



Fiscal Year 2023 Cross Cut Budget

South Florida Ecosystem Restoration Task Force

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Section 1.0

Overview

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Section 1.0: Overview

Section 1.1: Introduction

This document provides coordinated budget requests for the Everglades ecosystem restoration efforts in south Florida with information provided by both federal and state agencies represented on the South Florida Ecosystem Restoration Task Force (Task Force). The information in this report is compiled and prepared by the U.S. Department of the Interior’s Office of Everglades Restoration Initiatives (OERI) on an annual basis and includes a summary accounting of all funding requests in the Fiscal Year (FY) 2023 Budget for represented federal and state agency members. This document is available online at: www.evergladesrestoration.gov.

This document consists of three sections. This overview (Section 1.0) includes summary tables for the federal and state funding requests. The tables in this edition provide enacted and requested funding for FY 2015 through FY 2023. Historical enacted funding dating back to FY 2002 is available online at: www.evergladesrestoration.gov.

Section 2.0 provides detailed information concerning the federal Everglades ecosystem restoration projects and funding requests. Section 2.1 addresses the Comprehensive Everglades Restoration Plan (CERP) projects and funding requests and Section 2.2 addresses non-CERP projects and funding requests. The base program and operational funding requests not specifically designated for restoration for some federal agencies are not included in this document.

Section 3.0 provides detailed information concerning the State of Florida’s Everglades ecosystem restoration projects and funding requests. Section 3.1 addresses CERP projects and funding requests, and Section 3.2 addresses non-CERP projects and funding requests. The FY 2022-23 totals shown represent estimates for the South Florida Water Management District (SFWMD).

Section 1.2: Federal and State of Florida Funding Summary Tables

The following tables provide a summary of the detailed funding information found in sections 2.0 and 3.0 of this document. Table 1 includes coordinated budget requests provided by federal agencies and Table 2 includes coordinated budget requests provided by the State of Florida agencies.

The funding requests for the federal agencies and the SFWMD reflect a fiscal year that begins on October 1 and ends on September 30 of each year. The funding requests for other State of Florida agencies reflects a fiscal year that starts on July 1 and ends on June 30 of each year.

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TABLE 1: FEDERAL FUNDING (ACTUAL \$)

EVERGLADES ECOSYSTEM RESTORATION PROJECTS	FY 2016 Enacted	FY 2017 Enacted	FY 2018 Enacted	FY 2019 Enacted	FY 2020 Enacted	FY 2021 Enacted	FY 2022 Enacted	FY 2023 Requested
COMPREHENSIVE EVERGLADES RESTORATION PROGRAM (CERP)								
USACE - CERP (Part of Central and Southern Florida) ^{1,3}	71,924,612	78,435,000	92,053,578	97,253,000	233,800,000	244,900,000	1,445,967,736 ⁶	392,732,000
USACE - CERP O&M ^{1,5}	1,826,635	0	2,920,000	0	4,971,000	4,789,000	4,321,000	7,204,000
USDOJ - NPS CERP ²	5,216,000	5,236,000	5,236,000	5,236,000	5,359,000	5,359,000	5,480,000	5,629,000
USDOJ - FWS CERP	2,718,000	2,718,000	2,718,000	2,718,000	2,718,000	2,718,000	2,718,000	2,718,000
NON-COMPREHENSIVE EVERGLADES RESTORATION PROGRAM (CERP)								
USACE - Central and Southern Florida (excluding CERP) ¹	23,071,529	11,787,000	3,573,152	2,840,000	200,000	2,100,000	500,000	12,750,000
USACE - Non-CERP O&M ^{4,5}	6,741,392	5,703,010	2,996,000	6,537,000	8,850,000	5,263,000	4,629,000	3,461,000
USACE - Critical Projects	0	0	0	522,160	0	0	0	0
USACE - Kissimmee River Restoration	31,411,789	36,065,000	9,800,000	3,950,000	1,000,000	3,000,000	1,500,000	1,500,000
USDA - ARS	2,989,000	2,989,000	2,989,000	2,989,000	3,064,000	3,094,000	3,311,000	3,311,000
USDA - NRCS	21,857,180	45,017,889	13,613,458	30,000,000	22,000,000	29,000,000	29,000,000	25,000,000
US Department of Commerce - NOAA	1,190,593	1,155,000	1,155,000	1,081,500	1,031,460	1,084,000	1,654,000	1,581,000
USDOJ - OERI and the South Florida Ecosystem Restoration Task Force	1,325,000	1,330,000	1,330,000	1,330,000	1,363,000	1,363,000	2,368,000	2,374,000
USDOJ - NPS Park Management	30,055,000	30,181,000	30,605,000	30,420,000	31,058,000	31,918,000	32,752,000	36,182,000
USDOJ - NPS Everglades Research (Critical Ecosystem Studies Initiative)	3,870,000	3,876,000	3,876,000	3,876,000	3,970,000	3,970,000	4,014,000	4,068,000
USDOJ - NPS Land Acquisition (management)	636,000	636,000	660,000	830,000	900,000	0	0	0
USDOJ - FWS Ecological Services	3,246,000	3,246,000	3,246,000	3,246,000	3,246,000	3,246,000	3,246,000	3,950,000
USDOJ - FWS Refuges and Wildlife	4,771,000	4,771,000	4,771,000	4,771,000	4,771,000	4,771,000	4,771,000	5,144,000
USDOJ - FWS Migratory Birds	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000
USDOJ - FWS Law Enforcement	568,000	568,000	568,000	568,000	568,000	568,000	568,000	568,000
USDOJ - FWS Fisheries	92,000	92,000	143,000	143,000	143,000	143,000	143,000	143,000
USDOJ - FWS Land Acquisition	4,591,000	2,500,000	2,500,000	2,000,000	3,700,000	2,000,000	0	0
USDOJ - USGS - Integrated Research, Planning and Interagency Coord.	7,928,000	7,727,000	8,327,000	8,192,000	8,197,000	8,375,000	7,699,000	7,699,000
USDOJ - BIA	743,000	580,000	390,000	1,066,000	988,000	380,000	380,000	380,000
USEPA	1,069,000	1,490,000	1,400,000	2,900,000	4,700,000	5,752,000	7,200,000	7,202,000

TABLE 2: FEDERAL FUNDING (ACTUAL \$)

EVERGLADES ECOSYSTEM RESTORATION PROJECTS	FY 2016 Enacted	FY 2017 Enacted	FY 2018 Enacted	FY 2019 Enacted	FY 2020 Enacted	FY 2021 Enacted	FY 2022 Enacted	FY 2023 Requested
CERP Total (USACE and USDOJ)	81,685,247	86,389,000	102,927,578	105,207,000	246,848,000	257,766,000	1,458,365,736	408,283,000
Non-CERP Subtotal (USACE and USDOJ)	119,141,710	109,164,010	73,269,152	70,383,160	69,046,000	67,189,000	62,662,000	78,311,000
Non-CERP Subtotal (Other Federal Agencies)	27,105,773	50,651,889	27,659,000	36,970,500	30,795,460	38,930,000	41,165,000	37,094,000
Non-CERP Total (All Federal Agencies)	146,247,483	159,815,899	100,928,152	107,353,660	99,841,460	106,119,000	103,827,000	115,405,000
TOTAL CERP AND NON-CERP (USACE AND USDOJ)	200,826,957	195,553,010	176,196,730	175,590,160	315,894,000	324,955,000	1,521,148,736	486,594,000
TOTAL CERP AND NON-CERP (ALL FEDERAL AGENCIES)	227,932,730	246,204,899	203,855,730	212,560,660	346,689,460	363,885,000	1,562,313,736	523,688,000

Note: Base program and operational funding requests for the U.S. Environmental Protection Agency, U.S. Department of Commerce, U.S. Department of Agriculture, and the U.S. Army Corps of Engineers are not included in the information provided within this Cross-Cut Budget Working Document.

Footnotes:

¹ USACE CERP activities are part of the Central and Southern Florida Project (C&SF) but are presented separately from other C&SF activities.

² NPS CERP funding includes GSA space rental costs in the following amount: \$410,000 per year from FY 2015 – FY 2023.

³ USACE FY 2015 enacted reflects reduction for the C&SF Upper St Johns River Project.

⁴ FY 2016 Enacted O&M data includes \$6,950,000 that will be executed in FY 2017 but was provided in FY 2016.

⁵ FY 2017 Enacted O&M data includes \$2,832,000 that will be executed in FY 2018 but was provided in FY 2017.

⁶ President's Budget was increased by the Infrastructure Investment and Jobs Act (IIJA) of November 2021 by \$1,097,967,736.

TABLE 3: STATE OF FLORIDA FUNDING (ACTUAL \$)

EVERGLADES ECOSYSTEM RESTORATION PROJECTS	FY 2015-16 Enacted	FY 2016-17 Enacted	FY 2017-18 Enacted	FY 2018-19 Enacted	FY 2019-20 Enacted	FY 2020-21 Enacted	FY 2021-22 Enacted	FY 2022-23 Requested
COMPREHENSIVE EVERGLADES RESTORATION PROGRAM (CERP)								
Florida Department of Environmental Protection	49,371,486	163,461,458	173,783,678	176,041,563	322,702,810	233,900,000	273,461,850 ⁴	716,135,346
Florida Fish and Wildlife Conservation Commission	2,151,735	3,004,775	4,616,862	4,954,181	4,143,809	4,885,133	5,244,399	5,310,741
South Florida Water Management District	54,436,380 ¹	35,914,180 ¹	30,212,186 ¹	26,637,998 ¹	46,096,597 ¹	44,165,476 ²	26,337,263 ³	26,461,976 ³
NON- COMPREHENSIVE EVERGLADES RESTORATION PROGRAM (CERP)								
Florida Department of Agriculture/Consumer Services ³	4,332,449	4,332,449	4,332,449	4,332,449	21,220,449	21,220,449	23,232,449	23,232,449
Florida Department of Environmental Protection	37,923,719	168,264,771	131,836,360	121,866,650	120,267,355 ⁵	86,559,309 ⁵	139,861,306 ⁵	1,360,214,534 ⁵
Florida Fish and Wildlife Conservation Commission	50,832,728	52,538,808	53,607,006	55,600,328	54,537,988	49,615,884	58,005,024	64,710,770
Florida Department of Transportation	11,951,883	8,969,139	44,518,584	17,369,656	5,386,700	8,756,201	4,961,117	5,688,666
South Florida Water Management District	448,384,250 ¹	395,390,671 ¹	374,751,716 ¹	370,673,830 ¹	400,839,404 ¹	478,081,506 ¹	422,684,105 ¹	379,886,711 ³
CERP SUBTOTAL:	105,959,601	202,380,413	208,612,726	207,633,742	372,943,216	282,950,609	305,043,512	747,908,063
NON-CERP SUBTOTAL:	553,428,029	629,495,838	609,046,080	569,842,913	602,251,896	644,233,349	648,744,001	1,833,733,130
STATE OF FLORIDA FUNDING TOTAL:	659,387,630	831,876,251	817,658,806	777,476,655	975,195,112	927,183,958	953,787,513	2,581,641,193

Footnotes:¹ Reflects SFWMD adopted budget appropriations less any state and federal funds.² Reflects SFWMD adopted budget appropriations less any River of Grass project funds which are accounted for in the Non-CERP Everglades Ecosystem Restoration Projects category.³ SFWMD FY 2020-21 Preliminary Budget less state and federal funds⁴ Total does not include FDEP FY 2021-22 funding of \$58.9 million for Everglades restoration and \$48 million for the C-51 Reservoir⁵ Total does not include Governor's budget recommendations of \$50,600,000 for FDEP FY 2020-21 grant funds for water quality improvements, some of which may go towards projects within the Everglades ecosystem.

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Section 2.0

Federal Everglades Ecosystem Restoration Projects and Funding Requests

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Section 2.1: Federal Comprehensive Everglades Restoration Plan (CERP) Projects and Funding Requests (\$408,283,000)

U.S. Army Corps of Engineers (USACE) Construction (\$ 392,732,000)

Congress authorized the Comprehensive Everglades Restoration Plan (CERP) in the Water Resources Development Act (WRDA) of 2000. The objective of the program is to restore, protect, and preserve water resources in central and southern Florida, including the Everglades. The CERP includes numerous projects that work together to achieve the plan's restoration goals. The WRDA 2000 requires the completion of project implementation reports (PIRs) for these projects. The PIRs provide further information on plan formulation and evaluation, engineering, and design, estimated benefits and costs, and environmental effects of planned restoration activities. The PIRs serve to bridge the gap between the conceptual level of detail contained in the CERP and the detailed design plans and specifications required to proceed with construction. Congress authorized three projects in the WRDA 2007: the Indian River Lagoon South, the Picayune Strand Restoration, and the Site 1 Impoundment projects. An additional project, the Melaleuca Eradication Facility, was authorized for construction in accordance with the programmatic authority provision of WRDA 2000. The Water Resources Reform and Development Act (WRRDA) of 2014 authorized four additional CERP projects: the Caloosahatchee River (C-43) West Basin Storage Reservoir, the C-111 Spreader Canal Western Project, the Broward County Water Preserve Areas (BCWPA), and the Biscayne Bay Coastal Wetland (BBCW) Phase 1 Project. The WRDA 2016 authorized the Central Everglades Planning Project (CEPP) and reauthorized the Picayune Strand Restoration Project. The WRDA 2018 authorized the CERP Central and Southern Florida Everglades Agricultural Area (EAA) Reservoir Project, subject to conditions. The WRDA 2020 authorized the Loxahatchee River Restoration Project, reauthorized the C-43 West Basin Storage Reservoir, and modified the CEPP authorization to incorporate the EAA Reservoir Project features into CEPP.

The Infrastructure Investment and Jobs Act (IIJA) of November 2021 provided \$1,097,967,736 in funds to construct: the CEPP South S-356 Pump Station; IRL-S C-23/24 North Reservoir; and BCWPA C-11 Impoundment.

From a program perspective, FY 2022, and FY 2023 CERP activities include continuation of Restoration Coordination and Verification (RECOVER), an inter-agency scientific group charged with system-wide assessments of planned and completed projects as well as with programmatic level activities. RECOVER's science-based activities include evaluation and assessment on the performance of the CERP, review of the effects that other restoration projects may have on CERP, and provision of a system-wide perspective throughout the restoration process. Other program level activities include continued reassessment of project sequencing to optimize delivery of benefits as contained in the Integrated Delivery Schedule (IDS).

From a project perspective, the major focus of the USACE for FY 2022 and FY 2023 activities include continuing construction management on the Indian River Lagoon (IRL) South project features, completing the C-44 Reservoir Operational Testing and Monitoring period (OTMP); continuing the design of the C-23/24 South Reservoir IRL project feature; oversight of the C-43

Caloosahatchee West Basin Storage Reservoir construction being performed by the South Florida Water Management District (SFWMD); continuing construction and construction management of the BBCW L-31 East Flow-way features and oversight of the SFWMD construction of the Cutler Wetlands features and initiating OTMP; construction and construction management of CEPP features, to include continuing construction of the EAA reservoir and initiating CEPP S S-355W Gated Spillway; construction and construction management of the Picayune Strand southwest protection features; continue construction management for BCWPA and design of the Water Conservation Area feature; initiate design oversight of Loxahatchee River Watershed Restoration project features and execute Project Partnership Agreement; and continuation of project adaptive assessment and monitoring activities used to monitor the effects of projects as they are implemented.

U.S. Army Corps of Engineers CERP Operations & Maintenance (O&M)
(\$7,204,000)

The FY 2022 O&M activities includes critical routine operations and maintenance activities associated with mitigation requirements on the BCWPA Project; maintenance of the Manatee Refugium at the Picayune Strand Restoration Project; and continuation of critical routine operations and maintenance activities for cost shared O&M responsibilities at the Melaleuca Eradication and Other Exotic Plants, Site 1, Picayune Strand, IRL, BCWPA, C-111 Spreader Canal, C-43 and CEPP, and BBCW projects.

U.S. Department of the Interior (DOI) - National Park Service (NPS)
(\$5,629,000)

The National Park Service (NPS) is a major partner in the \$20 billion effort to restore the Everglades ecosystem, with large scale projects to modify water management and operations in south Florida. The goal of the multidecadal CERP is to restore, preserve, and protect the South Florida Ecosystem to achieve the unique ecological and hydrological characteristics of an undisturbed system. The CERP “Yellow Book” includes 68 project components to be constructed to restore the quantity, quality, timing, and distribution of water for the South Florida Ecosystem. Several of these projects within CERP will directly benefit the hydrological conditions within NPS lands by stopping or reversing decades of ecosystem decline. These projects will directly benefit and restore south Florida National park units, namely Everglades National Park (ENP), Biscayne National Park (BCNP), Big Cypress National Preserve (BICY), and Dry Tortugas National Park (DRTO), unique ecosystems with temperate and subtropical species and habitats, complex biological processes, and a large number of threatened and endangered species that reside in these ecosystems, including the Florida panther, Everglades snail kite, American crocodile, and the West Indian manatee. These projects occur in phases and have a target completion date beyond 2038 until the full implementation of CERP. The NPS is closely working with the U.S. Fish and Wildlife Service (USFWS) and the U.S. Geological Survey (USGS), in collaboration with the State of Florida and the USACE, to support CERP projects. The NPS team is actively participating in the planning process of CERP projects through modeling of proposed alternatives, developing performance measures, and projecting potential environmental benefits on NPS resources. To provide independent validation of the proposed alternatives, NPS

hydrologists and modelers are performing technical data analysis and modeling efforts within the South Florida Natural Resources Center (SFNRC) high-performance computing system. The NPS team is also monitoring projects implementation and quantifying environmental benefits of completed projects.

The FY 2023 budget for Everglades restoration implementation is planning to support approximately 34 full-time ecologists, hydrologists, modelers, water quality experts and employees that will work on both CERP and non-CERP restoration projects. The Everglades NPS CERP program at the SFNRC went through a strategic planning process to identify outcomes and key actions to guide our work over the next five years. The consensus among leadership is that there is a need to refocus the scientific work priorities being conducted at the Everglades NPS CERP program and to replace (because of retirement) or expand skills and expertise to also focus on two major threats 1) assessment of Everglades restoration benefits mitigating for the effects of a changing climate, 2) assessment of invasive species and their impacts on restoration benefits. In FY 2023, 11 new staff will be added to the NPS CERP Program to create a new Resilience and Sustainability focused branch and a new Data Sciences Team within the center. These two groups will assess the impacts of climate change and sea level rise on the south Florida natural ecosystem and how Everglades restoration will mitigate for those impacts. The new Data Sciences Team will be statistically analyzing and synthesizing data to report on Everglades restoration benefits.

With the President's Bipartisan Infrastructure Law and other appropriations, the USACE is accelerating Everglades restoration process for multiple projects. The NPS CERP Program would need to expand its capabilities to match this accelerated rate. This will allow NPS to actively participate in multiple simultaneous interagency efforts supporting the implementation of the Combined Operational Plan (COP) and ongoing CERP planning efforts such as the Biscayne Bay and Southeastern Everglades Restoration (BBSEER) project, Western Everglades Restoration Project (WERP), and Central Everglades Project (CEP). NPS CERP Program will conduct modeling and implement monitoring while coordinating with partners to ensure that the planned, constructed, or operated projects will deliver maximum benefits to the parks and preserve.

The CERP project activities for FY 2023 include the following:

- For federal projects, the CERP authorization directs the NPS to formally participate in CERP planning and assessment efforts, ensuring appropriate benefits to NPS natural and cultural resources and visitor opportunities. NPS staff will participate in CERP system-wide monitoring, applying hydrological and ecological performance measures, developing interim goals, and producing programmatic guidance to evaluate restoration performance. For State of Florida projects, the NPS will participate in the establishment of water reservations, minimum flows and levels, water supply plans, and standards for water quality (nutrients and contaminants).
- The NPS CERP program will also continue advance monitoring and assessment of projects oriented toward threatened and endangered species on NPS lands, providing technical input to the USFWS as well as state/federal implementing agency planning that supports restoration-oriented water operations. In FY 2023, NPS CERP staff will continue assessing the monitoring network of ecological performance measures to document and report on CERP and other foundational restoration benefits and to adaptively manage

these projects. The new Data Sciences team will also work on merging biological and hydrologic databases, including analysis and synthesis of existing long-term hydrologic and biological data sets that will allow resource managers, decision-makers, and the public to understand the benefits of implementing Everglades restoration projects. The data analysis and synthesis will also allow to detect trends in NPS resources as they relate to water management changes. In FY 2023, the NPS CERP team will also work on updating the State of Conservation Report to the World Heritage Committee within UNESCO reporting on the system ecological indicators and the health of Everglades National Park.

- The NPS CERP program team will continue tracking the WERP progress. With drainage and water flows disruption, BICY has been adversely impacted by reduced water delivery and poor water quality. The WERP main goal for this ecosystem is focused on restoring the historic low nutrient sheetflow to reestablish ecological connectivity of the wetland-upland mosaic and the native flora and fauna. In FY 2023, NPS CERP program will continue to be actively engaged in the WERP project process evaluating the Tentatively Selected Plan (TSP) and developing and reviewing the Draft Environmental Impact Statement. This while documenting water quality concerns and ensuring that these concerns are addressed as we move into finalizing the TSP. The Chief's Report is expected in December 2023.
- The NPS CERP program team will continue providing technical analyses and support to water operations and restoration activities through BBSEER, with a Chief's Report expected in October 2025. The area and habitat for BBSEER are directly affected by projected sea level rise, and project features may provide the ability to slow the inland movement of saltwater in the aquifer by the application of freshwater to restore habitat. The NPS team will continue to be fully engaged in BBSEER public workshops and interagency technical meetings and will help to prepare the National Environmental Policy Act (NEPA) document. Through BBSEER and other upcoming CERP planning efforts, the NPS team will incorporate resilience and sustainability into their analyses to assess the integrated performance of this CERP project under future sea level rise scenarios. This is to guarantee that restoration investments are designed to be more resilient to future conditions. In FY 2023, the NPS CERP team will work with all partners to finalize the alternatives, resolve model uncertainties, and finalize model performance measures. In FY2023, the NPS CERP team will be evaluating model simulation results to meet the needs of BCNP and ENP, and making recommendations for the TSP. The NPS CERP team will make sure the BBSEER project will best meet its stated objectives and the needs of the national parks.
- In FY 2023, the NPS CERP program team will continue tracking the Central Everglades Project (CEP), a critical project that will have a direct impact on the ENP. The NPS staff will continue its focus on implementation of CEP features (North, South and New water) through 2028 that will bring improvements in water quantity and quality, benefiting the ecosystem. The NPS CERP program team will continue to track the status of review and implementation of Adaptive Management plan for CEP South implementation. By monitoring project component designs, integrating this information into what we know/learn about how the regional system operates, and connecting operations to expected responses of the landscape and wildlife, the NPS CERP program team has the opportunity to accelerate the environmental benefits derived from CEP.

- In FY 2023, the NPS CERP team of hydrologists will continue to participate in its role within the Interagency Modeling Center (IMC). The NPS CERP team of modelers will set up model simulations and perform analysis of model output to inform NPS positions on restoration projects directly impacting DOI interests. From within the IMC, the NPS CERP team will work on ecosystem restoration and/or assessment project related investigative reports, technical work products, and hydrologic analyses. The team will also perform necessary data management and manipulation to support model development and to focus on optimizing benefits to NPS resources.
- The NPS CERP program team will track the effects of current and proposed operations on Everglades water quality and work with the USACE and the State of Florida to design water operations to minimize the risk of water quality exceedances. The team will work with the State of Florida (SFWMD/Florida Department of Environmental Protection [FDEP]), USACE, USFWS, U.S. Environmental Protection Agency (USEPA), and U.S. Department of Justice (DOJ) to track the 1992 Consent Decree compliance standards that protect ENP and the Arthur R. Marshall Loxahatchee National Wildlife Refuge (Loxahatchee NWR).
- The CERP program team will continue to track and provide technical analysis and briefings on the detailed design and implementation of the State of Florida's Restoration Strategies project and its progress toward achieving the Water Quality Based Effluent Limit (WQBEL) for phosphorus entering the Everglades.

U.S. Department of the Interior (DOI) – U.S. Fish and Wildlife Service (USFWS) (\$2,718,000)

The FY 2023 request for CERP implementation will support approximately 12 full-time Ecological Services employees (i.e., Everglades Program Supervisor, (2) Supervisory Fish and Wildlife Biologists, and (9) Fish and Wildlife Biologists) that actively serve on planning teams for all the CERP and non-CERP restoration projects being conducted by the USACE. This will enable the USFWS to fulfill its Trust Resource responsibilities under the Endangered Species Act (ESA), Fish and Wildlife Coordination Act, Migratory Bird Treaty Act (MBTA), and other statutes as well as the CERP Programmatic Regulations as part of the restoration effort. The USFWS is an integral planning partner in formulating alternatives; designing, assessing, and monitoring; and adaptively managing the project components of CERP during its implementation. The USFWS is responsible for providing environmental expertise to the USACE and the SFWMD. The USFWS is also involved in guiding Everglades restoration at a system-wide scale through the following activities: system status reports, participation in RECOVER activities, and the Lake Okeechobee System Operating Manual (LOSOM).

In FY 2023, the USFWS will continue to participate in the development and execution of major restoration projects throughout the Everglades. These activities will include assistance in restoration plan formulation and ecological benefit analysis, ESA Section 7 consultation, recovery plan implementation, monitoring and adaptive management, restoration and management activities on DOI lands, CERP project planning, preparation of Fish and Wildlife Coordination Act reports, system-wide water quality improvement, land acquisition, migratory bird and fisheries conservation, and a myriad of multi-agency planning, science, and outreach efforts. As

a recognized leader in the science of ecosystem restoration, the USFWS provides biological and ecological expertise and is an integral planning and implementation partner in the CERP to ensure that ecosystem benefits are maximized consistent with long-term CERP project goals. The USFWS will design features and project components that maximize natural resource benefits through active participation throughout the restoration planning process. During FY2023, USFWS staff in the Everglades Program will be actively engaged in the following projects/activities: LOSOM, WERP, Picayune Strand Restoration Project (PSRP), Loxahatchee River Watershed Restoration Project (LRWRP), IRL-S C-23/24 Reservoir and STA, Caloosahatchee River (C-43) Reservoir, BBCW, BBSEER, CEPP, EAA Reservoir and Stormwater Treatment Area (STA), Lake Okeechobee Watershed Restoration Plan (LOWRP), RECOVER Northern Estuaries, RECOVER Lake Okeechobee, RECOVER Southern Coastal Systems, RECOVER Greater Everglades, RECOVER Southwest Florida, and the Kissimmee Headwaters Revitalization. For more information, visit: Everglades Restoration | U.S. Fish & Wildlife Service (<https://fws.gov/project/everglades-restoration>).

The USFWS National Wildlife Refuge System (NWRS) is a premier system of federal lands set aside primarily for the purpose of conserving fish, wildlife, and plants. There are seventeen refuges within the CERP, Florida Bay, and Lake Okeechobee water management footprint. The Everglades Headwaters NWR & Conservation Area contains the headwaters of Lake Okeechobee and Kissimmee Lakes watershed influencing water quality and quantity of flows entering Lake Okeechobee and the Loxahatchee NWR is the northern extent of the Everglades south of Lake Okeechobee and provides flows south into the Greater Everglades to the Florida Keys. The NWRS is actively engaged in CERP planning and implementation through project delivery teams (PDTs) and sub-teams, such as the ecology, water quality, engineering, modeling, and plan formulation sub-teams. The NWRS is working cooperatively with multiple agencies and provides recommendations on water management and water quality improvements to the Everglades and estuary ecosystems.

In 1988, the United States sued the State of Florida for failing to preserve the Loxahatchee NWR (Refuge) and ENP for future generations due to water pollution. A 1992 consent decree established phosphorus limits and water quality compliance requirements for the Refuge and ENP. The NWRS works very closely with the State of Florida in water quality modeling, STA designs and operations, and compliance monitoring of water nutrients. The Refuge Supervisor of Florida is a consent decree USFWS principal and the Refuge Ecologist is a member of the Technical Oversight Committee and Everglades Program Team. For more information, please visit: <https://www.fws.gov/refuges/>

Section 2.2: Federal Non-CERP Everglades Ecosystem Restoration Projects and Funding Requests (\$115,405,000)

U.S. Army Corps of Engineers Construction (\$17,711,000)

U.S. Army Corps of Engineers Construction (\$14,250,000)

Kissimmee River Restoration (\$1,500,000): This project involves restoring the historic habitat in much of the Kissimmee River floodplain and restoring water-level fluctuations and seasonal discharges from lakes Kissimmee, Cypress, and Hatchineha in the upper basin. The FY 2023 activities include work in-kind and lands, easements, rights-of-way, relocation, and disposal area reviews for crediting, and post construction ecological monitoring.

South Dade County, C-111 Project (\$12,750,000): This project consists of modifications to the Central & Southern Florida (C&SF) Project to provide more natural hydrologic conditions in Taylor Slough and to minimize damaging flood releases to Barnes Sound/Manatee Bay, while maintaining flood protection for adjacent agricultural lands. The FY 2023 activities include physical closeout; lands, easements, rights-of-way, relocation, and disposal area reviews for crediting; and design of S-332B and C pump station replacement.

U.S. Army Corps of Engineers Non-CERP Operations & Maintenance (O&M) (\$3,461,000)

The FY 2023 O&M activities include critical routine operations and maintenance activities associated with mitigation requirements specified in the USFWS Biological Opinion on the COP to protect threatened and endangered species, C-111 South Dade (C-111 SD) pump stations, and Modified Water Deliveries to Everglades National Park (Mod Waters) activities.

U.S. Department of Agriculture (USDA) - Agricultural Research Service (ARS) (\$3,311,000)

The USDA-ARS conducts an integrated research program that addresses the needs of agriculture and complements the CERP. The goal of the research is to develop and transfer improved scientific technologies and enhanced management strategies that control invasive exotic species and assure the continued economic integrity of agriculture. Two major areas of research support the South Florida Ecosystem restoration and agriculture: biological control of invasive species and improved crop production systems.

Development and Evaluation of Biological Control Agents for Invasive Species Threatening the Everglades and other Natural and Managed Systems (\$2,871,000)

The ARS Invasive Plant Research Laboratory (IPRL) in Fort Lauderdale, Florida, and its satellite lab in Gainesville, Florida, conduct research to: (1) identify and collect natural enemies for control of melaleuca, Brazilian peppertree, Old World climbing fern, downy rose myrtle, Chinese tallow,

air potato, water hyacinth, water lettuce, and other invasive plants; (2) evaluate biological control agents for release against invasive weed and insect species in a risk analysis context; (3) obtain approval for release of host specific natural enemies; (4) mass-rear and distribute approved agents on natural area weeds; (5) evaluate individual and community level impacts of established agents on weed targets; (6) quantify the effects of biological control agents on food webs; and (7) develop biological based integrated weed management strategies that are efficient, economical, and environmentally sound. Many of the biological control agents that are developed by the IPRL were discovered by scientists at the ARS Australian Biological Control Laboratory in Brisbane or the Foundation for the Study of Invasive Species near Buenos Aires. Landscape level weed suppression programs that maximize biological control agents are designed in close cooperation with client groups like the SFWMD, the Florida Fish and Wildlife Conservation Commission (FWC), the USACE, the NPS, the USFWS, the Nature Conservancy, and many others. The FY 2021 President's Budget had a proposed termination for melaleuca research in the amount of \$262,000.

Soil Conservation for Sustainable Sugarcane Production (\$440,000)

The Sugarcane Field Station in Canal Point, Florida, develops high-yielding, disease-resistant sugarcane cultivars for both organic (muck) and sand soils. Development of new, improved sugarcane cultivars impacts the cultural practices used in commercial sugarcane production. In particular, harvest residue and application of chemicals during production affect critical components of sustainable production such as soil dynamics. The biggest challenge for sugarcane growers in Florida is orange rust disease, which causes considerable yield losses and increases production costs with multiple fungicide applications. The development of new cultivars with resistance to economically limiting diseases is a high priority because of the impact of brown and orange rust diseases. Promising molecular markers for resistance to orange rust have been identified in sugarcane germplasm and these markers are being validated for their use in marker-assisted breeding for the incorporation of disease resistance into new cultivars.

For more information, please visit: <https://www.ars.usda.gov/southeast-area/canal-point-fl/sugarcane-field-station/>

U.S. Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS) (\$25,000,000*)

The NRCS provides technical assistance on a voluntary basis to private landowners and operators, tribes, and others for the planning of conservation practices and installation of needed conservation management systems with the goal of achieving natural resource sustainability. This includes the design, layout, and consultation services associated with the conservation practice application or management guidance provided. Technical assistance is targeted towards nutrient management, water quality, and water conservation concerns associated with animal feeding, livestock grazing operations, and fruit and crop production within the South Florida Ecosystem. Financial assistance is provided through a variety of USDA Farm Bill Programs.

The NRCS aids livestock and dairy producers to apply Best Management Practices (BMPs), including waste management systems, to reduce off-farm nutrient discharges. A special effort in the EAA and C-139 basin is in place to assist the land user to meet requirements outlined in the 1994 Everglades Forever Act to reduce phosphorus loading into the Everglades Protection Area.

Other areas of assistance are provided on private and Tribal lands to restore wetlands, improve wildlife habitat, and control invasive exotic plant species. Financial assistance is provided through a variety of USDA Farm Bill Programs.

Farm Bill of 2018

Environmental Quality Incentives Program (EQIP)

The EQIP provides financial and technical assistance to farmers and ranchers who face threats to soil, water, air, and related natural resources on their land. Through EQIP, the NRCS develops contracts with agricultural producers to implement conservation practices to address environmental natural resource problems. Payments are made to producers once conservation practices are completed according to NRCS requirements on agricultural lands that will improve or maintain the health of natural resources in the area including water quality.

Agricultural Conservation Easement Program (ACEP)

The ACEP provides financial and technical assistance to help conserve agricultural lands and wetlands and their related benefits. Under the Agricultural Land Easements component, NRCS helps Indian tribes, state and local governments, and non-governmental organizations protect working agricultural lands and limit non-agricultural uses of the land. Under the Wetlands Reserve Easements component, NRCS helps to restore, protect, and enhance enrolled wetlands.

**FY 2023 program funding is pending national approval of annual allocations to States.*

U.S. Department of Commerce - National Oceanic and Atmospheric Administration (NOAA) (\$1, 581,000)

[NOAA](#) provides science, monitoring, and modeling projects critical to implementing and assessing CERP and other parts of the South Florida Ecosystem restoration effort. NOAA projects provide pre-implementation and early implementation information critical in evaluating the downstream impacts of restoration activities on coastal resources. This information allows project managers to adjust project details through the adaptive management process. NOAA scientists and resource managers, including those from the [Florida Keys National Marine Sanctuary Program \(FKNMS\)](#), participate in various management and science coordination activities related to South Florida Ecosystem restoration. While many NOAA programs support restoration efforts, the following NOAA projects directly support CERP implementation.

Florida Keys National Marine Sanctuary (FKNMS)

The FKNMS coordinates the protection, management and restoration of coral reefs, seagrasses, and other marine resources that comprise the southernmost extent of the South Florida Ecosystem. NOAA FY 2022 funding will continue to support the sanctuary's management activities, however that funding is not reflected in this document as it represents base program and operational funding. In 2022, the sanctuary will release proposed revisions to its regulations, marine zones, and management plan, which represents the first comprehensive update to the sanctuary's management since 1997. Key projects that support the South Florida Ecosystem Restoration goals include the Water Quality Protection Program (WQPP) and Mission: Iconic Reefs. The WQPP implements corrective actions, research, and monitoring to restore and maintain water quality necessary for healthy habitats and wildlife in the sanctuary. Mission:

Iconic Reefs represents one of the largest investments in reef restoration in the world and is a multidecadal effort to restore seven iconic reef sites in FKNMS.

Recognizing the importance of water quality to the overall success of the sanctuary's management and restoration activities, and particularly the influence of upstream threats to local water quality, in 2021 the WQPP and Sanctuary Advisory Council established a new working group called the Florida Keys and South Florida Ecosystem Connectivity Team. The purpose of this group is to increase awareness and facilitate collaboration between Keys' stakeholders, scientific experts, and agency representatives on Everglades restoration and other regional issues of importance to water quality within the FKNMS. This working group meets bimonthly and has advised the Sanctuary Advisory Council to pass resolutions on several activities related to the South Florida Ecosystem restoration, with a particular focus on their connection and potential impacts on marine resources in the Keys.

Atlantic Oceanographic & Meteorological Laboratory (AOML)

Almost all replumbing and inland restoration efforts will ultimately affect the flow of water, nutrients, and other elements to coastal bays and estuaries. Understanding the impacts of changes in surface water flows to coastal systems is critical in determining the overall success of restoration activities. Since the early 1990s, scientists from [AOML](#) (South Florida Program) have been conducting interdisciplinary observations of south Florida coastal waters. Large-scale surveys are planned for every other month of each year and cover the waters of the FKNMS and the southwest Florida shelf up to Tampa Bay. Data collected will continue to improve the predictive capabilities and enhance the understanding of the south Florida coastal ecosystem and its connectivity to the Everglades, allowing NOAA to contribute to adaptive management of CERP and fulfill its responsibility to CERP.

Restoration Science and Assessment / National Marine Fisheries Service (NMFS)

NOAA's [Southeast Fisheries Science Center \(SEFSC\)](#), in collaboration with other agencies and entities, conducts monitoring and assessment projects to support CERP. SEFSC scientists began working directly with the USACE, SFWMD, and other agencies in the southern estuaries as early as the 1990's and continue today, with a working knowledge of pre-project conditions, to assess the effects of CERP restoration components as they are implemented. In 2022, NMFS continued scientific activities to determine the impact of upstream restoration efforts and changing freshwater inflow on south Florida coastal systems. This research, which will continue in FY 2023, examines the impacts of changing freshwater runoff patterns on inshore and coastal ecosystems as CERP components are implemented. Projects supporting CERP are conducted in Biscayne Bay and Florida Bay in collaboration with NOAA AOML, other agency partners, and academic institutions working under the CERP MAP of RECOVER. SEFSC also conducts a coral monitoring and restoration program that presently focuses especially on the coral disease that was first discovered at the Port of Miami in 2014 by a NOAA scientist and has spread both north of Miami and south of Miami through much of the Florida Keys. In FY 2021 SEFSC research scientists became team members in the new BBSEER project, helping to develop performance measures, targets, and other metrics to use in selecting the best project plan among proposed alternatives. SEFSC involvement in BBSEER is expected to continue through FY 2023 and beyond.

Coral Reef Assessment and Research Lab (CoRAL)/National Marine Fisheries Service

The CoRAL at NOAA's SEFSC conducts demographic monitoring of the ESA-listed coral species *Acropora palmata* on reefs in the Upper Florida Keys in the FKNMS. This monitoring program, the longest running demographic monitoring dataset for *A. palmata*, is designed to provide information that can be directly applied to inform the management of threatened coral populations and coral reefs on relevant timescales. To complement this monitoring, the CoRAL team conducts field and lab-based experiments to guide the restoration of coral populations and reefs in Florida and throughout the Caribbean. Research efforts include assessing differences in thermal tolerance among genotypes and the heritability of disease resistance in ESA-listed coral species, and the role of coral density, genotypic diversity, and outplant design on coral outplant survival and success. The goal of this research is to make coral restoration efforts more successful given conditions experienced on contemporary and future coral reefs. As part of their monitoring and research, the CoRAL Team monitors coral spawning and collects gametes to produce larvae and recruits of multiple ESA-listed and other coral species. These larvae are shared with numerous partners to support research and restoration efforts. Funding for CoRAL comes primarily from NOAA's Coral Reef Conservation Program.

Biscayne Bay NOAA Habitat Focus Area (HFA) / NOAA, NMFS and AOML

The [Biscayne Bay HFA](#) is one of the first 10 HFAs in NOAA's Habitat Blueprint Initiative, which provides a forward looking framework for coordination, within NOAA and with partner organizations, to address growing challenges of coastal and marine habitat loss and degradation. In FY 2022, SEFSC and AOML and its partners continued to address major goals of the Biscayne Bay HFA, including reduction in habitat-degrading algal blooms. Unfortunately, algal blooms and fish kills in North Biscayne Bay were not prevented. These disastrous events appear to be spurring a monitoring network for the bay that will better capture conditions leading up to them, improving the ability to determine immediate and cumulative causes. In support of an ongoing watershed study of the Coral Gables Waterway, AOML is continuing its HFA efforts with development of a coupled hydrodynamic and water quality model of the bay and the Waterway. The model uses the EFDC (Environmental Fluid Dynamic Code) framework. EFDC is a multifunctional surface water modeling system that includes hydrodynamic, sediment-contaminant, and eutrophication components and can operate in 1, 2, or 3 dimensions. The Biscayne Bay application covers most of the bay (north to the 79th St Causeway and south to where U.S. 1 crosses Manatee Bay), although calibration has been focused on Central Biscayne Bay south of the Rickenbacker Causeway and the Coral Gables Waterway. While this is its present focus, development of the Biscayne Bay EFDC model offers the opportunity to apply it to other Biscayne Bay areas and uses if calibrated and tested for them. One opportunity, for example, would be to determine how management of the regional hydrologic system to affect one part of the bay might affect another. A modeling team from Mississippi State University, collaborating with AOML through the Northern Gulf Institute, presently is engaging with Biscayne Bay scientists and managers and CERP representatives to determine where next to focus its efforts.

SEFSC's latest contribution to the Biscayne Bay HFA is a scientific paper documenting smalltooth sawfish presence in Biscayne Bay that was published in FY 2021 in the journal *Endangered Species Research*. The paper, led by a University of Miami (UM) author, provides new information that could influence future management of this endangered species, as well as its potential status as an indicator of CERP success. The 40-unit FACT (Florida Atlantic Coast Telemetry) acoustic array in the Biscayne Bay HFA that helped generate the paper to record

presence, habitat, and movement patterns of smalltooth sawfish and other acoustically tagged species is presently focused on sharks and sea turtles. Its continued presence in the Bay provides a capability for another focus on smalltooth sawfish in the near future. In 2022 and 2023, SEFSC and AOML will continue to work within CERP and with partners to protect and enhance Biscayne Bay's ecosystem health and promote healthy populations of protected and fishery species.

U.S. Department of the Interior (DOI)- Office of Everglades Restoration Initiatives (OERI) and the South Florida Ecosystem Restoration Task Force (Task Force) (\$2,374,000)

Funding in FY 2023 will sustain the continued operations and activities of the Department of the Interior's OERI. Since 1995, the OERI has provided senior executive level leadership in support of the congressionally mandated responsibilities of the Department and the Secretary in the restoration of America's Everglades. OERI will provide support necessary to fulfill the Secretary's role and responsibilities as chair of the intergovernmental Task Force. The OERI, under the leadership of the offices of the Assistant Secretary for Fish, and Wildlife and Parks and the Assistant Secretary for Water and Science, will also continue in its role as the south Florida liaison for the Office of the Secretary in coordinating all departmental and bureau-level Everglades restoration activities, projects, policymaking and programs.

In FY 2023, the OERI leadership and staff will continue to support and work directly with the federal, state, local government, and Tribal representatives/partners on the Task Force. OERI will also administer, manage, and support the priorities, activities, meetings, and the required reporting responsibilities of the Task Force, its Working Group, the Science Coordination Group, and any designated advisory bodies. Congressionally mandated reporting documents produced by OERI in FY 2023 will include the Biennial Report, the Integrated Financial Plan, and the Cross-Cut Budget.

In the WRDA 2020, section 504, the Congress directed the Task Force to develop a priority list of invasive species that significantly impact the structure and function of ecological communities, native species, or habitats within the South Florida Ecosystem. The Task Force member agencies are also directed by the Congress to manage these species through coordination and collaboration. The Congress directs the Task Force to develop innovative strategies and tools; guide applied research; facilitate improved management; and prevent future introductions of nonnative species. Funding will directly support specialized staff expertise in invasive exotic plants and animals and OERI will be responsible for managing and guiding the Task Force's efforts in implementing the Invasive Exotic Species Strategic Action Framework. OERI will also expand its lead role in supporting, communicating, and coordinating restoration programs, projects and policy implementation with the SFWMD and the USACE, who are primarily responsible for the "on the ground" construction projects dedicated to large-scale restoration of America's Everglades.

In FY 2023, the OERI and Task Force will update and assess the system-wide ecological indicators which are an integral component of the Task Force's Biennial Report. The OERI and Task Force will continue to work with the USACE to update the IDS, including sponsoring stakeholder

engagement workshops. The OERI will also continue to maintain, expand, and improve the content of the EvergladesRestoration.gov website. This website remains recognized as an innovative and comprehensive resource and is considered as the “go-to” resource for any current and historical information on the activities, projects, policies, and programs associated with the restoration of America’s Everglades.

U.S. Department of the Interior (DOI) – National Park Service (NPS)
(\$40,250,000)

The FY 2023 budget for Everglades restoration implementation is planning to support approximately 34 full-time ecologists, hydrologists, modelers, water quality experts and employees that will work on both CERP and non-CERP restoration projects.

The NPS actively participated in several ongoing non-CERP projects related to seepage management along the ENP eastern boundaries. NPS staff were following the construction of the 2.28-mile seepage cutoff wall for the 8.5 Square Mile Area, a critical project for the implementation of Mod Waters and the COP. NPS staff were also involved reviewing the next phase of seepage wall- as part of CEP new water.

The Foundation Projects and non-CERP project activities for FY 2023 include the following:

- For the Mod Waters and C-111 SD Foundation Projects, the NPS will continue monitoring the implementation of COP and the Tamiami Trail Flow Formula (TTFF). The COP is utilizing the new project infrastructure and the TTFF to restore more natural water flows and improve natural resource conditions in ENP and adjacent areas. NPS staff also manage the ecological monitoring program and the COP Adaptive Management Plan to assess the effects of the constructed Mod Waters and C-111 SD projects, and to optimize the benefits for NPS/DOI lands and resources. The NPS team is also actively engaged in adaptively monitoring and managing COP to maximize the ecological benefits ensured from this operational plan. NPS staff are reporting that ecological benefits derived from the \$486 million investment in Mod Waters project are significant and accumulating. The implementation of COP has significantly enhanced hydrologic and ecological conditions along the eastern boundary of ENP. Enhancements are also cascading to Florida Bay. Starting in FY 2023, the NPS staff will be engaged in updating the COP to include new infrastructure as they are planned in CEP.
- The NPS program team will continue supporting the President’s Executive Order 14008- Tackling the Climate Crisis at Home and Abroad and the “America the Beautiful” Initiative by continuing the implementation of the Tamiami Trail Next Steps Phase 2 (TTNS2) project, which upon completion (expected end of 2024) will restore an additional 75 to 80 billion gallons of water a year to flow into ENP and Florida Bay. In partnership with Florida Department of Transportation (FDOT) and the Federal Highway Administration (FHWA), this second phase of the project includes elevating and reconstructing the entire Tamiami Trail roadway to withstand the higher water levels expected under Everglades Restoration, six new slab bridges and modifications to seven culvert sets that will enhance the distribution of flow, and construction of stormwater treatment swales to improve water quality downstream within ENP. In addition to restoring more natural conditions in thousands of acres of the ENP, the project will also be completing wetland restoration of 9.4 acres of previously disturbed land to provide

wetland mitigation for construction impacts. In August 2020, the FDOT awarded the TTNS Phase 2 low bid design/build contract for \$53 million, well under the government estimate. The Notice to Proceed was issued in October 2020. Construction of the TTNS Phase 2 started in April 2021 and the project is expected to be substantially complete in 2024. The NPS staff will continue to be involved in permitting, implementation, monitoring, and contractor oversight throughout the next couple of years. In FY 2022, the construction contractor completed the roadway design and continued subsoil excavation and embankment work through the central 4.5 miles of the project. Installation of the six slab bridges has been initiated. During FY 2023, approximately 4.5 miles of roadway reconstruction will be completed, the construction of the six slab bridges will be completed, three culvert sets will be replaced, and work will begin on the wetland restoration and mitigation sites.

- The NPS staff will continue working on the LOSOM (a large scale non-CERP project lead by the USACE). Lake Okeechobee serves as one of the major sources of water to south Florida during the dry season and is part of the complex water management operations. This network and its operations are overseen primarily by the State of Florida and USACE in providing water to the diverse water interests of south Florida. Water can be brought south through the canals to supply water to the environment, agriculture, or urban areas. The water level and discharges of Lake Okeechobee are managed based on a regulation schedule maintained by the USACE. The LOSOM is a key step for regional water supply, improving the health of the lake and northern estuaries, and achieving Everglades restoration success, including NPS/DOI resource protection. LOSOM review and analysis is intended to update Lake Okeechobee operations and water movement after the construction and inclusion of infrastructure and for the operation of new projects. These projects include the Herbert Hoover Dike rehabilitation and the Kissimmee River Restoration Project. In FY 2022, CERP funding also supported NPS engagement on the LOSOM, to ensure incremental progress toward our goal of conserving our lands and waters for the enjoyment of future generations. Through our involvement in LOSOM, the NPS CERP program team diligently worked with the USACE on the modeling to guarantee an additional 200,000-acre feet of water per year to flow south toward the Everglades National Park, mainly during the dry season. The NPS CERP program team is now reviewing the new water control plan for Lake Okeechobee to guarantee this additional water flowing south, mainly during the dry season. In FY 2023, NPS team will continue be engaged in LOSOM drafting and reviewing the NEPA document before finalizing the new Operation manual for Lake Okeechobee to be completed in FY 2023.

Park Management (\$36,182,000)

Big Cypress National Preserve (BCNP)

FY 2023 funding will support the preservation of management activities promoting public use and resource protection through the implementation and interpretation of an extensive backcountry off-road vehicle (ORV) trail system in BCNP. The NPS will continue to support mandated programs, such as the protection, inventory, and monitoring of 10 threatened and endangered species (including the Florida panther, Cape Sable seaside sparrow (CCSS), and Florida manatee) and a large hydrology program that includes restoration of sheet-flow to ENP and the Ten Thousand Islands. The NPS will also continue to support monitoring and controlling invasive fauna and flora in Big Cypress. Additional mandated programs include special uses,

such as oil exploration and production, the largest recreational hunting wildlife management area in south Florida, implementation of the largest recreational ORV program in the lower 48 States, and 22 American Indian (Seminole, Miccosukee, and independent) sites on Big Cypress preserve lands. The preserve also supports the largest prescribed fire program in the NPS; visitor and resources protection of 728,000 acres of predominately backcountry areas; maintenance of 26 employee housing units, two major visitor support facilities, public utility systems, five primitive campgrounds, three developed campgrounds, and 66 miles of roads; and management of approximately 460 known archeological sites.

The natural resources management program will continue to collect baseline data in formats that are compatible with interagency regional hydrologic and community/species-based models, control non-native plants, protect threatened and endangered species, mitigate visitor impacts, and manage funds to support direct inventory and monitoring of resources and a geographic information system.

For more information, please visit <http://www.nps.gov/bicy/index.htm>

Biscayne National Park (BCNP)

FY 2023 funding will support the park's area management activities, including promoting public use and mitigation of public use; interpretation and education programs; protection of resources; and efforts to address impacts and threats associated with urban sprawl, increased urban freshwater use, four solid waste landfills, and a nuclear power facility. All these threats exist along the park's western boundary and are "upstream" with respect to surface- and groundwater flow into the park.

Park employees perform other area management activities associated with the protection of the park's natural, cultural, and historic resources, as well as maintenance of park facilities. Park staff protect 173,000 acres of resources that include Biscayne Bay, the largest living coral reef system in the NPS, eight known terrestrial cultural sites, 67 known submerged cultural sites, approximately 20 historic structures, and two national historic districts within a boundary that has unlimited access points. Park staff maintain three developed islands and two mainland sites that include six harbors/docking facilities, two campgrounds, six picnic areas, approximately 10 miles of trails, six residences, an environmental education camp, and a major visitor center.

The park's natural resources management will continue to protect Biscayne Bay estuarine resources, coral reefs, seagrass beds, and hard bottom communities; monitor water quality; document and mitigate impacts due to visitor and commercial uses; control exotic vegetation; and monitor 17 federally listed threatened and endangered species. Staff make special efforts to prevent extensive damage to seagrass beds and coral reefs from boat groundings and to restore those areas. Park staff also make extensive efforts to work with local, state, and federal government agencies on development and impact issues.

For more information, please visit <http://www.nps.gov/bisc/index.htm>

Dry Tortugas National Park (DTNP)

Funding in FY 2023 will support operations of this 65,000-acre marine and historical park located 70 miles west of Key West. Current funding will continue to support natural and cultural resource management, including a preservation and maintenance program for Fort Jefferson. The NPS will continue to document and recommend management strategies for submerged cultural resources.

The NPS will also continue to track the Stony Coral Tissue Loss Disease, that recently was detected in the park and will continue to treat impacted corals. These efforts are supported by park staff with overall technical direction provided by the NPS Submerged Cultural Resources Unit. Natural resource activities include continuation of park-funded science and monitoring to analyze the efficacy of the Dry Tortugas Research Natural Area, natural resource damage assessment and restoration, and monitoring of sea turtles. Natural resource activities are performed by DTNP natural resources staff, with technical and additional staff support provided by ENP (South Florida Natural Resources Center).

For more information, please visit <http://www.nps.gov/drto/index.htm>.

Everglades National Park (ENP)

Funding for ENP in FY 2023 will support area management activities, including operations, natural and cultural resource management, planning, maintenance, and ecosystem restoration. The park continues to attract significant national and international attention as a symbol of the effort to restore the Everglades and of the balance being sought in striving to secure south Florida's future. With more than 1.5 million acres of fragile resources, in excess of seven million people living within 100 miles of the park boundary (as of the 2010 census), and more than one million visitors each year, ENP has special challenges. The park engages in outreach programs to the local community and has traditionally sustained a large backcountry/wilderness operation.

ENP operates major visitor use areas at Flamingo, Shark Valley, and Everglades City and oversees multiple concessions operations. Infrastructure requires extensive short-term maintenance, as well as long-term upgrades. The park has 82 miles of surfaced roads, 160 miles of trails, two campgrounds, 48 backcountry campsites, and two fee-collection stations.

ENP continues to conduct management of invasive plants and animals in conjunction with restoration partners. This includes treatment of some of the last remaining infestations of Australian pine and melaleuca and efforts to slow the spread of and reduce impacts to wildlife from invasive tegus, Burmese pythons, and several other species. These activities are important to protect park resources and are also integral to achieving the outcomes envisioned with Everglades restoration. This funding and activity complements efforts and funding through the Critical Ecosystem Studies Initiative (CESI) (see below).

ENP remains one of the most ecologically complex parks in the nation and is unique in that it has an unprecedented four international treaty designations. It is home to approximately 750 native plant species, 61 of which are considered critically imperiled in south Florida, and hosts 39 species of orchids, of which 12 species are critically imperiled. More than 360 species of birds have been found in the park. Florida Bay, making up about 40 percent of the ENP area, is continuing to experience dramatic changes, including alterations between hypo- and hyper-salinity, increased turbidity, seagrass die-offs, and persistent and increasing spreads of algae blooms. Exotic plants have and are continuing to replace native plant communities in the park and adjacent natural areas. Exotic animals, particularly reptiles, have become a major natural resource management issue for the park.

For more information, please visit <http://www.nps.gov/ever/index.htm>

Everglades Research—Critical Ecosystem Studies Initiative (CESI) (\$4,068,000)

Since its inception in 1997, the CESI has been the primary investment by DOI to provide scientific information to advise restoration decision making and to guide its own land management responsibilities for South Florida Ecosystem restoration. CESI supports ecological and environmental monitoring and research, restoration project assessment, hydrologic and ecological model development, and information synthesis, enabling the provision of scientific information and insight needed to promote Everglades restoration and management success.

The CESI planned activities for FY 2023 will address scientific questions to support major restoration and management issues and support multiple restoration projects listed below. While these scientific inquiries are critical to increase our understanding of the natural system, the NPS, in parallel, organized internal workshops in FY 2022 to prioritize additional scientific projects and data synthesis efforts to better support CERP and non-CERP projects for the next 5 years. Ideas from the team were pooled and ranked by a science advisory group using fit, feasibility, and attractiveness criteria. The results are a list of technical projects that are critical to inform CERP implementation for the next 5 years, while gradually using the carryover funds over the next 3 years. Moreover, the NPS program will gradually expand its capacity to create a new Resilience and Sustainability focused branch and a new Data Sciences Team. These two groups will internally investigate critical studies to assess impacts of climate change and sea level rise on the Everglades ecosystem and how Everglades restoration will mitigate those impacts. A new Data Sciences group will also be added to the team to statistically analyze and synthesize monitoring and modeled data to report on Everglades restoration benefits.

Restoration Project Monitoring, Planning, Assessment, and Decision Support

- Assessing the monitoring network and protocol as decision support tools to determine if the monitoring program is adequately informing CERP and non-CERP projects. A statistical analysis started in FY 2022 and will continue in FY 2023 with the new Data Sciences group to check if the monitoring program is connected to formulated objectives from a restoration perspective, is developed with sufficient power to answer the questions asked and is integrated into the management decision-making process.
- Implementing applied science and monitoring to fill gaps in the Mod Waters monitoring program through cooperative agreements that track the effects of the operation of the Mod Waters and C-111 SD projects on ENP resources.
- Continuing support of hydrologic, water quality, and ecological monitoring, modeling and synthesis of knowledge to inform restoration project planning, design, implementation, and adaptive management and operations; this includes support of Mod Waters, TTNS2, the Upper Taylor Slough project, and the CEP.
- Continuing research in BCNP to provide an assessment tool and a water quality target for the WERP project. This is essential to increase understanding and develop a quantitative methodology to document CERP benefits to this ecosystem.
- Continuing development and management of biological and hydrologic databases that organize and protect information, along with development of decision support tools that enable rapid support for resource managers, decision makers, and the public about trends in NPS and DOI natural resources as they relate to resource management changes, restoration progress, and climatic events and variations; these databases contain more than 80 years of continuous measurements on some subjects.

- Performing a detailed hydrologic investigation into the area of EVER south of the Main Park Road, using hydrodynamic modeling to assess surface- and groundwater movement and connectivity across this topographically complex region and to quantify the influences that man-made features in this area have on the local hydrology. Results of the modeling and analyses will be used to inform management decisions on removal of the Old Ingraham Highway and the Taylor Slough Flow Improvement Project, management of pine rocklands and finger glades through Long Pine Key, and to quantify the progress of CERP towards achieving pre-historic conditions in this area.
- Conducting a water quality monitoring and a technical analysis to understand how floc is transported at the S333 structure leading to high phosphorus levels reaching Northeast Shark River slough. A similar investigation is current conducted to assess impacts of Upper Taylor slough project on phosphorus levels in soil downstream in the Everglades.
- Conducting a water quality investigation using a novel stable isotope approach to differentiate a diverse set of phosphorus sources in South Florida: agricultural fertilizer, septic systems, as well as natural sources such as erosion and local biological activity. This project will generate new information about the importance of different sources of phosphorus entering Biscayne Bay and Taylor Slough. We will expand this project to investigate the spikes in phosphorus concentrations occurring at specific structures.
- Assessing the influence of redistributing water toward Northeast Shark River Slough on surface water mercury and methylation cycling drivers in fishes in the area.
- Continuing support to OERI for the Department’s cost-share responsibility for the CISRERP.

Invasive Exotic Species Management

- Contribute to the President’s Executive Order 14008- Tackling the Climate Crisis at Home and Abroad and the “America the Beautiful” Initiative by expanding SFNRC capacity to develop technical tools to support land and ecosystem managers for the detection and control of invasive species. Maintain strong partnerships and coordinate with our federal partners through the President’s Bipartisan Infrastructure Law to support applied scientific studies and innovative tools to prevent establishment and spread of new invasive species and limit ecosystem damage from aggressive invasive species.
- Increasing support of applied science on the effects of invasive species on the natural resources of ENP, BCNP, and BNP, and developing methods of detection and control of invasive species, with a focus on improving capacity for early detection and rapid response.
- Improving management of Burmese pythons in close coordination with state and federal partners. The NPS plays an active role in the statewide management of pythons, is a primary contributor to a synthesis of python research and is refining an approach that uses radio-telemetry to find and remove large, breeding adult snakes. Through a partnership with state agencies, contractors are now removing over 1,000 pythons from NPS lands each year.
- Working to control other invasive reptiles that threaten NPS resources. The NPS maintains a tegu-lizard trapping program and has removed approximately 3,700 tegus since 2012, with over 150 tegus removed through April in FY 2022, mostly from adjacent state-managed lands. The NPS is improving management efficiency by developing better bait types, trap styles, and capacity for remote trap checks.
- Developing hyperspectral remote sensing technologies to detect and map invasive plants. This new tool will improve management efficiency by helping to delineate the spatial extent and the severity of infestations.

- Coordinating fire and invasive-plant management to better control invasive plants while protecting soils and native plants; targeting removal of invasive plants that destabilize coastal areas to improve resilience; continuing ongoing analysis of the combined influence of freshwater flow restoration and fire management on coastal wetlands soils as a means to minimize impacts from saltwater intrusion.

Florida Bay and Coastal Resource Management and Restoration

- Supporting marine and estuarine applied science and enhanced monitoring of the physical and ecological indicators of the health of Florida Bay, including monitoring Florida Bay water quality and research to understand the 2015–2016 Florida Bay seagrass die-off and recovery and the cause and effects of associated algal blooms that persist in the bay.
- Starting an investigation to understand the late fall recurring algae bloom in Florida Bay. This study will assess multiple factors such as the high organic matter from the dead mangroves die-off, resuspension of the benthic sediments from the lack of seagrass roots, and inputs from lakes that are known to have high nutrient levels contribute to the timing and concentrations of these cyclic blooms observed in the bay since Hurricane Irma in 2017.
- Assessing how freshwater flow restoration affects salinity and other environmental factors and can benefit seagrass habitat and recreational fishing.

Threatened and Endangered Species, Biodiversity, and Wildlife

- Monitoring and supporting research on the endangered Cape Sable seaside sparrow (CSSS) to enhance the ability to manage this species during the next decade, as water inflows to EVER are redistributed.
- Continuing critical long-term hydrologic and biological monitoring projects that support assessments of the effect of restoration projects on Everglades species, habitats, and communities, including monitoring of fish and macro-invertebrates, plant communities, wading birds, waterfowl, and alligators and crocodiles.
- Investigating the effect of hydroperiod on life history and production/density of Everglades crayfish in the western marl prairies of southern BICY which is also germane to western EVER. This project will identify specific hydrologic stressors and ideal conditions for production and will support the development/validation of an Everglades crayfish model for use across the ecosystem. Everglades crayfish populations can be abundant in the marl prairies and they were a large component of the nesting ibis diet in the explosive nesting year of 2018.
- Developing a multi-species optimization tool for landscape planning and operational forecasting. This will allow water managers to identify water management benefits for a suite of ecological communities, while explicitly quantifying the potential costs to others (e.g., endangered species, wading birds, prey fishes, seagrasses, landscape responses).
- Investigating how complementary combinations of water management and fire management can best protect and restore Everglades biodiversity, including the improvement of habitat for endangered butterflies and CSSS populations.

Resilience and Sustainability of the Natural System

- Support the President’s Executive Order 14008- Tackling the Climate Crisis at Home and Abroad and the “America the Beautiful” Initiative by gradually expanding NPS’s SFNRC capacity and applied science efforts to address impacts of climate change and sea level on the South Florida Ecosystem and how Everglades restoration will mitigate those impacts. Coordinate with our federal partners to advance the President’s Bipartisan Infrastructure Law

to boost funding for applied scientific studies to inform the integration of sea level rise and climate change into Everglades restoration planning efforts. Incorporate the NPS climate - smart planning and management aspects into Everglades restoration. Developing research and modeling projects focusing on investigating climate change and sea level rise.

- Initiating research to integrate a geospatial and ecological assessment of Everglades freshwater marshes and coastal habitat vulnerability to sea level rise at a landscape level. The vulnerability of freshwater marshes and coastal wetlands to future sea level rise needs to be understood in terms of how local, site-specific processes that control elevation changes aggregate in space and time to produce larger scale, basin level changes.
- Continuing to work on a research project to assess how the net ecosystem exchange of carbon fluxes in coastal Everglades mangrove ecosystems is playing an essential role in the global carbon cycle. This study will advance our understanding of coastal vulnerabilities by integrating site specific information into larger scale profiles of carbon flux. These larger-scale processes can be influenced by watershed managers to correct, mitigate, delay, or avoid coastal water management challenges.
- Improving monitoring and reporting of salinity and ecological conditions within Florida Bay and Biscayne Bay. This will be critical to understanding the effects of Everglades Restoration efforts in light of climate change and sea level rise.

For more information, please visit <https://www.nps.gov/ever/learn/scienceresearch.htm>

U.S. Department of the Interior - Fish and Wildlife Service (USFWS) **(\$9,897,000)**

Resource Management

Ecological Services (\$3,950,000)

These funds will allow the USFWS to continue coordination, technical assistance, and partnering efforts with the NPS, the USGS, Tribal governments, state agencies, and private organizations involved in the restoration of the South Florida Ecosystem. The funds for FY 2023 will also enable the USFWS to continue implementing the Multi-Species Recovery Plan, which provides a blueprint for protecting, conserving, and managing threatened and endangered fish and wildlife resources. The USFWS is undertaking comprehensive habitat-based strategies for restoration and recovery of species. Examples include the establishment of panther conservation banks and multi-species management plans.

The USFWS will continue consulting with and providing technical assistance to the USACE, the NPS, and other federal agencies relative to those agency activities that potentially affect federally listed species. The USFWS continues its historically active role in reviewing applications for impacts on wetlands under the FDEP 404 Program and USACE's regulatory program. In addition to the analysis of direct, indirect, and cumulative impacts, the USFWS ensures that private development proposals are compatible with the CERP. The planning and building of several CERP components require careful review of applications by the local sponsor, mainly the SFWMD, through the FEDP or USACE's regulatory process. In FY 2023, the USFWS will continue consultation with the USACE on the CERP, as well as other ongoing or new federal projects. Further, the USFWS will evaluate the potential need to list additional species pursuant to the ESA

and develop cooperative agreements with landowners for the protection and conservation of listed species through Candidate Conservation Agreements, Safe Harbor Agreements, and Habitat Conservation Plans.

Also included in this program category, the South Florida Coastal Habitat Restoration Program actively forms partnerships with other federal and state agencies, local governments, nongovernmental entities, and private property owners to implement on-the-ground restoration projects as well as to conduct research, monitoring, and public outreach activities. The Coastal Program complements the larger, more comprehensive South Florida Ecosystem Restoration Initiative by implementing immediate on-the-ground actions designed to protect, conserve, and restore coastal living resources. For the past several years, the importance of on-the-ground restorative actions has been reflected by the distribution of half of the Coastal Program's budget toward actual habitat restoration.

In FY 2023, the USFWS will address new USACE project starts and continue to be actively involved in threatened and endangered species consultation and recovery, private land partnerships, environmental contaminant reviews, coastal restoration projects, preparation of Fish and Wildlife Coordination Act reports, system-wide water quality improvement, and myriad multi-agency planning, science, and outreach efforts. The USFWS will ensure that ecosystem benefits are maximized consistent with Everglades restoration goals. The role of the USFWS will be to support and advance adaptive management and the principal goals of Everglades restoration management and the principal goals of Everglades restoration.

Refuges and Wildlife (\$5,144,000)

The NWRS has embarked on strategically and collaboratively addressing the mounting challenges faced with conserving America's wild plants, fish, and animals and their habitats in our rapidly changing world. These efforts are finding new ways to conserve America's wildlife and wildlife places. Management focuses on scientific excellence at a landscape scale for the benefit of a diverse public while nurturing the next generation of conservation leaders. The mission of the NWRS is to administer a national network of lands and waters for the conservation, management, and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats for the benefit of present and future generations of Americans.

The NWRS administers 17 refuges influencing Everglades restoration efforts. Resource management funds will foster the restoration and management of lands by water management, prescribe fire and other land management techniques, and protection of fish and wildlife including migratory birds and threatened and endangered species. These funds will support operations and management of refuges to address ecosystem restoration efforts, and impacts and threats associated with urban development, exotic and invasive species, increased freshwater demands, sea level rise, and a warming climate. FY 2023 President's Budget Request includes a \$373,000 funding plus-up. This plus-up for NWRS will support operations and management on 17 NWRS with a special emphasis on detection, suppression, and control of invasive species, especially invasive reptiles, and plants. The following refuges are supported:

Everglades Headwaters, Lake Wales Ridge, Pelican Island, Archie Carr, Arthur R. Marshall Loxahatchee, Nathaniel P. Reed Hobe Sound, J.N. Ding Darling Complex, (including the Caloosahatchee, Island Bay, Matlacha Pass, and Pine Island NWRs), Florida

Panther, Ten Thousand Islands, and refuges in Florida Bay and the Florida Keys, including Crocodile Lake, National Key Deer, Great White Heron, and Key West NWRs.

Migratory Birds (\$92,000)

While coordinating with the Service's South Florida Ecological Services Field Office and the Arthur R. Marshall Loxahatchee NWR, the Division of Migratory Birds works cooperatively with the FWC and the SFWMD to provide technical expertise relative to MBTA implications on the various CERP projects, especially for avian protection plans and management of invasive exotics species such as the purple swamp hen. Effective implementation of the CERP with the cited partners, the USACE, the NPS, and others is critical to restoring water quantity, quality, timing, and distribution for the benefit of people, migratory birds, and other wildlife and their habitats.

Law Enforcement (\$568,000)

Funding will be used to enhance law enforcement's ability to handle the quickly escalating regional workload. There has been a marked increase in the illegal trafficking of exotic protected species and the unlawful "taking" of endemic species protected by the ESA and the MBTA throughout south Florida. Southwest Florida is one of the most ecologically sensitive and rapidly growing areas of the State of Florida, requiring the highest priority for establishing an increased law enforcement presence. Funding will allow the purchase of vehicles, boats, and marine equipment needed by law enforcement personnel to conduct investigations in remote areas.

Additional personnel will be detailed to "task force" enforcement operations within the ecosystem as needed. Increased efforts to educate the public regarding the law and illegal activities will be emphasized.

Fisheries (\$143,000)

Efforts will be directed toward restoration of anadromous and coastal fish species in south Florida. Emphasis will be placed on ensuring that non-indigenous fish species are adequately evaluated for potential effects on restoration activities.

U.S. Department of the Interior - U.S. Geological Survey (USGS) (\$7,699,000)

Greater Everglades Restoration—Integrating Research, Planning, and Interagency Coordination

South Florida is particularly vulnerable to the introduction and spread of invasive plants and animals and is home to a wide variety of non-native species, such as melaleuca, Old World climbing fern, the Burmese python, and most recently, the Argentine black and white tegu. In FY 2023, the USGS will continue to support high-priority research needs identified by the Task Force through its Invasive Exotic Species Strategic Action Framework and requested by DOI and other partners.

(For more information, please see <https://www.evergladesrestoration.gov/invasive-exotic->

species-strategic-action-framework)

The Task Force-led Strategic Action Framework process included participation from federal, state, and local governments; Tribes; NGOs; academia; and private citizens, and it was updated in FY 2021. Analysis identified early detection and rapid response (EDRR) as the best way to stop invasive species early in their invasion process. It also identified the need for a risk assessment framework to help natural resource managers decide how to allocate limited resources in the face of new invasive threats. An initial framework was developed by the USGS and is now being used by partner agencies. Research will focus on aspects of EDRR, such as using environmental DNA (eDNA) to determine the northern extent of the Burmese python expansion; examining the biology, distribution, and impacts of tegus and pythons; collecting vital rate data to better understand python life history, which will support the development of population models and decision support tools to develop better monitoring and management efforts; finalizing a synthesis document summarizing all research on Burmese pythons, and beginning an exploratory program to evaluate the feasibility of genetic biocontrol approaches to Burmese python control.

Greater Everglades Restoration Alternatives

The USGS will maintain existing products such as the Everglades Depth Estimation Network (EDEN, <https://sofia.usgs.gov/eden>) the publicly accessible, field-scale, physical model of sheet flow, the relationships between restoring hydropattern (i.e., the time series of water levels) and water quality, and the existing global-scale climate models that were downscaled for use on the Everglades system. The USGS is developing single-species models to predict the possible impacts of different Everglades restoration alternatives, and the Everglades Vulnerability Analysis to begin exploring the vulnerability of Everglades habitats to climate change.

Everglades Water Quality and Water Flow

The USGS provides science to support management and restoration of America's Everglades in collaboration with federal and state partners, including the USACE and the SFWMD. The USGS will continue its two-decade investigation into the driving forces behind the mercury problem, which results in fish consumption advisories throughout the Everglades. USGS scientists have identified sulfate as one of the primary drivers of mercury methylation – the conversion of elemental mercury to its most toxic form and has new data showing that the mercury problem continues to exist across the Everglades landscape. The USGS also monitors water flows from the Everglades into Florida Bay and the Gulf of Mexico. The Groundwater and Streamflow Information Program/Water Observing System Program provides cooperative matching funds for groundwater monitoring in the Everglades, which supports monitoring of water levels in approximately 290 groundwater wells; cooperative matching funds for surface-water monitoring in the Everglades, which supports water-level only or water-level and streamflow monitoring at 63 streamgages; and Federal Priority Streamgage funds to support water-level and streamflow

monitoring at one streamgage in the Everglades. Research is continuing to examine what leads to the formation of harmful algal blooms (HABs) caused by blue-green and other algae.

Federal Everglades Ecosystem Restoration Projects

The Southeast Climate Adaptation Science Center will provide ad hoc technical assistance on climate science and data needs to support the Everglades area.

U.S. Department of the Interior - Bureau of Indian Affairs (BIA) (\$380,000)

In FY 2023, \$380,000 will be used for continuing efforts to restore the South Florida Ecosystem for the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida. That funding (\$190,000 each) is included within each Tribe's base funding and is provided to support research, studies, and planning on water quality and distribution systems; ecosystem development and management; and planning for compliance with the ESA in stormwater areas on the Seminole and Big Cypress reservations.

U.S. Environmental Protection Agency (USEPA) (\$7,202,000)

The USEPA priorities for the South Florida Ecosystem include continuing to work with federal and state partners to support environmental protection and restoration efforts via the USEPA authorities under the Clean Water Act and the NEPA through the following activities:

- Provide support for Everglades Water Quality Restoration Strategies.
- Provide one EPA staff member co-located with the USACE to promote early engagement efforts and face-to-face opportunities for the CERP, non-CERP and other south Florida activities.

In addition, the USEPA will carry out the following activities during FY 2023.

- Serve as co-chair with the FDEP for the Florida Keys National Marine Sanctuary (FKNMS) Water Quality Protection Program (WQPP) to adopt pollution control measures and best management practices to reduce and eliminate point and nonpoint source pollution impacting the FKNMS;
- Implement the comprehensive long-term, status and trends water quality, seagrass and coral reef monitoring programs special studies, data management, and public education components of the FKNMS WQPP as required by the National Marine Sanctuaries Program Act of 1990;
- Protect Florida's Coral Reef by improving sewage and wastewater treatment, reducing stormwater runoff and reducing plastics and chemical contaminants;
- Support water quality and seagrass monitoring in the Florida Keys, Biscayne Bay, Florida Bay, the St. Lucie and Caloosahatchee watersheds.
- Conduct a sampling effort throughout the Everglades and Big Cypress. EPA's Everglades Regional Environmental Monitoring and Assessment Program (REMAP) has assessed the health of the Everglades since the 1990s. This program documents water quality and ecological conditions, and environmental improvements from restoration and efforts to control mercury and phosphorus.

- USEPA will receive additional Bipartisan Infrastructure Law funding of \$3.2M per year over the next 5 years to work with states, tribes, local governments, and communities to address ecological pressures and threats to south Florida waters including freshwaters, nearshore waters, bays, estuaries, beaches, coral reefs, and source waters central to south Florida's economic and ecological well-being. This includes a focus on climate resiliency, addressing issues critical to disadvantaged communities, and natural infrastructure enhancement.

USEPA funding supports projects in the sixteen-county area covered by the SFWMD such as monitoring, research, and restoration of corals, seagrass, and benthic communities; research and mitigation of harmful algal blooms; improving water quality in residential canals; improving stormwater management; reducing emerging contaminants; identifying and understanding cause-effect relationships of pollutants; addressing specific management questions and concerns; and applying innovative approaches, methods, or techniques for preventing, treating, and preventing pollution from entering waterbodies.

For more information, please visit:

http://ocean.floridamarine.org/fknms_wqpp/home.htm

<https://www.epa.gov/everglades>

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Section 3.0

State of Florida Everglades Ecosystem Restoration Projects and Funding Requests

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Section 3.1: State of Florida Comprehensive Everglades Restoration Plan (CERP) Projects and Funding Requests (\$747,908,063)

Florida Department of Environmental Protection (FDEP) (\$716,135,346)

The implementation of the CERP is a high priority for the FDEP, in partnership with the SFWMD, other state, federal, and local agencies, tribes, and environmental groups.

The FDEP administers the Save Our Everglades Trust Fund (SOETF), which is used to pay for a portion of the state's share of CERP. Additional Everglades restoration funding from the Land Acquisition Trust Fund (LATF) is used to fund CERP, the Northern Everglades and Estuaries Protection Program (NEEPP), and the Restoration Strategies Regional Water Quality Plan (Restoration Strategies), which will be discussed further in section 3.2. The Florida Legacy bill was signed into law during the 2016 legislative session and provides continual funding beginning in FY 2017-18 with a minimum of \$200 million for Everglades project implementation with a preference given to projects that reduce harmful discharges from Lake Okeechobee to the St. Lucie or Caloosahatchee estuaries. The 2018 legislative session saw the passage of Senate Bill (SB) 10 which provides \$64,000,000 annually for the implementation of the EAA A-2 Reservoir and associated projects.

The proposed FY 2022-23 budget for CERP totals \$716,135,346. Project funds will be distributed through the FDEP to the SFWMD for the planning, design, engineering, and construction of various CERP projects including the C-43 West Basin Storage Reservoir, BBCW, CEPP, IRL-South, CERP Planning, Loxahatchee River Watershed Restoration, and the EAA Reservoir and associated projects.

In 2021, the Florida Legislature passed SB 2516 to support expedited implementation of the LOWRP and provided for dedicated funding. An additional \$450 million is proposed for FY 2022-23 for the design, engineering, and construction of the specific project components designed to achieve the greatest reductions in harmful discharges to the Caloosahatchee and St. Lucie Estuaries as identified in the CERP LOWRP Final Integrated PIR and Environmental Impact Statement.

Office of Water Policy and Ecosystems Restoration

The Office of Water Policy and Ecosystems Restoration (OWPER) oversees implementation of CERP projects. Tasks include policy, budget, regulatory, planning, program coordination, technical and engineering support, and coordination with other FDEP staff regarding issues related to CERP and non-CERP projects. Projects funded during FY 2021-22 include the EAA A-2 STA & Reservoir, C-43 West Basin Storage Reservoir, C-44 Reservoir & STA, LOWRP, C-25 Reservoir & STA, C-23 to C-44 Interconnect Project, WERP, BBCW, BBSEER, Picayune Strand Restoration Project, CEPP, BCWPA, and CERP Planning. <https://floridadep.gov/water-policy>

Waste Management in Tallahassee

Tasks include technical support and review of potential impacts from residual agrochemicals on lands acquired for CERP restoration projects.

Florida Fish and Wildlife Conservation Commission (FWC) (\$5,310,741)

FWC contributes to CERP projects by providing technical assistance to the sponsoring agencies and ensuring that CERP activities address the needs of fish and wildlife and their associated habitats. The Office of Conservation Planning Services facilitates official agency consultations through various processes including the Coastal Zone Management Act, the Fish and Wildlife Coordination Act, and the NEPA. FWC maintains an Everglades Coordinator position housed within Executive Office that leads an agency organized inter-divisional team to prioritize and coordinate the agency's contributions to all South Florida Ecosystem restoration activities including CERP.

FWC's CERP related funding includes positions and salaries that directly support CERP planning, implementation, monitoring, and restoration. These include staffing various project and RECOVER teams, providing biologically based recommendations to state and federal water managers, and conducting various monitoring and management programs related to state and federally listed species within CERP project areas.

South Florida Water Management District (\$26,461,976)

The SFWMD is the local sponsor for the majority of the 68 projects included in the CERP. Planning, design, and construction are currently underway on several projects. While some projects are in the planning and design phase, others such as the IRL-S C-44 Reservoir and STA Project, C-43 Reservoir Project, CEPP, BBCW Phase I, and the LOWRP Aquifer Storage and Recovery (ASR) wells are currently under construction.

The [IRL-S](#) restoration project will reduce harmful freshwater inflows and generate habitat and water quality improvements in the St. Lucie Estuary and the IRL. The 6,300-acre C-44 STA and Reservoir were completed in 2021. The project construction includes up to a year of operational testing and monitoring through 2022. The SFWMD is currently designing the C-23 to C-44 Interconnect, which will improve water conditions in the middle St. Lucie Estuary, and has completed land acquisitions for the C-25 Reservoir and STA.

The [C-43 West Basin Reservoir Project](#) will capture and store approximately 170,000 acre-feet of Lake Okeechobee regulatory releases, improving salinity balance for the Caloosahatchee Estuary by controlling peak flows during the wet season and providing essential flows during the dry season. Preloading, demolition work, and construction of the irrigation pump station (195 cfs) is complete. The intake pump station (1500 cfs) and embankment construction are underway and are scheduled for completion in 2024.

The [CEPP](#) includes a suite of storage, treatment, conveyance, and seepage management measures that will provide the necessary components to deliver additional fresh water from Lake Okeechobee south to Water Conservation Area (WCA) 3, ENP, and Florida Bay. CEPP is divided

into four components: CEPP EAA, CEPP North, CEPP South and CEPP New Water. There are several CEPP South components currently in design or under construction including: the S-356E pump station, the S-334E structure located in the L-29 Canal, adding new structures to L-67A, filling agricultural ditches, removing a portion of the L-67C levee, and the S-355W divide structure. Construction of the S-333N structure was completed in 2020, and in 2021 the SFWMD completed the removal of approximately 5 miles of Old Tamiami Trail. These project features facilitate additional deliveries of water from WCA 3A directly to ENP and aid in alleviating the high-water conditions being experienced in WCA 3A.

In September 2020, the SFWMD and USACE started drafting a Validation Report for the CEPP North Phase. The CEPP North component currently under design by the SFWMD is the L-6 Diversion and construction is expected to start in 2022. These features will move water into and through the northwest portion of WCA 3A in conjunction with other CEPP North conveyance components.

CEPP EAA, includes additional canal conveyance, 240,000 acre-feet of storage, and 6,500 acres of treatment south of Lake Okeechobee, to further reduce the volume of damaging discharges from Lake Okeechobee into the northern estuaries and to provide increased conveyance south to the Everglades. To date, the SFWMD's contractors have made significant progress with construction of the A-2 STA, and related portions of the Inflow-Outflow and Seepage Canals.

For CEPP New Water, the SFWMD and USACE are working to complete a Validation Report. In 2022 SFWMD intends to begin construction of 5 miles of seepage barrier, building on the nearly complete 2.3 miles of 8.5-Square Mile Area Limited Curtain Wall and the seven miles of seepage barrier completed by the Miami Dade Limestone Products Association in 2016. These projects reduce eastward seepage from ENP and WCA 3A to allow for increased water levels and flows while managing flood risk to the east.

Substantial progress has been made by USACE in construction of the BBCW L-31E flow-way. SFWMD expects to begin construction of the Cutler Wetlands component in late 2022. This component will provide freshwater flows to mangrove wetlands and Biscayne Bay via a 400 cfs pump station, a conveyance channel, and a spreader swale. Completion of all BBCW project features is expected by 2025.

The purpose of the LOWRP is to improve the ecology of Lake Okeechobee, decrease regulatory releases to the St. Lucie and Caloosahatchee estuaries, restore freshwater wetlands in the watershed, and improve water supply for existing legal water users. A Draft Revised Integrated PIR and Environmental Impact Statement was released in February 2022 for public review. A Final Chief's Report and Congressional Authorization is pending for the project in the WRDA 2022. The recommended plan includes construction of up to fifty-five (55) ASR wells located in clusters in various locations throughout the Lake Okeechobee watershed. The Florida State Legislature appropriated funding to the SFWMD for the design, engineering, and construction of ASR Well components, designed to achieve the greatest reductions in harmful discharges to the Caloosahatchee and St. Lucie Estuaries. The SFWMD is proceeding with the design and construction of the ASR Well program to be implemented based on a detailed [Science Plan](#).

The SFWMD and USACE completed the IDS in 2015 and since 2018, continues to update the project schedules annually based on funding availability from the implementing agencies. The Final Draft 2021 IDS was completed in October 2021 but was not formally adopted. The LRWRP, authorized by Congress in 2020, components were added to the IDS. In addition to the planning studies underway (BBSEER, WERP, and LOWRP) the IDS now includes the Southern Everglades Study, to begin in FY 2023.

In addition to the projects listed above, the SFWMD partners with the USACE on many other projects. The [C-111 West Spreader Canal](#), [Picayune Strand Restoration](#), IRL-S C-23/C-24 North Reservoir and STA, IRL-S C2-3/C-24 South Reservoir, and [BCWPA](#) are in different stages of design, construction, or operation.

Section 3.2: State of Florida Non-CERP Everglades Ecosystem Restoration Projects and Funding Requests (\$1,833,733,130)

Florida Department of Agriculture and Consumer Services (FDACS) (\$23,232,449)

Under the Florida Watershed Restoration Act (section 403.067, F.S.), the FDEP is charged with identifying impaired surface waters and establishing total maximum daily loads (TMDLs) for pollutants entering the impaired waters. Once a TMDL is adopted, the FDEP develops and adopts a basin management action plan (BMAP) for the applicable watershed. In South Florida, BMAPs have been developed for the Lake Okeechobee, St. Lucie, and Caloosahatchee basins. The BMAPs outline the load allocations for different source inputs and specific activities that stakeholders must undertake to reduce pollutants to meet the applicable TMDL. In watersheds with adopted BMAPs, nonpoint source agricultural landowners are required to either enroll in and implement the FDACS' BMPs or conduct water quality monitoring prescribed by the FDEP or a water management district. The FDACS has adopted by rule BMPs for cow/calf, citrus, vegetable and agronomic crops, nurseries, equine, sod, dairy, poultry, specialty fruit and nut, forestry, and silviculture operations. The FDACS Office of Agricultural Water Policy also works with agricultural landowners outside of BMAPs to implement water quality and water conservation BMPs to further water resource protection and ecosystem restoration. The FDACS provides technical and financial assistance to producers for the implementation of prioritized BMPs, as well as other innovative practices and projects. Some examples of other practices and projects include advanced precision agricultural practices, structures for onsite water management, wetland restoration, floating aquatic vegetative tilling, and hybrid wetlands treatment technology. BMPs are just one strategy used to achieve pollutant reductions within BMAPs. Other strategies and projects must also be implemented.

The FDACS also plays an important role in the management of public lands through the Florida Forest Service, which is the lead managing agency on the Picayune State Forest (Southern Golden Gate Estates and Belle Meade) and is the state agency responsible for wildfire suppression and prevention and forest protection in south Florida.

Florida Department of Environmental Protection (FDEP) (\$1,360,214,534)

The FDEP's non-CERP South Florida Ecosystem restoration priorities include implementation of the Everglades Forever Act, Restoration Strategies, and the NEEPP. The proposed FY 2022-2023 budget for Non-CERP includes funding for the following programs: \$86,500,000 for Restoration Strategies (a series of projects designed to improve water quality in the Everglades Protection Area); \$73,276,213 for the implementation of the NEEPP and water storage projects that provide relief from discharges to the St. Lucie and Caloosahatchee rivers and estuaries; and \$5 million distributed through the FDEP to the SFWMD for Dispersed Water Management, a shallow water storage program initiated by the state that retains water on public and private lands providing local basin runoff relief.

Additional funding is proposed for the following non-CERP restoration projects: C-51 Restoration; the C&SF Project Comprehensive Review Study; Caloosahatchee River Water Quality Improvements; Caloosahatchee River & Estuaries Storage & Treatment Phase III, Dispersed Water Management; and funding to support the restoration programs in the Office of Resilience and Coastal Protection.

An additional \$15 million is proposed for FY 2022-2023 for continued evaluation and implementation of innovative technologies and short-term solutions to combat or clean up harmful algal blooms and nutrient enrichment of Florida's fresh waterbodies, including lakes, rivers, estuaries, and canals; and \$5 million is proposed for the FDEP red tide emergency grant program to support county governments in cleaning beaches and coastal areas to minimize the impacts of red tide.

For more information: <https://protectingfloridatogether.gov/InnovativeTechnologies>

The FDEP implements water quality improvement programs for the Clean Water Act Section 303d-listed water bodies; ecosystem restoration project management; watershed planning and coordination activities; BMAPs; and research and monitoring. The FDEP, Office of Resilience and Coastal Protection (RCP) manages more than 4 million acres of submerged lands and coastal uplands in Florida. With support from the NOAA, this office manages 41 aquatic preserves, three National Estuarine Research reserves, the Florida Keys National Marine Sanctuary (FKNMS), the Coral Reef Conservation Program, and Coral Protection and Restoration. Proposed FY 2022-2023 funding for RCP includes \$1,056,725,376.

Non-CERP projects funded during FY 2021-22 include:

- Office of Water Policy and Ecosystems Restoration

The Office of Water Policy and Ecosystems Restoration also oversees implementation of non-CERP projects. Tasks include policy, regulatory, planning, program coordination, technical and engineering support, and coordination with other FDEP staff regarding issues related to non-CERP projects (<https://floridadep.gov/water-policy>). Non-CERP projects funded through the SOETF and LATF include: Restoration Strategies, Lakeside Ranch STA, C-111 South Dade land acquisition, Lake Hicpochee North Hydrologic Enhancement Project, Boma Flow Equalization Basin, Nubbin Slough, Dispersed Water Management projects, and C-43 Water Quality Treatment Projects. <https://floridadep.gov/water-policy>

- Division of Environmental Assessment and Restoration

Tasks include TMDL and BMAP development, water quality sampling and technical support, the South Florida Canal Study, mercury research and monitoring, aquatic ecology and quality assurance assistance and reviews, and water quality-related issues associated with the Everglades. <https://floridadep.gov/dear>

- Waste Management in Tallahassee

Tasks include technical support and review of potential impacts from residual agrochemicals on lands acquired for restoration projects.

<https://floridadep.gov/waste/waste-cleanup/content/waste-site-cleanup-section>

- Office of Resilience and Coastal Protection

Programs include the National Estuarine Research Reserve, the Coral Reef Conservation Program, Coral Protection and Restoration, Florida Resilient Coastlines, Resilient Florida Program, the FKNMS, and the Aquatic Preserves Program (<https://floridadep.gov/rcp>)

Florida Fish and Wildlife Conservation Commission (FWC) (\$64,710,770)

FWC stewards the state's executive responsibility for managing fish and wildlife resources for their long-term well-being and the benefit of people. To meet this mission, the agency contributes to South Florida Ecosystem restoration and conservation both operationally and through partnerships. Operations: Four of the agency's divisions manage fish and wildlife resources (Division of Freshwater Fisheries Management, Division of Habitat and Species Conservation, Division of Hunting and Game Management, and Division of Marine Fisheries Management), while the Division of Law Enforcement ensures that conservation laws protecting fish, wildlife, and their habitats are enforced. The Fish and Wildlife Research Institute (FWRI) administers research and monitoring programs that support the FWC's mission and integrates research activities with management efforts of other divisions and partnering programs. FWRI plays a key role supporting the CERP's RECOVER program through dedicated seagrass monitoring, oyster monitoring, fisheries independent monitoring, and RECOVER team support. FWC programs also support imperiled species management, freshwater and marine fisheries management; non-native species research, management, and removal; aquatic and terrestrial invasive plant management, and the recovery of endangered species such as the Florida panther, Everglade snail kite, red-cockaded woodpecker, marine mammals, and stony corals.

The FWC is either sole manager or a partnering manager on over three million acres of public lands throughout the South Florida Ecosystem. FWC contributes to state land acquisition programs targeting lands within or contiguous to areas currently managed by the agency. Further, FWC administers an on-going lake enhancement and restoration program to maintain quality habitat for wetland-dependent fish and wildlife.

Partnerships and Outreach: Partnerships with other governmental agencies (local, state, federal, and tribal), NGOs, and individuals help achieve conservation goals for wildlife. Working with partners, the FWC provides both technical assistance and grant support to build public-private conservation partnerships with Florida landowners wishing to sustain fish and wildlife habitat on their properties. FWC partnerships also support the agency's broad outreach goals that encourage the responsible use of natural resources, education, and conservation.

The FWC's planned funding for South Florida Ecosystem restoration during FY 2022-23 includes:

- Division of Habitat and Species Conservation (\$41,898,190)
- Law Enforcement (\$26,828,260)
- Division of Freshwater Fisheries (\$487,994)
- Fish and Wildlife Research Institute (\$807,067)

Florida Department of Transportation (FDOT) (\$5,688,666)

The FDOT is a leader among transportation agencies in the nation for protecting wildlife, restoring habitat, and redesigning roadways to restore natural water flow to over-drained areas.

The FDOT's expenditures for the South Florida Ecosystem restoration during FY 2021-22 was \$4,961,117 and included:

- Exotic and endangered/threatened species survey (\$554,772)
- Research to determine the effectiveness of wildlife crossings (\$97,623)
- Mitigation maintenance and monitoring (\$242,836)
- Removal of exotic vegetation (\$3,762,386)
- Wildlife and wetland mitigation (\$140,250)
- Water quality study (\$28,900)
- Seagrass and mangrove mitigation (\$126,850)
- Everglades restoration (\$7,500)

The FDOT's planned funding for the South Florida Ecosystem restoration during FY 2022-23 is \$5,688,666 and includes:

- Exotic and endangered/threatened species survey (\$568,834)
- Research to determine the effectiveness of wildlife crossings (\$56,921)
- Mitigation maintenance and monitoring (\$409,790)
- Removal of exotic vegetation (\$3,375,926)
- Wildlife and wetland mitigation (\$941,555)
- Seagrass and mangrove mitigation (\$300,000)
- Everglades restoration (\$5,000)

South Florida Water Management District (SFWMD) (\$379,886,711)

The SFWMD is implementing the Long-Term Plan by including the structural and vegetation enhancements to the existing STAs, implementing BMPs, and working to ensure integration with CERP projects. In Water Year (WY) 2022 (May 1, 2021 – April 30, 2022), the STAs treated approximately 1.0 million acre-feet of water and recorded good annual performance, retaining 83% of phosphorus from water flowing through the treatment cells and treating water to a flow-weighted mean concentration of 23 parts per billion of phosphorus. During the water year, the STAs removed approximately 131 metric tons of phosphorus.

For more information, please visit: <http://www.sfwmd.gov/sta>.

During WY 2021, BMPs in the EAA resulted in a 59% reduction in phosphorus, exceeding the 25% statutory requirement. For the twelfth consecutive year, BMPs in the C-139 Basin complied with the requirement of maintaining historic phosphorus loads. Additionally, the SFWMD works closely with the FDEP and other local, state, federal, and Tribal governments on other non-CERP programs to restore and protect the South Florida Ecosystem.

For more information, please visit: <https://www.sfwmd.gov/bmps>.

During the 2013 legislative session, the Everglades Forever Act (EFA) was modified to incorporate the Restoration Strategies Regional Water Quality Plan, dated April 27, 2012, into the Long-Term Plan. Since the EFA and National Pollutant Discharge Elimination System permits and consent orders were issued in September 2012, eight Restoration Strategies projects have been completed, five others are ongoing, and 66 of 74 consent order milestones have been achieved, 62 of them ahead of their deadlines. In 2018, the SFWMD updated the *Science Plan for the Everglades Stormwater Treatment Areas* to identify studies that investigate the critical factors that collectively influence ultralow treatment performance and phosphorus reduction in the STAs. Eight studies have been completed and thirteen are under-way.

For more information, please visit: <http://www.sfwmd.gov/restorationstrategies>.

Addressing the complex and varying problems in the [Northern Everglades](#) watersheds necessitates a multifaceted restoration approach including reducing nutrient loading and excess freshwater inflows and discharges to Lake Okeechobee as well as the St. Lucie and Caloosahatchee Rivers and estuaries. The focus on water quality and storage is intended to improve hydrology, water quality, and aquatic habitats in both the watersheds and receiving waters. As part of the Watershed Protection Plans, SFWMD continues to implement various watershed construction projects with both water storage and water quality benefits to improve conditions across the Northern Everglades, which includes both regional and DWM projects. During the reporting period, 35 projects were operational across the Northern Everglades watersheds, including 22 DWM projects and 13 other regional restoration projects that provide storage benefits. Collectively, in WY2021, these projects provided an estimated storage volume of approximately 129,283 ac-ft (159.5 million m³), including 101,391 ac-ft (125.1 million m³) from DWM projects and 27,892 ac-ft (34.4 million m³) from the other regional projects. Also, four storage projects were in the planning, design/permitting, or construction phase, which together will provide an additional 59,100 ac-ft (72.9 million m³) of storage once operational.

Restoration of the Northern and Southern Everglades is integral to the core mission of the SFWMD and several initiatives and construction projects are now underway to revitalize and

protect the South Florida Ecosystem. The SFWMD's priority non-CERP South Florida Ecosystem restoration and protection projects for FY 2021-22 include:

- Restoring the Kissimmee River and floodplain (in cooperation with the USACE) through construction, backfilling 22 miles of canal, reshaping 9 miles of remnant river channel, rehydrating 25,000 acres of river floodplain, and a comprehensive ecological evaluation program. For more information, please visit: [Kissimmee](#).
- Implementing the C-111 SD project to improve hydrologic conditions in Taylor Slough, its headwaters, the Rocky Glades, and the eastern panhandle of ENP and to increase freshwater flows to northeast Florida Bay. For more information, please visit: [South Dade Projects](#).
- Continuing implementation of NEEPP and associated watershed protection plans for the three northern watersheds (Lake Okeechobee, St. Lucie, and Caloosahatchee). For more information, please visit: [Northern Everglades](#).
- Continuing implementation of provisions in the EFA and Long-Term Plan including STA operation and optimization, regulation, managing invasive exotic and nuisance vegetation on SFWMD lands, and implementing cost-effective solutions to improve water quality treatment, reduce nutrient loads, and achieve water quality standards. For more information, please visit: [Water Quality Improvement](#).
- Updating and implementing regional water supply plans. For more information, please visit: [Water Supply](#).
- Operating and maintaining one of the largest [flood control systems](#) in the world that includes over 650 water control structures, 621 project culverts, 77 pump stations, approximately 2,100 miles of canals, and 2,000 miles of levees/berms.
- Constructing 8.5 Square Mile Area Limited Curtain Wall to reduce seepage from current and future restoration flows to Northeast Shark River Slough in ENP. For more information, please visit: [South Dade Projects](#).
- Addressing the impacts of climate change, including rising sea levels, changing rainfall and flooding patterns. SFWMD resiliency efforts focus on assessing and planning for the impacts of climate change. For more information, please visit: [District Resiliency](#).

The Florida Legislature also requires the SFWMD to: manage water and related land resources; promote conservation, development, and use of surface and groundwater for reasonable beneficial uses; manage dams, impoundments, and other "Works of the District" to provide water storage; prevent flood and soil erosion damage; and promote outdoor recreation on publicly owned lands.

In addition to ecosystem restoration projects, the SFWMD expends a significant amount of staff time and contract dollars toward implementation of restoration program support activities such as land management, control of invasive exotic plants and animals, environmental resource permitting, and intergovernmental coordination.

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Section 4.0

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