



LAKE OKEECHOBEE WATERSHED PROJECT

U.S. ARMY CORPS OF ENGINEERS

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FREQUENTLY ASKED QUESTIONS

September 2016

1. Why provide storage and treatment north of Lake Okeechobee?

Storage and treatment north of Lake Okeechobee is essential to support Lake Okeechobee and overall Everglades restoration. Storage and the use of Aquifer Storage and Recovery (ASR) north of the lake is an effective strategy necessary to reduce undesirable regulatory releases that the U.S. Army Corps of Engineers (USACE) has to make to the coastal estuaries from Lake Okeechobee for flood protection. Storage north of Lake Okeechobee:

- Would assist in managing lake levels within a desirable range
- Would assist in reducing high-volume discharges to the St. Lucie and Caloosahatchee estuaries
- Would assist in meeting the Lake Okeechobee Total Maximum Daily Load as an incidental benefit
- Would minimize the potential for sending additional water south when it's not needed, and make it available when it is needed, minimizing the risk of adverse environmental effects by improving the timing and volume of flows
- Would increase system wide operational flexibility by adding to the storage projects already planned, under construction or operational, located south, east and west of the Lake

With storage projects already operational, under construction or planned east (Indian River Lagoon-South C-44 Reservoir & STA), west (C-43 West Basin Storage Reservoir) and south (A-1 Flow Equalization Basin; L-8 Flow Equalization Basin, Central Everglades Planning Project) of Lake Okeechobee, storage north of the lake is an essential missing piece and the next logical step in the storage puzzle.

2. Why look at storage north of the lake now?

Storage north of Lake Okeechobee is essential to support Lake Okeechobee and overall Everglades restoration. It is supported by several agency and independent planning and technical analyses including, but not limited to:

- Central Everglades Planning Project (CEPP)
- River of Grass Planning
- Lake Okeechobee Watershed Phase II Technical Plan through the Northern Everglades and Estuaries Protection Program (373.4595 Florida Statutes)
- 2014 senate authorized University of Florida Water Institute independent technical review

Therefore, planning for the Lake Okeechobee Watershed (LOW) Project was prioritized in the Integrated Delivery Schedule (IDS). The IDS is the tool used to prioritize and sequence South Florida Ecosystem Restoration Program projects that are cost-shared between the USACE and the South Florida Water Management District (SFWMD). The IDS has been developed, and is updated, based on technical input through an open public process.

In 2015, the IDS was officially updated, and based on technical information gained from previous planning efforts, and input from South Florida Ecosystem Restoration Task Force Working Group members and the public, storage north of Lake Okeechobee was identified as an essential next step.

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The technical basis for the IDS sequencing includes conclusions from several prior studies that included intensive public involvement. These studies included the River of Grass and the Central Everglades Planning Project (CEPP), which came to the same general modeling and technical conclusions when evaluating storage north and south of Lake Okeechobee. Both studies concluded storage is needed north of the Lake:

- To meet restoration objectives for Lake Okeechobee, the estuaries and the Everglades
- To minimize the system wide restoration performance risk by ensuring availability of water to send south. Specifically, CEPP modeling results indicated that ecology and water supply could be at risk during dry times due to lower Lake Okeechobee stages, if water storage is not provided north of the Lake.

3. What is the project schedule?

The LOW Project is following the USACE guidance for Specific, Measurable, Attainable, Risk informed and Timely (SMART) Planning, which requires expedited completion of the planning process within 3 years of study initiation, a risk-informed decision making process, and several milestones to be met during the process. The study initiated July 25, 2016.

The current schedule has the Alternatives Milestone completion date on October 18, 2016, and an overall planning completion date of July 24, 2019. The final product will be an Integrated Project Implementation Report (PIR) and Environmental Impact Statement (EIS) signed by the Chief of Engineers. This will then, after review by the administration, be transmitted to Congress for authorization. The target milestone for the team to have a Tentatively Selected Plan (TSP) is January of 2018. The team is exploring opportunities to accelerate this schedule if possible.

4. How much will this effort cost?

A \$3 million threshold has been set for the team to complete the LOW PIR/EIS, which will be cost-shared between the USACE and the SFWMD. This includes all expenses, including salaries, contracts, travel and other miscellaneous expenses. The final cost of implementation for the Selected Plan will be determined during the planning process. Cost-effectiveness of project features and alternatives will be considered through the selection process leading to the selected plan.

5. How large is the project area?

The project area is defined by the boundary within which project features will be located. This area is approximately 950,000 acres, primarily located north of Lake Okeechobee extending to Lake Istokpoga. To put that acreage into perspective, 950,000 acres is approximately equivalent to the size of Rhode Island or about four-fifths (80%) the size of the Grand Canyon National Park. The larger study area, which includes areas affected by the project features, includes Lake Okeechobee and the northern estuaries.

6. How was the project area identified?

The Central and Southern Florida (C&SF) Project Comprehensive Review Study (1999 Yellow Book) is the CERP guiding document. The scope of the LOW Project is defined in the Yellow Book as including the following locations: Taylor Creek/Nubbin Slough Basins, Okeechobee and Highland Counties, and wetland restoration sites in various wetlands north of the lake.

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Component as Described in the Yellow Book	Facility/Project Description (Management Measure)	Facility/Project Purpose	Facility/Project Location(s)
<i>Taylor Creek/Nubbin Slough Storage and Treatment Area</i>	5,000-acre reservoir with a (total storage capacity of approximately 50,000 acre-feet,)	Slow inflows of water to Lake Okeechobee by capturing and storing basin runoff when water levels in Lake Okeechobee are high or increasing. Waters held in the reservoir will be released into the Lake when lake levels decline to ecologically acceptable levels.	Taylor Creek/Nubbin Slough Basin
<i>Lake Okeechobee Watershed Water Quality Treatment Facilities</i>	Acquire conservation easements of various sizes in four priority Lake basins (the S-65D, S-65E, S-154 and S-191 basins) and restoring approximately 3,500 acres of isolated wetlands.	Restore the hydrology of affected wetlands.	Wetland restoration to be accomplished by plugging the connection of select wetlands to drainage ditches, and diverting canal flows into them.
<i>North of Lake Okeechobee Storage Reservoir</i>	17,500 acre reservoir 11.5 feet maximum depth Total storage capacity of 200,000 ac- feet Reservoir inflow pump capacity of 4,800 cubic feet per second (cfs) Outflow structure = 4,800 cfs	Detain water during wet periods (for use during dry periods), reduce nutrient loads flowing from the Kissimmee River into Lake Okeechobee, and reduce the duration and frequency of high and low water levels in Lake Okeechobee. These excessive water levels damage the Lake's littoral ecosystems, and necessitate large discharges that are damaging to the downstream estuaries.	North of Lake Okeechobee in the Lake Okeechobee Watershed (LOW)

Conceptual storage and restoration features defined in the 1999 Yellow Book were envisioned within three main counties: Glades, Okeechobee and Hendry, which are the focus area for the LOW Project. Furthermore, limiting the project to areas both north and in close proximity to Lake Okeechobee is anticipated to yield greater benefits and lower cost features due to the availability of water and increased operational flexibility.

The LOW Project is one of several restoration efforts in the Lake Okeechobee Watershed. Other efforts and opportunities include:

- Florida Department of Environmental Protection's Lake Okeechobee Basin Management Action Plan and other activities
- Northern Everglades and Estuaries Protection Program (373.4595 Florida Statutes)
- SFWMD's district-wide Cooperative Funding Program
- Kissimmee River Restoration Project is scheduled to be complete in 2020, and will restore more than square miles of river-floodplain ecosystem, including almost 20,000 acres of wetlands and 44 miles of historic river channel.

7. Why does the project area not include land south of the lake in the Everglades Agricultural Area (EAA)?

The IDS for implementation of Everglades restoration activities has been developed through an extensive public process utilizing the South Florida Ecosystem Restoration Task Force, its Working Group and consideration of the best science, engineering and economic information available. The IDS serves to guide the projects and maximize benefits of the Comprehensive Everglades Restoration Plan (CERP) efforts.

The IDS recognizes the importance of storage south of the lake which is scheduled to begin in 2021 (EAA planning study). Storage south of the lake in combination with:

- New storage north of the lake (being developed as part of the LOW Project)
- Storage reservoirs being constructed east of the lake (Indian River Lagoon-South Project)
- Storage reservoir west of the lake (C-43 West Basin Storage Reservoir Project)
- Completion of additional infrastructure to allow flow south of the lake, will serve to restore a more natural system-wide hydrology within the entire Everglades ecosystem as envisioned by CERP.

8. Why does the study area not include Lake Istokpoga, the Kissimmee Chain of Lakes and the northern Kissimmee River sub-watersheds?

It is recognized that there is a need for a comprehensive review of the operations of structures within the Kissimmee River and Lake Istokpoga Basin and that opportunities for additional storage and restoration may exist in the area north of the LOW Project area. Undertaking a comprehensive review of existing operations, and developing optimized operational strategies to meet the flood control level of service provided by the Central & Southern Florida (C&SF) Project to provide more natural fluctuation of lake levels and flows within the system for environmental benefit and maintain current water supply requirements, is a complex, time-intensive endeavor.

The current Kissimmee River - Istokpoga Basin System Operating Manual is anticipated to be updated in the near future and will be able to consider operational/regulation schedule changes that provide flexibility to address the needs for additional storage and environmental benefits. The scope of such an operational study does not fit within the SMART Planning constraints when coupled with the other LOW Project objectives. The Lake Istokpoga Regulation Schedule was identified in the Yellow Book, however, changes in the regulation schedule must be examined within the context of the overall system operating criteria to ensure that the flood control, environmental and water supply requirements of the entire system continue to be met.

In the upper portions of the Lake Okeechobee Watershed, it is important to note that a monumental river restoration project, the Kissimmee River Restoration Project, has been underway for several years. This

precedent-setting restoration effort is a partnership between the USACE and SFWMD. It includes restoring 40 miles of historic river channel and almost 25,000 acres of wetlands, and implementing changes to the Kissimmee headwaters lakes regulation schedules to provide water flows necessary to provide water needed for the restored portions of the Kissimmee River. These regulation changes will also improve littoral habitat within Lake Hatchineha, Lake Cypress and Lake Kissimmee and help address other issues in this area. The Kissimmee River Restoration Project is scheduled to be complete in 2020.

9. If Lake Istokpoga and the Istokpoga Sub-watershed are not included, why does the project area include lands to the east of the lake?

The project footprint only includes lands downstream of Lake Istokpoga and not land upstream or within the lake. The inclusion of the lands east of the lake is consistent with that footprint. Approximately 1,300 acres of SFWMD-owned lands are located just north of the Istokpoga Canal between Lake Istokpoga and the Kissimmee River. Water can be sent either from Lake Istokpoga to the Kissimmee River or vice versa. As such this site provides unique storage opportunities, while leveraging lands already in public ownership. Basin boundaries from the Watershed Assessment Model (WAM) were used to delineate a reasonable expanded boundary based on hydrology. While land ownership is not a constraint in this process, it is a consideration.

10. Will this project include re-evaluation of Lake Okeechobee or Lake Istokpoga regulation schedules?

Due to the strict schedule and budget in this expedited SMART Planning effort, the PIR/EIS will not involve re-evaluation of regulation schedules. However, if refinement opportunities to regulation schedules are identified in the process, they will be noted and appropriately considered.

Per the IDS, the planning process to update the Lake Okeechobee Regulation Schedule (LORS) will commence in 2022. The current Lake Okeechobee Regulation Schedule will serve as a basis for analysis of the LOW Project alternatives.

Updating the regulation schedule for Lake Istokpoga to address flood control, environmental needs and water supply needs was not included in the LOW Project for several reasons. First, updating of the Lake Istokpoga Regulation Schedule must be done in coordination with the entire Kissimmee-Istokpoga Basin to understand the effects of regulation schedule and operational changes within the entire basin. That scope is beyond what can be accomplished in the LOW Project. Second, the Kissimmee River-Istokpoga Basin System Operating Manual is anticipated to undergo an update in the near future. Changes to the Lake Istokpoga Regulation Schedule will be better served as part of that effort.

11. How will this project relate to the Western Everglades Restoration Project?

A related planning project that is being conducted concurrently with the LOW Project is the Western Everglades Restoration Project (WERP). The purpose of WERP is to improve the quantity, quality, timing and distribution of water needed to restore and reconnect the western Everglades ecosystem. The WERP will be planned and designed in cooperation and coordination with the LOW Project, in order to ascertain their benefits to the system as a whole.

The two projects will work together to improve the system-wide operational flexibility, by adding more water storage both north and south of the lake. WERP will evaluate modifying the existing canal framework, with the potential of a new connection to the Lake on the southwestern side, to bring additional water south.

12. Will this project improve water quality? Will this project help reduce algae blooms in the St. Lucie and Caloosahatchee Estuaries?

While water quality is not a primary objective of plan formulation, there will be opportunities to improve water quality. Many of the management measures being evaluated (ASR, wetland restoration and reservoirs) will have ancillary water quality benefits. For example, storage of water in reservoirs and the associated attenuation of peak flows resulting in increased residence time will lead to a reduction in nutrients and sediments reaching Lake Okeechobee.

Storage features could be sited adjacent to existing state water quality treatment facilities, such as Lakeside Ranch STA, so that stored water released could be sent to the water quality facility for treatment before reaching Lake Okeechobee. Restored wetlands will attenuate water and filter pollutants. Additionally, preliminary results of Aquifer Storage and Recovery (ASR) indicate a substantial reduction in nutrients from water recovered from these facilities.

Furthermore, holding more water north of the lake may result in improved salinity regimes in the northern estuaries and less nutrient loading from Lake Okeechobee to the estuaries.

Algae blooms are based on three factors: water quality, temperature and light. As described above, the creation of storage north of Lake Okeechobee will positively affect the quantity of freshwater released to the estuaries which may result in improved salinity and reduced nutrient loading to estuarine waters. Thus, better water quality and a potentially healthier estuarine ecosystem.

There are other programs in place in the watershed that are specifically focused on water quality such as the Florida Department of Environmental Protection's Basin Management Action Plans which serve as the overarching water quality restoration plans for the Northern Everglades including Lake Okeechobee and the northern estuaries.

13. How can I be involved/receive updates on the project?

The team welcomes participation from our public and agency stakeholders. Information about the project, project updates and presentations will be posted on a regular basis and can be found on the project website at: www.saj.usace.army.mil/Missions/Environmental/Ecosystem-Restoration/Lake-Okeechobee-Watershed-Project/

To be added to our email distribution list or provide comments throughout the project planning process, please e-mail the team at: OkeechobeeWatershedRestoration@usace.army.mil

There is a robust public involvement plan for the Lake Okeechobee Watershed Project with several opportunities for public involvement, which includes:

- **Bi-weekly Project Delivery Team (PDT) Meetings:** These are working meetings where PDT sub-teams (modeling/engineering, ecological and plan formulation) provide updates and details on their on-going and upcoming activities and discuss challenges/data needs.
- **Quarterly South Florida Ecosystem Restoration Task Force Meetings:** The Task Force was established by section 528(f) of the Water Resources Development Act of 1996. The Task Force consists of 14 members from four sovereign entities. There are seven federal, two tribal, and five state and local government representatives. The Task Force focuses on promoting South Florida ecosystem restoration through coordinating the consistent development of policies, strategies, plans, programs, projects, activities, and priorities; information exchange; facilitating conflict resolution; coordinate scientific and research; and providing assistance and support to agencies and entities represented on the Task Force in their restoration activities.

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- **Task Force Sponsored Workshops (as needed):** Throughout project implementation, the PDT may determine the need for workshops to obtain public input at critical juncture points. A Task Force Working Group-sponsored public workshop was conducted August 31, 2016. Additional details on this workshop is available at: www.evergladesrestoration.gov/content/lowp.html.
- **Water Resources Advisory Commission (WRAC) Meetings:** WRAC is an advisory body to the SFWMD Governing Board and the South Florida Ecosystem Restoration Task Force. It is comprised of representatives from all interest groups (e.g. agriculture, tribal nations, non-governmental organizations, state, federal and local governments), and provides a forum for improving public participation and decision-making about water resource issues in South and Central Florida. Meetings are open to the public and a public comment period is provided. More information can be found at: www.sfwmd.gov/wrac.
- **South Florida Water Management District Governing Board Meetings:** The South Florida Water Management District is directed by nine Governing Board members who set policy for the agency. They reside within the agency's 16-county region and represent a cross section of interests, including the environment, agriculture, local government, recreation and business. Governing Board members are unpaid citizen volunteers appointed by the Governor and confirmed by the Florida Senate. They generally serve four-year terms. The Governing Board typically meets on the second Thursday of each month. Meetings are open to the public and there are several public comment periods provided. Additional information is available at: www.sfwmd.gov
- **National Environmental Policy Act (NEPA) Public Meetings:** Public engagement opportunities are provided to solicit comments during scoping and the development of Tentatively Selected plan. Additional information available at: www.saj.usace.army.mil/Missions/Environmental/Ecosystem-Restoration/Lake-Okeechobee-Watershed-Project/

It is important to note that the budgetary (\$3 million) and schedule (3 years) constraints of the SMART planning process must be considered with all aspects of the project, including the public involvement plan. To meet these constraints while still allowing ample opportunity for public involvement, key project specific face to face meetings/workshops will be rotated throughout the project area. For example the initial NEPA scoping meeting was held in the footprint of the project area - Okeechobee, the first scheduled workshop is being held on the east coast and the first in person Project Delivery Team meeting will be held on the west coast.

14. Q: How is the public engagement for the LOW Project different from Central Everglades Planning Process (CEPP)?

Unlike the CEPP, which was a pilot project for SMART Planning, the LOW Project is following the strict 3x3x3 requirements of the SMART Planning process. Due to the complexity of the system and stakeholders within the CEPP project area, an exemption to the monetary constraints of SMART Planning was required to successfully complete the project. The LOW Project will adhere to the \$3 million budget limitation, but will fully-engage the public by utilizing existing venues, such as Task Force Working Group, Water Resources Advisory Council, and SFWMD Governing Board meetings, and will host public workshops/public meetings at key decision points.

15. With such a large affected area, and a limited budget and schedule, how are public meetings and workshops being handled in a way that is fair to all stakeholders?

To meet these constraints while still allowing ample opportunity for public involvement, key project specific face to face meetings/workshops will be rotated throughout the project affected area. For example the initial NEPA scoping meeting was held in the footprint of the project area - Okeechobee, the first scheduled workshop is being held on the east coast and the first in person Project Delivery Team meeting will be held on the west coast. The LOW Project will also take advantage of existing venues such as Task Force Working

Group, Water Resources Advisory Council, and SFWMD Governing Board meetings and will host public workshops/public meetings at key decision points.

16. . What is different about this study than the one that was done in the past?

There are several major differences in this study, and the previous study that was put on hold in 2007. The previous study formulated for water quality and included management measures such as stormwater treatment areas (STA's). We are no longer formulating for water quality, since the State of Florida has programs to address water quality standards. Water quality will be evaluated as an ancillary benefit of restoration and storage features included in the array of alternatives.

- The previous project did not evaluate Aquifer Storage and Recovery (ASR) as a means of additional storage. Several pilot projects, including the Kissimmee River ASR, have been completed since 2007 and will provide useful scientific data to evaluate the location and effectiveness for implementation of ASR technology within the project area.
- The regulatory schedule for Lake Okeechobee has changed since the previous study. During the previous study the WSE regulation schedule was used to determine regulatory releases from Lake Okeechobee (S-77 and S-80 as well as the structure releasing water to the south). Currently the Lake is regulated according to the LORS schedule. This change provides a different downstream boundary condition for the LOW Project that may affect the evaluation of alternative plans.

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