

EVERGLADES WATER QUALITY IMPROVEMENTS

Questions & Answers

What action is being taken by the Florida Department of Environmental Protection?

Under its regulatory authority, the Florida Department of Environmental Protection is submitting a revised permit to the U.S. Environmental Protection Agency that authorizes the operation of 57,000 acres of Stormwater Treatment Areas south of Lake Okeechobee. The revised permit also regulates the discharge of water from the treatment facilities to the Everglades Protection Area, which includes some of the world's most critical habitats, endangered species and delicate ecosystems, such as the Arthur R. Marshall Loxahatchee National Wildlife Refuge and Everglades National Park.

Under the federal Clean Water Act and the Florida Everglades Forever Act, permits are required for operation of the massive network of Stormwater Treatment Areas, which are owned, operated and maintained by the South Florida Water Management District. The revised permit requires implementation of a comprehensive technical plan, using the latest technology, to ensure the District attains the ultra-low water quality standard established for the Everglades. This historic technical plan, first proposed by Governor Rick Scott last fall, is the result of extensive dialogue between the EPA and the state of Florida.

What does the revised permit require?

The revised permit establishes stringent phosphorus limits for discharges into the Everglades. The permit will be accompanied by an order that will require construction of an array of new water treatment and storage projects; an enforceable schedule with construction milestones; and a science-based plan to improve treatment performance of existing constructed wetlands that today capture stormwater runoff and discharge treated water into the Everglades.

Why is this significant?

Implementation of this technical plan with new treatment and storage projects will build on the state's significant progress to protect the Everglades. The permit and consent order lay out a scientifically-sound, economically-feasible, practical and attainable framework for achieving the ultra low Everglades water quality standard. By including a reasonable and enforceable implementation schedule, the plan allows Florida to continue building on its progress in improving the health of America's Everglades, and achieve the ambient water quality standard.

Why is this plan necessary?

Achieving the stringent water quality requirements established for the Everglades Protection Area will restore the natural balance of flora and fauna in this unique ecosystem. It has been a decades-long challenge and the subject of litigation since 1988

between the federal government, state of Florida and other parties. Although the state has made commendable progress improving water quality in the Everglades since it passed the Everglades Forever Act in 1994, additional steps are needed to meet the ultra-low water quality standard.

How will the plan be enforced to hold the District accountable?

Under the EPA' general NPDES oversight, the Department will monitor and enforce implementation of the plan and achievement of the water quality standard through its regulatory and permitting authority, which includes regulatory oversight of the South Florida Water Management District. Along with this revised permit, the Department will also issue a state Everglades Forever Act permit and associated consent order that includes milestones for constructing and completing projects, with enforcement mechanisms if milestones are missed.

The regulatory package includes 1) a Florida Everglades Forever Act Permit with accompanying Consent Order, and 2) a Clean Water Act National Pollutant Discharge Elimination System (NPDES) Permit with accompanying Consent Order. The two permits authorize operation of 57,000 acres of existing Stormwater Treatment Areas in the Everglades Agricultural Area, including compliance monitoring and reporting. The consent orders identify new treatment and storage projects, with construction and operational milestones, a science-based plan, interim performance targets, and monitoring and reporting requirements.

What is the water quality standard established for the Everglades Protection Area?

The Everglades water quality standard includes a 10 parts per billion (ppb) ambient criterion for phosphorus. Phosphorus is a nutrient that, in excess, can be harmful to the unique Everglades ecosystem. The phosphorus criterion required by the Everglades water quality standard is one of the lowest in the nation.

How was this plan developed?

The plan, originally proposed by Governor Rick Scott last fall, was refined through collaboration with technical experts from the Florida Department of Environmental Protection, the EPA and the South Florida Water Management District. Both the original plan and the refinements were based on sound science and engineering, and incorporated the knowledge that both the state and federal government have gained through the implementation of Everglades restoration. The projects proposed in the plan were developed using more than 100 modeling simulations and conceptual engineering evaluations to determine which configuration and sizes of additional storage and treatment facilities would best augment existing treatment projects south of Lake Okeechobee to attain the water quality standard.

What are the benefits of this plan?

This plan is a comprehensive alternative that can achieve water quality goals established for the Everglades, without unnecessarily burdening Florida's citizens with new taxes. By utilizing thousands of acres of land already in public ownership, it minimizes impacts to Florida's agricultural-based economy and accelerates the construction of new water quality improvement projects. Core project components will be designed, constructed and operational within six years. The permits will also authorize the immediate operation and optimization of another 11,700 acres of stormwater treatment areas, known as Compartments B and C, which were completed this year.

What are the projects in this plan and associated timelines for construction?

Over a 12-year timeframe, six key projects in the plan will create 6,500 acres of new stormwater treatment areas and close to 110,000 acre-feet of additional water storage through construction of Flow Equalization Basins. The ten square-mile expansion of stormwater treatment areas will increase by 50 percent the treatment capacity of water quality facilities currently discharging into the Refuge.

Design and construction of new projects will be achieved in phases allowing for stormwater treatment areas and flow equalization basins to mature and begin treating water as soon as possible:

Phase One (2012-2016)

- 45,000 acre-foot FEB in the eastern Everglades, close to the Loxahatchee National Wildlife Refuge, to work in conjunction with 11,500 acres of existing STAs (STA-1 East and STA-1-West).
- 54,000 acre-foot FEB in the central Everglades, adjacent to 31,800 acres of existing and newly completed STAs (STA-3/4, STA-2 and Compartment B) and utilizing construction already completed for the Everglades Agricultural Area-A1 Reservoir.

Phase Two (2013-2018)

- 4,700 acres of new STA in the eastern Everglades, adjacent to the Loxahatchee National Wildlife Refuge and adding to the treatment capacity of 11,500 acres of existing STAs (STA-1 East and STA-1-West).

Phase Three (2018-2024)

- 2018-2022: 1,800 acres of new STA in the eastern Everglades, adjacent to the Loxahatchee National Wildlife Refuge and adding to the treatment capacity of 11,500 acres of existing STAs (STA-1 East and STA-1-West) and 4,700 acres of STA added in Phase Two.
- 2018-2023: 11,000 acre-foot FEB in the western Everglades, adjacent to 13,700 acres of existing and newly completed STAs (STA-5, STA-6 and Compartment C).
- 2019-2024: 800 acres of earthwork in the existing STA-5 to maximize treatment in the western Everglades.

How will these projects improve water quality?

The 6,500 acres of new stormwater treatment areas and 110,000 acre-feet of new water storage included in the technical plan will work in conjunction with existing and newly completed treatment facilities to capture runoff from the Everglades Agricultural Area and remove phosphorus from water flowing into the Everglades Protection Area. Using the knowledge gained from the past decade of implementation of biologically-based technology, this plan incorporates flow equalization basins that will optimize stormwater treatment area performance by storing water and better managing the timing and delivery of water to the constructed wetlands for treatment.

Is the plan based on sound science?

Science, which is integral to Everglades restoration, was the foundation for the suite of projects developed for this technical plan. Further, science will be an essential component during plan implementation. A Science Plan – to be developed within 6 months of permit issuance – will evaluate the many factors influencing phosphorus treatment, such as vegetation and soil variability, water inflow rates and microbial activity. Biological, ecological and operational data will be gathered and analyzed to continually optimize STA performance – both for existing and new water quality projects – in order to achieve one of the lowest phosphorus standards in the nation.

What else is the District doing to provide further assurance that water quality standards will be met?

On-farm source controls in the Everglades Agricultural Area are currently required under state law and are being implemented on 640,000 acres of land south of Lake Okeechobee. This is an active District program of best management practices, with an enforcement mechanism to ensure compliance. The District is proposing additional, sub-regional source controls in areas of the eastern Everglades where phosphorus levels in runoff have been historically higher. These source controls, which are above and beyond permit conditions, will provide an additional margin of safety in meeting the water quality standard.

How much will the plan cost?

Implementation of the technical plan is estimated to cost \$880 million. The District is proposing to fund the plan through a combination of state and District revenues, including \$220 million in ad valorem reserves and \$300 million in anticipated revenues associated with long-term new growth in South Florida.

The project construction schedule is intentionally planned over a 12-year period to balance timely and reasonable progress in improving Everglades water quality with the implementation of the District's ongoing core mission responsibilities for flood control, water supply and natural systems restoration. It also recognizes the economic and

engineering realities associated with planning, permitting, designing, constructing and operating massive, biologically-based public works projects that rely on cutting-edge engineering, science and technology.

What has Florida done to improve water quality in the Everglades?

To date, the state of Florida has dedicated more than \$1.8 billion to improving Everglades water quality. Key efforts include:

- Constructed 45,000 acres of stormwater treatment area, which last year reduced total phosphorus loads to the Everglades Protection Area by 79 percent.
- Added an additional 11,700 acres of stormwater treatment area now near construction completion and ready for operation.
- Implemented best management practices on 640,000 acres of agriculture land south of Lake Okeechobee. As a result, the amount of phosphorus leaving farms has been reduced 53 percent over 15 years, an amount that is more than twice the reduction required by state law.
- Since 1994, the stormwater treatment areas and best management practices together have prevented more than 3,800 metric tons of phosphorus from reaching the Everglades.
- Water flowing into the Everglades today is up to 14 times cleaner than water leaving Lake Okeechobee.

How does this plan augment the Comprehensive Everglades Restoration Plan (CERP) partnership?

CERP is a state-federal partnership, formed in 2000, and consisting of 68 restoration projects and a 50-50 cost-share agreement. The goal of CERP is to move more water south into the Everglades, focusing on several aspects of getting the water right – in terms of both water quality and water quantity, as well as timing and distribution. By improving water quality for water currently flowing into the Everglades, this plan contributes to overall state and federal restoration goals. To date, Florida has invested \$2.4 billion in CERP. More than 243,149 acres of the land needed for CERP projects have been placed into public ownership. Additionally, the state and the District have moved construction forward on six key restoration projects.

What happens next?

EPA's Region IV must review the permits for conformity with the federal Clean Water Act and its prior objections to permits previously submitted by the Department. If EPA has no objections to the revised permit, the Department can then issue a Notice of Draft, followed by Notice of Intent to Issue the Everglades Forever Act and Clean Water Act National Pollutant Discharge Elimination System permits with associated consent orders, which are subject to administrative review under state law.