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 Rules

BILL:	CS/SB 1326
INTRODUCER:	Community Affairs Committee and Senator Rodriguez and others
SUBJECT:	Comprehensive Review Study of the Central and Southern Florida Project
DATE:	February 14, 2022 REVISED:

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Collazo	Rogers	EN	**Favorable**
2.	Hunter	Ryon	CA	**Fav/CS**
3.	Collazo	Phelps	RC	**Favorable**

Please see Section IX. for Additional Information:

COMMITTEE SUBSTITUTE - Substantial Changes

I. Summary:

CS/SB 1326 amends s. 373.1501, F.S., to require the South Florida Water Management District (SFWMD) to prepare and submit a consolidated annual report regarding the status of the United States Army Corps of Engineers' (USACE) Section 216 Central and Southern Florida Project infrastructure resiliency study to the Office of Economic and Demographic Research, the Department of Environmental Protection (DEP), the Governor, and the Legislature. The required report must include:

- A summary of the findings in the SFWMD's annual sea level rise and flood resiliency plan;
- A list of structures that are expected to fall below the expected service level in the next 5 years;
- Initial recommendations for the refurbishment or replacement of the structures identified in the preceding bullet; and
- A summary of the state and federal funds expended toward the implementation of the USACE infrastructure resiliency study and other regional resiliency efforts of the SFWMD through June 30 of each year.

II. Preset Situation:

Central and Southern Florida Project (C&SF Project)

In 1948, Congress authorized the Central and Southern Florida Project (C&SF Project).[1] The purposes of the project included flood control, regional water supply, prevention of saltwater intrusion, water supply to Everglades National Park, wildlife preservation, recreation, and navigation.[2] To achieve these purposes, in a partnership between the U.S. Army Corps of Engineers and the state, the C&SF Project developed a water management system that includes 1,000 miles each of levees and canals, 150 water control structures, and 16 major pump stations.[3] The project involves an area of about 16,000 square miles, which includes all or part of 18 counties in central and southern Florida.[4] Major features of the C&SF Project include:

- An East Coast Protective Levee extending from the Homestead area north to the eastern shore of Lake Okeechobee near St. Lucie Canal;
- Three conservation areas for water impoundment in the Everglades area west of the East Coast Protective Levee, with control structures to effect transfer of water as necessary;
- Local protection works along the lower east coast;
- Encirclement of the Lake Okeechobee agricultural area by levees and canals;
- Enlargement of portions of Miami, North New River, Hillsboro, and West Palm Beach canals;
- Enlargement of existing Lake Okeechobee levees and construction of new levees on the northeast and northwest shores of the lake;
- Increased outlet capacity for improved control of Lake Okeechobee;
- Floodway channels in the Kissimmee River Basin, with suitable control structures to prevent over drainage;
- An interrelated system of canals, levees, pumping stations and structures in the southwest Miami-Dade County to control water levels; and
- Facilities for risk management of floods in the upper St. Johns River Basin.[5]

Among other things, the C&SF Project provides water control and protection from the recurrence of flood waters for the highly developed urban area along the lower east coast of Florida, for the agricultural areas around Lake Okeechobee, in the Upper St. Johns and Kissimmee River Basin, and in south Miami-Dade County.[6]

USACE operates and maintains project works on the St. Lucie Canal, Caloosahatchee River, Lake Okeechobee levees, channels, and major spillways, and the main outlets for Water

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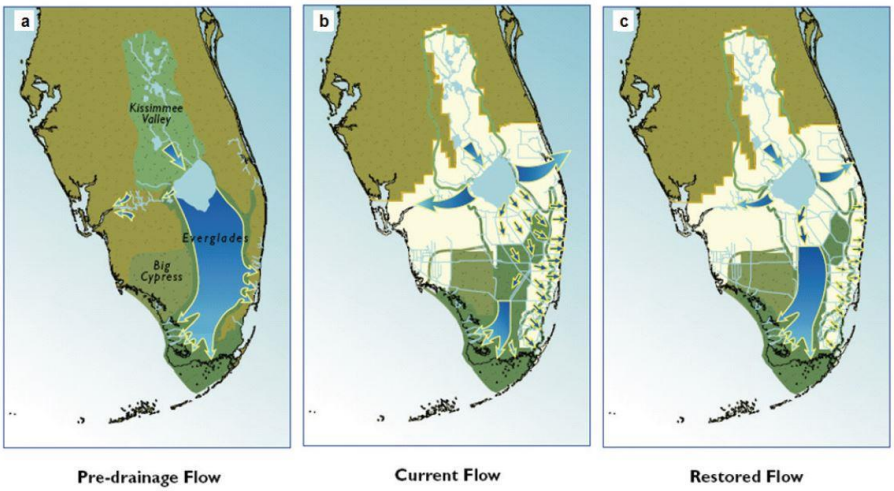
[1] The Flood Control Act of 1948, Pub. L. No. 858, s. 203, 62 Stat. 1176.
[2] USACE and SFWMD, *Central and Southern Florida Project Comprehensive Review Study, Final Integrated Feasibility Report and Programmatic Environmental Impact Statement*, 1-1 (April 1999) [hereinafter *Restudy*], *available at* https://www.sfwmd.gov/sites/default/files/documents/CENTRAL_AND_SOUTHERN_FLORIDA_PROJECT_COMPREHENSIVE_REVIEW_STUDY.pdf (last visited Jan. 12, 2022).
[3] *Restudy*, at 1-10.
[4] U.S. Army Corps of Engineers (USACE), *Fact Sheet Central and Southern Florida Project, available at* https://www.saj.usace.army.mil/Portals/44/docs/CongressionalFS/2015/CSF_Project_(C)_CFS15.pdf (last visited Jan. 13, 2022).
[5] *Id.*
[6] *Id.*

Conservation Areas 1, 2A, and 3A.[7] The South Florida Water Management District (SFWMD) operates the remainder of the C&SF Project in accordance with regulations prescribed by USACE. SFWMD is authorized to act as local sponsor of the project for those project features located within the SFWMD.[8]

The Comprehensive Everglades Restoration Plan (CERP)

In the federal Water Resources Development Acts (WRDAs) of 1992 and 1996, Congress directed USACE to conduct a comprehensive review study of the C&SF Project (known as the "Restudy").[9] In 1999, the Restudy recommended a comprehensive restoration plan.[10]



In WRDA 2000, Congress authorized the Comprehensive Everglades Restoration Plan (CERP).[11] CERP is a framework for modifications and operational changes to the C&SF Project necessary to restore, preserve, and protect the south Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection.[12] CERP contains over 68 individual components comprising more than 50 projects.[13] These components improve delivery and timing within the Everglades system by increasing the size of natural areas, improving water quality, releasing water to mimic historical flow patterns, and storing and distributing water for urban, agricultural, and ecological uses.[14] CERP covers around 18,000 square miles, including all or part of 16 counties in central and southern Florida.[15]

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[7] *Id.*
[8] Section 373.1501(4), F.S.
[9] *Restudy*, at 1-3 through 1-7; *see also* Pub. L. No. 102-580, s. 309(l), (1992) and Pub. L. No. 104-303, s. 528 (1996).
[10] *Restudy*, at i-ii.
[11] Water Resources Development Act of 2000, Pub. L. No. 106-541, s. 601, 114 Stat. 2680 (2000).
[12] USACE and DOI, *2015-2020 Momentum, Report to Congress, Comprehensive Everglades Restoration Plan, Central and Southern Florida Project*, 4 (Dec. 2020) [hereinafter *2020 Report to Congress*], at 6, *available at* https://issuu.com/usace_saj/docs/final_2020_report_to_congress_on_cerp_progress_hig (last visited Jan. 12, 2022).
[13] *Id.* at 6-7; *see generally Restudy*. The April 1999 "Central and Southern Florida Project Comprehensive Review Study Final Integrated Feasibility Report and Programmatic Environmental Impact Statement," commonly known as the "Yellow Book," contains the original CERP plan authorized by Congress. The plan identifies CERP components using a code of letters.
[14] *Restudy*, at vii-x.
[15] U.S. House of Representatives, Committee on Transportation and Infrastructure, *Subcommittee Hearing on "The Comprehensive Everglades Restoration Plan and Water Management in Florida"* (Sept. 21, 2020), *available at* https://www.congress.gov/116/meeting/house/111019/documents/HHRG-116-PW02-20200924-SD001.pdf (last visited Jan. 12, 2022).

The USACE has conducted an initial appraisal to review the significant changes impacting the C&SF Project that have taken place since the project's inception in 1948 and make recommendations for additional future studies.[16] The USACE recommended a project update feasibility study be prepared under the authority of Section 216 of the Flood Control Act of 1970, as amended.[17]

SFWMD has also requested the initiation of such a study, which it refers to as the Central and South Florida Flood Resiliency Study.[18] This study would analyze the C&SF Project to assess which infrastructure is at the highest risk of impact from a changing climate and address flood vulnerabilities, water supply needs, and surge protection.[19]

SFWMD Flood Protection Level of Service

To fulfill the need of long-term flood protection for basins throughout its 16-county region, the SFWMD has established a flood protection level of service (FPLOS) program.[20] The mission of this program is to identify and prioritize long-term infrastructure improvement needs, and to develop an implementation strategy to assure that each basin can maintain its designated FPLOS, in a technical and cost-effective manner, in response to population growth, land development, sea level rise, and climate conditions change.[21]

The FPLOS allows the SFWMD to evaluate the effectiveness of its flood control assets including canals, structures and pump stations to determine their ability to meet the flood protection needs of the region.[22] The C&SF Project and other basins flood protection systems have many assets that are approaching end of design life, making it critical to implement this program to inform decisions on the flood control infrastructure needs of the region.[23]

Sea Level Rise, Flooding, and Associated Costs

Climate change is causing global sea level rise, which is an observed increase in the average local sea level or global sea level trend.[24] Sea level rise is caused primarily by two factors: the loss of land-based ice (ice sheets and glaciers) due to melting, and thermal expansion caused by

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[16] SFWMD, *Initial Appraisal Report for the Central and Southern Florida Project*, *available at* https://www.sfwmd.gov/sites/default/files/documents/CSF-Sect216-Initial-Appraisal-Report-Final.pdf (last visited Jan. 5, 2022).
[17] *Id.*
[18] SFWMD, *Central and Southern Florida Flood Resiliency Study*, https://www.sfwmd.gov/our-work/central-and-southern-florida-flood-resiliency-study (last visited Jan. 4, 2022).
[19] *Id.*
[20] SFWMD, *Flood Protection Level of Service*, https://www.sfwmd.gov/our-work/flood-protection-level-service (last visited Jan. 12, 2022).
[21] *Id.*
[22] SFWMD, *Sea Level Rise and Flood Resiliency Plan, Draft Version 2.2 (Sept. 2021)*, at 10, *available at* https://www.sfwmd.gov/sites/default/files/FDEP_ResilientFlorida_ResilientProjectsPlan_09_01-2021.pdf (last visited Jan. 12, 2022).
[23] *Id.*
[24] Dep't of Environmental Protection (DEP), *Florida Adaptation Planning Guidebook*, Glossary (2018) [hereinafter *DEP Guidebook*], *available at* https://floridadep.gov/sites/default/files/AdaptationPlanningGuidebook.pdf (last visited Jan. 12, 2022).

the warming of the oceans (water expands as it warms).[25] Climate change[26] is also increasing storm intensity and increasing frequency and severity of extreme rainfall events.[27]

These trends result in increased flooding in inland and coastal areas.[28] Impacts of flooding from sea level rise in Florida include disruptions in transportation and impairment of infrastructure such as roads, stormwater systems, and wastewater systems.[29] Extreme rainfall events can stress or overwhelm stormwater infrastructure, while sea level rise impairs gravity-driven systems and reduces the discharge capacity of coastal water control structures.[30] By raising groundwater levels, sea level rise reduces the ability of rainfall to infiltrate the soil, and the reduced soil storage capacity causes flooding.[31]

Florida's 35 coastal counties contain 76% of its population and 79% of its total economy as of 2012.[32] A regional analysis found that in southeast Florida alone, by 2040, $4.2 billion in property value could be lost to daily tidal inundation and one 10-year storm tide event could cause $3.2 billion in property damage.[33] It is estimated that Florida has nine of the top ten counties in the nation for total annual risk of economic loss from flooding.[34] Despite the risks, people and capital continue to flow into exposed coastal areas in Florida.[35]

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[25] *Id.*; NOAA, *Climate Change: Ocean Heat Content*, https://www.climate.gov/news-features/understanding-climate/climate-change-ocean-heat-content (last visited Jan. 12, 2022). More than 90 percent of the warming that has happened on Earth over the past 50 years has occurred in the ocean.
[26] *See* NASA, Global Climate Change, Facts, *Effects*, https://climate.nasa.gov/effects/ (last visited Jan. 12, 2022).
[27] U.S. Global Change Research Program, *Fourth National Climate Assessment, Volume II: Impacts, Risks, and Adaptation in the United States*, at 31, 40-43, 97, 116-118, 745, 762, 1482 (2018) [hereinafter *NCA4*], *available at* https://nca2018.globalchange.gov/downloads/NCA4_2018_FullReport.pdf (last visited Jan. 12, 2022); IPCC, *Climate Change 2014: Synthesis Report, Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, at 7-8, 10, 42, 47-49, 53, 60, 74 (2014), *available at* https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf (last visited Jan. 12, 2022).
[28] *NCA4*, at 757-768.
[29] SFRCCC, *Unified Sea Level Rise Projection Southeast Florida - 2019 Update*, at 5 (2019) [hereinafter *SFRCCC Update*], *available at* https://southeastfloridaclimatecompact.org/wp-content/uploads/2020/04/Sea-Level-Rise-Projection-Guidance-Report_FINAL_02212020.pdf (last visited Jan. 12, 2022).
[30] *NCA4*, at 763; *SFRCCC Update*, at 5, 34.
[31] *SFRCCC Update*, at 33; Florida Division of Emergency Management, *Enhanced State Hazard Mitigation Plan*, at 106-181 (2018) [hereinafter *SHMP*], *available at* https://www.floridadisaster.org/globalassets/dem/mitigation/mitigate-fl--shmp/shmp-2018-full_final_approved.6.11.2018.pdf (last visited Jan. 12, 2022).
[32] *DEP Guidebook*, at III, *available at* https://floridadep.gov/sites/default/files/AdaptationPlanningGuidebook.pdf (last visited Jan. 12, 2022); *see also* McKinsey Global Institute, *Will Mortgages and Markets Stay Afloat in Florida?*, at 13 (2020) [hereinafter *MGI Mortgages and Markets*], *available at* https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/Sustainability/Our%20Insights/Will%20mortgages%20and%20markets%20stay%20afloat%20in%20Florida/MGI_Climate%20Risk_Case%20Studies_Florida_May2020.pdf (last visited Jan. 12, 2022). Almost 10% of the state's population is less than 4.9 feet (1.5 meters) above sea level.
[33] Urban Land Institute, *The Business Case for Resilience - Regional Economic Benefits of Climate Adaptation*, at 6 (2020) [hereinafter *Business Case for Resilience*], *available at* https://knowledge.uli.org/-/media/files/research-reports/2020/the-business-case-for-resilience-in-southeast-florida_final.pdf?rev=81609c7f6b72479d89c49aff72fea446&hash=FB2E953B8A456CFE781169A0CAA82333 (last visited Jan. 12, 2022). In 2070, the estimated potential harm in Southeast Florida increases to $53.6 billion of lost property value from daily tidal inundation and $16.5 billion of property damage from one 10-year storm.
[34] First Street Foundation, *The Cost of Climate, America's Growing Flood Risk*, 11 (Feb. 2021) [hereinafter *The Cost of Climate*], *available at* https://assets.firststreet.org/uploads/2021/02/The_Cost_of_Climate_FSF20210219-1.pdf (last visited Jan. 12, 2022).
[35] *MGI Mortgages and Markets*, at 13.

As sea level rise continues, financial impacts may include increases in flood insurance costs,[36] decreases in property sales or property values, and increased risk for lenders.[37] Coastal flooding can disrupt local economies and tourism, leading to lost revenues for the public and private sectors, and over time risks include loss or impairment of employment opportunities and public services and infrastructure.[38] Coastal flooding can cause displacement in frontline communities, and the burdens of adaptation are likely to disproportionately impact vulnerable populations.[39]

Studies show significant positive returns on investment calculated for resilience measures, including the following benefit-cost ratios: $6 for every $1 spent through federal grants on natural hazard mitigation, and, for future resilience investments in southeastern Florida, $4 for every $1 on building-level adaptations, and $2 for every $1 on community-wide adaptations.[40]

Statewide Flooding and Sea-Level Rise Resilience Plan

In 2021, the Legislature enacted ch. 2021-28, Law of Fla. (Act).[41] The Act establishes statewide resiliency programs that assess and address inland and coastal flooding and sea level rise. These programs include:

- The Resilient Florida Grant Program within DEP, which provides funding, subject to appropriation, to local governments for the costs of resilience planning such as vulnerability assessments and new plans or policies.[42]
- The Comprehensive Statewide Flood Vulnerability and Sea-Level Rise Data Set and Assessment, to be updated every three years.[43] DEP must:
  - Develop a statewide data set necessary to determine the risks to inland and coastal communities, including statewide sea level rise projections; and
  - Develop a statewide assessment, based on the statewide data set, that identifies vulnerable areas and infrastructure, including "critical assets" as defined in the statute.[44]
- The Statewide Flooding and Sea-Level Rise Resilience Plan.[45] DEP must annually submit a plan proposing up to $100 million in funding for projects that address risks from flooding and sea level rise. Local governments and regional entities may submit projects, water management districts must evaluate projects and annually submit lists to DEP, and DEP must implement a scoring system for assessing projects for inclusion in the plan.[46]

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[36] *The Cost of Climate*, at 39. The report finds that if insurance prices were adjusted to account for actual current flood risk premiums for many properties in Florida would increase significantly, by as much as 4.8 to 7.7 times the current rates (depending on location), impacting property values.
[37] *MGI Mortgages and Markets*, at 22-27 (lending risks involve not only banks investing in private homes and businesses, but also potential downgrades to bond ratings for local governments that do not implement adaptation strategies); *SFRCCC Update*, at 5, *available at* https://southeastfloridaclimatecompact.org/wp-content/uploads/2020/04/Sea-Level-Rise-Projection-Guidance-Report_FINAL_02212020.pdf (last visited Jan. 12, 2022).
[38] *Business Case for Resilience*, at 13, 14, 19, 20.
[39] *Id*.; *NCA4* at 333-335.
[40] *Business case for Resilience*, at 26; National Institute of Building Sciences, *Natural Hazard Mitigation Saves*, at 1-2 (Dec. 2019), *available at* http://2021.nibs.org/files/pdfs/NIBS_MMC_MitigationSaves_2019.pdf (last visited Jan. 12, 2022).
[41] Ch. 2021-28, Laws of Fla.; codified at ss. 380.093, 380.0933, and 403.928(4), F.S.
[42] See s. 380.093(3), F.S.
[43] See s. 380.093(4), F.S.
[44] *Id*.
[45] *See* s. 380.093(5), F.S.
[46] *Id*.

In addition to establishing these programs, the Act also:

- Authorizes local governments to form regional resilience coalitions to assist with community resilience efforts, including utilization of the programs created by the bill. DEP is authorized, subject to appropriation, to provide funding to regional resilience coalitions.[47]
- Requires the University of South Florida to create a hub to coordinate and lead statewide efforts for research and innovation regarding flooding and sea level rise.[48]
- Requires the Office of Economic and Demographic Research to add an analysis of flooding issues to its annual assessment of Florida's water resources and conservation lands.[49]

As noted above, the Act authorizes each water management district and flood control district to submit to DEP a list of any proposed projects that mitigate the risks of flooding or sea level rise on water supplies or water resources of the state and a corresponding evaluation of each project.[50] Consistent with this authorization, the SFWMD has prepared a draft Sea Level Rise and Flood Resiliency Plan,[51] which is currently undergoing public review.[52] SFWMD's list of priority resiliency projects focuses primarily on the investments needed to increase the resiliency of the SFWMD's coastal structures, including structure hardening needs and additional sea level rise adaptation needs.[53] The projects identified on the list represent urgent actions that need to be taken immediately to address the vulnerability of the existing flood protection infrastructure.[54]

III. Effect of Proposed Changes:

The bill amends s. 373.1501, F.S., to provide that by October 1, 2023, and each October 1 thereafter, the South Florida Water Management District (SFWMD) must prepare and submit a consolidated annual report regarding the status of United States Army Corps of Engineers' Section 216 Central and Southern Florida Project infrastructure resiliency study to the Office of Economic and Demographic Research, the Department of Environmental Protection (DEP), the Governor, the President of the Senate, and the Speaker of the House of Representatives.

The required report must include:

- A summary of the findings in the SFWMD's annual sea level rise and flood resiliency plan.
- A list of structures that are expected to fall below the expected service level in the next 5 years.
- Initial recommendations for the refurbishment or replacement of the structures identified in the preceding bullet, including:
  - Future cost estimates and timelines for the refurbishment or replacement of the most vulnerable structures; and

[47] *See* s. 380.093(6), F.S.
[48] *See* s. 380.0933, F.S.
[49] *See* s. 403.928(4), F.S.
[50] See s. 380.093(5)(d)2., F.S.
[51] SFWMD, *Sea Level Rise and Flood Resiliency Plan, Draft Version 2.2 (Sept. 2021), available at* https://www.sfwmd.gov/sites/default/files/FDEP_ResilientFlorida_ResilientProjectsPlan_09_01-2021.pdf (last visited Jan. 12, 2022).
[52] SFWMD, *Resiliency and Flood Protection,* https://www.sfwmd.gov/our-work/resiliency-and-flood-protection (last visited Jan. 12, 2022).
[53] SFWMD, *Sea Level Rise and Flood Resiliency Plan, Draft Version 2.2 (Sept. 2021),* 2, *available at* https://www.sfwmd.gov/sites/default/files/FDEP_ResilientFlorida_ResilientProjectsPlan_09_01-2021.pdf (last visited Jan. 12, 2022).
[54] *Id.*

- An estimate of project costs and the budget available to implement recommendations for each vulnerable structure based on a 10-year horizon.
- A summary of the state and federal funds expended toward the implementation of the United States Army Corps of Engineers' Section 216 Central and Southern Florida Project infrastructure resiliency study and other regional resiliency efforts of the district through June 30 of each year.

The bill takes effect on July 1, 2022.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

None.

E. Other Constitutional Issues:

None.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

None.

C. Government Sector Impact:

This bill may cause the SFWMD to incur additional costs associated with the preparation and submission of the required consolidated annual report.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill substantially amends section 373.1501 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.)

CS by Community Affairs on February 8, 2022:
The CS clarified the name of the study about which the SFWMD must prepare a report, and clarified the specific information that must be included in the report.

B. Amendments:

None.