

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Quarterly Communications Meeting on the Long-Term Plan for Achieving Water
Quality Goals for Everglades Protection Area Tributary Basins

August 25, 2011

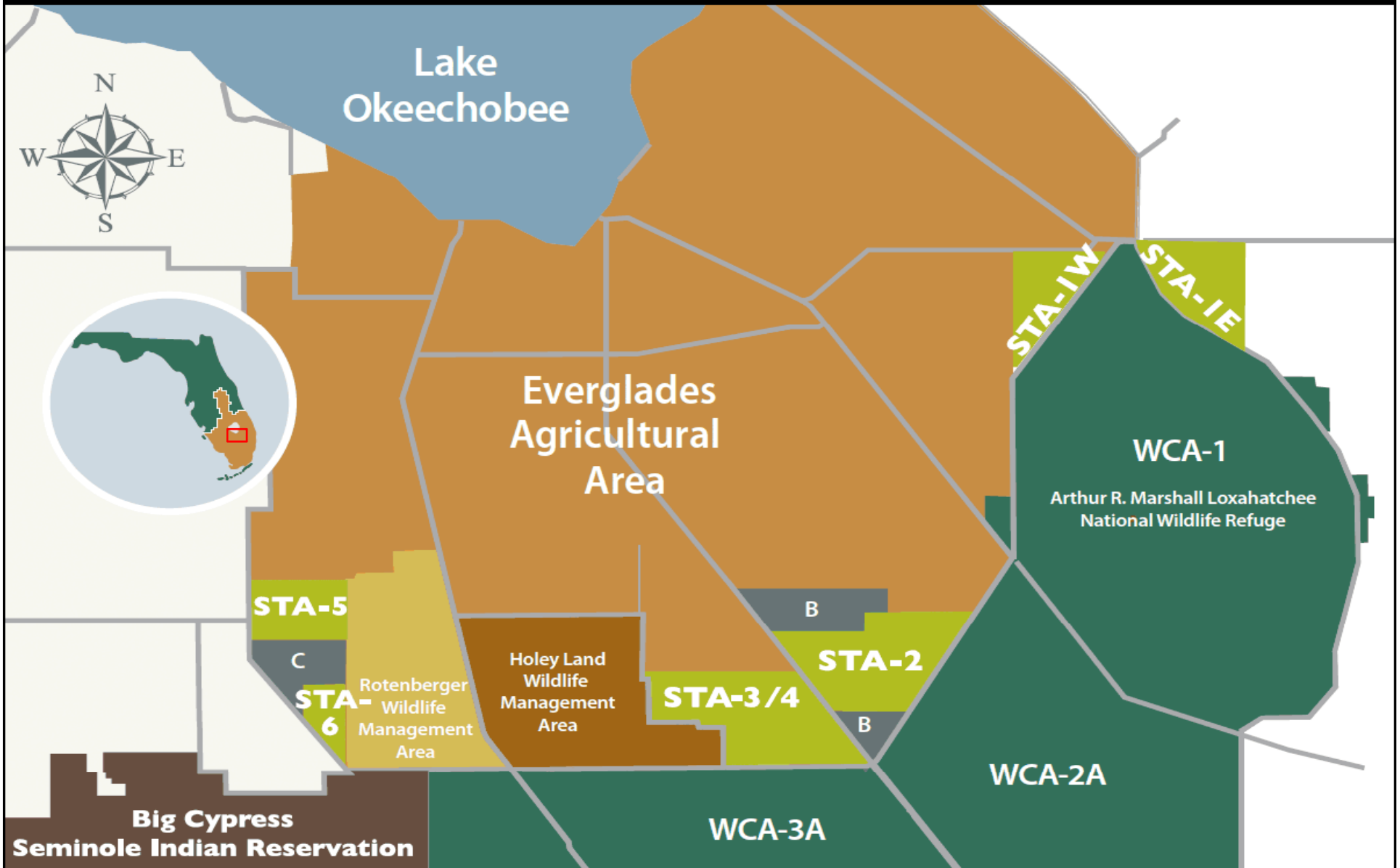
STA-3/4 Inflow Diversions for Submerged Aquatic Vegetation Re-Establishment, July-August 2011



Larry Gerry, STA Coordinator/Chief Scientist
Office of Everglades Policy and Coordination

Lou Toth, Chief Scientist
Operations, Maintenance and Construction Division

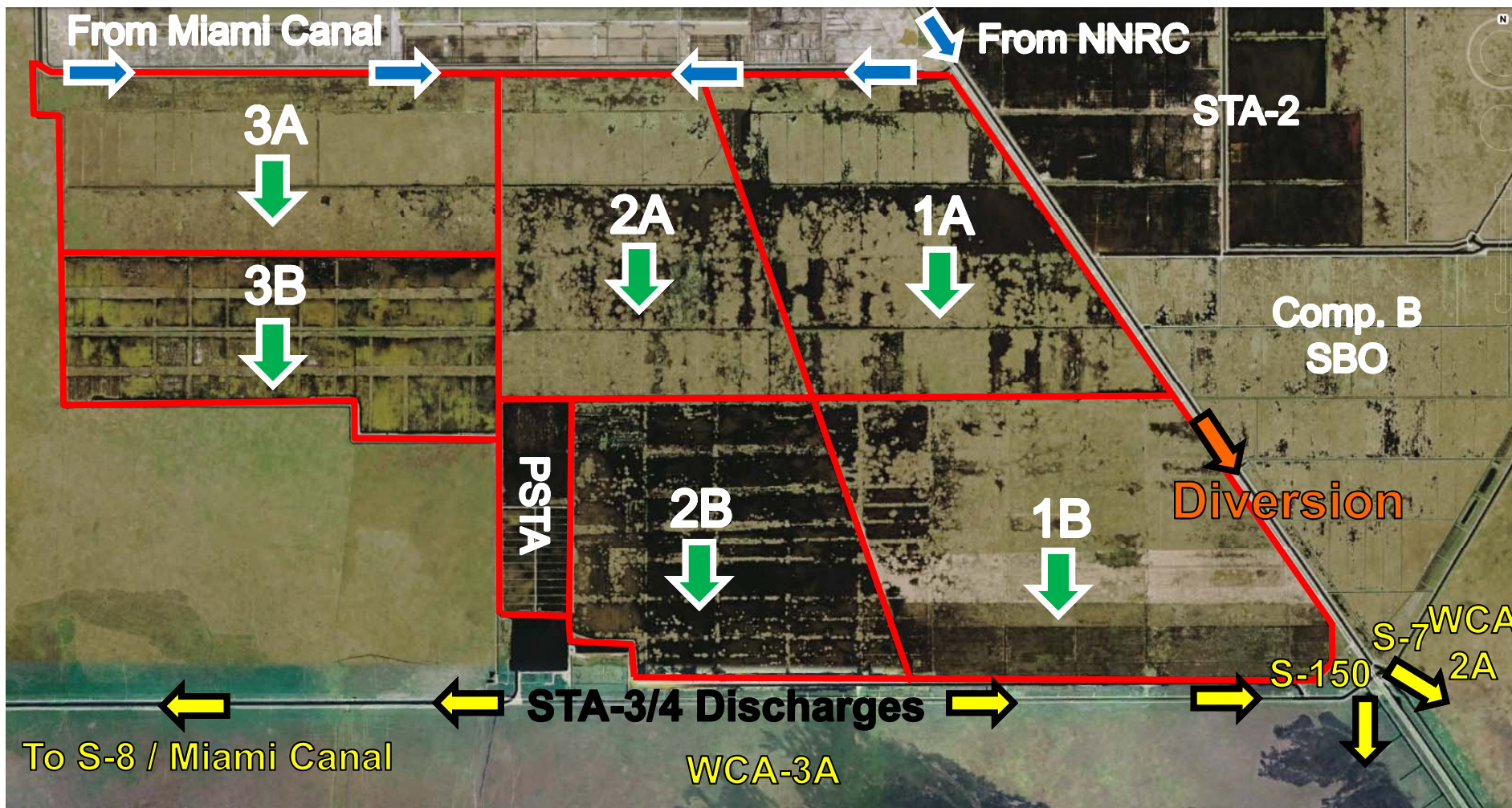
Everglades Stormwater Treatment Areas



Areas in gray marked with a "B" or "C" represent the current expansion of existing Stormwater Treatment Areas

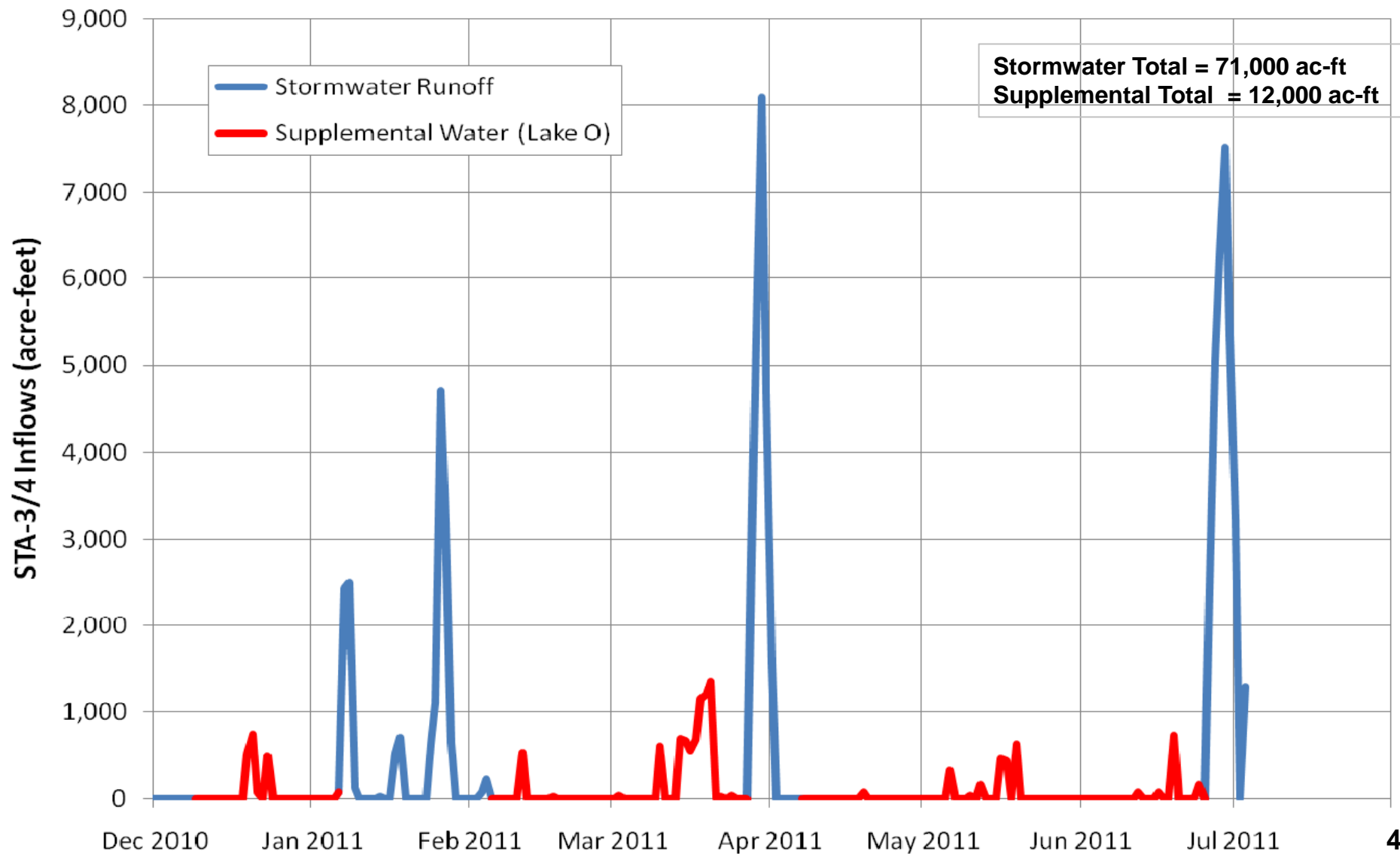


Stormwater Treatment Area 3/4

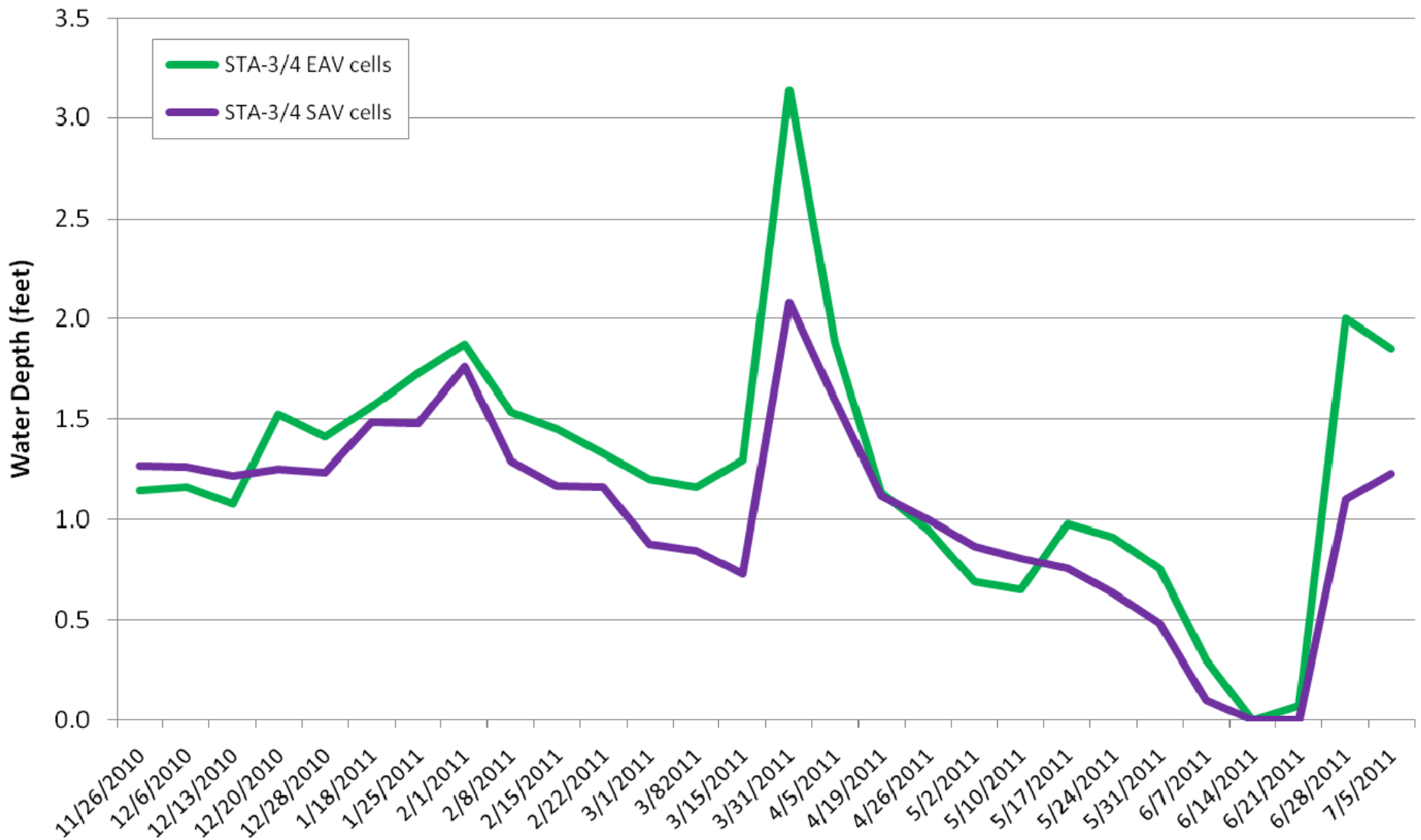


STA-3/4 Inflows

December 1, 2010 – July 3, 2011



STA-3/4 Water Depths During Drought



Onset of Rainy Season

- 6/26/11 - 7/3/11
 - Rapid increase in water depths
 - Additional rains predicted
 - Internal discussion of options to protect and re-establish vegetation
 - Anticipated harmful flows and depths
 - Permit condition allows diversion to protect vegetation
 - STA scientists recommended decreasing depths to 1.0 ft in SAV cells to re-establish vegetation
 - Coordinated with DEP to divert flows and lower stages to re-establish vegetation

From STA-3/4 EFA Permit:

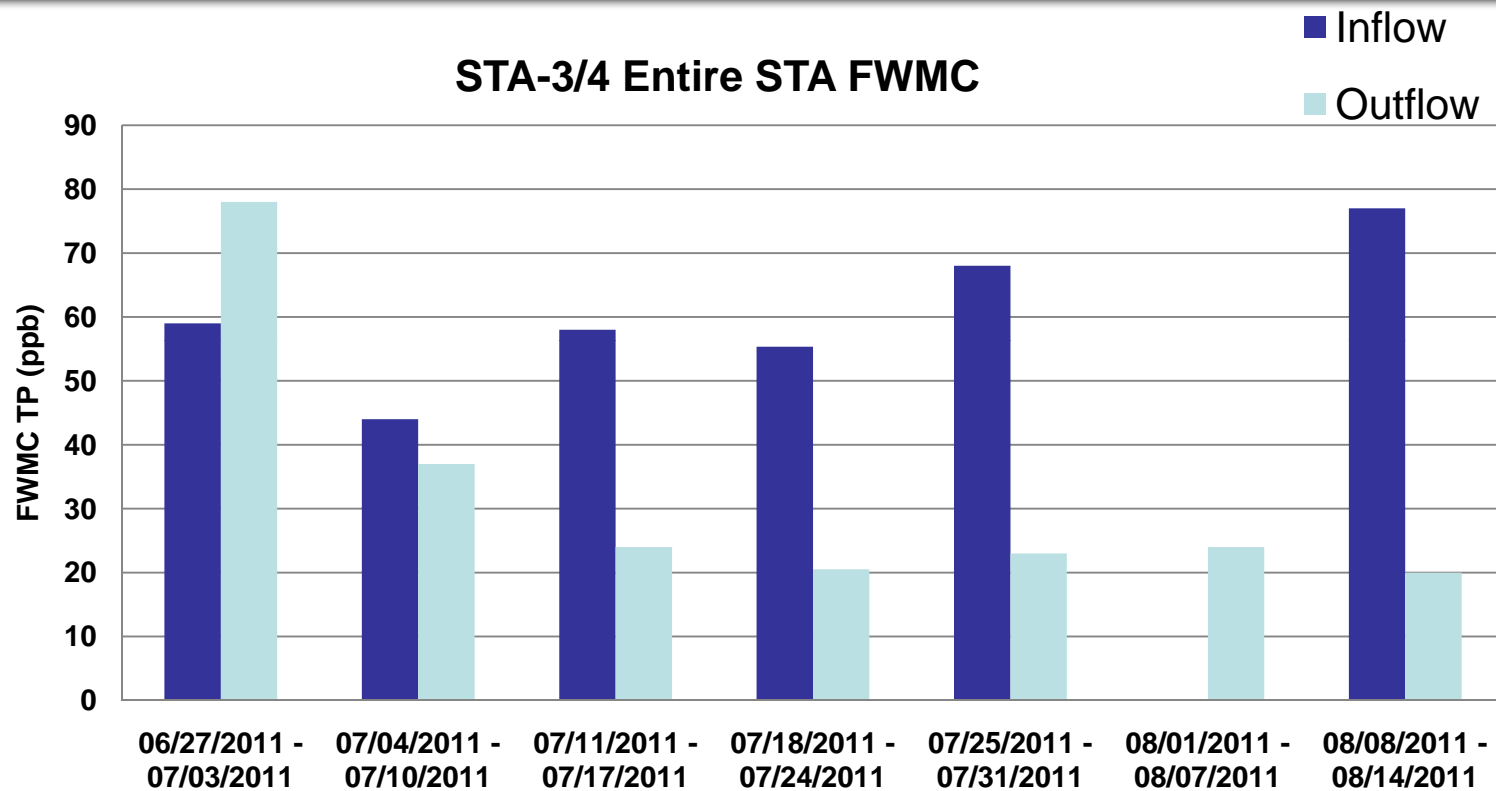
Specific Condition 23

“diversion of waters from the STA-3/4 inflow structures through the G-371 and/or G-373 structures....allowed...when water conditions within STA-3/4 may damage existing marsh vegetation”

Operations Summary

- Initially ceased inflows to lower depths to 1.0 ft in SAV cells
- Gradually increased flow, but maintained 1.0 ft depth in SAV cells
- Increased flow and depth in western and central flow-ways
- Increased flow and depth in eastern flow-way
- Soon return to normal operations

STA 3/4 Inflow and Outflow Concentrations



	Flow (ac-ft)	Load (tons)	FWMC (ppb)
STA-3/4 Inflow	53,454	3.7	55.6
STA-3/4 Outflow	80,579	4.1	41.7
G371 + G373	65,042	6.9	86.0

Submerged Aquatic Vegetation Recovery from Drought

- Weekly Qualitative Surveys of SAV Regrowth (July 12 – August 18, 2011)
- Semi-quantitative Surveys courtesy of DB Environmental (August 12, 2010, July 7 and July 21, 2011)

STA 3/4 Vegetative Responses

1/27/11



Thick growth of submerged aquatic vegetation in Cell 2B

6/13/11



Dried out Cell 2B in early June 2011

6/29/11



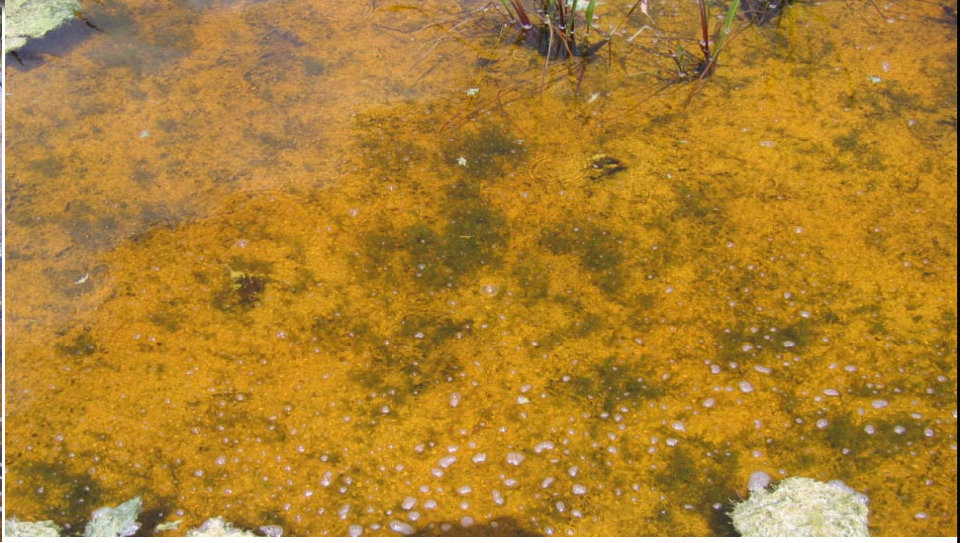
Re-flooded areas after the heavy rain event in late June



Peat lifting up to the water surface

6/29/11

Cell 3B (July 12, 2011)

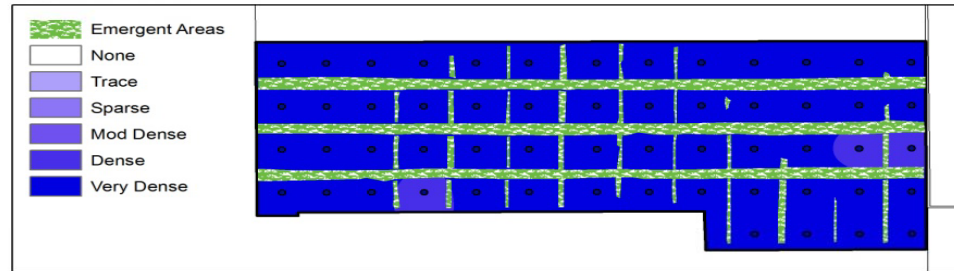


Cell 3B (July 21, 2011)

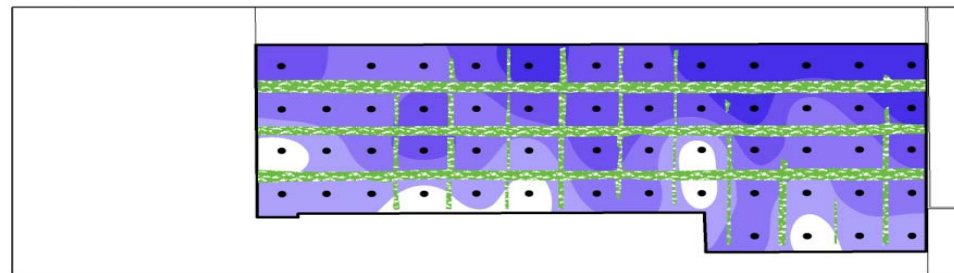


Cell 3B (data courtesy of DB Environmental)

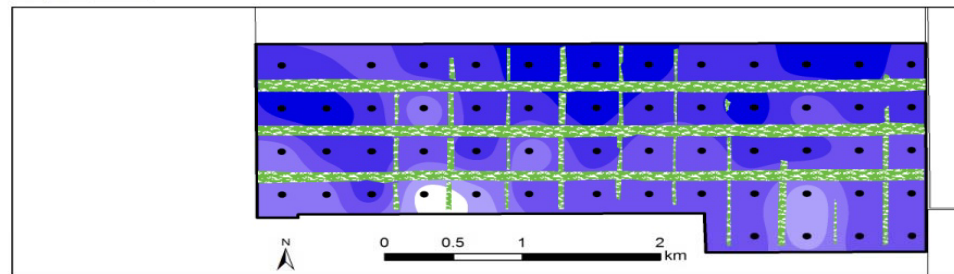
August 26, 2010



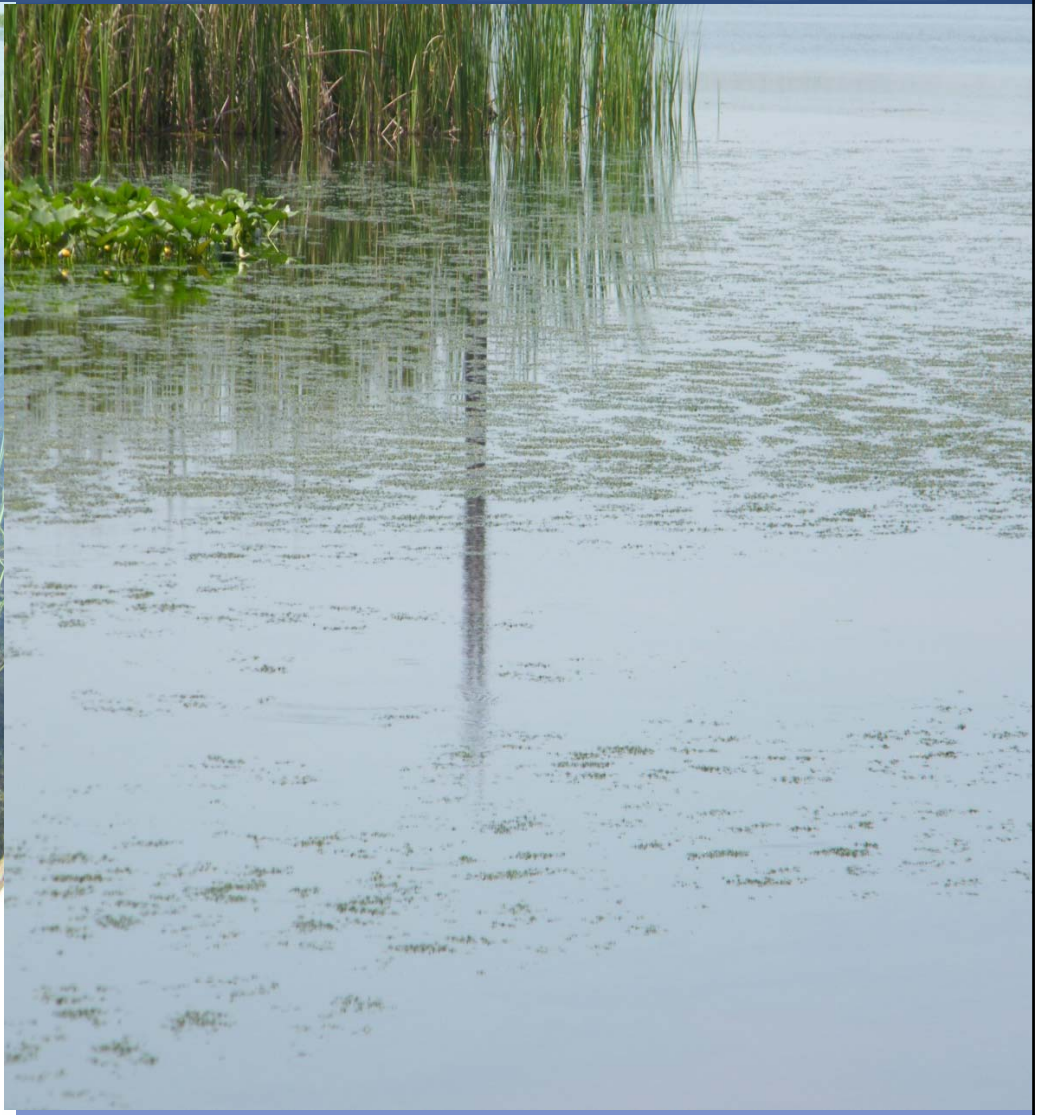
July 7, 2011



July 21, 2011

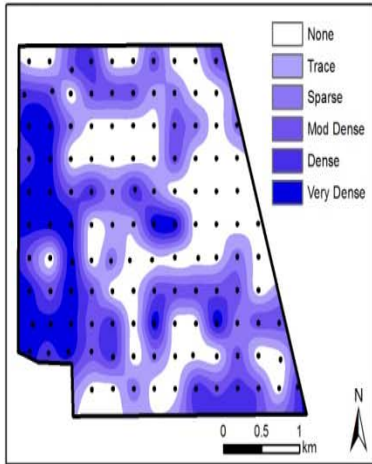


Cell 2B (August 18, 2011)

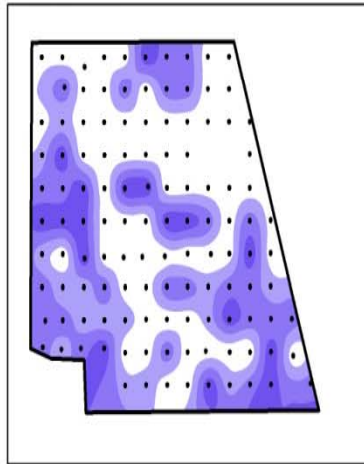


Cell 2B (data courtesy of DB Environmental)

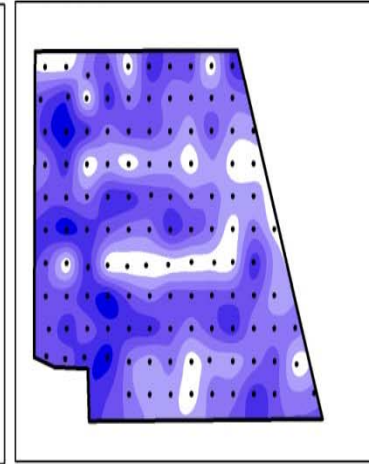
August 12, 2010



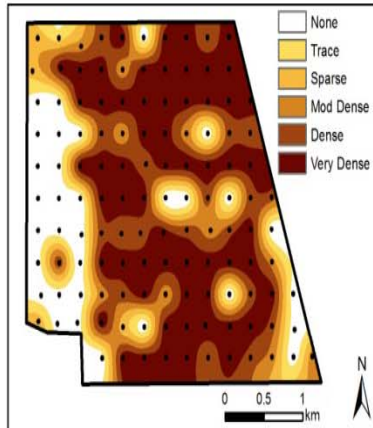
July 6, 2011



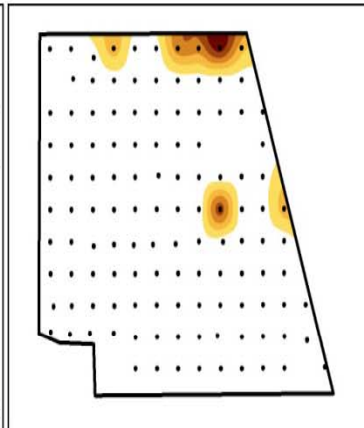
July 20, 2011



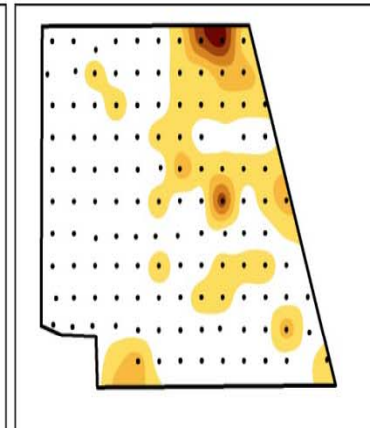
August 12, 2010



July 6, 2011



July 20, 2011



Cell 1B (August 18, 2011)



Submerged Aquatic Vegetation Recovery from Drought

- Rapid recovery of SAV
- Southern naiad replaced by chara in Cell 2B
- Slow regrowth of southern naiad in Cell 1B but dense beds of chara in southern end of cell

Questions?

