



Agenda Item 30

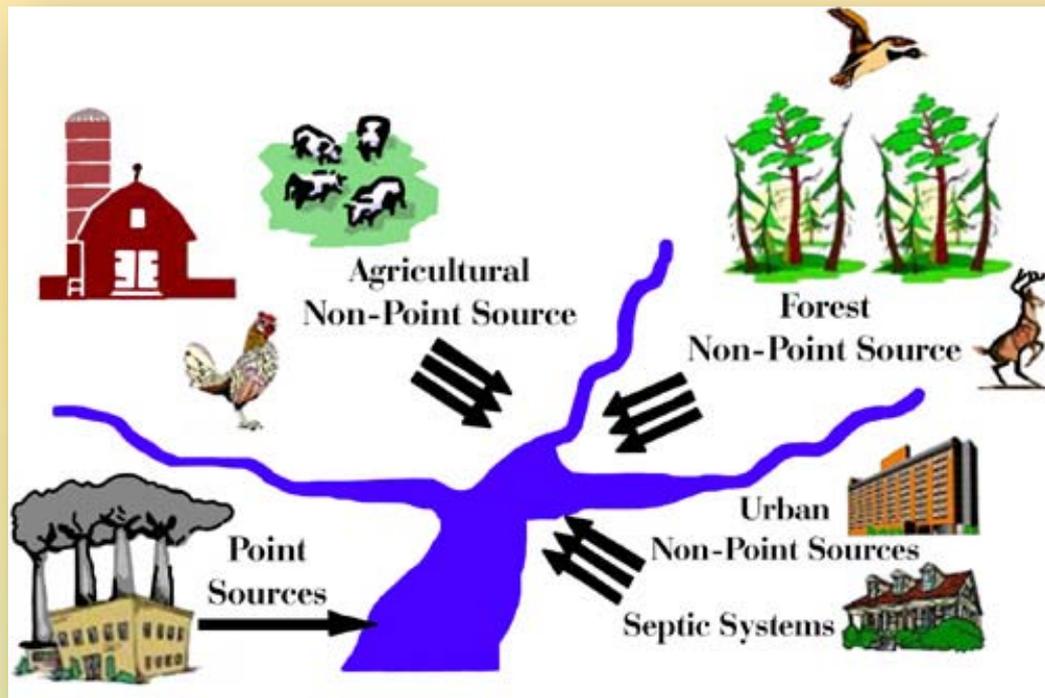
Source Control Programs Overview and EAA and C-139 Basin Annual Update

Pamela Wade, PE, Bureau Chief
Everglades Regulation
August 11, 2011 Governing Board Meeting

What are Source Controls?

Operational practices and structural features at the source to prevent pollution offsite.

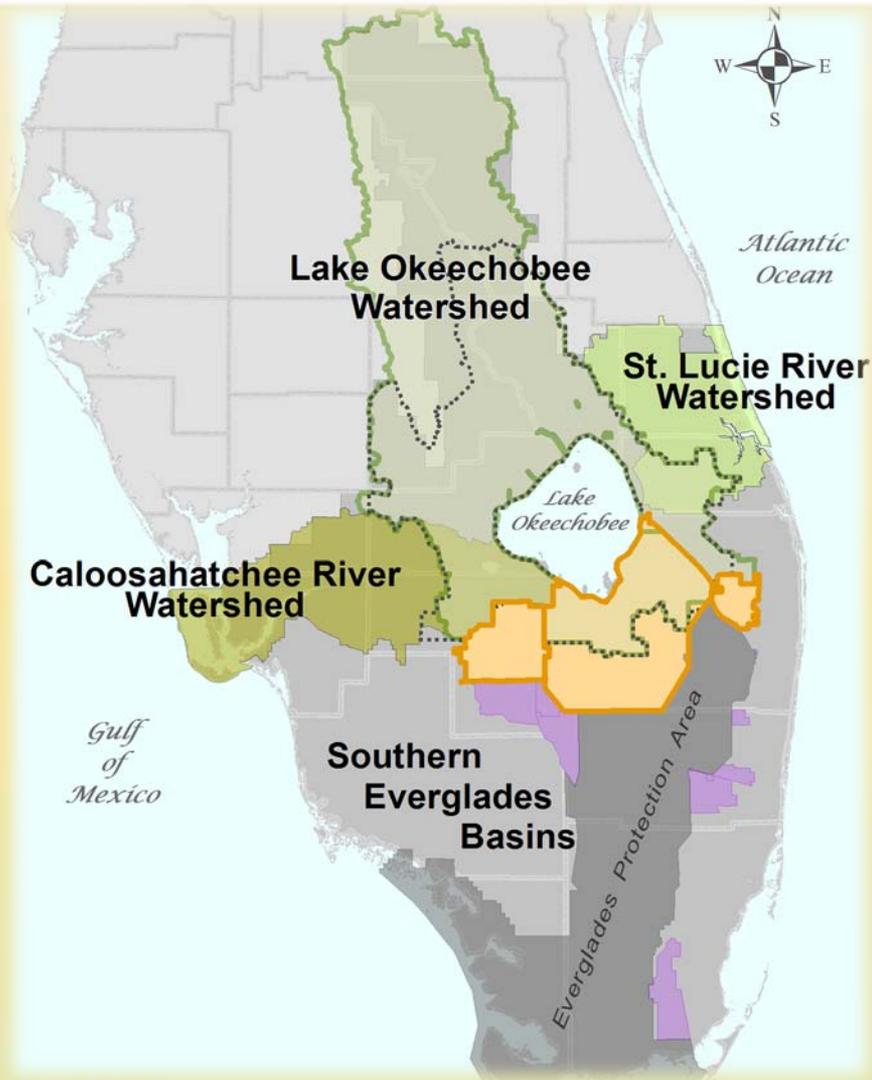
Sources:



Controls:

- Improved water management and restoration
- Best management practices (BMPs)
- Regulations
- Onsite treatment technologies

Overview



- Legislative intent drives how programs are implemented
- Southern Everglades
 - Everglades Forever Act (EFA)
 - Long-Term Plan
- Northern Everglades
 - Northern Everglades and Estuaries Protection Program (NEEPP)
 - Lake Okeechobee Protection Plan
 - St. Lucie River Protection Plan
 - Caloosahatchee River Protection Plan

Treatment Train for Water Quality

Source Controls



Sub-Regional and Regional Stormwater Projects



Construction Projects

Ecosystem Restoration



Best Management Practices (BMPs)

Agricultural BMPs



Canal cleaning



Water Management and Monitoring Plan



Street Sweeping



Silt Fencing

Non – Agricultural / Urban BMPs

Additional Best Management Practices

Nutrient Management



Soil Testing



Spill Prevention



Banding



Plastic Mulch

Particulate Matter and Sediment



Filter strips



Field ditch sumps



Debris barriers



Fallow flooded fields

Water management



Runoff detention via pump or gravity control structures



Reservoirs

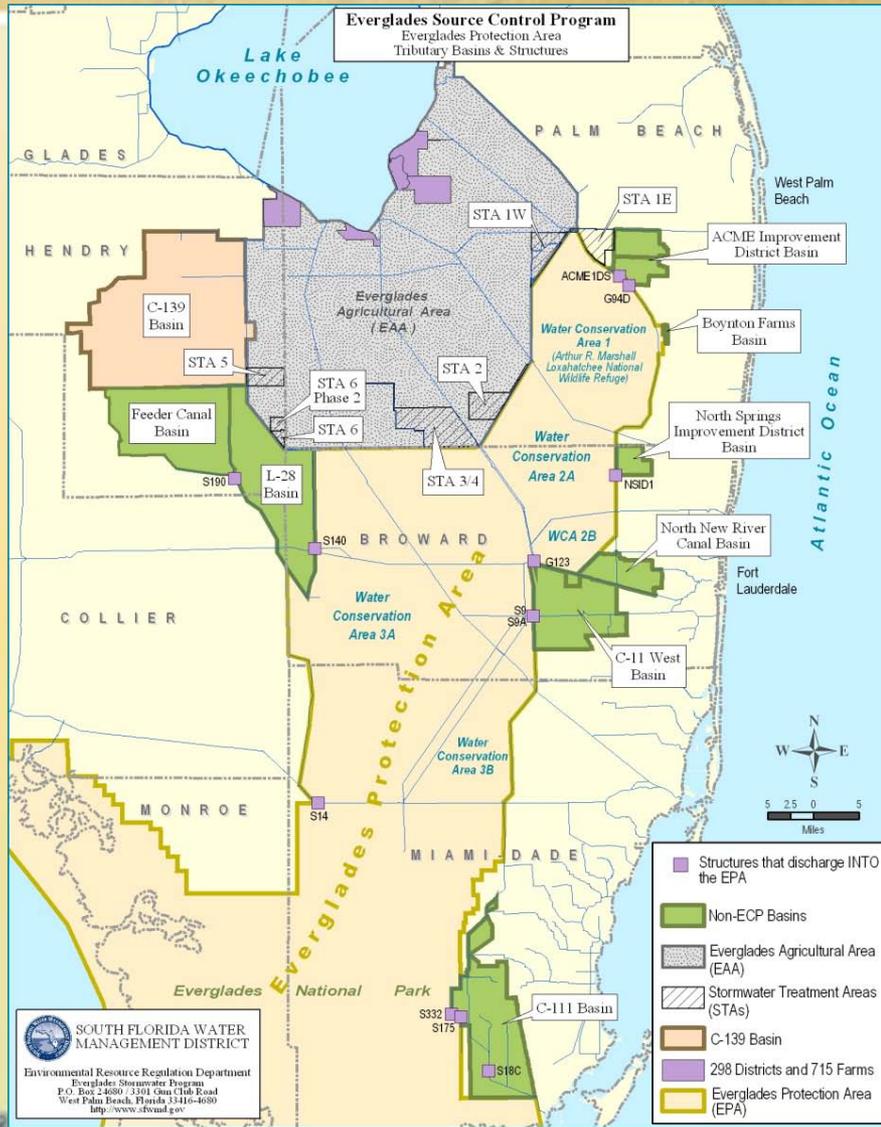
Source Control Programs by Coordinating Agencies

- Florida Department of Environmental Protection (DEP)
 - *State-wide Point and Non-Point Source Control Programs*
- South Florida Water Management District
 - *Mandatory Non-Point Source Control Programs in Specified Watersheds*
- Florida Department of Agriculture and Consumer Services (DACCS)
 - *State-wide Voluntary and Incentive-based Non-Point Source Control Programs Specific to Agriculture*

7 Essential Components of Successful Source Control Programs

1. Comprehensive BMP Plans
2. Deadlines for Implementation
3. Field Inspections for Verification
4. Water Quality Monitoring
5. Performance Metrics
6. Research and Demonstration Projects
7. Cost Effectiveness

Southern Everglades Source Control Program



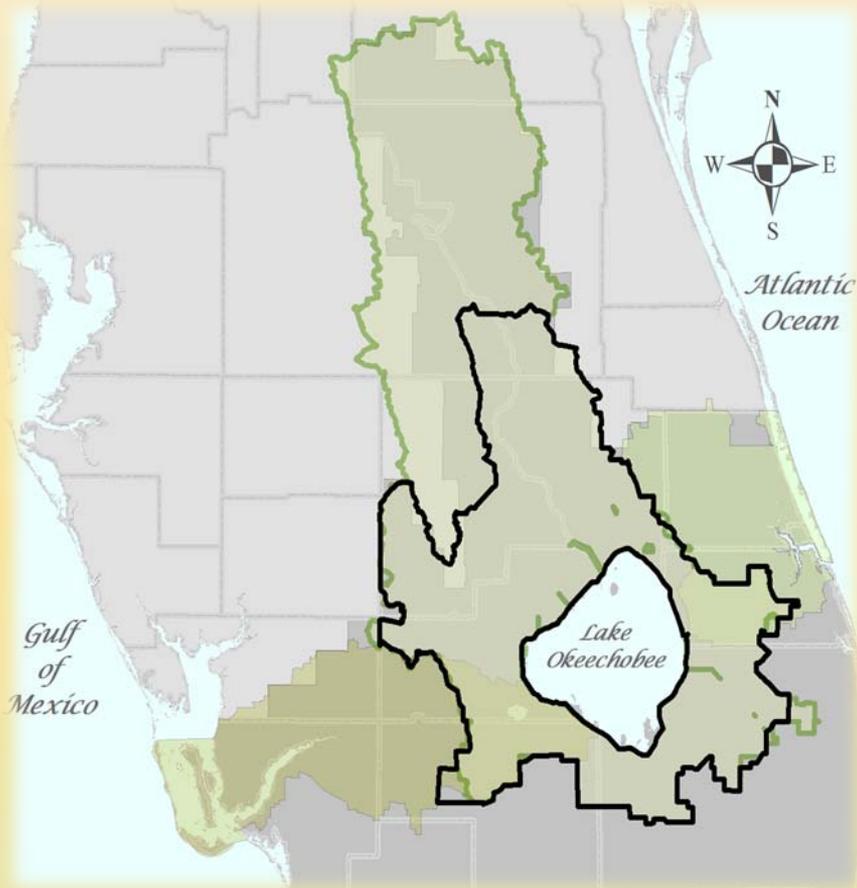
Everglades Agricultural Area (EAA) and the C-139 Basins

- Deadlines for BMP Implementation
- Required Phosphorus Reductions
- Monitoring Networks
- Routine Inspections
- Extensive Research
- Agricultural Privilege Tax

Other Tributary Basins

- Cooperative Agreements
- Cost Share Incentives

Northern Everglades – Existing Lake Okeechobee Watershed Source Control Program



- Smaller Watershed Boundary under 1989 Rules
- Phosphorus Control Plans (BMPs) for Agricultural and Urban Areas to be Permitted by SFWMD
- Concentration Based Performance Metrics for Individual Landowners
- Monitoring Network Established to Determine Compliance

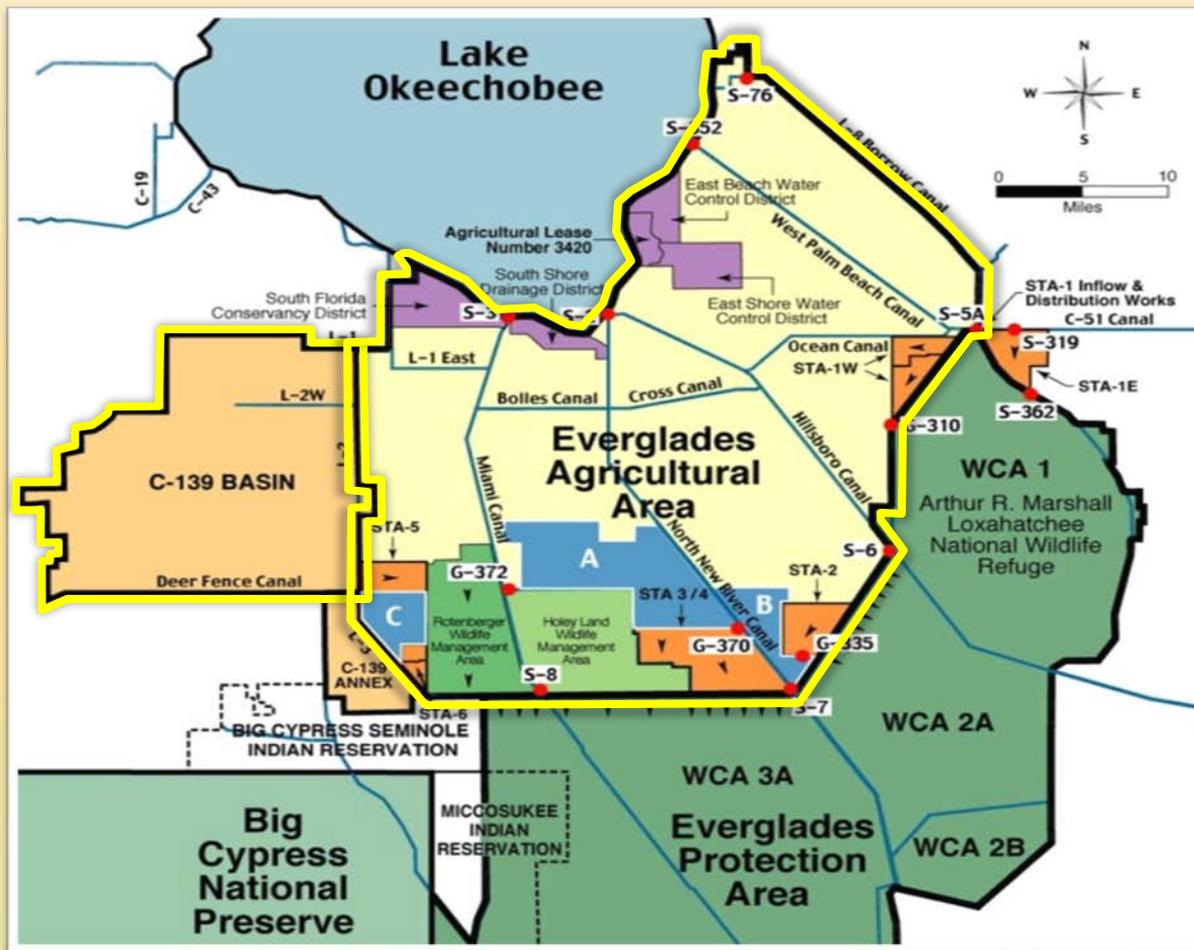
Northern Everglades - Source Control Programs Described by NEEPP



Lake Okeechobee and River Watersheds

- Mix of SFWMD Mandated and DACS Incentive Based BMPs
- DACS Presumption of Compliance for Agriculture
- Load-based Performance Measures under Development
- SFWMD Monitoring Networks under Development
- District Rule Amendments Necessary

EAA and C-139 Basin Program Performance



Everglades Regulatory BMP Program



- 640,000 acres with BMP Permits
- Comprehensive BMP Plan
 - Fertilizer Management
 - Water Management
 - Sediment Control
- Field Inspections to Verify
- Area Specific Water Quality
- Research & Demonstration
- Agricultural Privilege Tax Incentive

Annual Performance Determination

Method for Determining Compliance Established by Rule

- EAA → 25% Phosphorus Reduction
- C-139 → Maintain Historic Levels



2011 EAA Basin Phosphorus Results

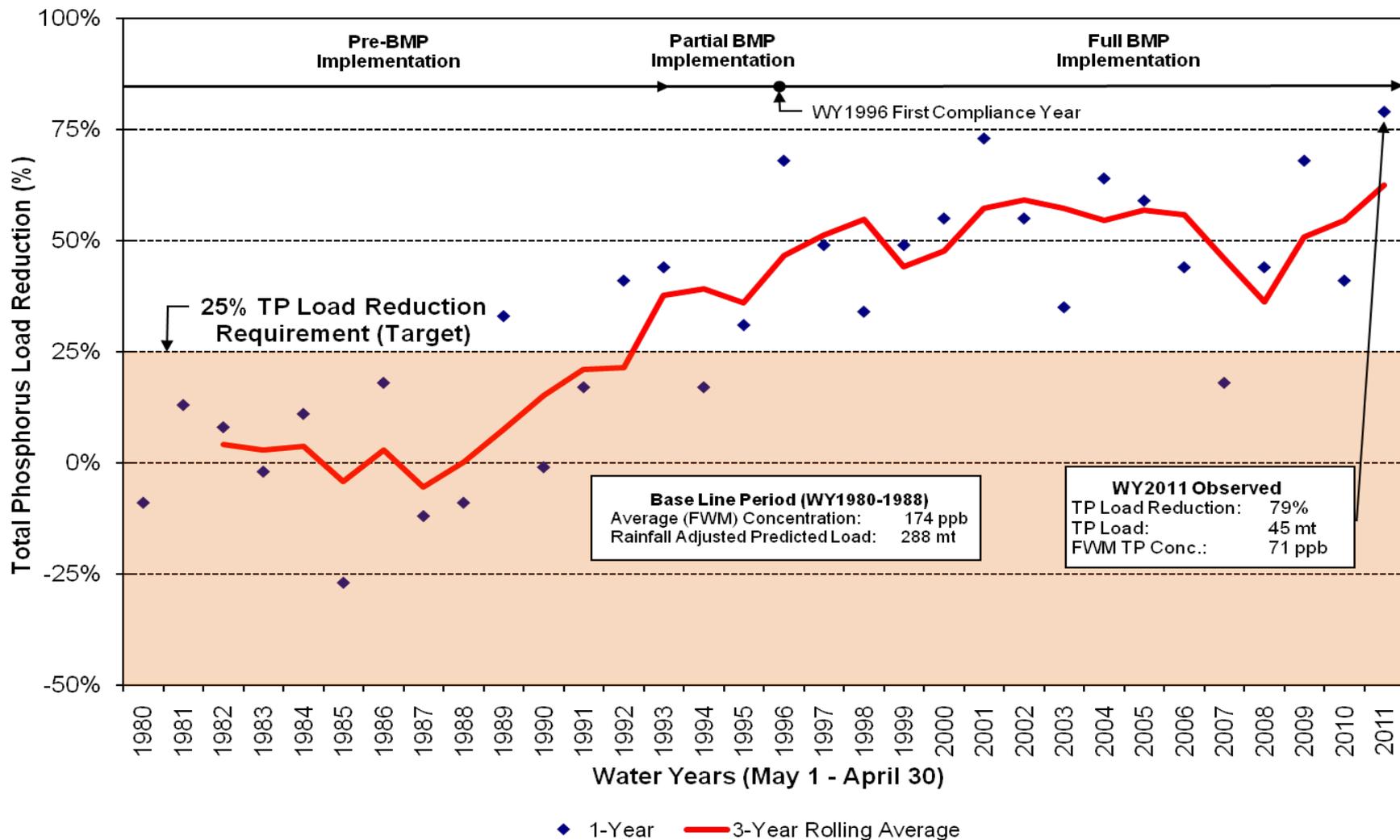
Reduction Goal	➔	25%
Observed	➔	79%

**EAA Basin
In Compliance**

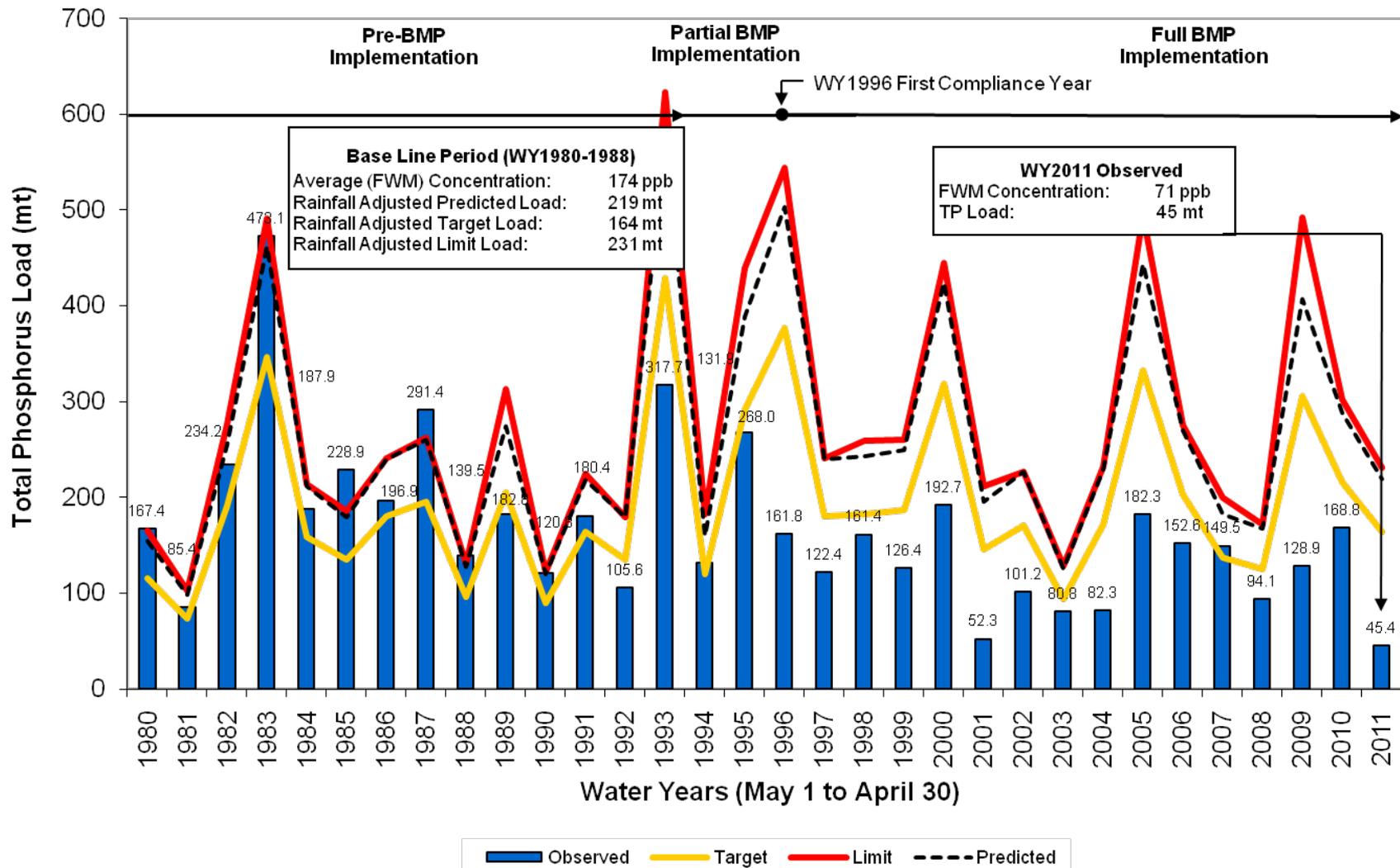


16 Years of BMPs averaging a 55% Load Reduction
BMPs have prevented 2,411 mtons of P from leaving the EAA

EAA Basin Annual TP Load Reduction



EAA Basin Annual TP Load Results



2011 C-139 Basin Phosphorus Results

Goal: Maintain Historic Loads

Target Load → 12.8 mtons
Upper Limit → 30.6 mtons

Observed → 20.2 mtons

Achieved Water Quality Performance Goal

- Rule Amendments Effective November 2010
- Permits Renewed and Updated



Source Control Programs Summary

- Southern Everglades - Successful implementation of SFWMD Source Control Programs (Regulatory Programs with Performance Metrics).
- Northern Everglades – Source Control Programs by DEP, SFWMD and DACS are progressing.
 - Regulatory and Incentive-based/Voluntary Programs with Performance Metrics under development.
 - Rule amendments are necessary to meet legislation.
- Source controls are cost-effective for improving water quality but sub-regional and regional projects are necessary to meet the ultimate water quality goals.



Questions?

