

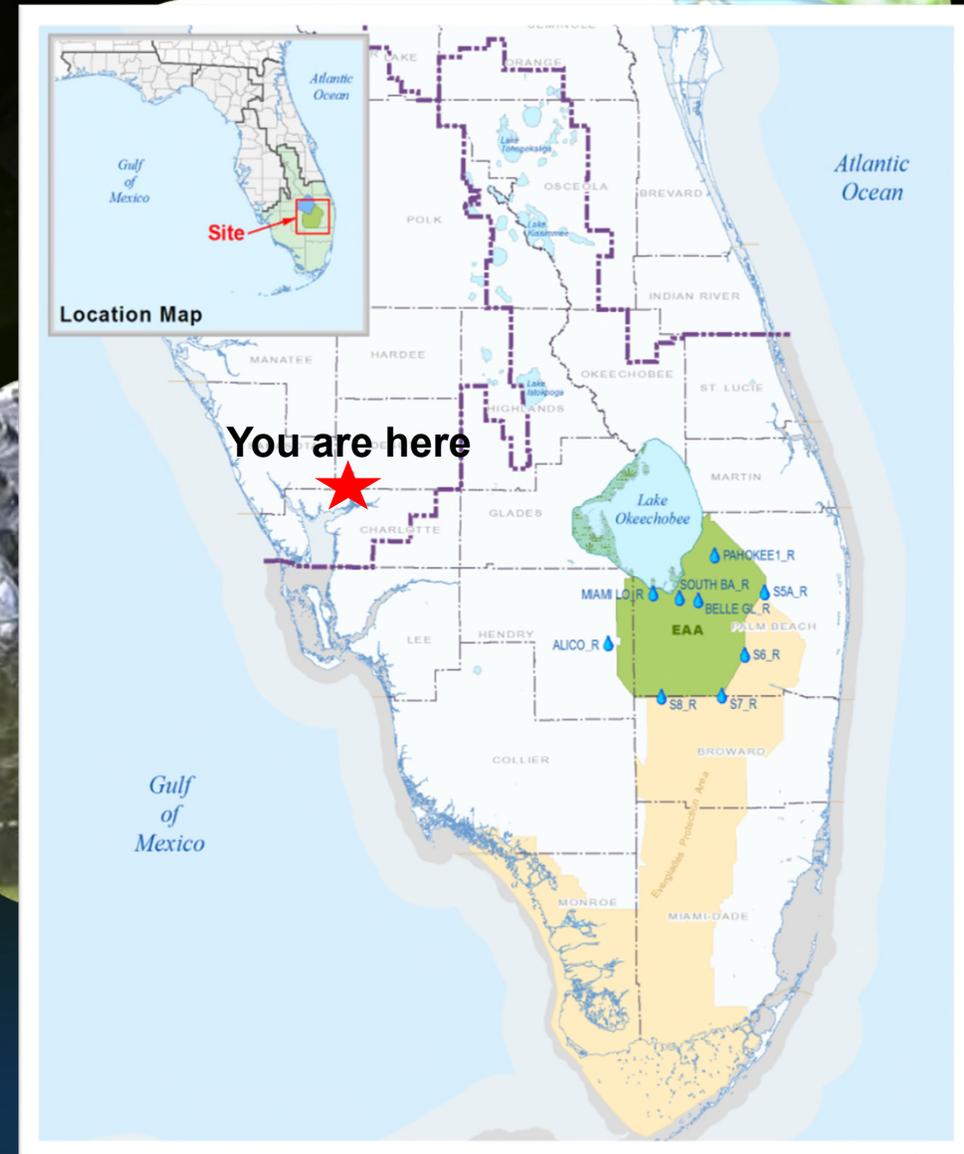


Everglades Agricultural Area Source Control Program: Contributing to the Restoration of the Everglades Ecosystem

Ximena Pernet, P.E.
Bureau of Everglades Regulation
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The Everglades Ecosystem

- Natural drainage: Kissimmee River – Lake Okeechobee – Everglades – Florida Bay
- Supports unique wildlife and agriculture
- Main drinking water source in South Florida
- 1988 – Conflicting priorities and lawsuits
- 1994 – Everglades Forever Act (EFA) adopted



Everglades Restoration Strategy

**Stormwater Treatment Areas
(Regional Projects)**



**Restore
The Everglades**



**Source Controls
(Best Management Practices)**



Everglades Agricultural Area (EAA) Basin

- Major phosphorus (P) contributor
- 470,000 acre watershed
- Sugarcane, vegetables, rice, sod
- Mandatory implementation of best management practices (BMP) started in 1994



Mandatory EAA BMP Program

- Adopted by rule in 1992
- Key components:
 1. Comprehensive BMP Plans
 2. Implementation Deadlines
 3. Verification through Field Visits and Reporting
 4. Program Evaluation
 - a. Water Quality Monitoring: Watershed and Individual
 - b. Compliance Methodology
 5. Adaptive Management through Lessons Learned

Mandatory EAA BMP Program: Components

1. Comprehensive BMP Plans



Limit TP Imports
(TP concentration)

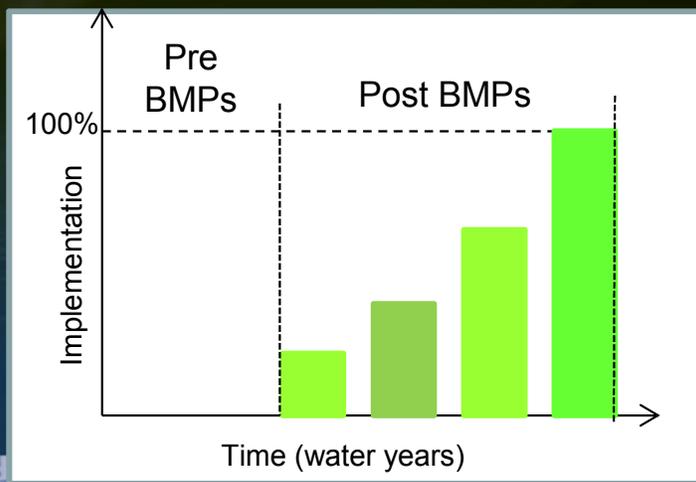


Minimize Off-site
Transport of TP (Volume)



**TP
Loads**

2. Implementation Deadlines



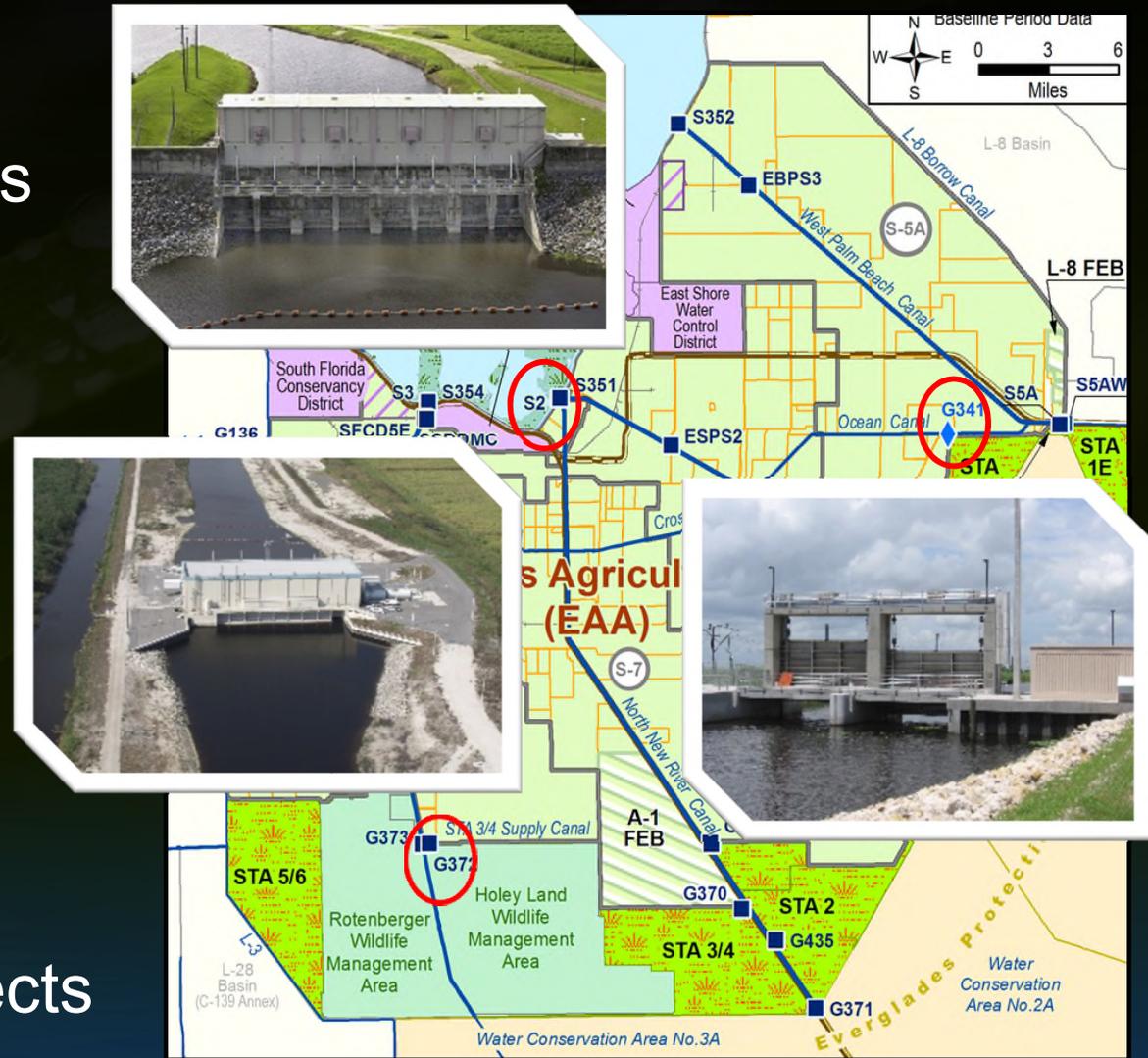
3. Verification Visits



4a. Program Evaluation: Water Quality Monitoring

Basin Level:

- Inflow and outflow points monitored for:
 - ✓ TP concentration
 - ✓ Flow
- Assess program performance
- Identify areas of water quality concern
- Enhance downstream treatment regional projects



4a. Program Evaluation: Water Quality Monitoring

Individual Level:

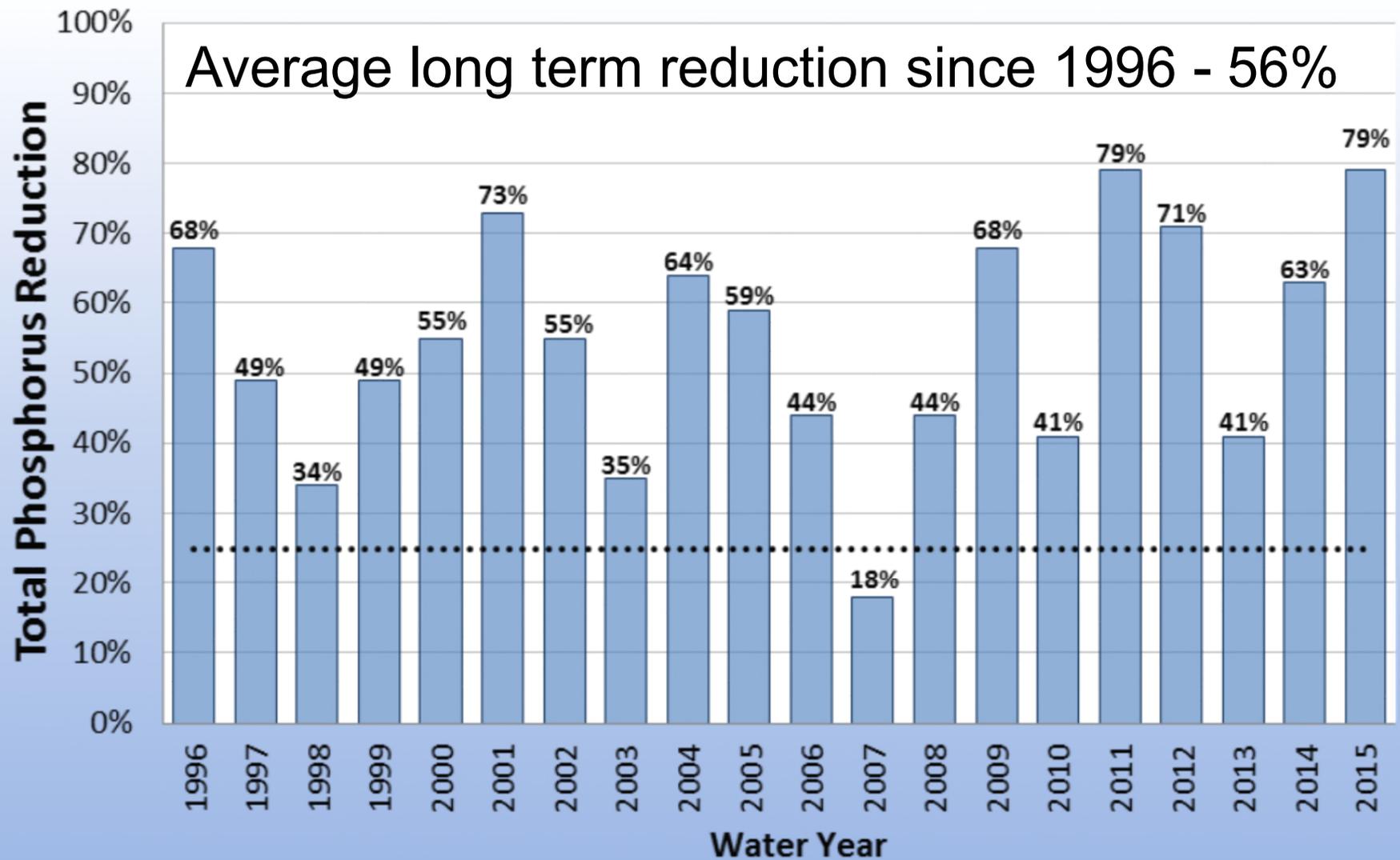
- Offsite discharges monitored for:
 - ✓ TP concentration
 - ✓ Flow
 - ✓ Rainfall
- Secondary compliance
- Identify opportunities for BMP optimization
- Track individual water quality trends



4b. Program Evaluation: Compliance Methodology

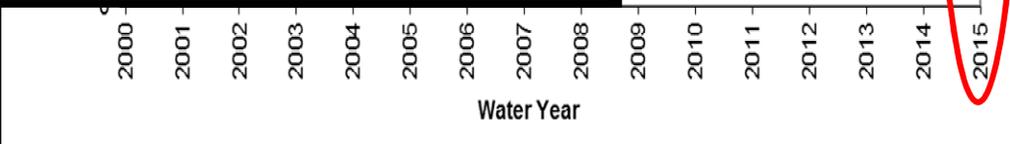
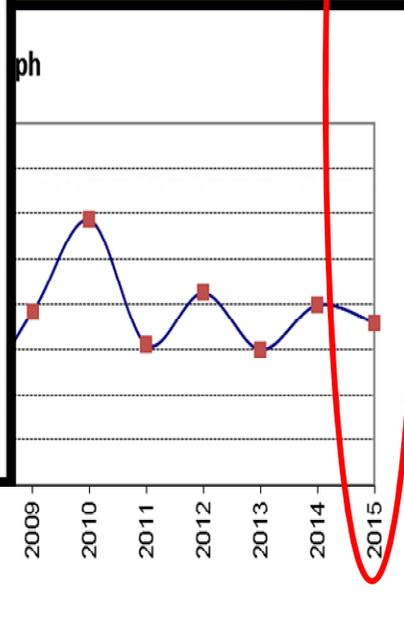
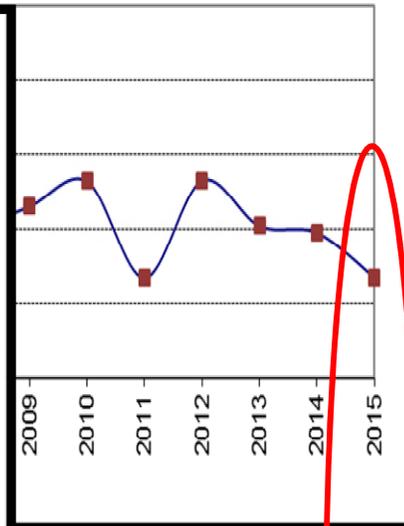
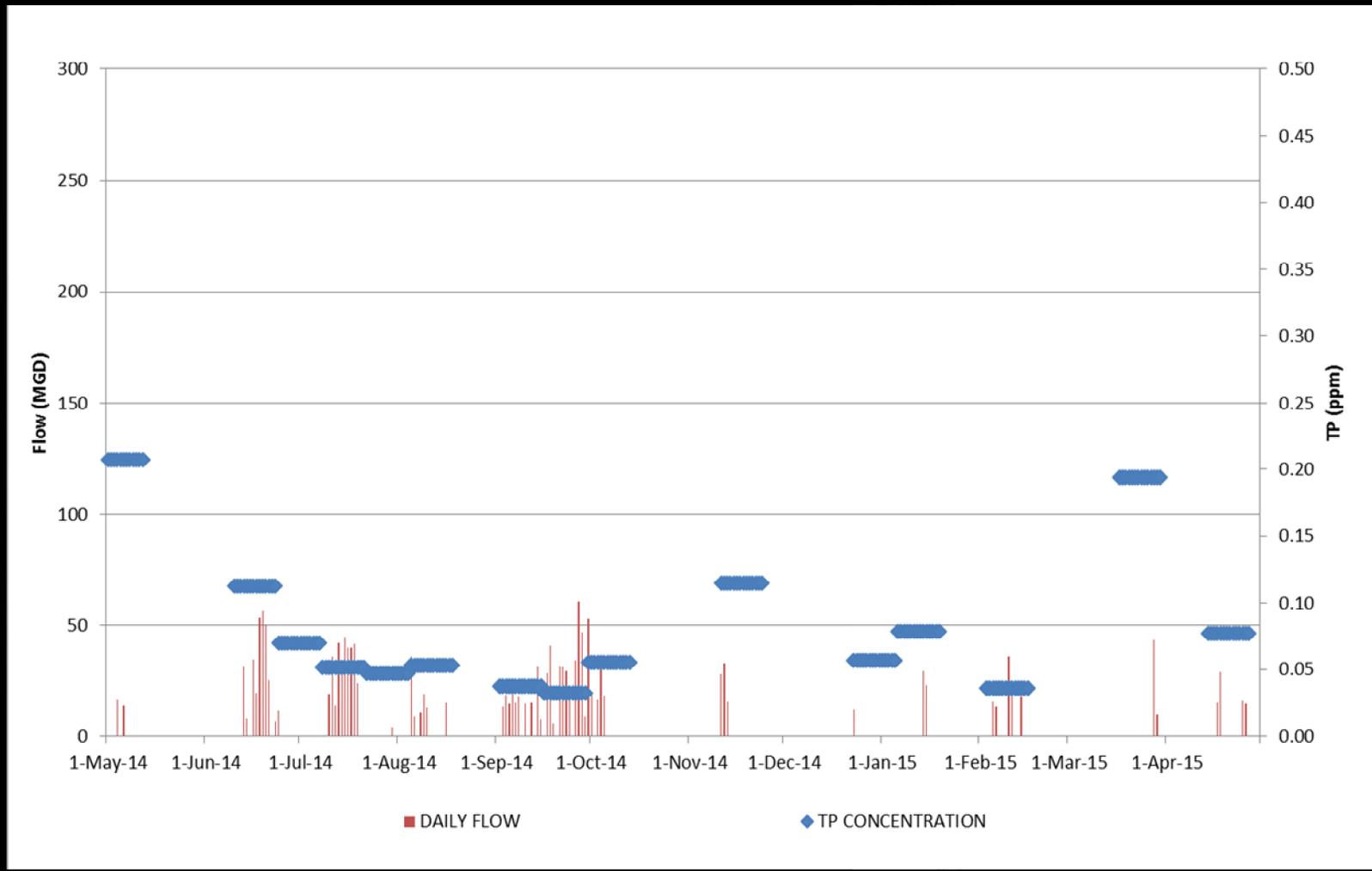
- Pre-BMP TP load base period (WY1980 – 1988)
- Mathematical model used to predict TP load
 - ✓ *Accounts for hydrologic variability*
- TP load runoff is calculated annually and compared with the TP load predicted by the model
 - ✓ *Only TP loads generated from EAA Basin landowners*
- If a year TP load is at least 25% less than the predicted TP load, the basin is in compliance
 - ✓ *25% is the expected BMP effectiveness*
- If basin is out of compliance, individual level data are used for a secondary compliance method

How is the EAA Basin doing?



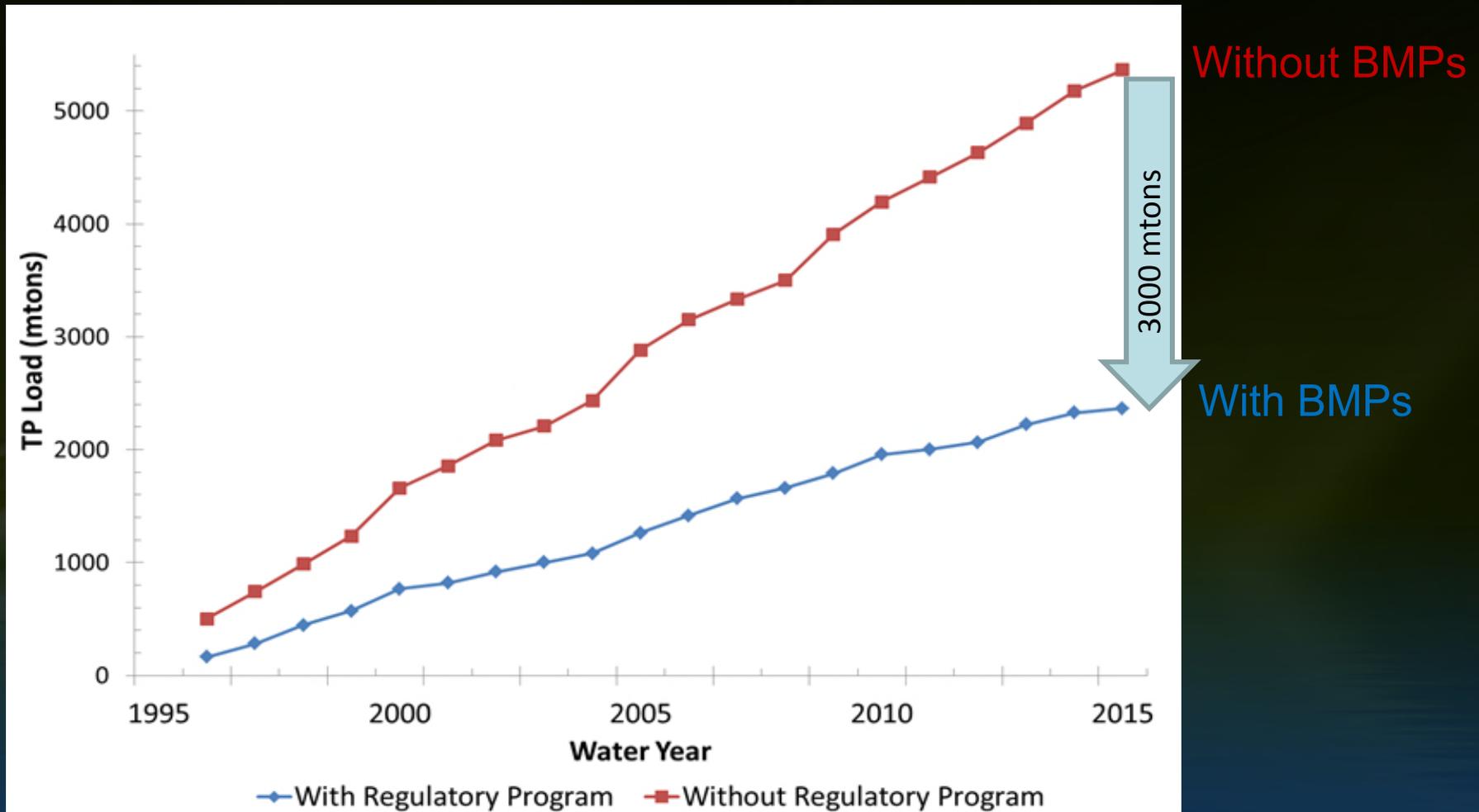
What about the individual farms?

Concentration Summary Graph



And what does this mean?

BMPs Prevented 3000 mtons of Phosphorus from Entering STAs



EAA BMP Program Summary

- Celebrated 20 years of success (1995 – 2015)
- Provides legally defensible verification of performance based on BMP implementation, field visits and reporting, and water quality monitoring
- Water quality monitoring is essential to measure the success of the program and to identify areas needing attention
- Continues to be extremely successful with a long-term reduction of P in runoff averaging 56%

Additional Information

- 2016 South Florida Environmental Report (SFER)
 - ✓ Volume I, Chapter 4 – Nutrient Source Control Programs
- SFWMD Regulatory Source Control Programs and Best Management Practices
 - ✓ www.sfwmd.gov/sourcecontrols



Questions?

Ximena Pernet, P.E., Engineer Supervisor

Bureau of Everglades Regulation

[E-mail: xpernett@sfwmd.gov](mailto:xpernett@sfwmd.gov)

Phone: (561) 682-2928