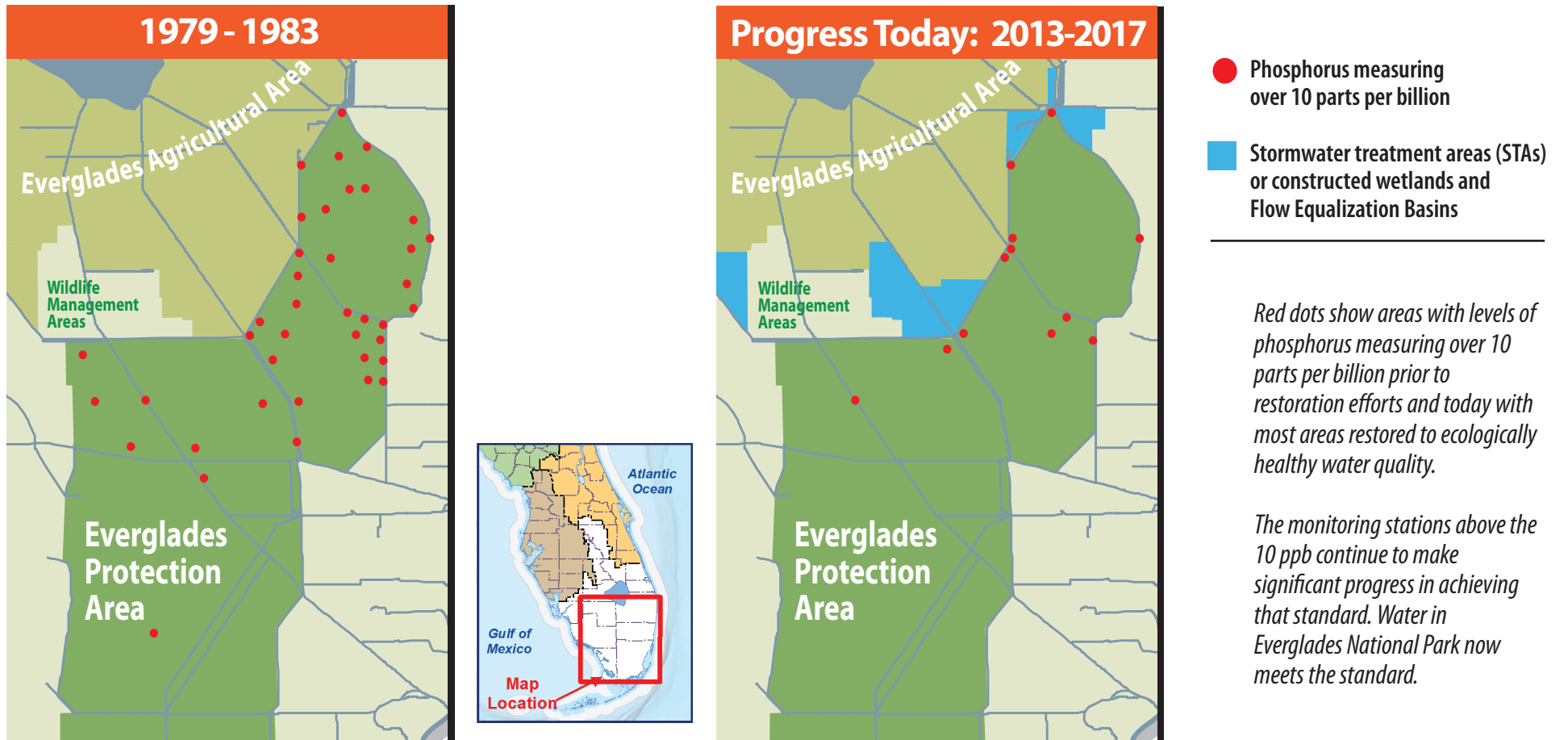


# Harmful Nutrients in the Everglades Now Reduced by 90%

Phosphorus control programs over the last 20 years have significantly improved Everglades water quality.

Florida has invested more than \$1.8 billion in water quality improvements aimed at lowering phosphorus levels. Today, as a result of Florida's efforts, concentrations within the Everglades have positively responded and are now at 10 ppb.



**FROM 24 PARTS PER BILLION TO 9 PARTS PER BILLION:** The reduction in average phosphorus concentrations in water within the Everglades over the past two decades.

## GOV. RICK SCOTT'S RESTORATION STRATEGIES

CLEANER WATER FOR THE EVERGLADES



Now in implementation, **Gov. Rick Scott's Restoration Strategies** were developed in 2012 to further improve water quality in the Everglades. Projects include 6,500 more acres of new treatment area and 116,000 acre-feet of additional water storage.

*Recognizing that more needs to be done to achieve the ultralow phosphorus water quality standard established for the Everglades, Restoration Strategies commit \$800 million and projects are now completed or underway.*

A flow equalization basin – or FEB – is a reservoir designed to temporarily capture and hold stormwater runoff for release to the Everglades stormwater treatment areas (STAs). By tempering flow rate, FEBs help maintain desired water levels in the STA. **The A-1 Flow Equalization Basin** (pictured above), in Palm Beach County, is part of Florida's Restoration Strategies Plan for clean water for the Everglades, and assists in optimizing the performance of two nearby stormwater treatment areas in removing phosphorus. It can hold up to 60,000 acre-feet of water up to 4 feet deep, and then delivers water in a controlled manner to the treatment areas. It is surrounded by 21 miles of levees and has 15 associated water control structures.





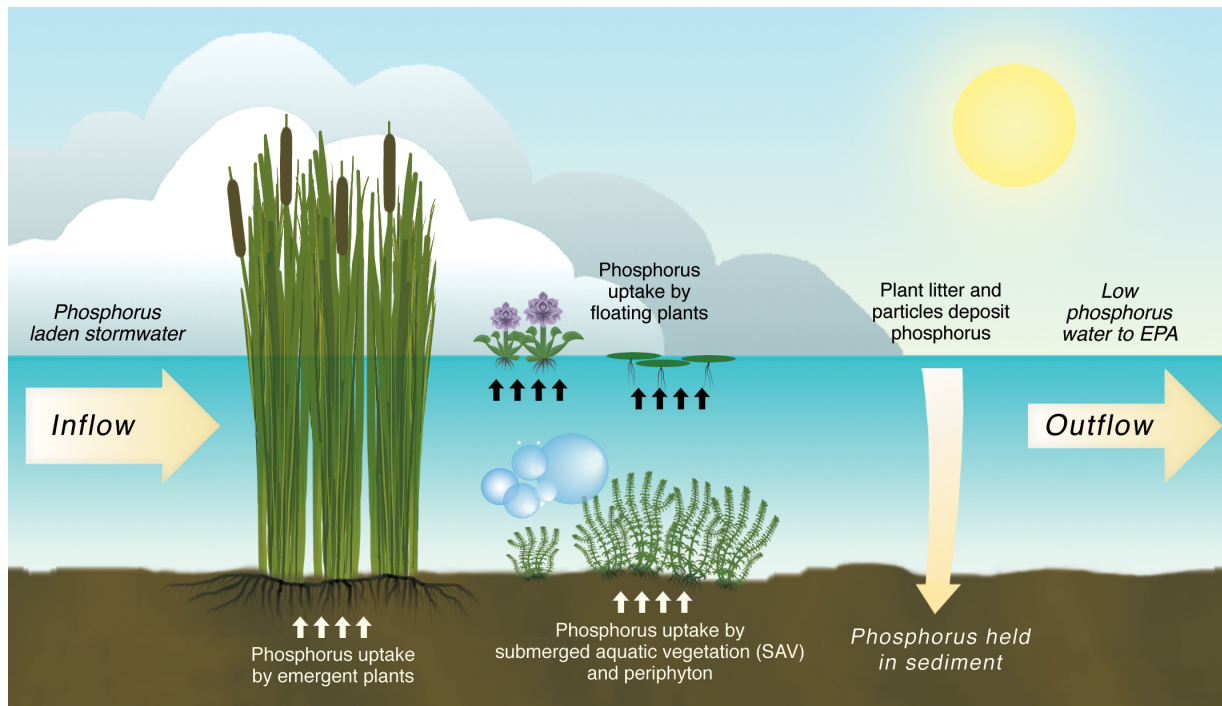
# PHOSPHORUS

An Everglades  
Success Story



## STORMWATER TREATMENT AREAS (STAs) NATURE'S CLEAN-UP SYSTEM

The **57,000 acres of stormwater treatment areas** – large constructed wetlands – have removed **2,329 metric tons of phosphorus**. The natural treatment works by channeling the runoff water through shallow marshes planted with aquatic vegetation that take up or absorb the phosphorus, reducing the amount of nutrients reaching the Everglades.



By using plants as part of the natural system to cleanse the water, a Stormwater Treatment Area (STA) puts biology to work. Throughout their life cycle, plants remove nutrients from the water through growth and even after they die through the accumulation of dead plant material. For example, decomposing leaves of cattail plants continue to remove phosphorus and settle to the bottom of the marsh to become wetland sediments. The limestone layer beneath the sediment absorbs and holds the phosphorus and stores it for decades.

## FARMING BEST MANAGEMENT PRACTICES (BMPs)

### CURBING PHOSPHORUS AT THE SOURCE



Farming best management practices on agricultural lands have removed **3,058 metric tons of phosphorus**. The average reduction of total phosphorus over the last 20 years in agricultural runoff from 470,000 acres south of Lake Okeechobee is 55 percent compared to before the BMP program. This success rate is over double the amount mandated by state law as part of the Everglades Forever Act.



**Above:** Trash rack to catch canal debris  
**Right:** Removal of sediments and vegetation from canals



Typical best management practices include improved fertilizer application techniques, control of soil erosion and improved onsite water retention and management techniques.

## Why

### PHOSPHORUS IS HARMFUL TO THE EVERGLADES

Though phosphorus is a vital nutrient in natural systems, it is also a component in fertilizer and, in excess, causes undesirable algae and plant growth. It flows across the landscape in stormwater runoff (urban and agriculture), disrupting native plant and wildlife habitats and food sources.

The Everglades is a naturally low-nutrient system and even small amounts of additional nutrients can upset the ecological balance.

*The Everglades Forever Act and other legal requirements provided specific guidelines to improve Everglades water quality in the mid-1990s. A regulatory component required improved farming methods to curb phosphorus in stormwater runoff. Another key component provided for initial construction of Stormwater Treatment Areas to help uptake nutrients from water before it flows into the Everglades.*

## How

### PHOSPHORUS HAS BEEN REDUCED TO INCREASE VOLUMES OF CLEAN WATER NOW FLOWING INTO THE EVERGLADES

- Florida has invested \$1.8 billion to improve water quality
- Florida built massive wetlands (stormwater treatment areas) to clean water
- Florida worked with agricultural community to control phosphorus at the source

Today, 57,000 acres of stormwater treatment areas and extensive best management practices have removed approximately 5,400 metric tons of phosphorus in water flowing to the Everglades – water conservation areas and Everglades National Park.