



Proposed Report<sup>1</sup>

**DEPARTMENT OF THE ARMY**  
**CHIEF OF ENGINEERS**  
**2600 ARMY PENTAGON**  
**WASHINGTON, DC 20310-2600**

October 1, 2020

DAEN

SUBJECT: Comprehensive Everglades Restoration Plan, Lake Okeechobee Watershed Restoration Project, Glades, Highlands, Okeechobee, St. Lucie, and Martin Counties, Florida

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on the Lake Okeechobee Watershed Restoration Project (LOWRP) in Glades, Highlands, Okeechobee, St. Lucie, and Martin counties, Florida. It is accompanied by the report of the District Commander. The study is in response to Section 601(b)(1) of the Water Resources Development Act (WRDA) of 2000, which approved the Comprehensive Everglades Restoration Plan (CERP) as a framework for modifications and operational changes to the Central and Southern Florida (C&SF) project that are needed to restore, preserve, and protect the South Florida ecosystem while providing for other water related needs of the region, including water supply and flood protection. WRDA 2000 identified specific requirements for implementing components of the CERP, including the development of a Project Implementation Report (PIR). The requirements of a PIR are addressed in this report. Preconstruction engineering and design activities for this project would be continued under the CERP Design Agreement.

2. The south Florida ecosystem is an internationally recognized and valued aquatic ecosystem that has been altered from decades of effective efforts to drain water off the land, in part by a massive federal drainage project known as the Central and Southern Florida (C&SF) Project. The effects of the C&SF Project on the hydrology on this nationally significant ecosystem have included a change of the natural timing, quantity, quality, and distribution of flows entering and leaving Lake Okeechobee; high volume freshwater releases to the Caloosahatchee and St. Lucie Estuaries; change of wetland habitat and alterations to the floodplain of the Kissimmee River; and elimination of natural storage resulting in a lower quantity of water available for the Everglades. Water that once flowed from Lake Okeechobee south through the Everglades, down Shark River Slough, and to the southern estuaries has been impounded in Lake Okeechobee and release to the estuaries via releases through the C-43 and C-44 canals. Changes in the quantity, timing, and distribution of freshwater entering the estuaries has led to salinity fluctuations, causing submerged aquatic vegetation changes, loss of benthic organisms and habitat, increased sedimentation, decreased water clarity, and changes to salinity-sensitive specie populations including commercially important fish in the estuaries. In addition, the spatial extent and quality of wetlands throughout the system has been changed due to development and farming of natural areas after drainage from the C&SF Project made them viable.

3. The recommended plan is the National Ecosystem Restoration (NER) plan. The Recommended Plan includes a wetland attenuation feature (WAF) with a storage capacity of

<sup>1</sup> This report contains the proposed recommendation of the Chief of Engineers. The recommendation is subject to change to reflect Washington-level review and comments from federal and state agencies.

DAEN

SUBJECT: Comprehensive Everglades Restoration Plan, Lake Okeechobee Watershed Restoration Project, Glades, Highlands, Okeechobee, St. Lucie, and Martin Counties, Florida

approximately 46,000 acre-feet, 80 aquifer storage and recovery wells, two wetland restoration sites totaling approximately 4,800 acres, and various recreational features in the WAF and wetland restoration sites. Overall, the LOWRP would: 1) Restore approximately 4,800 acres of historic Kissimmee River and floodplain wetland habitat, 2) Increase the amount of time Lake Okeechobee stage levels are within the ecologically preferred stage envelope and reduce dramatic fluctuations in water levels that are undesirable for lake ecology, 3) Increase availability of water supply to the existing legal water users of Lake Okeechobee, 4) Reduce the number and magnitude of freshwater flows from Lake Okeechobee to the Caloosahatchee and St. Lucie estuaries, thereby improving the resiliency and health of these estuaries, and 5) Provide for ecosystem-based recreational activities.

4. The South Florida Water Management District is the non-federal, cost sharing sponsor for the project. The total estimated first cost for LOWRP is \$1,963,960,000 (Fiscal Year (FY) 2020 price level), with an estimated Federal cost of \$981,980,000 and an estimated non-federal cost of \$981,980,000. The total first cost of the recreation features is \$2,670,000. The estimated total annual cost of operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) of LOWRP features (not including recreation) is \$15,400,000 with an estimated federal annual OMRR&R cost of \$7,700,000 and an estimated non-federal OMRR&R cost of \$7,700,000. The average annual monitoring cost—which includes both 10-year cycle costs amortized over the period of analysis and the annual cost of longer-term monitoring requirements—is \$840,000 with an estimated federal cost of \$420,000 and a non-federal cost of \$420,000. The estimated cost for OMRR&R of the recreation elements—a 100% non-federal sponsor responsibility—\$70,000. In accordance with the cost-sharing requirements of Section 601 (e) of WRDA 2000, construction costs for ecosystem restoration are shared 50-50 between the government and non-federal sponsor. Construction costs associated with recreation features are also cost-shared 50-50 in accordance with Section 103 of WRDA 1986, as amended.

5. Based on a 2.75 percent interest rate and a 50-year period of analysis, the average annual costs of the project (without recreation costs) are estimated to be \$95,710,000, including OMRR&R, interest during construction, and monitoring. Ecosystem restoration benefits for the recommended plan include 2,669 Average Annual Habitat Units (AAHUs) for wetland restoration sites along the historic Kissimmee River channel, 1,770 AAHUs in Lake Okeechobee, and 4,601 AAHUs in the Caloosahatchee and St. Lucie Estuaries. Net annual recreation benefits are \$240,000 (FY20 price level) with a benefit to cost ratio of 2.2.

6. The project complies with the following requirements of WRDA 2000:

a. Project Implementation Report. The requirements of a PIR as defined by Section 601 (h)(4)(A.).

b. Water Made Available for the Natural System, Water to be Reserved or Allocated for the Natural System and Water for Other Water-Related Needs. Sections 601 (h)(4)(A)(iii)(IV) and (V) require identification of the appropriate quantity, timing, and distribution of water dedicated and managed for the natural system and the amount of water to be reserved or allocated for the natural system. In accordance with the regulations, an analysis was conducted to identify water

DAEN

SUBJECT: Comprehensive Everglades Restoration Plan, Lake Okeechobee Watershed Restoration Project, Glades, Highlands, Okeechobee, St. Lucie, and Martin Counties, Florida

dedicated and managed for the natural system. Accordingly, the non-federal sponsor would protect the water that was identified as necessary to achieve the benefits of the project, using water reservation or allocation authority under Florida law.

c. Effects on Existing Legal Sources of Water. Section 601 (h)(5)(A) states that existing legal sources of water shall not be eliminated or transferred until a new source of water supply of comparable quantity and quality is available to replace the water to be lost as a result of the project. With implementation of the LOWRP, sources of water to meet agricultural and urban demand in the LOSA would continue to be met by their current sources, primarily Lake Okeechobee. Sources of water for the Seminole Tribe of Florida and Miccosukee Tribe of Indians of Florida are influenced by the regional water management system (C&SF Project, including Lake Okeechobee); these sources would not be negatively affected by the project. Water sources for fish and wildlife located in Lake Okeechobee and the Northern Estuaries would not be diminished. Therefore, as a result of the LOWRP, there would be no elimination or transfer of existing legal sources of water supply

d. Maintenance of Flood Protection. Section 601 (h)(5)(B) states that the Plan shall not reduce levels of service for flood protection that are in existence on the date of enactment of this Act and in accordance with applicable law. The implementation of the LOWRP would not degrade the existing level of flood protection offered by various components of the C&SF Project for this area. The LOWRP features do not contribute to an increased Lake Okeechobee stage. The LOWRP would ensure flood protection of the area through engineering design and construction following state-of-the-practice methods for design and construction of pertinent features of the plan.

7. In accordance with the Corps guidance on review of decision documents, all technical, engineering and scientific work underwent an open, dynamic, and rigorous review process to ensure technical quality. This included District Quality Control, Agency Technical Review, Independent External Peer Review (Type 1), and a USACE Headquarters policy and legal review. Most concerns from these reviews have been addressed and incorporated into the final report. The reviews resulted in improvements to the technical quality of the report.

8. Washington level review indicated that the project recommended by the reporting officers is generally technically sound, environmentally and socially acceptable, and economically justified. The plan complies with all essential elements of the U.S. Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Land Related Resources Implementation Studies. The recommended plan complies with other administrative and legislative policies and guidelines. The views of interested parties, including federal, state and local agencies have been considered.

9. I concur with the findings, conclusions, and recommendations of the reporting officers. I recommend that the Lake Okeechobee Watershed Restoration Project, Florida, be authorized at an estimated first cost of \$1,963,960,000 (Fiscal Year 2020 price level), with such modifications thereof as in the discretion of the Chief of Engineers may be advisable. My recommendation is subject to cost sharing, financing, and other applicable requirements of federal laws and policies.

DAEN

SUBJECT: Comprehensive Everglades Restoration Plan, Lake Okeechobee Watershed Restoration Project, Glades, Highlands, Okeechobee, St. Lucie, and Martin Counties, Florida

The cost of the plan recommended in this report would be cost shared in accordance with Section 601 of the Water Resources Development Act of 2000, as amended (33 U.S.C. 2213), with a non-federal share of 50 percent of total costs. Federal implementation of the selected plan would be subject to the non-federal sponsor agreeing to comply with applicable federal laws and policies, including but not limited to:

- a. Provide 50% of total project costs consistent with Section 601(e) of the WRDA of 2000, as amended, including authority to perform design and construction of project features consistent with Federal law and regulation.
- b. Provide all lands, easements, and rights-of-way—including suitable borrow and dredged or excavated material disposal areas—and perform or assure the performance of all relocations that the federal government and the non-federal sponsor jointly determine to be necessary for the construction, operation, maintenance, repair, replacement, and rehabilitation of the project and valuation in accordance with the Master Agreement.
- c. Shall not use the ecosystem restoration features or lands, easements, and rights-of way required for such features as a wetlands bank or mitigation credit for any other non-CERP projects.
- d. Give the federal government a right to enter, at reasonable times and in a reasonable manner, upon land that the non-federal sponsor owns or controls for access to the project for the purpose of inspection and, if necessary, constructing, completing, operating, maintaining, repairing, replacing, or rehabilitating the project.
- e. Assume responsibility for OMRR&R of the project or completed functional portions of the project, including mitigation features, in a manner compatible with the project's authorized purposes and in accordance with applicable Federal and state laws and specific directions prescribed in the OMRR&R manuals and any subsequent amendments thereto. Cost-sharing for OMRR&R would be in accordance with Section 601(e) of WRDA 2000, as amended. Notwithstanding Section 528(e)(3) of WRDA 1996 (110 Stat. 3770), the non-federal sponsor shall be responsible for 50% of the cost of OMRR&R activities authorized under this section.
- f. Operate, maintain, repair, replace, and rehabilitate the recreational features of the project. The non-federal sponsor is responsible for 100% of the cost.
- g. Keep the recreation features—and access roads, parking areas, and other associated public use facilities—open and available to all on equal terms.
- h. Unless otherwise provided for in the statutory authorization for this project, comply with Section 221 of the Flood Control Act of 1970 (Public Law 91-611), as amended, and Section 103 of the WRDA of 1986 (Public Law 99-662), as amended, which provides that the Assistant Secretary of the Army for Civil Works shall not commence the construction of any water resources project or separable element thereof until the non-federal sponsor has entered into a written agreement to furnish its required cooperation for the project or separable element.
- i. Hold and save the federal government free from all damages arising from construction, operation, maintenance, repair, replacement, and rehabilitation of the project and any

DAEN

SUBJECT: Comprehensive Everglades Restoration Plan, Lake Okeechobee Watershed  
Restoration Project, Glades, Highlands, Okeechobee, St. Lucie, and Martin Counties, Florida

project-related betterments, except for damages due to the fault or negligence of the federal government or the federal government's contractors.

- j. Keep and maintain books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to the project to the extent and in such detail as would properly reflect total project costs in accordance with the Master Agreement between the Department of the Army and the non-federal sponsor dated 13 August 2009, including Article XI Maintenance of Records and Audit.
- k. Perform, or cause to be performed, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. Ch. 103, that may exist in, on, or under lands, easements, or rights-of-way necessary for the construction, operation, and maintenance of the project; except that the non-federal sponsor shall not perform such investigations without prior specific written direction by the federal government on lands, easements, or rights-of-way that the Federal Government determines to be subject to the navigation servitude.
- l. Assume complete financial responsibility for all necessary clean-up and response costs of any CERCLA-regulated materials located in, on, or under lands, easements, or rights-of-ways that the federal government determines necessary for construction, operation, maintenance, repair, replacement, and rehabilitation of the project.
- m. As between the federal government and the non-federal sponsor, the non-federal sponsor shall be considered the operator of the project for purposes of CERCLA liability. To the maximum extent practicable, the non-federal sponsor shall operate, maintain, repair, replace, and rehabilitate the project in a manner that would not cause liability to arise under CERCLA.
- n. Prevent obstruction of, or encroachments on, the project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) such as any new developments on project lands, easements, and rights-of-way or the addition of facilities which might reduce the outputs produced by the ecosystem restoration features, hinder operation and maintenance of the project, or interfere with the project's proper function.
- o. Comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646 [42 U.S.C. Ch. 61]), as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17), and the Uniform Regulations contained in 49 CFR Part 24, in acquiring lands, easements, and rights-of-way, and performing relocations for construction, operation, and maintenance of the project, and inform all affected persons of applicable benefits, policies, and procedures in connection with said Act.
- p. Comply with all applicable Federal and state laws and regulations, including, but not limited to, Section 601 of the Civil Rights Act of 1964 (Public Law 88-352 [42 U.S.C. 2000d]) and Department of Defense Directive 5500.11 issued pursuant thereto; Army Regulation (AR) 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army"; and all applicable federal labor standards requirements including, but not limited to, 40 U.S.C. 3141-3148

DAEN

SUBJECT: Comprehensive Everglades Restoration Plan, Lake Okeechobee Watershed Restoration Project, Glades, Highlands, Okeechobee, St. Lucie, and Martin Counties, Florida

and 40 U.S.C. 3701-3708 (revising, codifying and enacting without substantive change the provisions of the Davis-Bacon Act [formerly 40 U.S.C. 276a et seq.], the Contract Work Hours and Safety Standards Act [formerly 40 U.S.C. 327 et seq.], and the Copeland Anti-Kickback Act [formerly 40 U.S.C. 276c]).

- q. Aid in compliance with Section 106 of the National Historic Preservation Act through the execution of a Programmatic Agreement (PA) among the USACE, Florida State Historic Preservation Officer, and the Advisory Council on Historic Preservation before the signature of the Record of Decision. If provided for in such a PA executed under that process, final cultural resource surveys and evaluations of historic properties could be deferred until after project approval but prior to construction as part of the preconstruction engineering and design phase of the project.
- r. Provide 50% of that portion of total data recovery activities associated with historic preservation that exceed 1% of the amount authorized to be appropriated for LOWRP; data recovery costs under 1% of the authorized LOWRP cost would be funded in their entirety by the federal government. Any costs of data recovery that exceed 1% of the amount authorized to be appropriated for LOWRP shall not be included in project construction costs or project OMRR&R costs (as defined by the Master Agreement); therefore, credit shall not be afforded to the non-federal sponsor for costs or work-in-kind associated with data recovery activities that exceed 1% of the amount authorized to be appropriated for the LOWRP.
- s. Do not use Federal funds to meet the non-federal sponsor's share of total project costs unless the Federal granting agency verifies in writing that the expenditure of such funds is expressly authorized and in accordance with Section 601 (e)(3) of the WRDA of 2000, as amended, and in accordance with the Master Agreement.
- t. The non-federal sponsor agrees to participate in and comply with applicable federal floodplain management and flood insurance programs consistent with its statutory authority:
  - 1. Not less than once each year, the non-federal sponsor shall inform affected interests of the extent of protection afforded by the project.
  - 2. The non-federal sponsor shall publicize floodplain information in the area concerned and shall provide this information to zoning and other regulatory agencies for their use in preventing unwise future development in the flood plain, and in adopting such regulations as may be necessary to prevent unwise future development and to ensure compatibility with protection levels provided by the project.
  - 3. The non-federal sponsor shall comply with Section 402 of WRDA 1986, as amended (33 U.S.C. 701b-12), which requires a non-federal interest to have prepared, within one year after the date of signing a project partnership agreement for the project, a floodplain management plan. The plan shall be designed to reduce the impacts of future flood events in the project area, including but not limited to, addressing those measures to be undertaken by non-federal interests to preserve the level of flood protection provided by the project. As required by Section 402, as

DAEN

SUBJECT: Comprehensive Everglades Restoration Plan, Lake Okeechobee Watershed Restoration Project, Glades, Highlands, Okeechobee, St. Lucie, and Martin Counties, Florida

amended, the non-federal sponsor shall implement such plan not later than one year after completion of construction of the project. The non-federal sponsor shall provide the Federal Government an information copy of the plan upon its preparation.

4. The non-federal sponsor shall prescribe and enforce regulations to prevent obstruction of or encroachment on the project—or on the lands, easements, and rights-of-way determined by the federal government to be required for the construction, operation, maintenance, repair, replacement, and rehabilitation of the project—that could reduce the level of protection the project affords, hinder operation or maintenance of the project, or interfere with the project’s proper function.
- u. Execute or certify water for the natural system as identified in the Project Implementation Report (PIR) for this authorized CERP project was reserved or allocated under state law as required by Section 601(h)(4)(B)(ii) of WRDA 2000. The non-federal sponsor shall provide information to the federal government regarding such execution. In compliance with 33 CFR Part 385, the District Engineer would verify such reservation or allocation in writing. Any change to such reservation or allocation of water shall require an amendment to the project partnership agreement after the District Engineer verifies in writing, in compliance with 33 CFR Part 385, that the revised reservation or allocation continues to provide for an appropriate quantity, timing, and distribution of water dedicated and managed for the natural system after considering any changed circumstances or new information since completion of the PIR for the authorized CERP project.
- v. Consistent with the September 14, 2011, Memorandum from the ASA (CW), the non-federal sponsor shall be 100% responsible for the cost of all actions taken due to the presence of residual agricultural chemicals, at no expense to the federal government. Any future costs associated with the presence of residual agricultural chemicals at the federal project site are 100% a non-federal sponsor cost and responsibility. As stated in the September 14, 2011 memorandum, normal project engineering and construction activities would remain part of the total project cost provided that these are the same activities required to implement the project features absent the presence of residual agricultural chemicals.
- w. The determination of applicable water quality standards for the water associated with this project and any necessary treatment or remediation of this water shall be made by regulatory agencies with jurisdiction over any laws or regulations which apply to this project. Cost share for water quality treatment as follows:
  1. If source water violates applicable surface water quality standards, the non-federal sponsor shall be responsible for treatment costs necessary to prevent the violation of those surface water standards prior to well recharge. Additional treatment costs necessary to further reduce the concentration of pollutants in source water to meet Underground Injection Control (UIC) and/or applicable groundwater standards prior to well recharge shall be cost-shared as a project cost.
  2. To the extent that source water becomes contaminated by virtue of the addition of substances required for pre-injection treatment and injection, changes or interactions in

DAEN

SUBJECT: Comprehensive Everglades Restoration Plan, Lake Okeechobee Watershed Restoration Project, Glades, Highlands, Okeechobee, St. Lucie, and Martin Counties, Florida

- the ASR well, or retrieval, all costs of treating the water to comply with applicable water quality standards shall be cost-shared as a project cost.
3. In cases where the source water violates applicable surface water standards but there is no applicable UIC or groundwater standard for the constituent causing the violation, and there is no increase in contamination resulting from those factors identified in paragraphs (2) and (4), the non-federal sponsor shall be responsible for treatment costs to prevent violation of applicable water quality standards prior to discharge of retrieved water back into the source water body.
  4. If the water in the affected aquifer violates applicable groundwater quality standards, the non-federal sponsor shall report this to the appropriate regulatory authorities for a determination of the party or parties responsible for causing this contamination. If the federal project is to proceed at that site, the Non-federal Sponsor shall certify to the Federal sponsor that any necessary measures to prevent violations of groundwater quality standards prior to surface discharge from the project at that site have been accomplished by the party or parties determined to be responsible for remediating the aquifer contamination. Costs of such measures shall not be a Federal responsibility and shall not be included in the total project costs. Where there is an increase in contamination in the groundwater resulting from those factors identified in paragraph (2) above, due to natural occurrence, or due to the subsurface interaction between stored and native aquifer water, additional treatment costs necessary to bring groundwater into compliance with applicable surface water quality standards necessary for discharge shall be cost shared as a project cost where it is determined to be economically feasible and within the scope of the original project.
10. The recommendation contained herein reflects the information available at this time and current departmental policies governing formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of a national Civil Works construction program nor the perspective of higher review levels within the Executive Branch. Consequently, the recommendation may be modified before it is transmitted to the Congress as a proposal for authorization and implementation funding. However, prior to transmittal to Congress, the non-federal sponsor, the state, interested federal agencies, and other parties would be advised of any significant modifications and would be afforded an opportunity to comment further.

TODD T. SEMONITE  
Lieutenant General, USA  
Chief of Engineers