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

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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)
- Source Controls (Best Management Practices)
- Restore The Everglades

Celebrating 20 Years of the Source Control Program – 1995 - 2015
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

- Nutrient Management: Fertilizer applied at root zone
- Particulate Matter and Sediment Control: Canal/ditch cleaning
- Water Management: Control structure

Limit TP Imports (TP concentration) + Minimize Off-site Transport of TP (Volume) = TP Loads

2. Implementation Deadlines

3. Verification Visits

Implementation

100% Pre BMPs
Post BMPs

Time (water years)
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
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?

Average long term reduction since 1996 - 56%

Water Year: May 1 – April 30
What about the individual farms?
And what does this mean?

BMPs Prevented 3000 mtons of Phosphorus from Entering STAs

Without BMPs

With BMPs

Celebrating 20 Years of the Source Control Program – 1995 - 2015
EAA BMP Program Summary

- 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](http://www.sfwmd.gov/sourcecontrols)
Questions?

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