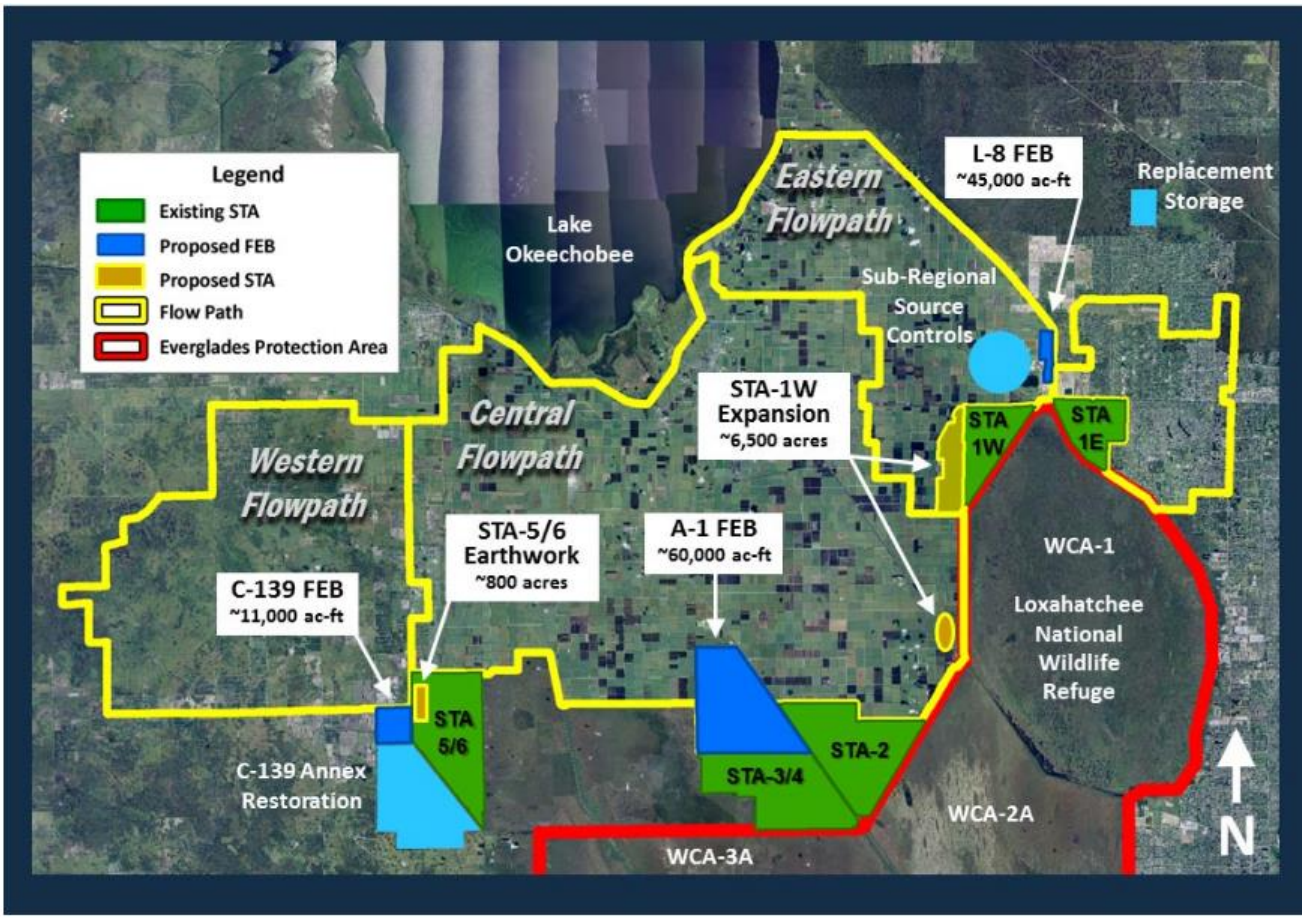
[85] SFWMD, *Just the Facts: Revising the River of Grass, Second Amended & Restated Agreement for Sale and Purchase* (Aug. 12, 2010), *available at* https://www.sfwmd.gov/sites/default/files/documents/jtf_2010_081210_final_gbvote.pdf. See https://www.sfwmd.gov/sites/default/files/documents/rog_0_amended_restated_agt_for_sale_and_purchase.pdf (last visited Jan. 31, 2017).
[86] *Id*.
[87] *Id*.
[88] Case No. 88-1886-CIV-Moreno (S.D. Fla. 1992); *see also* SFWMD, *Restoration Strategies Regional Water Quality Plan, Science Plan for the Everglades Stormwater Treatment Areas*, 2 (June 2013) [hereinafter *Science Plan*], *available at* https://www.sfwmd.gov/sites/default/files/documents/rs_scienceplan_060713_final.pdf (last visited Jan. 31, 2017).
[89] *Science Plan* at 2.
[90] SFWMD, *quick facts on…Restoration Strategies for Clean Water for the Everglades* (Feb. 2016), *available at* https://www.sfwmd.gov/sites/default/files/documents/spl_restoration_strategies.pdf (last visited Jan. 31, 2017).
[91] *Science Plan* at 3.



Design and construction of the projects is scheduled to be accomplished in three phases over a 12-year timeframe, with completion set for 2025.[92] In 2013, the Legislature appropriated $32 million on a recurring basis through the 2023-2024 Fiscal Year to support the implementation of the plan.[93] The A-1 FEB, providing approximately 60,000 acre-feet of storage, was completed in 2015 and is currently in an operational and testing phase and has proved successful at improving the performance of the STAs, effectively reducing the total phosphorous loads to the STAs by approximately 80 percent.[94] The expansion of STA-1W is expected to be completed in December of 2018. The L-8 FEB is designed to provide 48,000 acre-feet of storage and substantial completion of the project has been achieved, except the outflow pump station, but full capacity is not yet available due to manufacturing issues with the pumping units.[95]

[92] *Science Plan* at 3.
[93] Ch. 2013-59, s. 2, Laws of Fla.
[94] SFWMD, *Restoration Strategies Program Update* (Jan. 2017), *available at* https://www.sfwmd.gov/sites/default/files/documents/restoration_strategies_update_2017_jan_0.pdf (last visited Jan. 31, 2017); *See also* Terrie Bates, Water Resources Division Director, SFWMD, Governing Board Meeting, *Environmental Conditions Update*, slide 26 (June 09, 2016), *available at* https://www.sfwmd.gov/news-events/meetings (last visited Jan. 31, 2017).
[95] SFWMD, *Restoration Strategies Program Update* (Jan. 2017).

Damaging Discharges from Lake Okeechobee to the Coastal Estuaries

Because of the lack of operational flexibility within the system's design, the LORS requires lake levels to be kept low before the wet season to account for additional inflow to ensure that lake levels do not rise to dangerous levels which could cause the dike to be breached.[96] Furthermore, during a high rainfall event water enters into the lake from direct rainfall, large basins, and other sources which causes the water levels in the lake to rise six times faster than can be discharged from the lake.[97] The only outlets that are capable of quickly releasing the necessary volume of water from the lake are through the St. Lucie and Caloosahatchee Canals to the coastal estuaries.[98] Therefore, when heavy rainfall events occur, the only option in the current system to maintain safe lake levels is to send high volumes of water east and west.

For the majority of 2016, Martin, St. Lucie, and Lee counties were under a state of emergency due to the negative effects of freshwater discharges from Lake Okeechobee on the coastal communities and ecosystems.[99] Due to El Nino conditions, the dry season of Water Year 2016 (May 1, 2015-April 30, 2016) was unusually wet with 26.67 inches of rainfall, much greater than the long-term average of 12.78 inches.[100] January of 2016 was the wettest January on record, with rainfall amounts approximately 476 percent more than the historical average.[101] The wetter than normal dry season necessitated releases from Lake Okeechobee to the St. Lucie and Caloosahatchee estuaries, compounding the freshwater inflow to the estuaries from the local basins. From January to November of 2016, approximately 2.23 million acre-feet, which is approximately 727 billion gallons of freshwater, was released from Lake Okeechobee alone to the St. Lucie and Caloosahatchee estuaries.[102]

High volume freshwater discharges have significant effects on the coastal estuaries. The releases from the lake along with other local basin inflows cause large fluctuations in salinity, which often expose the animal and plant life within the estuary to salinities outside of their tolerance ranges.[103] When the high flows last for a sustained time period, the impacts to the estuaries are more severe.[104] Species, such as oysters and seagrasses, become more susceptible to disease and

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[96] *The Sixth Biennial Review* at 131.
[97] Erika Skolte, USACE, *Lake Okeechobee: Following the flow*, http://www.saj.usace.army.mil/Media/News-Stories/Article/479659/lake-okeechobee-following-the-flow/ (last visited Jan. 31, 2017).
[98] University of Florida Water Institute, *Options to Reduce High Volume Freshwater Flows to the St. Lucie and Caloosahatchee Estuaries and Move More Water from Lake Okeechobee to the Southern Everglades*, 17 (2015) [hereinafter *UF Study*], *available at* http://waterinstitute.ufl.edu/research/downloads/contract95139/UF%20Water%20Institute%20Final%20Report%20March%202015.pdf (last visited Jan. 31, 2017).
[99] Fla. Exec. Order No. 16-59 (Feb. 26, 2016); Fla. Exec. Order No. 16-155 (June 29, 2016); and Fla. Exec. Order No. 16-156 (June 30, 2016). Note that Palm Beach County was also under a state of emergency but only during the June 30, 2016, Executive Order.
[100] SFWMD, *Draft 2017 South Florida Environmental Report*, 8c-10 (Sept. 2016), *available at* http://apps.sfwmd.gov/sfwmd/SFER/2017_SFER_DRAFT/v1/sfer_toc_v1.pdf (last visited Jan. 31, 2017).
[101] *See* John Mitnik, Bureau Chief of Engineering and Construction, SFWMD, Water Resources Advisory Council, *Operations in Response to Recent Heavy Rains*, slide 4 (Feb. 2, 2016), *available at* https://www.sfwmd.gov/news-events/meetings (last visited Jan. 31, 2017).
[102] SFWMD, *Release Volumes from Lake Okeechobee and Local Basin Inflow to the Estuaries – CY 2016* (Jan. 6, 2017) (on file with the Senate Committee on Environmental Preservation and Conservation).
[103] *LORS FSEIS* at 147.
[104] *Id*. at 149.

predation as the duration of the high volume discharges increase.[105] Oysters and seagrasses are indicator species and are widely used to evaluate the effects of the discharges on overall estuarine health. Beginning in February the salinity levels of the St. Lucie Estuary dropped significantly. The levels rebounded slightly as the freshwater discharges decreased, but plummeted again at the end of May when the discharges were again increased. The drop in salinity levels greatly affected oyster spat recruitment in May of 2016.[106]

In addition to requiring high volume discharges, higher lake stages correlate with algae blooms in the lake.[107] The lake receives large amounts of nutrients from its tributaries and has high levels of nutrients within the water column which support the growth of algae blooms.[108] Periodically conditions are just right and cyanobacteria, referred to as blue-green algae, rapidly reproduces to form a bloom.[109] In May of 2016, a massive *Microcystis* algae bloom formed in Lake Okeechobee.[110] The algae in the lake was sampled and tested positive for levels well above the low-level risk threshold.[111] Operating under the LORS, the USACE continued the regulatory releases east and west to the coastal estuaries to maintain the lake's level. The discharges carried the algae from the lake through the C-44 canal and out through the S-80 structure into the St. Lucie Estuary.

The National Academies of Sciences, Engineering, and Medicine in their biennial review of Everglades restoration progress stated:

> What causes *Microcystis* blooms in the St. Lucie Estuary? Phlips et. al (2012) found that internally driven blooms are mainly limited to the north fork of the St. Lucie Estuary and occur during dry periods when water residence time is long enough to allow the algae to proliferate. Those blooms are mainly caused by a kind of algae called dinoglagellate. In contrast, externally driven blooms are much more severe, happen in the main stem of the estuary, and are caused by *Microcystis*. Phlips et al. (2012) documented that the 2005 algal bloom, which coincided with regulatory water discharges from the lake, was seeded by an upstream bloom that happened in Lake Okeechobee…It is highly likely that the same situation occurred in 2016.

The *Microcystis* algae bloom covered the waterways of the St. Lucie River and Estuary during the peak of the 2016 tourist season. Health advisories were issued and even some of the beaches closed. Usually the *Microcystis* algae blooms, which consists of freshwater algae, are unable to survive off-shore, due to the high salinity levels. However, because the system had been

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[105] *Id*.
[106] *See* Terrie Bates, Water Resources Division Director, SFWMD, Governing Board Meeting, *Environmental Conditions Update*, slides 9-12 (June 09, 2016), *available at* https://www.sfwmd.gov/news-events/meetings (last visited Jan. 31, 2017).
[107] United States Fish and Wildlife Service, *Final Fish and Wildlife Coordination Act Report, 2006 Lake Okeechobee Regulation Schedule Study*, 21 (Oct. 12, 2007), *available at* http://www.saj.usace.army.mil/Portals/44/docs/h2omgmt/LORSdocs/ACOE_STATEMENT_APPENDICES_A-G.pdf (last visited Jan. 31, 2017).
[108] *The Sixth Biennial Review* at 30.
[109] *Id*.
[110] *Id*.
[111] For full sampling results *see* FDEP, *South Florida Algal Bloom Response and Monitoring*, https://depnewsroom.wordpress.com/algal-bloom-monitoring-and-response/ (last visited Jan. 31, 2017).

experiencing high volume freshwater discharges for a long duration, the salinity levels off-shore were low enough for the bloom to survive. Samples taken at Bathtub Reef Beach in Martin County confirmed that the algae present was highly toxic *Microcystis* algae.[112]

Exposure to algal toxins may occur through the consumption of tainted water, fish or shellfish; recreational activities; or inhalation of aerosolized toxins.[113] The toxins can have a range of lethal and non-lethal effects on humans, wildlife, and companion animals.[114] The excessive freshwater discharges in 2016 impacted not only the ecology of the estuaries, but the quality of life of the residents, regional property values, revenues of area businesses, and continue to have effects on the local economies.[115]

Additional Storage

According to the National Academies of Sciences, Engineering, and Medicine in their biennial review of Everglades restoration progress, little has been accomplished through CERP to reduce the high volume discharges to the St. Lucie and Caloosahatchee estuaries.[116] Additionally, the review noted that storage components in CERP have been scaled back and provided an anlaysis of the significance of that loss of storage. The review concluded that a scaled-back CERP under LORS has resulted in 104 and 167 percent increases in regulatory releases by volume to the St. Lucie and Caloosahatchee estuaries, respectively, compared to the original CERP projections under the previous regulation schedule.[117]

The 2015 University of Florida Water Institute Study (UF Study), titled *Options to Reduce High Volume Freshwater Flows to the St. Lucie and Caloosahatchee Estuaries and Move More water From Lake Okeechobee to the Southern Everglades*, concluded that providing relief to the estuaries would require an enormous increase in storage and treatment both north and south of the lake and that all existing and currently authorized projects are insufficient to achieve these goals.[118] The KRR project is expected to attenuate the flows into Lake Okeechobee; the C-43 and C-44 reservoir projects are expected to significantly reduce local-basin flows into the estuaries; and Restoration Strategies and CEPP together are expected to increase the delivery of clean water to the Everglades.[119] The UF Study concluded, however, that even after all of these projects are completed as planned, the lake-triggered high volume discharges to the estuaries would be reduced by less than 55 percent.[120]

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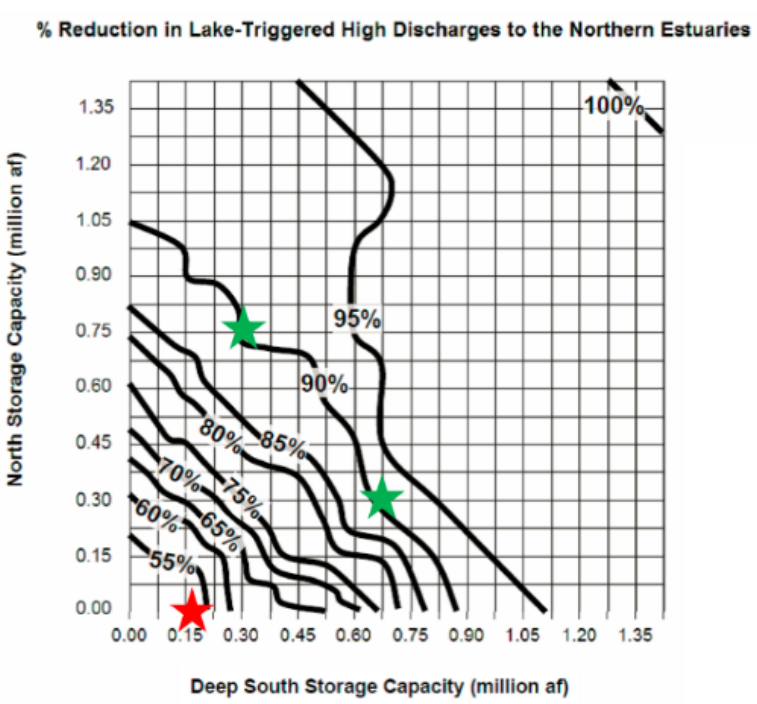
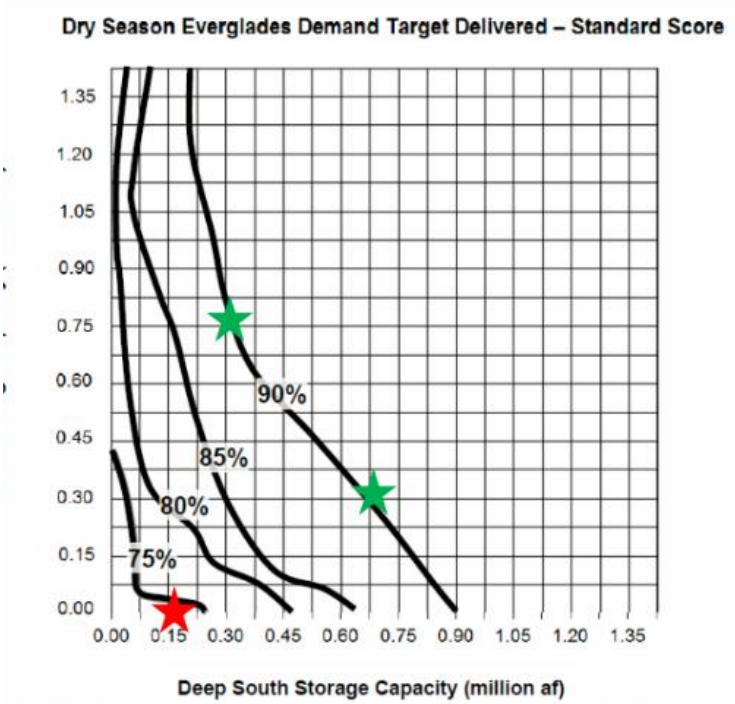
[112] FDEP, *South Florida Algal Bloom Response and Monitoring* (June 30, 2016).
[113] The United States Department of Interior, United States Geological Survey (USGS), *Harmful Algal Blooms* (Jan. 2007), *available at* https://pubs.usgs.gov/fs/2006/3147/pdf/FS2006_3147.pdf (last visited Jan. 31, 2017).
[114] USGS, *New Science Challenges Old Assumptions about Harmful Algal Blooms*, https://www.usgs.gov/news/new-science-challenges-old-assumptions-about-harmful-algal-blooms (last visited Jan. 31, 2017).
[115] *See* Caloosahatchee Watershed Regional Management Issues, *Storage and Treatment Progress Summary*, 1 (updated July 1, 2016), *available at* https://estero-fl.gov/wp-content/uploads/library/Agenda%20Attachments/Caloosahatchee%20Watershed%20Regional%20Water%20Management%20Issues%20White%20Paper%20-%205a.pdf (last visited Jan. 31, 2017).
[116] *The Sixth Biennial Review* at 108.
[117] *Id*. at 139.
[118] *UF Study* at 36.
[119] *Id*. at 85.
[120] *Id*.





The UF Study provided two possible configurations that are expected to provide a 90 percent reduction in lake-triggered discharges. In the graphs above, the red stars represent system performance after 112,000 acre-feet of storage is added under current projects and the green stars represent the two possible configurations that would achieve 90 percent restoration.[121]

Based on the modeling results, the UF Study made the following findings:

> [These figures show] that storage can be effective at reducing damaging discharges to the St. Lucie and Caloosahatchee estuaries whether it is constructed north or south of the lake. Storage north of the lake is effective for managing lake levels within a desirable range and thus reducing damaging discharges to the estuaries. Furthermore, water storage and treatment is needed north of the lake to meet the Lake Okeechobee TMDL. However, due to the extended time it takes to route water from north of the lake to the Water Conservation Areas (WCAs), northern storage is not likely to be as effective as southern storage in meeting the timing and distribution objectives of the water deliveries to the [Everglades Protection Area]. Furthermore, it is likely that water stored north of the lake, if passed through the Lake or through perimeter canals subject to agricultural runoff, may need to undergo additional water quality treatment to meet applicable standards before it is released to the [Everglades Protection Area]. Thus, the additional required storage will be needed to be distributed both north and south of the lake to achieve all restoration objectives.[122]

[121] *Id*. at 86.
[122] *Id*. at 87.

Lake Okeechobee Watershed Project

Planning began in August 2016 under the CERP for the Lake Okeechobee Watershed Project (LOW). The study area for the project consists of approximately 950,000 acres, primarily located north of Lake Okeechobee extending to Lake Istokpoga.[123] The LOW is designed to increase water storage capacity in the northern watershed which will improve water levels in Lake Okeechobee; improve the quantity and timing of discharges to the St. Lucie and Caloosahatchee estuaries; restore degraded habitat for fish and wildlife; and increase the spatial extent and functionality of wetlands.[124] The following conceptual storage and restoration features under consideration to be included in the LOW are a Taylor Creek/Nubbin Slough storage and treatment area, a 5,000 acre reservoir with total storage capacity of 50,000 acre-feet; and the North of the Lake Okeechobee Storage Reservoir, a 17,500 acre reservoir with a total storage capacity of 200,000 acre-feet.[125]

Everglades Agricultural Area Storage Reservoir

The EAA Storage Reservoirs – Phase I project was initially authorized in the Water Resources Development Act of 2000.[126] The CERP originally planned for 360,000 acre-feet of storage located in the EAA.[127] The initial design assumed 60,000 acres, divided into three, equally sized compartments with water depth fluctuating up to 6 ft.[128] The purpose of the project was to improve the timing of environmental water deliveries to the WCAs by reducing damaging flood releases from the EAA; reduce Lake Okeechobee regulatory releases to the estuaries; meet supplemental agricultural irrigation demands; and increase flood protection within the EAA.[129]

Planning began under the assumption that the project would be located on lands associated with the Talisman Land purchase in the EAA and the Woerner South property acquisition. [130] A portion of such lands are commonly referred to as the A-1 and A-2 land parcels: A-1 consists of approximately 17,000 acres and A-2 consists of approximately 14,000 acres. In 2005, the State of Florida initiated the Acceler8 program to accelerate the funding, design, and construction of critical restoration projects, one of which was the EAA Reservoir A-1 project.[131]

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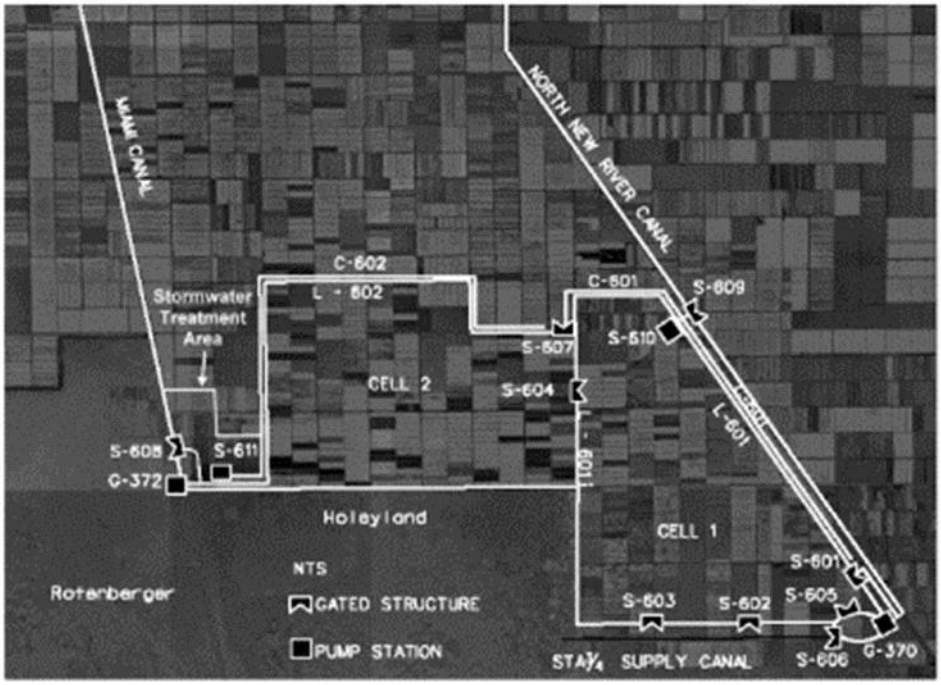
[123] USACE, *Fact Sheet: Lake Okeechobee Watershed Project* (Jan. 2017), *available at* http://www.saj.usace.army.mil/Portals/44/LOW_FS_January2017_web.pdf (last visited Jan. 31, 2017).
[124] *Id*.
[125] USACE, *Lake Okeechobee Watershed Project, Frequently Asked Questions* (Sept. 2016), *available at* http://www.saj.usace.army.mil/Portals/44/docs/Environmental/Lake%20O%20Watershed/LakeO_FAQs_September2016_web.pdf?ver=2016-09-21-150613-913 (last visited Jan. 31, 2017).
[126] The Water Resources Development Act of 2000 (P.L. 106-541, Dec. 11, 2000).
[127] *Restudy* at 9-9.
[128] *Id*.
[129] USACE and SFWMD, *Everglades Agricultural Area Storage Reservoirs – Phase I, Project Management Plan*, 11 (Jan. 2002), *available at* http://141.232.10.32/pm/pmp/pmp_docs/pmp_08_eaa/pmp_eaa_main_current.pdf (last visited Jan. 31, 2017).
[130] *Id*.
[131] USACE and SFWMD, *Central and Southern Florida Project Everglades Agricultural Area Storage Reservoirs Revised Draft Project Implementation Report and Environmental Impact Statement*, ES-xiv (Feb. 2006), *available at* http://141.232.10.32/pm/projects/project_docs/pdp_08_eaa_store/revised_draft_pir/022206_eaa_pir_mainbody.pdf (last visited Jan. 31, 2017).



The SFWMD moved forward under the Acceler8 program and completed the detailed design and engineering work on the A-1 reservoir project, which was to be constructed on the A-1 land parcel, as depicted in Cell 1 on the map above.[132] During 2007, construction for the A-1 reservoir was in full swing and was expected to be completed in the spring of 2011.[133] Then, in May of 2008, a lawsuit was filed against the USACE alleging that the Section 404 Dredge and Fill Permit to construct the A-1 reservoir was inconsistent with the intent of the Water Resources Development Act of 2000 and the National Environmental Policy Act.[134] Due to the litigation and in light of the pending *River of Grass* land acquisition the reservoir construction contract was terminated so that the site could be integrated into plans developed following the major acquisition.[135]

The state decided to use some of the Talisman lands to expand the existing STAs and another portion of the lands for interim shallow features to help improve the water quality and treatment in STA 3/4.[136] To fulfill federal water quality standards, the A-1 Reservoir was converted to a FEB as part of the mandated Restoration Strategies Plan. The project is now in an operational testing and monitoring phase and has proved successful at improving the performance of the

[132] *Id*.
[133] SFWMD, *2008 South Florida Environmental Report*, 7A-14 (2008), *available at* http://my.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_sfer/portlet_sfer/tab2236041/volume1/chapters/v1_ch_7a.pdf (last visited Jan. 31, 2017).
[134] SFWMD, *2009 South Florida Environmental Report*, 7A-3 (2009), *available at* http://my.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_sfer/portlet_sfer/tab2236041/2009report/report/v1/chapters/v1_ch7A.pdf (last visited Jan. 31, 2017).
[135] *Id*.
[136] USACE, *CERP 2010 Report to Congress*, 11 (2010), *available at* https://evergladesrestoration.gov/content/cerpreports/cerp_2010_rpt_to_congress.pdf (last visited Jan. 31, 2017).

STAs, effectively reducing the total phosphorous loads to the STAs by approximately 80 percent.[137]

The A-2 land parcel, Cell 2 as depicted in the map above, is subject to lease agreements which are set to expire in 2018. The A-2 parcel is included in the project implementation report for the Central Everglades Planning Project (CEPP) as an FEB that will work in conjunction with the A-1 FEB. Cumulatively A-1 and A-2 FEBs will provide 116,000 acre-feet of storage, with the primary purpose of optimizing the performance of the STAs.[138]

Land Acquisition Trust Fund and Legacy Florida

In 2014, Florida voters approved a constitutional amendment to provide a dedicated funding source for water and land conservation and restoration. The amendment required that starting on July 1, 2015, for 20 years, 33 percent of net revenues derived from the existing excise tax on documents be deposited into the Land Acquisition Trust Fund (LATF).

To comply with s. 28, Art. X of the State Constitution, the Legislature in the 2015 Special Session A passed ch. 2015-229 Laws of Florida.[139] Chapter 2015-229 Laws of Florida, amended:

- Section 201.15, F.S., to conform to the constitutional requirement that the LATF receive at least 33 percent of net revenues derived from the existing excise tax on documents; and
- Section 375.041, F.S., to designate the LATF within the Department of Environmental Protection as the trust fund to serve as the depository for the constitutionally required funds.[140]

In 2016, the Florida Legislature passed ch. 2016-201, Laws of Florida, referred to as "Legacy Florida."[141] Legacy Florida amended s. 375.041, F.S., to provide minimum distributions required from the funds deposited into the LATF. Under s. 375.041, F.S., funds deposited into the LATF must be distributed in the following order:

- First, obligations relating to debt service, specifically:
  - First to payments relating to Florida Forever Bonds and Everglades restoration bonds; and
  - Then, to payments relating to bonds issued before February 1, 2009, by the South Florida Water Management District and the St. Johns River Water Management District;
- Then, of the funds remaining after the payment of debt service, and before funds are authorized to be appropriated for other uses:
  - A minimum of the lesser of 25 percent or $200 million annually for Everglades projects that implement the CERP, the Long-Term Plan[142], and the NEEPP, with priority given to projects that reduce harmful discharges of water from Lake Okeechobee to the St. Lucie or Caloosahatchee estuaries in a timely manner, of these funds;

[137] *See* Terrie Bates, Water Resources Division Director, SFWMD, Governing Board Meeting, *Environmental Conditions Update*, slide 26 (June 09, 2016), *available at* https://www.sfwmd.gov/news-events/meetings (last visited Jan. 31, 2017).
[138] *The Sixth Biennial Review* at 128.
[139] Ch. 2015-229, Laws of Fla.
[140] Ch. 2015-229, s. 9, 50, Laws of Fla.
[141] Ch. 2016-201, Laws of Fla.
[142] Note that the "Long-Term Plan" includes the Restoration Strategies Regional Water Quality Plan.

    - $32 million is required to be distributed through the 2023-2024 Fiscal Year for the Long-Term Plan;
    - After deducting the $32 million, the minimum of the lesser of 76.5 percent of the remainder or $100 million through the 2025-2026 Fiscal Year for the CERP;
    - And the remainder is available for Everglades projects under the CERP, the Long-Term Plan, or the NEEPP.
  - A minimum of the lesser of 7.6 percent or $50 million annually for springs restoration, protection, and management projects; and
  - Five million annually for the restoration of Lake Apopka.[143]
- Then any remaining moneys are authorized to be appropriated from time to time for the purposes set forth in s. 28, Art. X, of the State Constitution.[144]

The General Revenue Estimating Conference in December of 2016 estimated that for the 2017- 2018 Fiscal Year a total of $2.48 billion would be collected in documentary stamp taxes with $814.1 million required to be deposited into the LATF in accordance with s. 28, Art. X of the State Constitution.[145]

Florida Forever Bonds

Pursuant to s. 11(e) of the State Constitution, the issuance of Florida Forever bonds are authorized in s. 215.618 , F.S., not to exceed $5.3 billion.[146] Florida Forever bonds pledge part of a dedicated state tax revenue: documentary stamp taxes. Documentary stamp taxes are levied on deeds and other documents related to real property and are collected under ch. 201, F.S. The debt service for such bonds is required to be specifically appropriated in the General Appropriations Act in the Fiscal Year in which the bonds are issued.[147] The proceeds from the sale of Florida Forever Bonds are required to be deposited into the Florida Forever Trust Fund to be distributed by the Department of Environmental Protection as provided in the Florida Forever Act.[148]

III. Effect of Proposed Changes:

Section 1 amends s. 201.15, F.S., to authorize the payment on debt service on bonds issued for the purposes of s. 373.4598, F.S., for the remainder of the Fiscal Year (FY) in which such bonds are issued to be specifically appropriated by law other than in the General Appropriations Act.

Section 2 amends s. 215.618, F.S., to provide that bond proceeds from Florida Forever bonds issued for the purposes of s. 373.4598, F.S., are exempt from certain distribution requirements.

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[143] Section 375.041, F.S.
[144] *Id*.
[145] Office of Economic and Demographic Research, Revenue Estimating Conference, *Documentary Stamp Tax, Executive Summary* (Dec. 12, 2016) *available at* http://www.edr.state.fl.us/Content/conferences/docstamp/docstampexecsummary.pdf.
[146] Section 11(e), Art. X of the State Constitution authorizes the issuance of bonds by the state in a manner provided by general law, which pledge all or part of a dedicated state tax revenue to finance or refinance the acquisition and improvement of land, water areas, and related property interests and resources for the purposes of conservation, outdoor recreation, water resource development, restoration of natural systems, and historic preservation.
[147] Section 201.15(3), F.S.
[148] Section 215.618(5), F.S.

Sections 3 and 4 create s. 373.4598, F.S., and amend s. 375.041, F.S., respectively, to set out legislative findings and intent, define terms, and establish options for additional storage south of Lake Okeechobee which are intended to reduce the damaging discharges to the St. Lucie and Caloosahatchee estuaries.

Option A: Acquire the Land from Willing Sellers

The bill requires the South Florida Water Management District (SFWMD), upon the effective date of the act, to seek proposals from willing sellers of property within the Everglades Agricultural Area in order to acquire approximately 60,000 acres of land that is suitable for one or two above-ground storage reservoirs that have a total storage capacity of 360,000 acre-feet.

If the SFWMD is able to find willing sellers of property that is suitable for the reservoir project, then, once the land has been agreed upon, the SFWMD must immediately begin the reservoir project with the goal of providing adequate storage and conveyance south of Lake Okeechobee to reduce the volume of regulatory discharges to the St. Lucie and Caloosahatchee estuaries. Additionally, once the land has been acquired, the SFWMD is required to expeditiously pursue the necessary permits required for the reservoir project and begin implementation and construction as soon as practicable.

Unless other funding is available, the bill directs the SFWMD, in coordination with the United States Army Corps of Engineers (USACE), to begin the planning study for the Everglades Agricultural Area Reservoir Project by March 1, 2018. According to the 2016 Draft IDS schedule, the project is presently planned to begin in 2021.[149] Additionally, the SFWMD is required to abide by applicable federal and state law in order to obtain federal credit under the Comprehensive Everglades Restoration Plan (CERP). The bill specifies that the SFWMD, when developing the planning study must focus on the goal of the reservoir project, which is to provide adequate storage and conveyance south of the lake to reduce the volume of regulatory discharges of water from the lake to the St. Lucie and Caloosahatchee estuaries.

The bill requires $800 million in Florida Forever bond proceeds in the 2017-2018 FY and $400 million in Florida Forever bond proceeds in the 2018-2019 FY to be deposited into the Everglades Trust Fund if the SFWMD acquires land from willing sellers of property that is suitable for the reservoir project. If the reservoir project receives Congressional authorization, the SFWMD is required to seek applicable federal credits towards the state's share of funding the land acquisition and implementation of the reservoir project.

The SFWMD has until December 31, 2017, to acquire the land before Option B is triggered.

Option B: Exercise the Option

Under Option B the SFWMD is required to assign the Entire Option Property Non-Exclusive Option (Option) to the Board of Trustees of the Internal Improvement Trust Fund (Board) by January 31, 2018. Such Option is available to the SFWMD pursuant to the 2010 Second

[149] USACE and SFWMD, *Integrated Delivery Schedule 2016 Update* (Dec. 2016), *available at* http://www.saj.usace.army.mil/Portals/44/docs/Environmental/IDS/IDS_PLACEMAT_05JAN2017_web.pdf?ver=2017-01-07-164638-380 (last visited Jan. 31, 2017).

Amended and Restated Agreement (Agreement).[150] If the U.S. Sugar Corporation, the seller, does not find the assignment to be "reasonably acceptable in form and substance," the SFWMD is required to retain the Option. The assignment of the Option to the Board is authorized in the Agreement which also provides the seller with the opportunity to decline acceptance of such assignment.

The bill requires the Board or the SFWMD, whichever holds the Option, to exercise the Option by March 1, 2018. The Board or the SFWMD, the buyer, is not authorized to propose a purchase price for less than the average of $7,400 per acre, unless the highest appraised value of the land is less than the average of $7,400 per acre. Under the Agreement, if the proposed purchase price is less than the average of $7,400 per acre, the seller has the absolute right to not sell the Option property by providing written notice to the buyer within 60 days after the purchase price has been determined.

If land is acquired under Option B then the SFWMD is required to identify which of the acquired land is suitable for the reservoir project. The bill authorizes the Board or the SFWMD, if applicable, to dispose of or exchange any land or lease interest in the land in order to achieve the optimal siting for the reservoir project or to dispose of land that is not necessary for the reservoir project. However, any such exchange or disposal may not be in violation of the Agreement.

Additionally, the SFWMD, in coordination with the USACE, is required to begin the planning study for the Everglades Agricultural Area Reservoir Project by October 1, 2019. According to the 2016 Draft IDS schedule, the project is presently planned to begin in 2021.[151] The bill specifies that the SFWMD, when developing the planning study must focus on the goal of the reservoir project, which is to provide adequate storage and conveyance south of the lake to reduce the volume of regulatory discharges of water from the lake to the St. Lucie and Caloosahatchee estuaries.

If the Board or the SFWMD, if applicable, acquires land from willing sellers of property pursuant to the agreement, then in the 2018-2019 FY $1.2 billion in Florida Forever bond proceeds are required to be deposited into the Everglades Trust Fund. If the reservoir project receives Congressional authorization, the SFWMD is required to seek applicable federal credits towards the state's share of funding the land acquisition and implementation of the reservoir project.

The Board or the SFWMD, if applicable, has until November 30, 2018 to acquire the land before Option C is triggered.

Option C: Legacy Florida

Under Option C, if the SFWMD and the Board fail to acquire land under Option A or Option B, then, effective January 1, 2019, the annual minimum distribution required under Legacy Florida for Everglades restoration projects is increased from "25 percent or $200 million" to "30 percent

[150] See Second Amended and Restated Agreement for Sale and Purchase (2010), *available at* https://www.sfwmd.gov/sites/default/files/documents/rog_0_amended_restated_agt_for_sale_and_purchase.pdf (last visited Jan. 31, 2017).
[151] USACE and SFWMD, *Integrated Delivery Schedule 2016 Update* (Dec. 2016).

or $250 million." The bill applies this increase in funding to the distribution to the CERP, which includes the Everglades Agricultural Area Storage Reservoir as a project component.

Additionally, the SFWMD, in coordination with the USACE, is required to begin the planning study for the Everglades Agricultural Area Reservoir Project by October 1, 2019. According to the 2016 Draft IDS schedule, the project is presently planned to begin in 2021.[152] The bill specifies that the SFWMD, when developing the planning study must focus on the goal of the reservoir project, which is to provide adequate storage and conveyance south of the lake to reduce the volume of regulatory discharges of water from the lake to the St. Lucie and Caloosahatchee estuaries.

Lake Okeechobee Regulation Schedule

The bill requires the SFWMD to request that the USACE include in its evaluation of the regulation schedule any increase in outlet capacity south of the lake which has the potential to offset the harmful freshwater discharges to the St. Lucie and Caloosahatchee estuaries.

Section 5 requires the SFWMD or the Board to notify the Division of Law Revision and Information no later than December 1, 2018, whether they have acquired land pursuant to s. 373.4598, F.S.

Section 6 requires the Division of Law Revision and Information to replace the phrase "the effective date of this act" with the date the act becomes a law.

Sections 7, 8, and 9 provide contingent appropriations for debt service payments on Florida Forever bonds that are authorized to be issued for the purposes of s. 373.4598, F.S. Contingent upon bonds being issued for Option A: $64 million in recurring funds from the LATF are appropriated for the 2017-2018 FY and $36 million in recurring funds from the LATF are appropriated for the 2018-2019 FY. Contingent upon bonds being issued for Option B: $100 million in recurring funds from the LATF are appropriated for the 2018-2019 FY.

Section 10 provides that the bill takes effect upon becoming a law.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

[152] USACE and SFWMD, *Integrated Delivery Schedule 2016 Update* (Dec. 2016).

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

The impact to the private sector is indeterminate. There will be an immediate positive impact to the landowners whose property is purchased.

C. Government Sector Impact:

If land is acquired under Option A or B there may be a negative indeterminate fiscal impact to local governments due to a loss of property tax revenue. This impact is indeterminate because the specific land to be acquired has not been determined. Depending on the land that is acquired and if the SFWMD purchases the land, the impact to property tax revenues could be offset under s. 373.59, F.S., for any affected county, or local government within a county, with a population of 150,000 people or fewer.

Any amount recovered under s. 373.59, F.S., as payment in lieu of taxes would have a negative indeterminate impact on the SFWMD. Additionally, the SFWMD may have a negative fiscal impact associated with a reduction of the Everglades Agricultural Privilege Tax pursuant to s. 373.4592(6), F.S.

The impact to the state will depend on which option is exercised under the bill. Under Options A and B there will be a negative fiscal impact of $100 million in recurring funds through the 2037-2038 Fiscal Year to pay debt service on bonds issued under the bill. Under Option C, the required annual minimum distribution to Everglades restoration project in LATF is increased by $50 million.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill substantially amends the following sections of the Florida Statutes: 201.15, 215.618, and 375.041.

This bill creates section 373.4598 of the Florida Statutes.

IX. Additional Information:

A. Committee Substitute – Statement of Changes:
(Summarizing differences between the Committee Substitute and the prior version of the bill.)

None.

B. Amendments:

None.