



Committee on Transportation and Infrastructure  
U.S. House of Representatives  
Washington, DC 20515

Peter A. DeFazio  
Chairman

Sam Graves  
Ranking Member

Katherine W. Dedrick, Staff Director

Paul J. Sass, Republican Staff Director

September 21, 2020

**SUMMARY OF SUBJECT MATTER**

**TO:** Members, Subcommittee on Water Resources and Environment  
**FROM:** Staff, Subcommittee on Water Resources and Environment  
**RE:** Subcommittee Hearing on “The Comprehensive Everglades Restoration Plan and Water Management in Florida”

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**PURPOSE**

The Subcommittee on Water Resources and Environment will meet in open session on Thursday, September 24, 2020, at 11:00 a.m. in the Rayburn House Office Building, Room 2167, and by video conferencing via Cisco Webex, to receive testimony on “The Comprehensive Everglades Restoration Plan and Water Management in Florida.” The purpose of this hearing is to examine various perspectives on water management and operations as part of the Comprehensive Everglades Restoration Plan (CERP), as well as current challenges to the system including water quality, cyanobacteria blooms, and impacts to the Everglades National Park and the Florida Bay estuary.

**BACKGROUND**

*Comprehensive Everglades Restoration Plan (CERP)*

The Comprehensive Everglades Restoration Plan (CERP) was enacted into law as part of the Water Resources Development Act (WRDA) of 2000 (P.L. 106-541). CERP is the largest ecosystem restoration project in the Nation, covering 16 counties over an 18,000 square mile area in Central and South Florida.<sup>1</sup> CERP serves as the framework for the State and Federal partnership in restoring the Everglades while enhancing water supplies and maintaining flood mitigation. This is done through a series of operational changes and projects that improve the timing, distribution, quantity, and quality of the water delivery to the Florida Everglades, including flows from Lake Okeechobee (*see Figure 1*).

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<sup>1</sup> <https://www.saj.usace.army.mil/Missions/Environmental/Ecosystem-Restoration/Integrated-Delivery-Schedule/>.

Figure 1: Historic and Restored Water Flow related to Florida Everglades

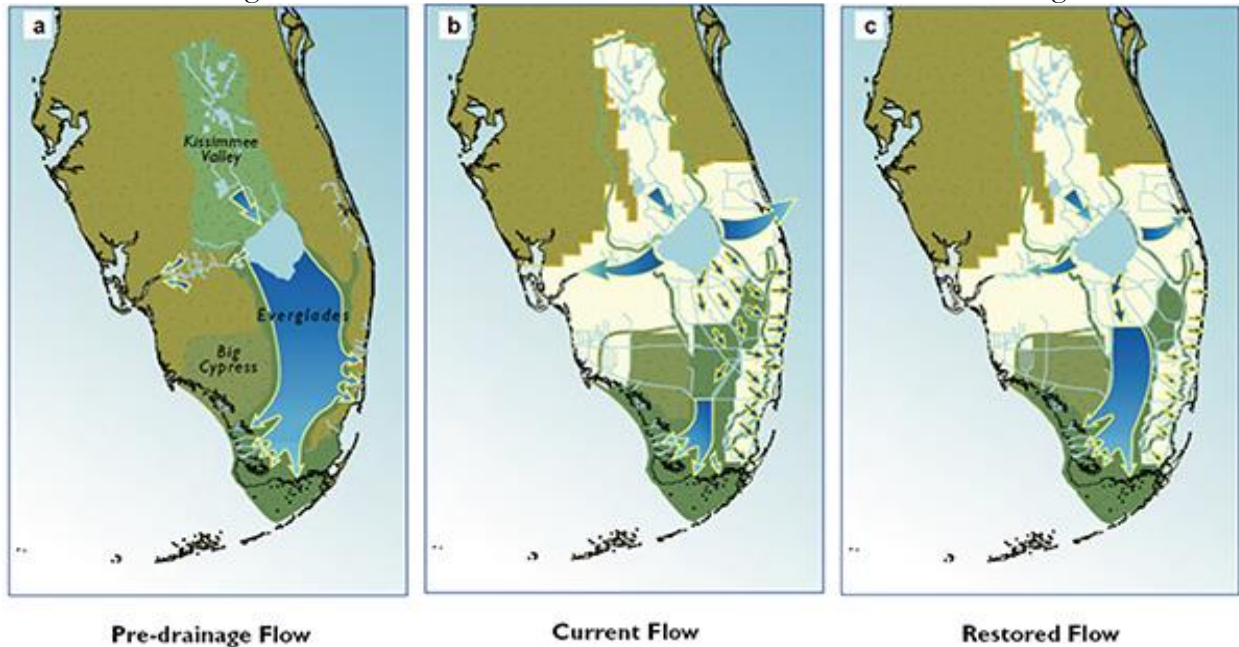


Figure 1: Water flow in the Everglades under (a) historical conditions, (b) current conditions, and (c) conditions envisioned upon completion of the Comprehensive Everglades Restoration Plan (CERP).  
 SOURCE: Graphics provided by USACE, Jacksonville District (reproduced from National Research Council, “Progress Toward Restoring The Everglades: The Fifth Biennial Review (2014)”<sup>2</sup>

Originally, CERP was intended to include 60 projects to be completed over 30 years.<sup>3</sup> Each of those projects must be studied by the U.S. Army Corps of Engineers (USACE or “the Corps”) before being submitted to Congress for authorization. The Integrated Delivery Schedule<sup>4</sup> outlines the sequencing strategy for planning, design, and construction of CERP projects. The Corps is the Federal agency for CERP projects, and the South Florida Water Management District (SFWMD) is the non-Federal sponsor for the State.<sup>5</sup> CERP projects are cost shared at 50-50 with the Federal government and the SFWMD.

Since the passage of CERP in 2000, nine non-pilot CERP projects have been Congressionally authorized and are awaiting construction, are in construction, or are completed. While some project benefits like ecosystem restoration have been realized, significant progress on long-term restoration goals for the Florida Everglades is far from complete. Table 1 below provides the status of CERP projects.

<sup>2</sup> <https://www.nap.edu/catalog/18809/progress-toward-restoring-the-everglades-the-fifth-biennial-review-2014>.

<sup>3</sup> <https://www.crs.gov/reports/pdf/IF11336>.

<sup>4</sup> <https://usace.contentdm.oclc.org/utills/getfile/collection/p16021coll11/id/4143>.

<sup>5</sup> The Department of the Interior (DOI) also has several important responsibilities in the management, restoration, and preservation of the Everglades, including as the lead federal agency for the Modified Water Deliveries (MWD) project. The National Park Service (NPS), Office of Everglades Restoration Initiatives, Fish and Wildlife Service (FWS), and U.S. Geological Survey (USGS) all participate. The Secretary of the Interior is also Chair of the South Florida Ecosystem Restoration Task Force.

Table 1. Status of Recent CERP Projects<sup>6</sup>

Project Name	Construction Authorization	Status
Site I Impoundment	WRDA 2007	Phase I completed Phase II on hold
Picayune Strand	WRDA 2007	Under construction
Indian River Lagoon-South	WRDA 2007	Under construction
C-43 West Storage Basin	WRRDA 2014	Under construction
C-111 Spreader Canal	WRRDA 2014	Complete
Broward County Water Preserve Areas	WRRDA 2014	Under construction
Biscayne Bay Coastal Wetlands	WRRDA 2014	Under construction
Central Everglades Planning Project	WRDA 2016	Under construction
Everglades Agricultural Area A-2 Reservoir Storage	WRDA 2018	Awaiting construction
Loxahatchee River Watershed Project	Awaiting authorization	Study completed
Western Everglades Restoration Project	Awaiting authorization	Study in progress
Lake Okeechobee Watershed Project	Awaiting authorization	Study in progress

Central Everglades Planning Project (CEPP)

A significant milestone for CERP is the authorization of the Central Everglades Planning Project (CEPP) as part of WRDA 2016 (P.L. 115-270). CEPP combines key CERP components into a comprehensive project that includes water storage, conveyance, and decompartmentalization in the heart of the Everglades. As a result, CEPP focuses on restoring the historic flows from Lake Okeechobee south to the Central Everglades Ecosystem – achieving a principal goal of the CERP while also helping limit releases to northern estuaries around Lake Okeechobee.

CERP, CEPP, and the Water Resources Development Act (WRDA) of 2020

On July 13, 2020, Chair Peter A. DeFazio (D-OR), Ranking Member Sam Graves (R-MO), Subcommittee on Water Resources and Environment Chair Grace F. Napolitano (D-CA), and Subcommittee on Water Resources and Environment Ranking Member Bruce Westerman (R-AR), introduced H.R. 7575, the *Water Resources Development Act of 2020*, to authorize projects and studies for the Corps. H.R. 7575 passed the Committee by voice vote on July 24, 2020, and passed the U.S. House of Representatives on suspension on July 29, 2020. H.R. 7575 includes several provisions that authorize new projects, amend existing projects, and clarify congressional intent for projects related to the restoration of the Florida Everglades.

- Section 202(b)(4) expedites completion of a post-authorization change report for the Comprehensive Everglades Restoration Plan, Caloosahatchee River C-43, West Basin Storage 22 Reservoir, Florida.
- Section 321 clarifies that the Corps is directed to carry out the Everglades Agricultural Area modification (authorized in WRDA 2018) as part of the ongoing Central Everglades Planning Project.

<sup>6</sup> <https://www.crs.gov/reports/pdf/IF11336>.

- Section 401(5) authorizes the Chief’s Report for the Comprehensive Everglades Restoration Plan, Loxahatchee River Watershed Restoration Project, Martin and Palm Beach Counties, Florida.

### Florida Water Management

The State of Florida experiences periods of extremely wet and extremely dry conditions. The Corps is required to operate Lake Okeechobee under these conditions, and to balance the authorized purposes of flood control, water supply, and ecosystem restoration.

#### *Dry Season and Impacts to Industry and Ecosystem*

Florida’s dry season typically occurs from November to April. This year, March was the driest month with an average of just 0.24 inches of rain—the driest in the 89 years of record.<sup>7</sup> Rainfall in May and June, however, eliminated drought conditions across the State. Thus far this year, there have been no significant Lake Okeechobee operational impacts on water management objectives around the region. Droughts, however, do occur and can significantly impact water management across various industries and communities across the State, the Everglades National Park, and further south to Florida Bay.

In the 2014-2015 water year, Florida experienced prolonged dry conditions. This impacted water supplies for cities and municipalities, and the water supply for a multi-billion dollar agricultural industry.<sup>8</sup> Farther south, the Florida Bay ecosystem, which makes up one third of the Everglades National Park, depends on freshwater inputs coming equally from rainfall and historic overland flows and runoff.<sup>9</sup> In 2015, the State experienced a large-scale, rapid 40,000-acre seagrass die-off in the Florida Bay ecosystem.<sup>10</sup> The die-off was abetted by the dry hydrologic conditions—the region only received half of the annual expected rainfall—coupled with the physical challenges of insufficient water being able to flow south through the Everglades system.

#### *High Water Operations and Blue-Green Algae in Florida*

Florida’s wet season typically occurs from May to October each year, and averages 54 inches of precipitation annually.<sup>11</sup> Along with seasonal precipitation, Florida also experiences high volume water events like hurricanes and tropical storms. In high water events, the Corps works to lower water levels in Lake Okeechobee for flood control purposes through discharges, often west to the Caloosahatchee Canal, or east to the St. Lucie Canal. The Corps discharges water from the lake to also protect the structural integrity of the Herbert Hoover Dike—a 143-mile earthen dam that surrounds Lake Okeechobee to provide flood protection.<sup>12</sup>

These discharges, however, can impact water quality on the lake, and create conflict between the often-overlapping Federal and State authorities and responsibilities for water management within Florida. For example, water quality and nutrient discharges are regulated by the State of Florida, while operation of the lake is a Federal Corps function. An example of when these two distinct authorities come to a head is when cyanobacteria is then spread into rivers, canals, and estuaries south and east of the lake.

Cyanobacteria are microscopic organisms that live in water, feed off sunlight, and multiply quickly. Also known as blue-green algae, or harmful algal blooms, they look like foam, scum, or thick coverings on water. They can be extremely harmful to humans, animals, and the environment. Blue-green algae blooms form as a result of an

<sup>7</sup> <https://www.sfwmd.gov/weather-radar/rainfall-historical/monthly>.

<sup>8</sup> <https://floridastorms.org/2015/07/10/extreme-drought-declared-in-south-florida/>.

<sup>9</sup> [https://www.sfwmd.gov/sites/default/files/documents/graphic\\_florida\\_bay\\_drought\\_2014-2015.pdf](https://www.sfwmd.gov/sites/default/files/documents/graphic_florida_bay_drought_2014-2015.pdf).

<sup>10</sup> [https://www.nps.gov/ever/learn/nature/upload/seagrass-Dieoff\\_final\\_web\\_hi\\_res.pdf](https://www.nps.gov/ever/learn/nature/upload/seagrass-Dieoff_final_web_hi_res.pdf).

<sup>11</sup> <https://statesummaries.ncics.org/chapter/fl/>.

<sup>12</sup> Since 2001, the Corps has invested over \$900 million to rehabilitate the Herbert Hoover Dike to reduce flooding impacts, as a result of high lake levels, for a large area of South Florida.

excess of nutrients such as nitrogen and phosphorus being present in water. These algal blooms usually form after stormwater from heavy rains wash contaminants in wastewater, urban runoff, and agricultural fertilizers into waterways. These blooms have occurred across the country, including recently in California, Ohio, New Jersey, and in Lake Okeechobee, Florida<sup>13</sup>.

The Corps currently operates the authorized purposes of Lake Okeechobee under its Lake Okeechobee Regulation Schedule (LORS)—established in 2007 to manage water volumes within, and flows out of, the lake.<sup>14</sup> In WRDA 2018 (P.L. 115-270), Congress directed the Corps to complete a replacement to LORS, called the Lake Okeechobee System Operating Manual (LOSOM), in conjunction with the completion of the Herbert Hoover Dike rehabilitation project. LOSOM is currently under review by the Corps.

In 2018, blue-green algae blooms in Florida led to severe human health issues. This was coupled with a devastating red tide outbreak along the State’s beaches that led to marine life die-off.<sup>15</sup> As a result, the Corps proposed a deviation to LORS that would provide greater flexibility in the management of water to reduce the health risk associated with blue-green algae blooms.<sup>16</sup> Blue-green algae have been detected in Lake Okeechobee this year, although no major algae releases occurred, partly as a result of reduced water discharges from the lake due to low Lake Okeechobee water levels.<sup>17</sup>

**WITNESSES**

Noah Valenstein  
Secretary  
Florida Department of Environmental Protection

The Honorable Chauncey P. Goss, II  
Chairman  
South Florida Water Management District Governing Board

Elizabeth Jolin  
Captain  
The Bay and Reef Company of the Florida Keys

Gary Ritter  
Assistant Director of Government and Community Affairs  
Florida Farm Bureau Federation

Shannon Estenoz  
Vice President of Policy and Public Affairs  
The Everglades Foundation

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<sup>13</sup> <https://www.usgs.gov/search-map?search=cyanobacteria>.

<sup>14</sup> [https://www.saj.usace.army.mil/Portals/44/docs/h2omgmt/LORSdocs/2008\\_LORS\\_WCP\\_mar2008.pdf](https://www.saj.usace.army.mil/Portals/44/docs/h2omgmt/LORSdocs/2008_LORS_WCP_mar2008.pdf).

<sup>15</sup> “Red tide” is caused by *karenia brevis*, a type of algae that produces neurotoxins and the bloom of algae often turns the water red.

<sup>16</sup> <https://usace.contentdm.oclc.org/utis/getfile/collection/p16021coll7/id/14715>.

<sup>17</sup> <http://w3.saj.usace.army.mil/h2o/currentLL.shtml>.