STA Vegetation Management and Enhancement

Eric Crawford
Senior Scientist
Land Resources Bureau

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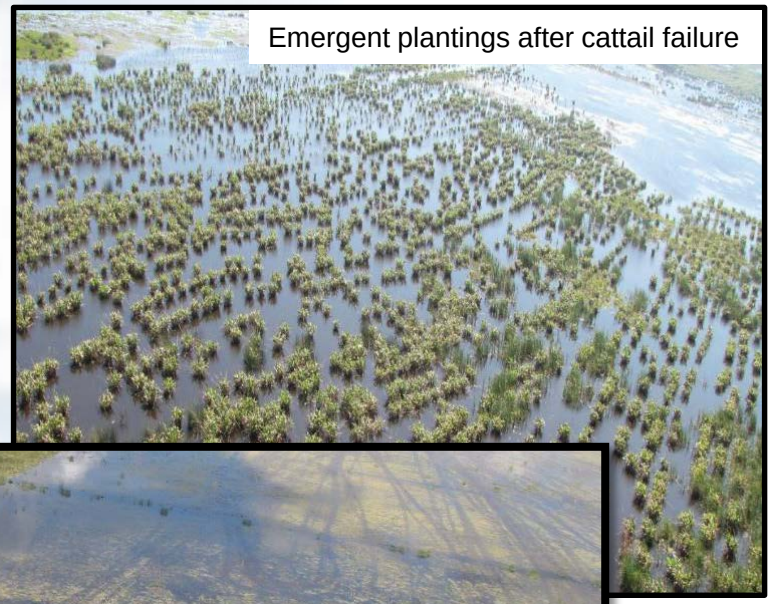
Objective

Maintain sustainable vegetation-based phosphorus uptake processes

- Vegetation Enhancement
  - Establish/maintain appropriate vegetation communities
  - Improve stability and functional redundancy
- Selective Management
  - Increase desirable species
  - Control Invasive/Undesirable species
  - Control exotic populations

Vegetation Function



Emergent plantings after cattail failure

SAV Inoculation in new SAV cell

- **Emergent Aquatic Vegetation (EAV)**
  - Re-establish stable soils
  - Re-direct flow
  - Nutrient uptake
  - SAV stabilization
  - Increase diversity/decrease clonal populations
- **Submerged Aquatic Vegetation (SAV)**
  - Water column nutrient uptake
  - Replenish seasonal die-off
  - Replenish loss due to predation
  - Repair damage
  - Establish new SAV bed
  - Increase species diversity

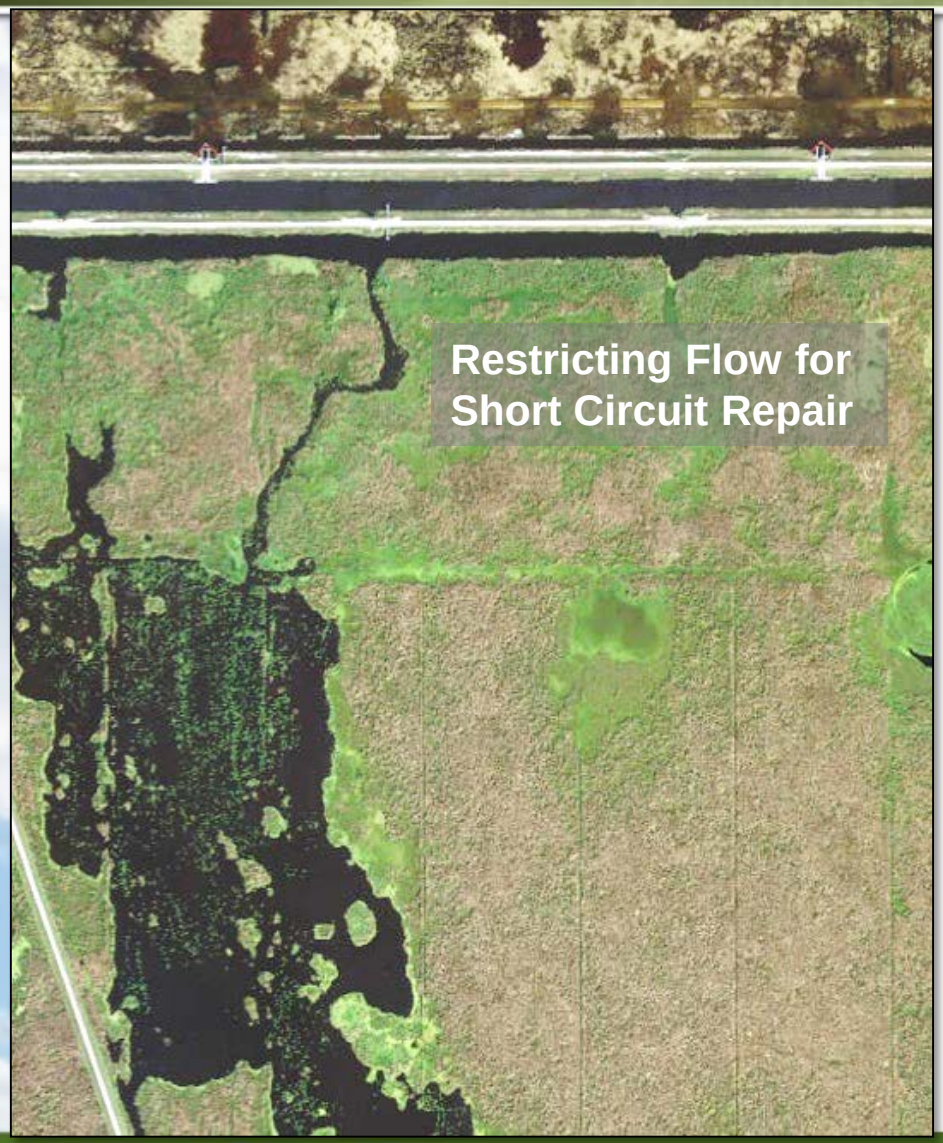
Healthy EAV

Highly Stressed EAV

Adaptive Management Process

- **Monitor vegetation health**
- Coordinate with water management
  - Stage, flow rates (cfs), redirecting flow
- Proactively manage vegetation
  - Increase cover and health of desired species at a specific location
  - Control growth of undesirable species
- Repair and restore
  - Emergent vegetation enhancements where vegetation is damaged or undesirable

Adaptive Management Process



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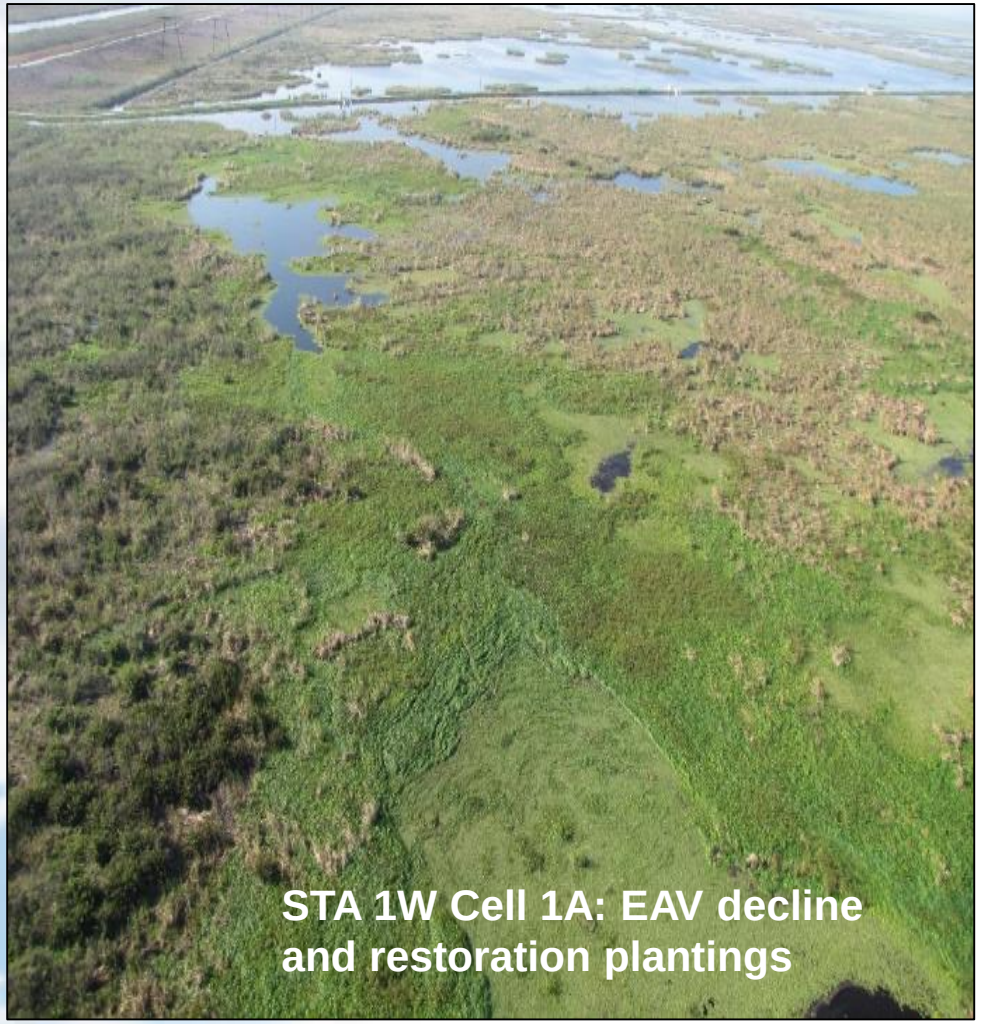
STA 1W Cell 1A: EAV decline and restoration plantings

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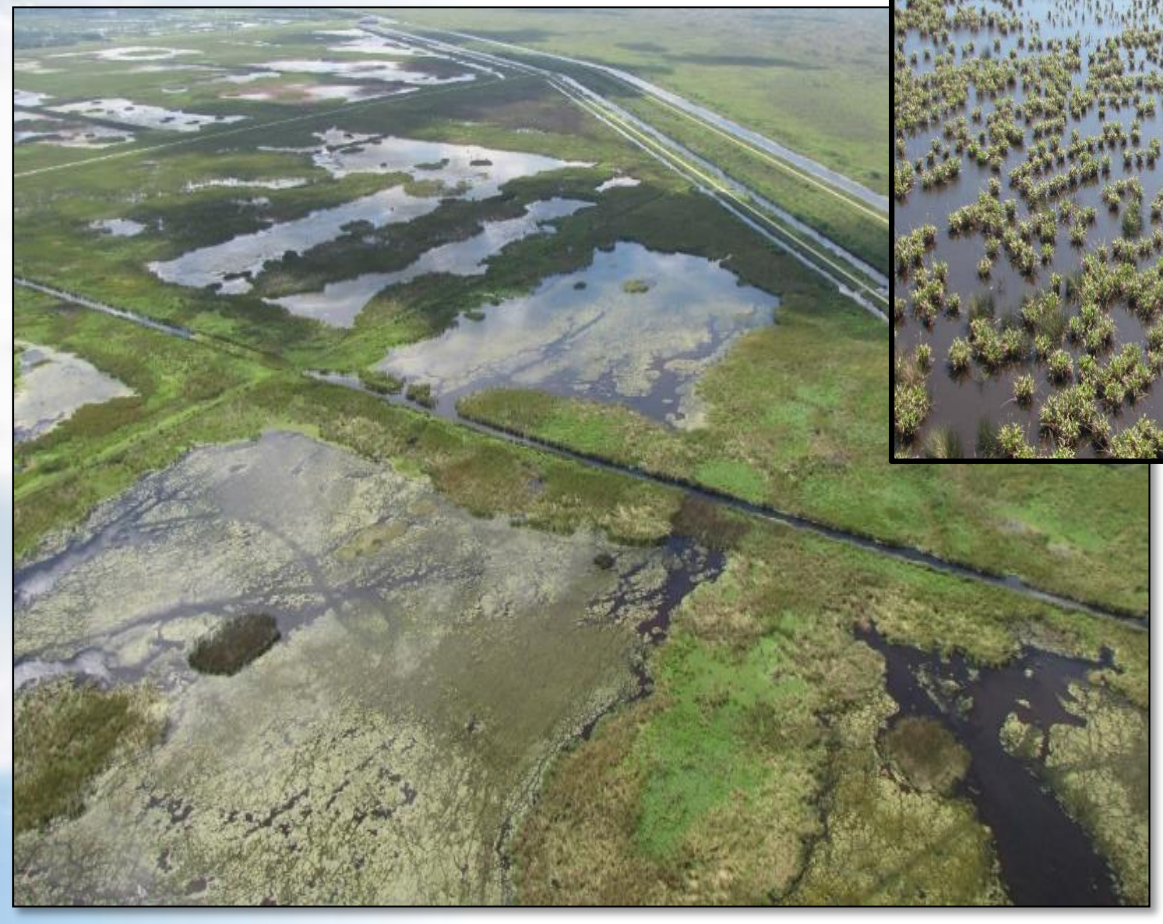
Uses of EAV



- Protect the SAV
- Displace invasive species
- Stabilize sediments
- Improves water quality

Rehabilitation: Emergent Plants

Repair and Restoration of STA 2 Cell 3

- Almost ten miles of emergent vegetation strips planted to compartmentalize the SAV
- Multiple short circuits and scoured out boat trails filled and planted
- SAV was planted and placements continue throughout the cell.

Rehabilitation: SAV Inoculation

Inoculation enhances growth in bare areas and increases diversity

SAV harvest and transport

SAV Management in STA Operations

- Compartmentalizing the SAV cells with vegetation strips can help protect and stabilize SAV populations
- Smaller, more diverse and compartmentalized SAV beds can be more resistant to storm events and resist Hydrilla colonization.

FAV Control

- Dense vegetation strips at the inflows can reduce FAV entering a cell
- Inflow strips can be shaped to trap and concentrate FAV decreasing herbicide use in the cells and reducing costs

Invasive Species Control

- Dense native vegetation plantings can be made after treatments to interfere with the continued spread of invasive plants
- District staff have identified several native species to use in varying conditions to maximize resiliency and performance

Questions

Eric Crawford

ecrawfor@sfwmd.gov