

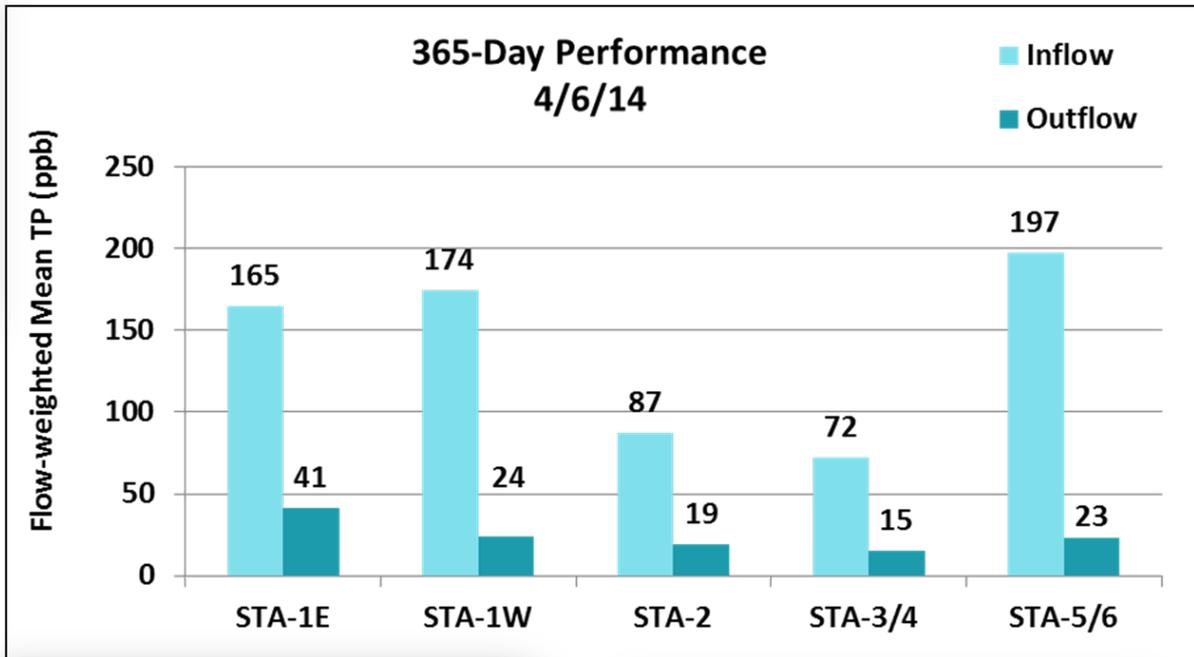
Governing Board Meeting
April 10, 2014

University and Technical Environmental Services in Support of the Restoration Strategies (RS) Science Plan

Agenda Items 40 and 41

Terrie Bates, Division Director
Water Resources

Science Plan: Purpose and Objectives



Science Plan: Purpose and Objectives

Consent Orders and Framework Agreement requires District implementation of a Science Plan:

- Identify key factors influencing phosphorus reduction and treatment performance in order to meet the WQBEL
- Better understand STA design and operations that sustain low outflow phosphorus concentrations (<20 ppb) and enhance ability to achieve the WQBEL
- Collect information that can be incorporated into modeling efforts and refinements

Budget - \$55 million over 10 year period

Science Plan: Key Questions

1. How can the FEBs be designed and operated to moderate and optimize **phosphorus concentrations, phosphorus loading rates and hydraulic loading rates entering the STAs**, possibly in combination with water treatment technologies, and/or inflow canal dredging/lining?
2. How can **internal loading of phosphorus** to the water column be reduced or controlled, especially in the lower reaches of the treatment trains?
3. What measures can be taken to enhance **vegetation-based treatment** in STAs and FEBs?

Science Plan: Key Questions (cont'd)

4. How can the biogeochemical and/or physical mechanisms be managed to further reduce **soluble reactive, particulate and dissolved organic phosphorus concentrations at the outflow?**
5. What **operational and/or design refinements** could be implemented at existing STAs and future features (i.e. STA expansions, Flow Equalization Basins) to improve and sustain treatment performance?
6. What is the influence of **wildlife and fisheries** on the reduction of phosphorus in the STAs?

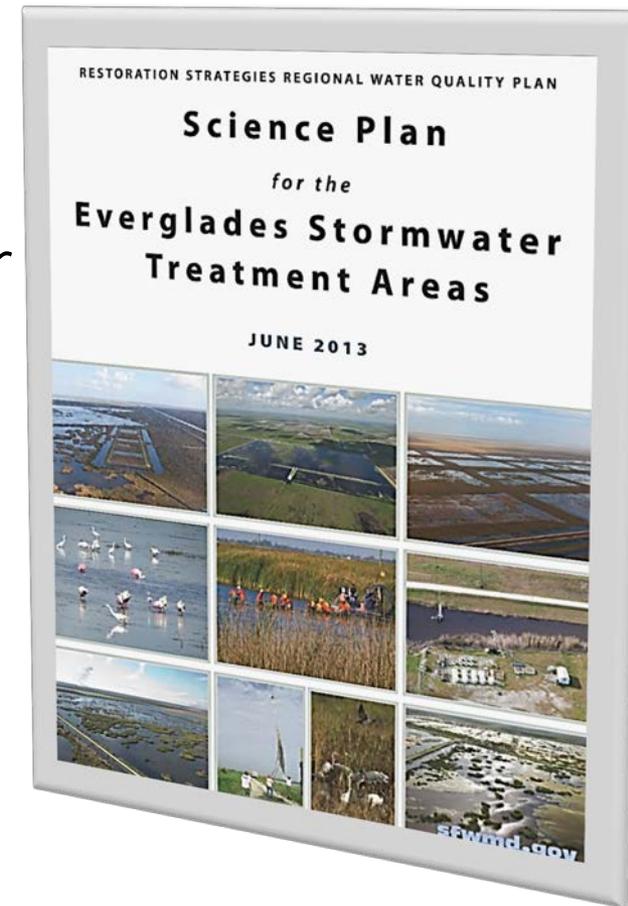
Science Plan: Initial Suite of Studies

Prioritized science questions into an initial suite of 9 proposed research studies for the 5-year work plan

- 1) PSTA Technology Performance, Design & Operational Factors (STA-3/4)
- 2) Operational Guidance for FEBs & STAs and Regional Operation Plan
- 3) STA Water Budget Improvements
- 4) Phosphorus Sources, Forms, Flux & Transformation Processes in STAs
- 5) Influence of Canal Sediment on STA Inflow & Outflow P Concentrations
- 6) Impacts of Deep Water Inundation Pulses on Cattail Sustainability
- 7) Sampling Methodologies for Total Phosphorus
- 8) Soil Management/Amendments to Control P Flux
- 9) Phosphorus Removal Efficacy of Alternative Vegetation in a Low Nutrient Environment of the Stormwater Treatment Areas

Science Plan: Implementation

- Submitted completed Science Plan to DEP in June 2013 in accordance with Consent Order deadline
- Prepared detailed research plans for the 9 studies outlining tasks and resource needs
- Each of the studies led and managed by internal staff acting as Principal Investigators; however, certain tasks will require support and specialized expertise from external sources



Competitive Solicitations for Technical Support Services

- Two competitive RFP processes used to solicit Florida universities and private sector firms with the required expertise and resources
- 39 attendees at pre-proposal conference
- 16 respondents to Private Sector RFP; top proposals:
 - DB Environmental Laboratories, Inc.
 - Ecology & Environment
- 8 respondents to University RFP; top proposals:
 - University of Florida Water Institute
 - Florida International University

Science Plan: Contract Oversight

- Contract rates to be negotiated
- Contracts are work-order based
- No guaranteed minimum work
- All work orders will be reviewed by the Executive Director, after Restoration Strategies Management Oversight Team and Procurement Bureau review, prior to execution to ensure appropriate distribution of work
- For FY14-FY18, the not-to-exceed amount shared by all four contracts is \$7 million

#40 Resolution – University Technical Environmental Services in Support of the RS Science Plan

Authorize the official ranking and enter into a 3-year contract, with 2 one-year extensions, with the University of Florida Board of Trustees – Water Institute, and Florida International University; subject to successful negotiations to provide university technical environmental services in support of the Restoration Strategies Science Plan, in an amount not-to-exceed \$7,000,000 for both contracts as well as the contracts with DB Environmental Laboratories, Inc. and Ecology & Environment, Inc., of which \$2,000,000 of ad valorem funds are budgeted in FY14 and the balance subject to Governing Board approval of the FY15-FY18 budgets; providing an effective date. (Contract numbers 4600003031 and 4600003032)

#41 Resolution – Technical Environmental Services in Support of the RS Science Plan

Authorize the official ranking of firms and enter into a 2-year contract, with 3 one-year extensions, with DB Environmental Laboratories, Inc., and Ecology & Environment, Inc.; subject to successful negotiations to provide technical environmental services in support of the Restoration Strategies Science Plan, in an amount not-to-exceed \$7,000,000 for both contracts as well as the contracts with University of Florida Board of Trustees-Water Institute, and Florida International University, of which \$2,000,000 of ad valorem funds are budgeted in FY14 and the balance subject to Governing Board approval of the FY15-FY18 budgets; providing an effective date. (Contract numbers 4600003029 and 4600003030)

Questions

