Everglades Stormwater Treatment Area Historical Overview

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WRAC Public Forum
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Actions Prompting STA Construction

USA Lawsuit
Everglades Forever Act
The Phosphorus Rule

Presenter: Lawrence Glenn

USA Lawsuit

- USA Lawsuit – 1988
  - US vs. FDEP/SFWMD – Damage occurring to Federal Property from EAA runoff
    - Loxahatchee National Wildlife Refuge
    - Everglades National Park
- Settlement Agreement – 1991
- Consent Decree – 1992
  - Court given enforcement jurisdiction over parties and terms of agreement

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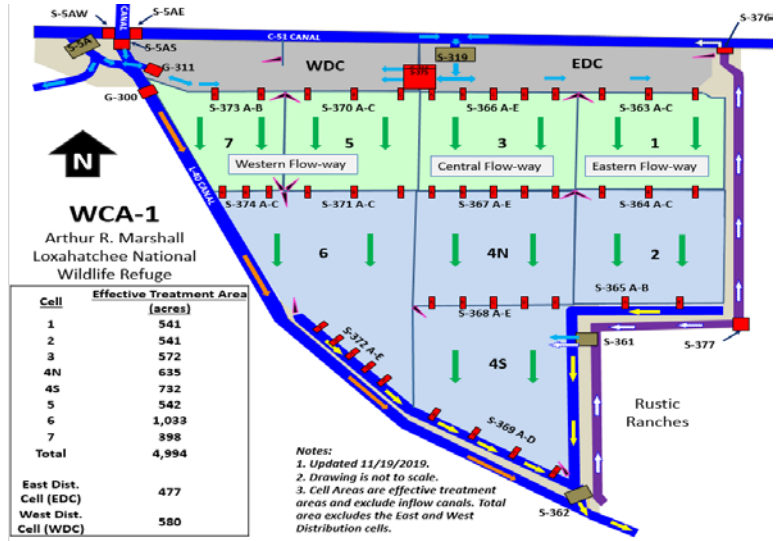
Goals of Consent Decree

Reduce Phosphorus loads from EAA to the Everglades Protection Area

- Construct STAs
- Implement BMPs (25% reductions)
- Conduct research and monitoring
  - Phosphorus limits to ENP and Refuge
  - Determine numeric nutrient criteria for Everglades



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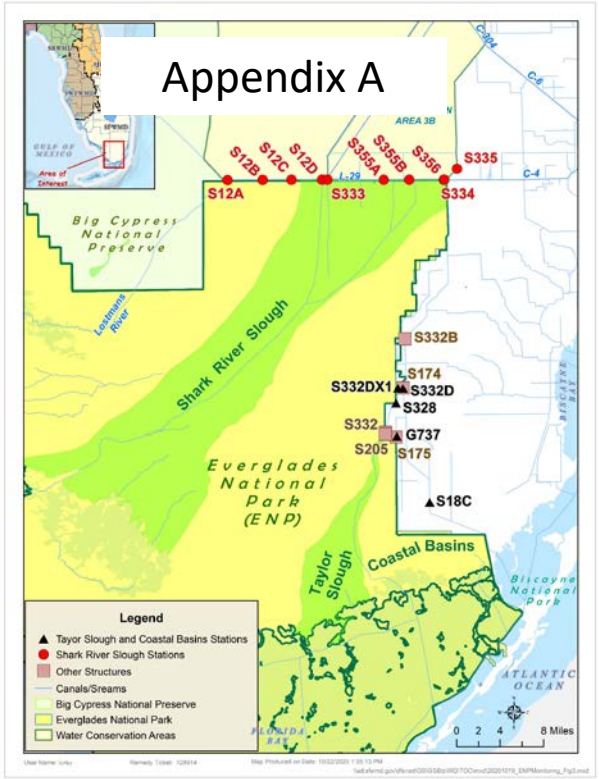
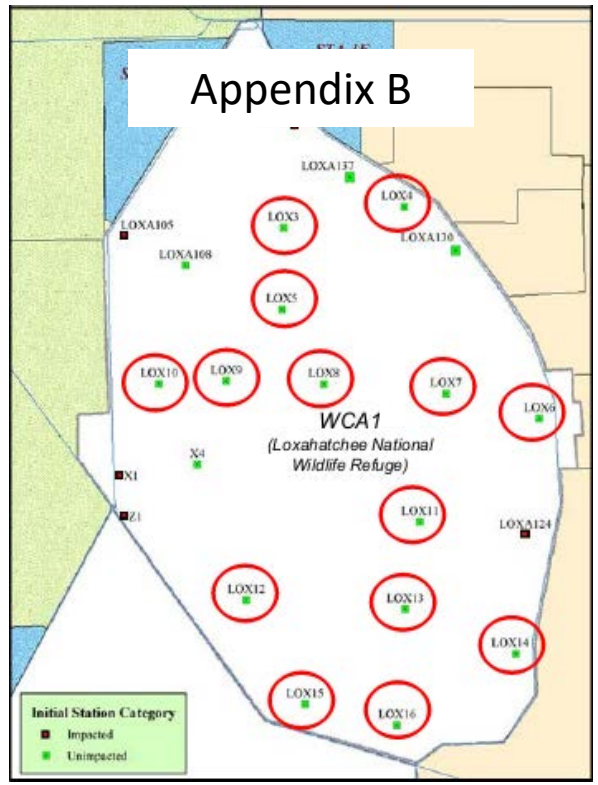
Consent Decree Phosphorus Limits Appendix A & B





Set total phosphorus limits to inflow to ENP (Shark River Slough & Taylor Slough)

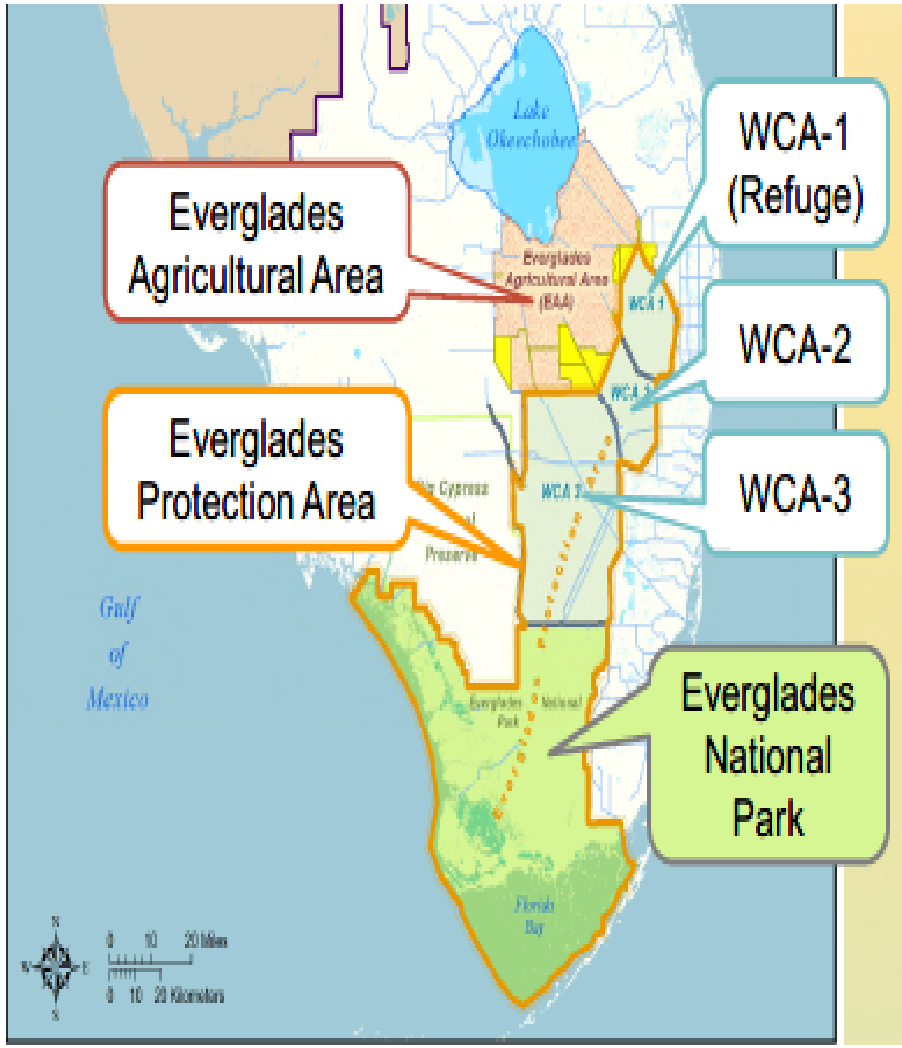
- SRS: 7.6 ppb – 12.8 ppb annual flow-weighted mean
- TS: 11 ppb annual flow-weighted mean

Set total phosphorus limits in Refuge

- 14 interior sites
- 7.2 ppb – 17.5 ppb monthly geometric mean; stage dependent

Everglades Forever Act and The Phosphorus Rule

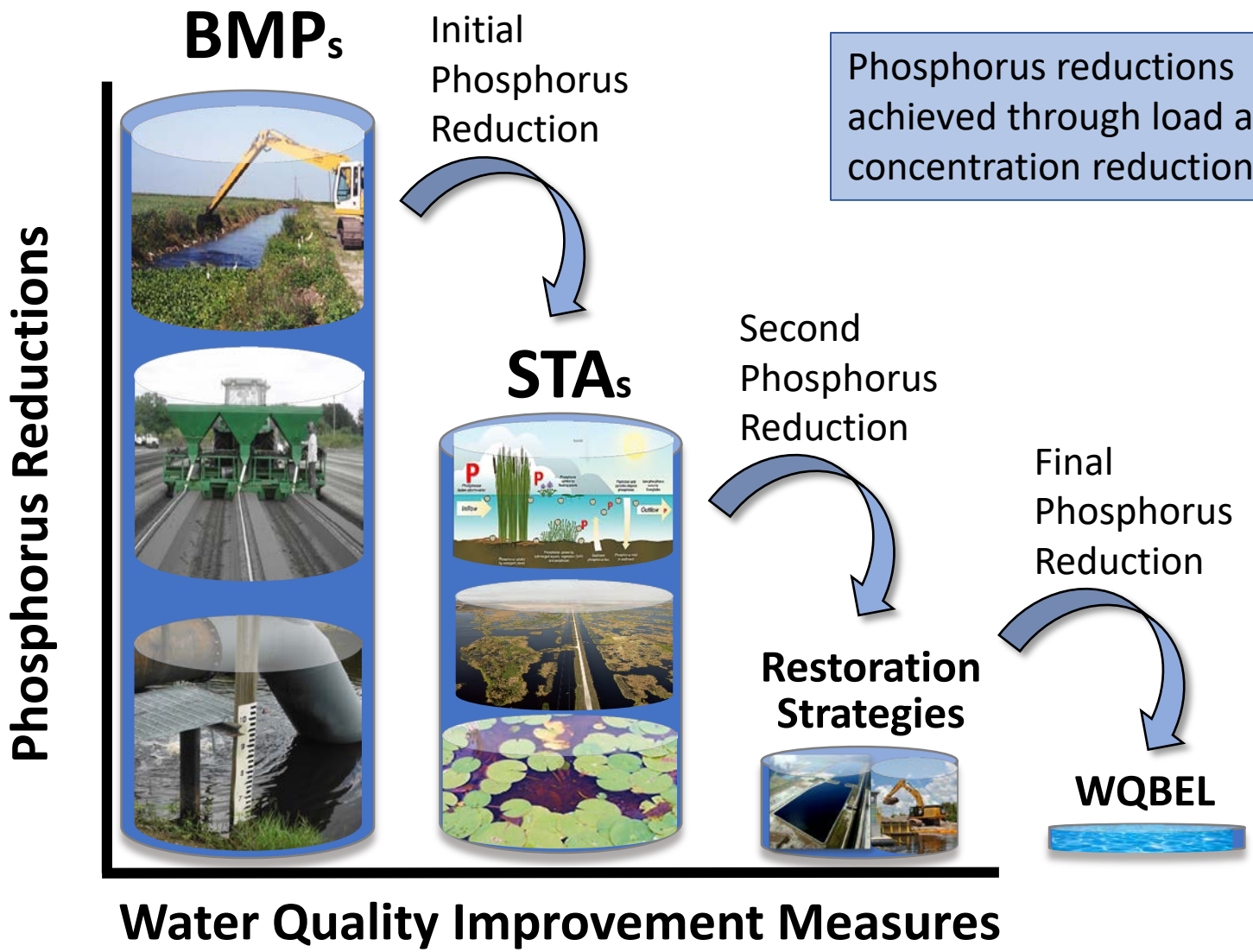
- State of Florida adopted the Everglades Forever Act in 1994
  - Construct STAs
  - Implement BMPs
  - Extend water quality efforts to entire EPA (WCAs 1, 2, 3; ENP)
  - Ag privilege tax – EAA & C-139 Basins
  - Develop State phosphorus numeric nutrient criteria
- The Phosphorus Rule – 2004
  - FDEP adopted state numeric phosphorus criterion
    - Water Conservation Areas – 10 ppb annual geometric mean
      - Impacted areas – soils greater than 500 mg/kg in upper 10 cm soil; unimpacted areas
    - Refuge
      - 10 ppb annual geometric mean at 24 marsh stations; Consent Decree Appendix B not as protective
    - ENP
      - Adopted phosphorus limit set in Consent Decree Appendix A



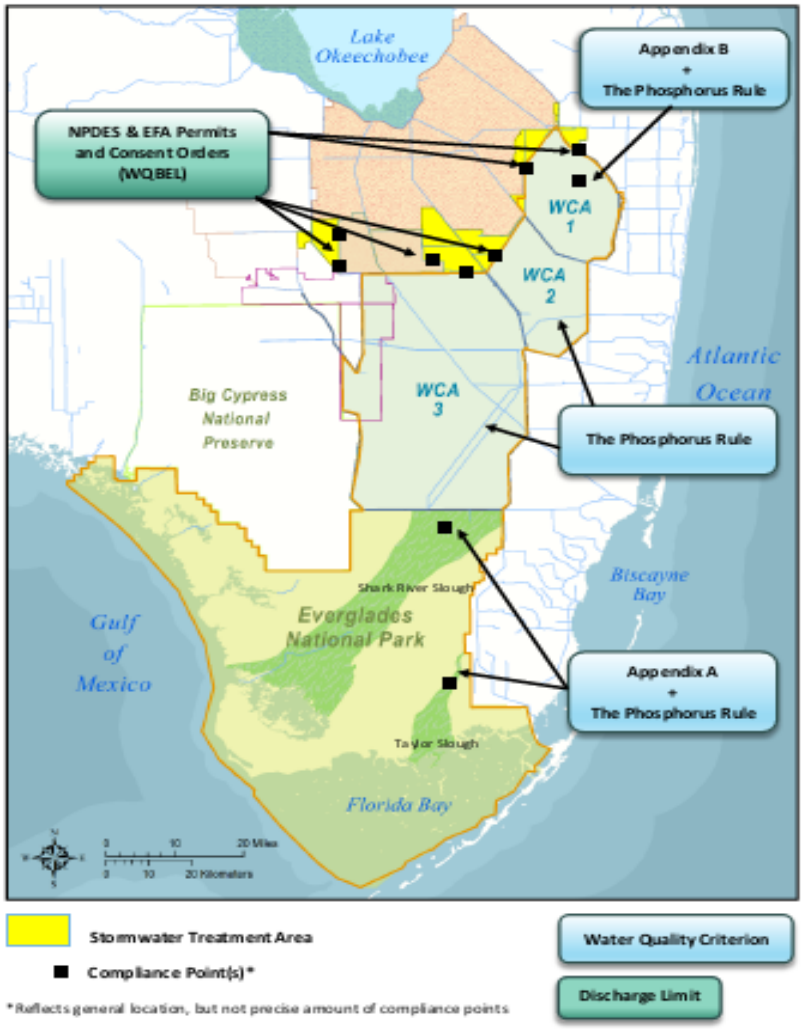
The Gold Case

- Miccosukee Tribe of Indians of Florida vs. USEPA
  - Challenged 2003 Everglades Forever Act Amendment and 2004 Phosphorus Rule
    - Claimed USEPA violated the Clean water Act because it did not consider the amendments to be a change in water quality standards and thus, did not evaluate them under the Clean Water Act before allowing the State to adopt them.
- Amended Determination – 2010; Judge Gold approval 2012
  - Approved State numeric criterion in The Phosphorus Rule without moderating provisions
  - Approved Water Quality Based Effluent Limit (WQBEL)
- NPDES and EFA Permits – 2012
  - Require each STA to meet WQBEL – Two Part Test
    - Total phosphorus long-term flow weighted mean 13 ppb, not to be exceeded more than 3 out of 5 years on a rolling basis, and
    - Maximum total phosphorus annual flow weighted mean of 19 ppb in any water year

Meeting WQBEL and State Criteria

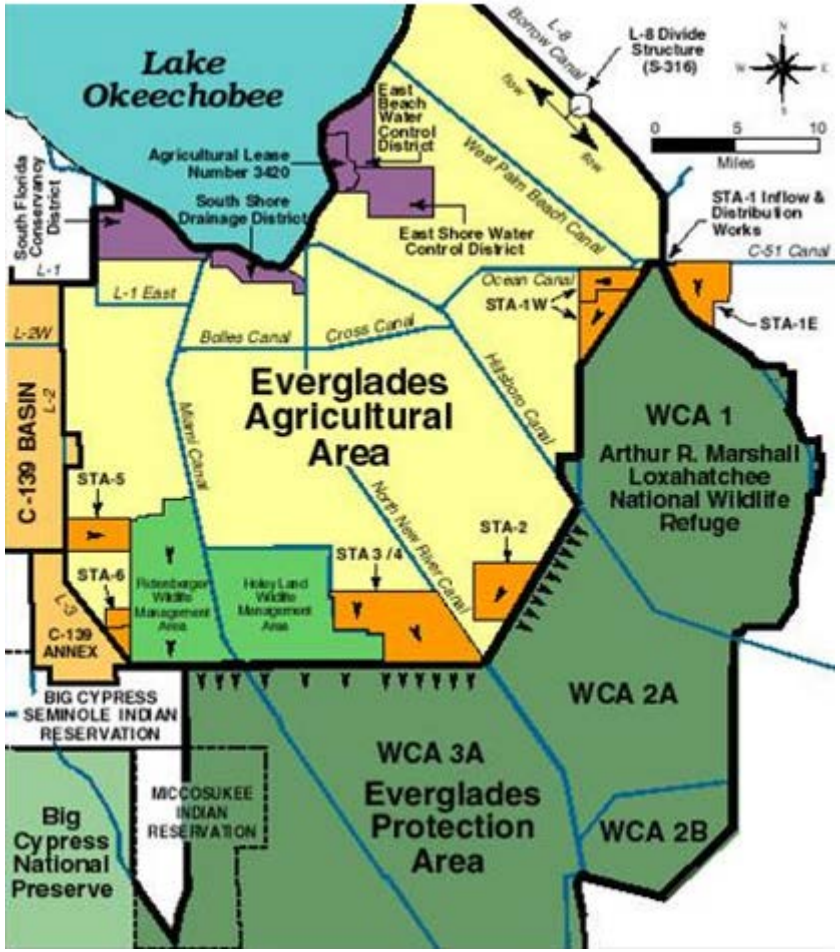


Phosphorus reductions achieved through load and concentration reductions



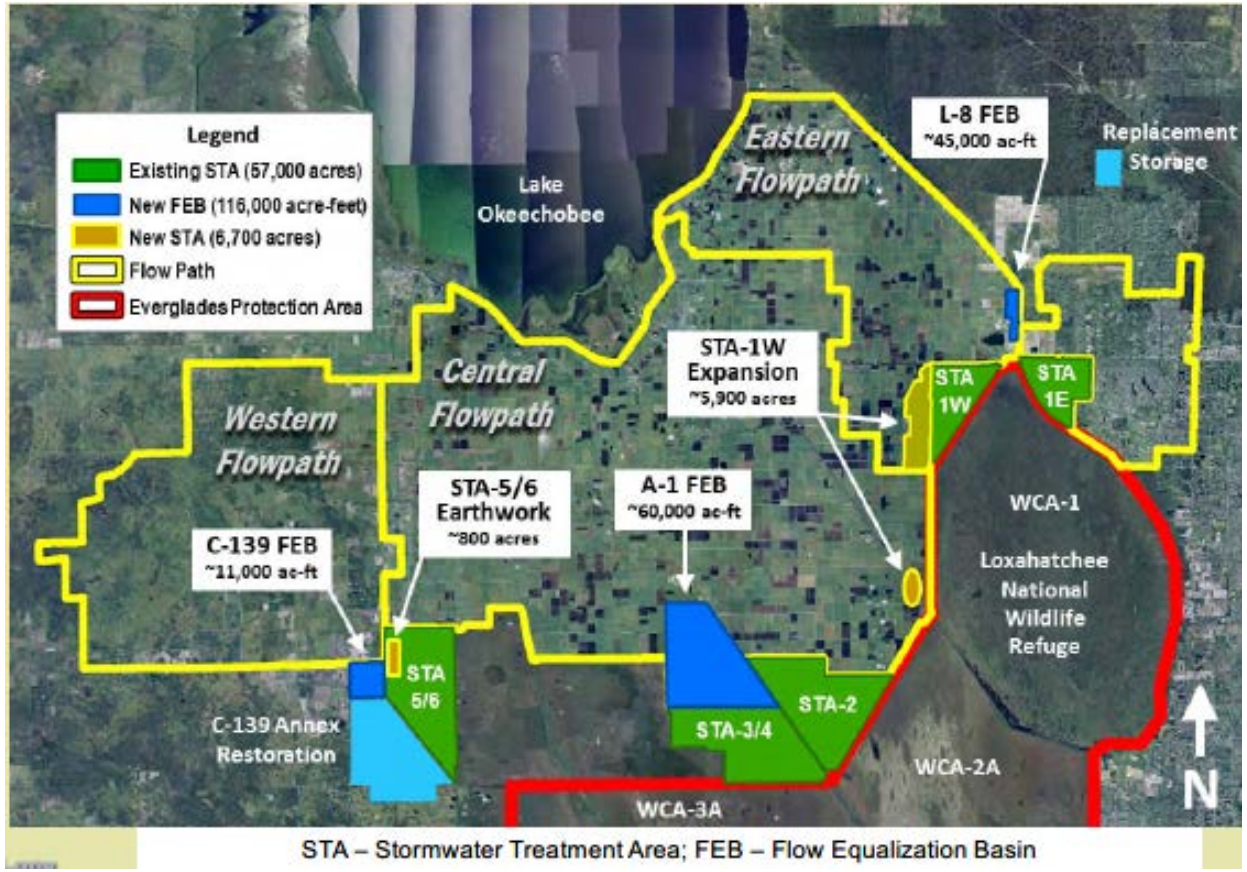
Everglades STA Project Purpose

- 1988 USA Lawsuit, Settlement Agreement and 1994 Everglades Forever Act
  - Primary Objective - Treat EAA Runoff (S-5A/S-6/S-7/S-8 Basins)
  - Secondary Objective – Treat runoff from C-139 and C-51W Basins and 5 special drainage districts
    - Increase water sent to Everglades
    - Reduce discharges to Lake Worth Estuary and Lake Okeechobee
  - 40,000 acres of STAs designed to achieve interim Total Phosphorus (TP) discharge target of 50 ppb
  - Total design average annual STA inflow volume 1,162,700 acre-feet
    - Lake Regulatory Release capacity ~250,000 acre-feet (20% of total)



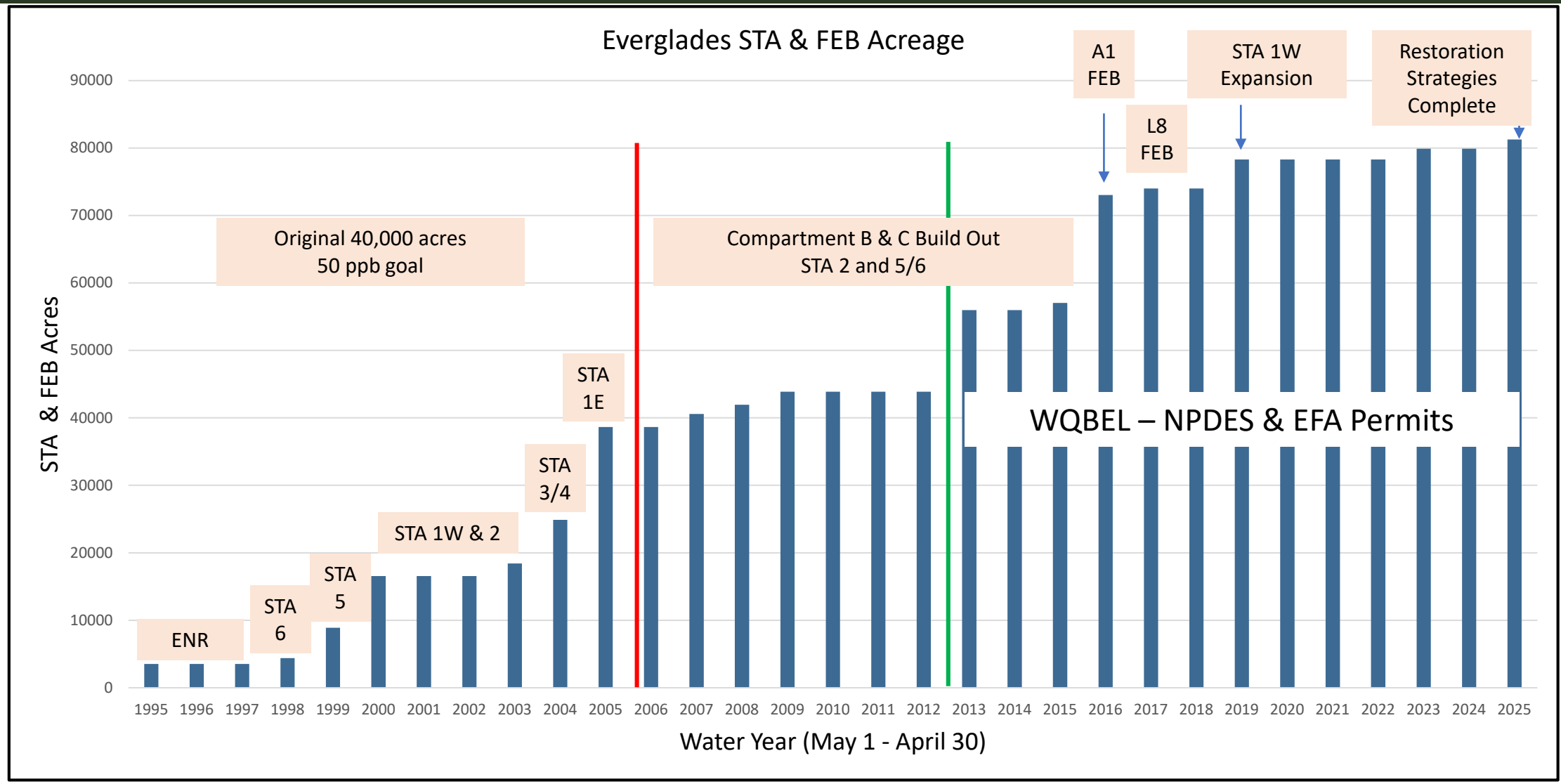
Everglades STA Project Purpose

- Judge Gold's order, 2012 Restoration Strategies and 2013 Everglades Forever Act
  - Project Objectives same as original
  - Updated basin runoff data (flows, TP loads and TP concentrations)
  - Requirement to expand STAs and construct FEBs to achieve WQBEL of 13 ppb
    - Total 64,000 acres of STAs and three FEBs providing 116,000 acre-feet of storage
  - Total design average annual STA inflow volume 1,487,300 acre-feet
    - Lake Regulatory Release capacity ~58,300 acre-feet (4% of total)



STA – Stormwater Treatment Area; FEB – Flow Equalization Basin

Everglades STA and FEB Acreage Timeline



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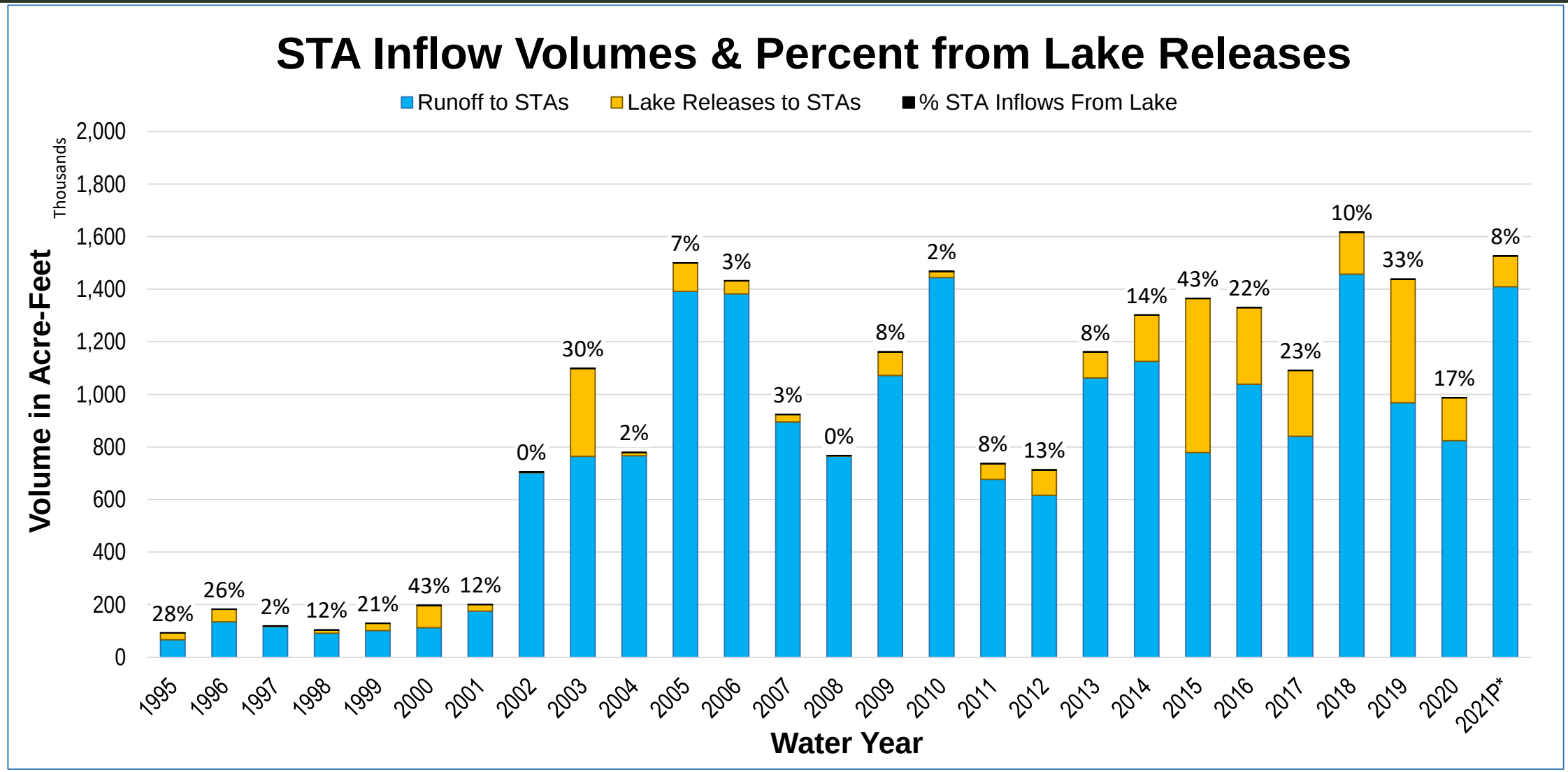
STA Inflow Volumes



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*Includes preliminary data; *WY2021P through 3/14/2021*

Thank You!

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