

# Ecological Conditions Update

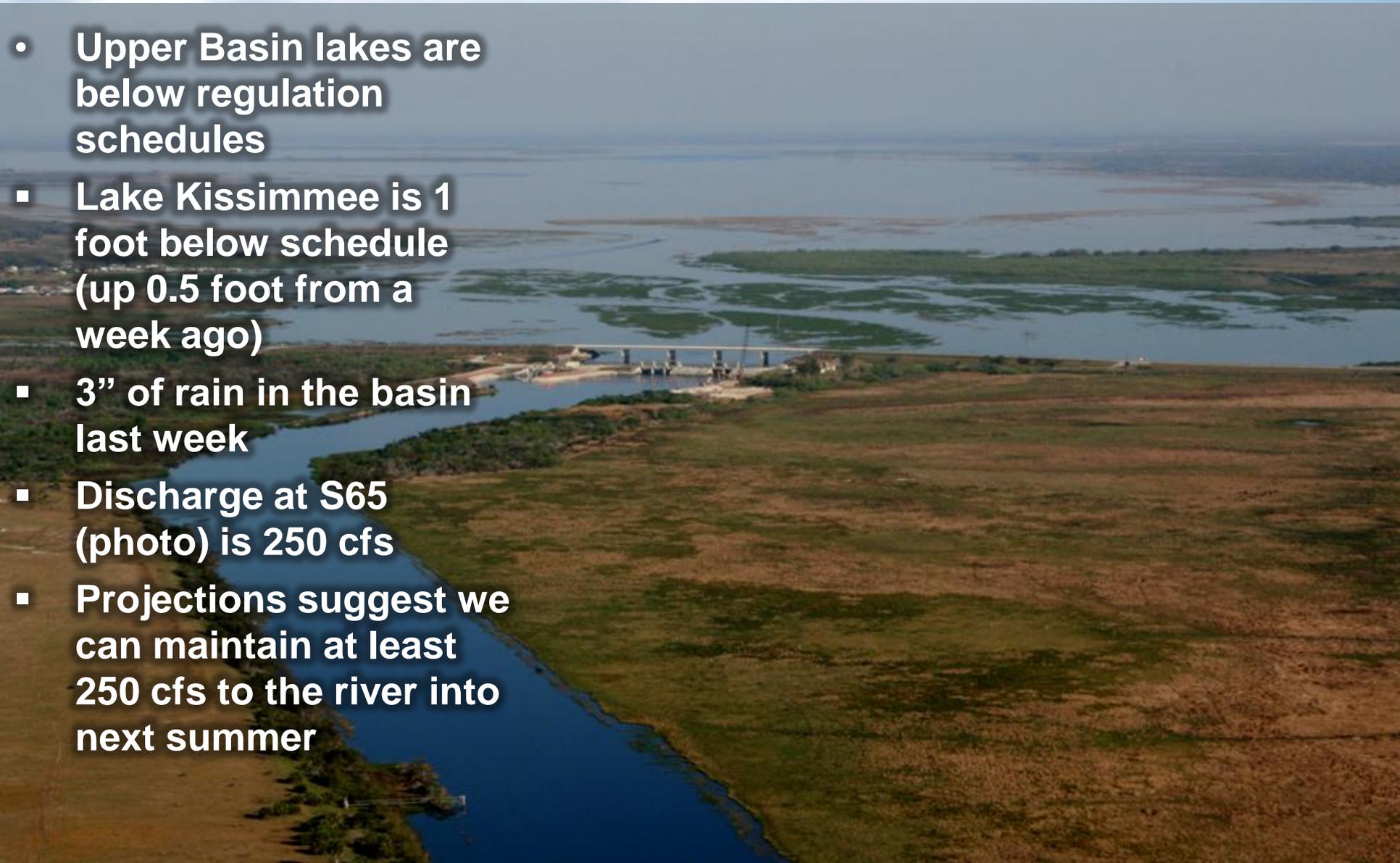
## Governing Board Workshop December 9, 2009

Linda Lindstrom, P.G.

Director, Restoration Sciences Department

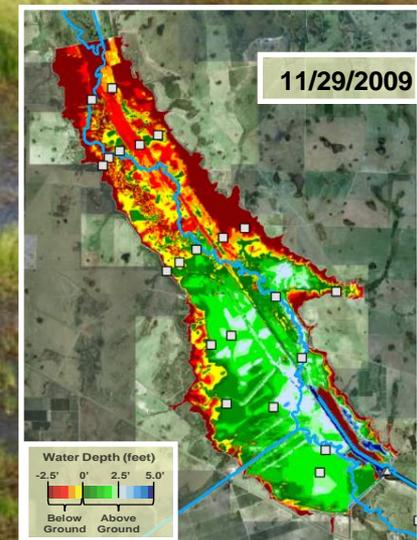
# Kissimmee Basin

- Upper Basin lakes are below regulation schedules
- Lake Kissimmee is 1 foot below schedule (up 0.5 foot from a week ago)
- 3" of rain in the basin last week
- Discharge at S65 (photo) is 250 cfs
- Projections suggest we can maintain at least 250 cfs to the river into next summer



# Kissimmee Basin

- With reduced rainfall and inflow, water levels on the Kissimmee River floodplain continue to recede
- Water depths average less than 0.7 foot (map)
- Wading bird foraging is focused on drying pools, which concentrate prey (photo)
- Dissolved oxygen levels in the river have remained well above levels of concern



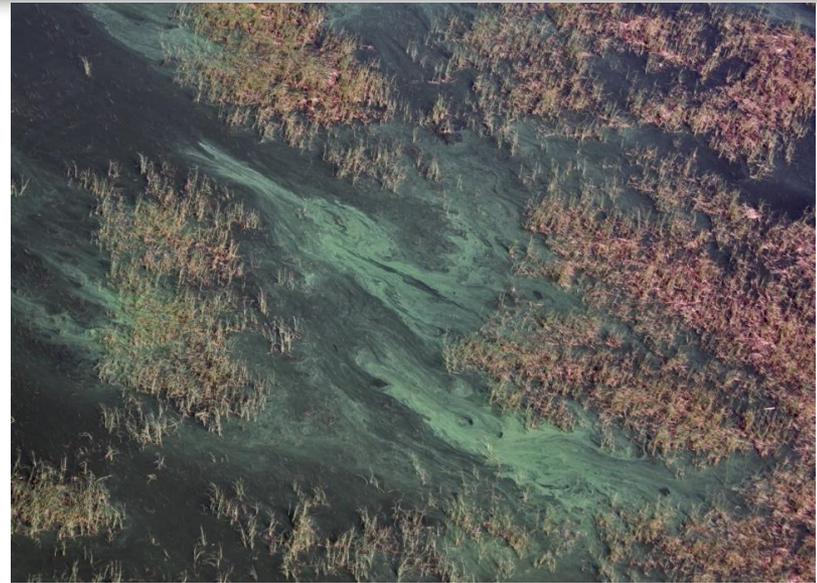
# Kissimmee Basin Phase IVB Construction Progress



Receding water levels in October-November revealed Phase IVB construction progress that was made over the summer

# Lake Okeechobee Lake Stage and Water Quality

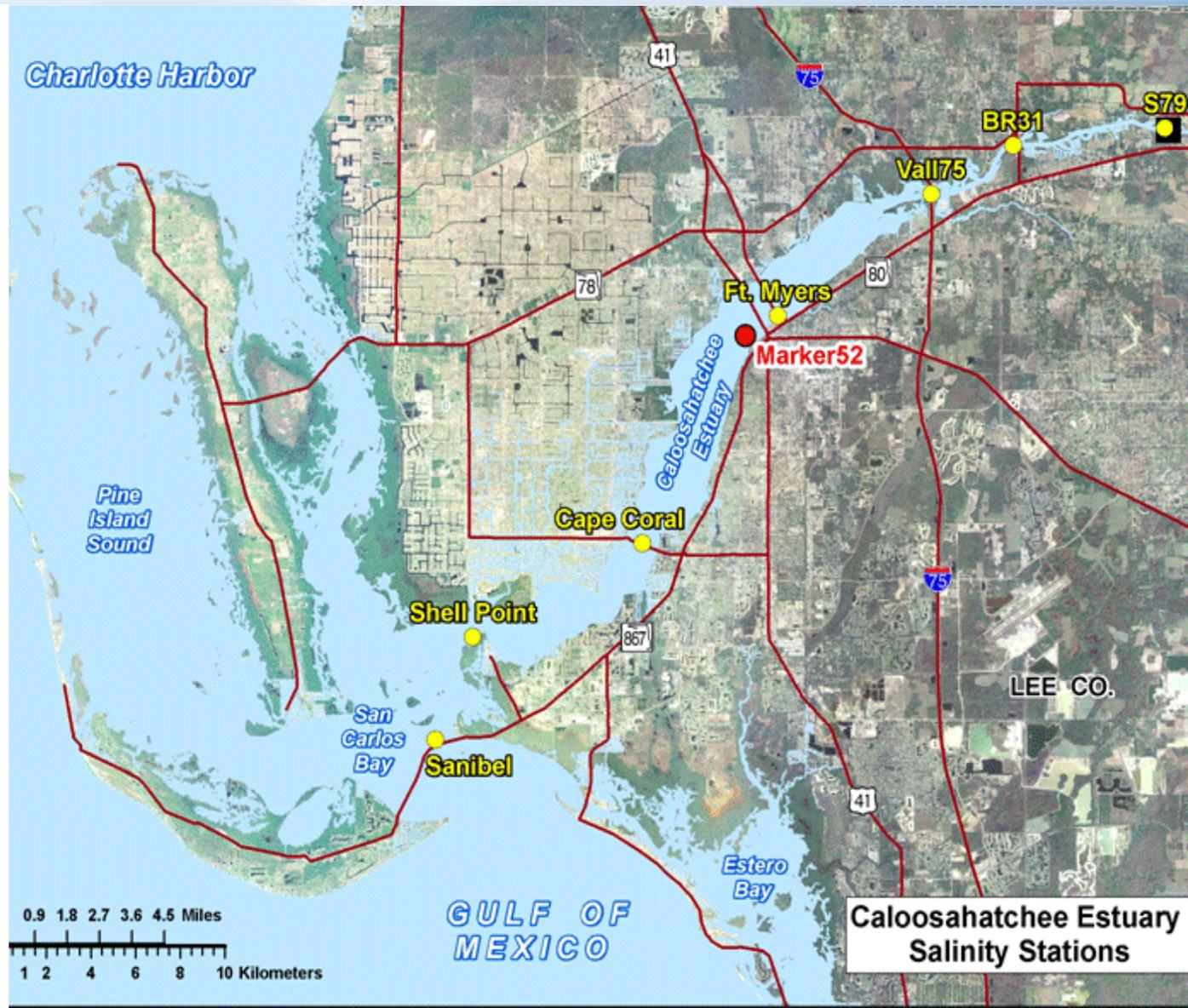
- **Lake stage is 13.65 feet, 0.42 feet lower than a month ago and 0.61 feet lower than a year ago**
- **Moderate bloom conditions on southwestern shore and light bloom conditions on western shore**
- **Total Suspended Solids and Total Phosphorus decreased slightly in last 4 months**



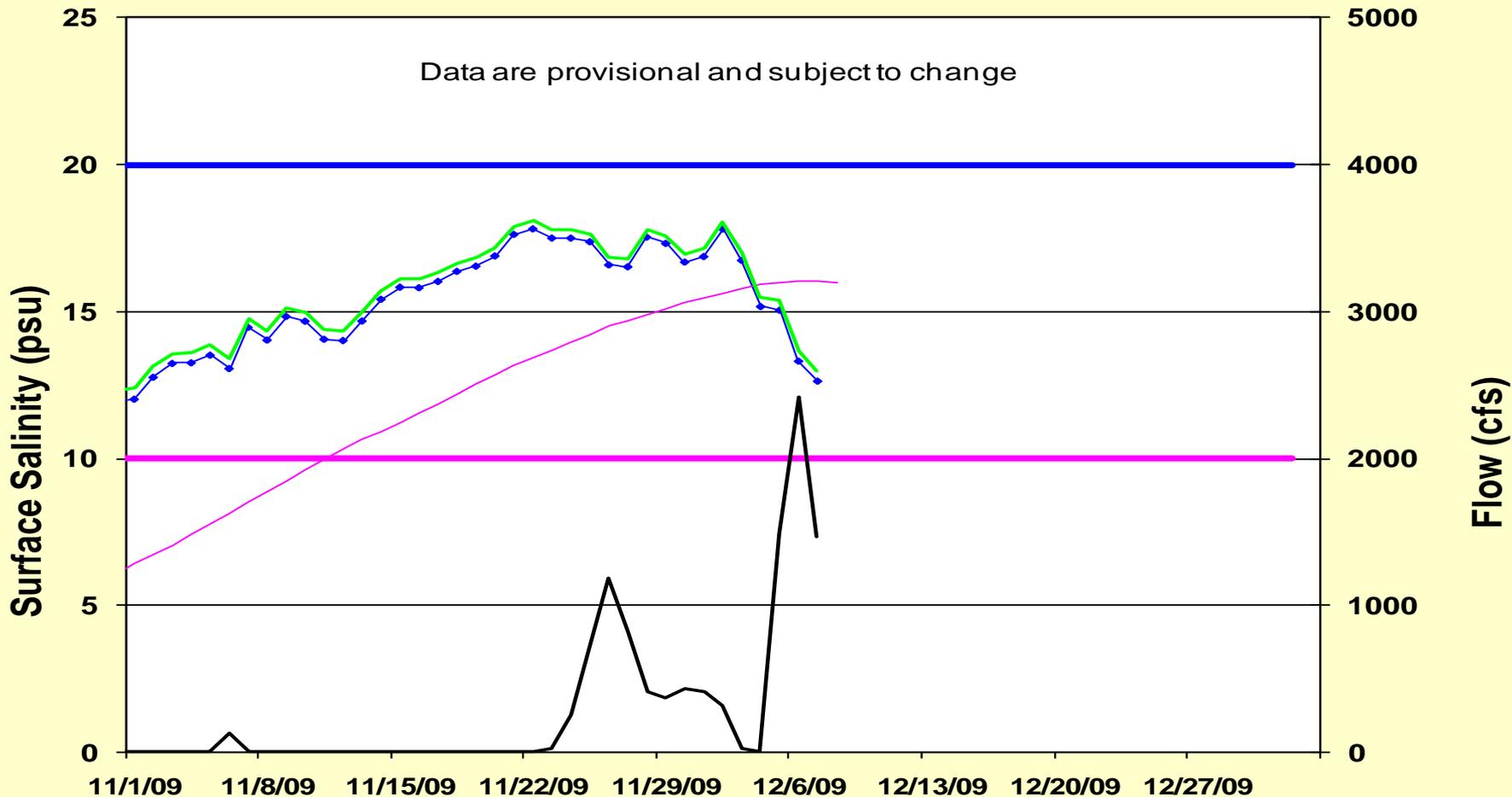
# Caloosahatchee Salinity: Fort Myers

Salinity conditions in the Upper Estuary are poor.

Salinity conditions in the Lower Estuary and San Carlos Bay continue to be good.



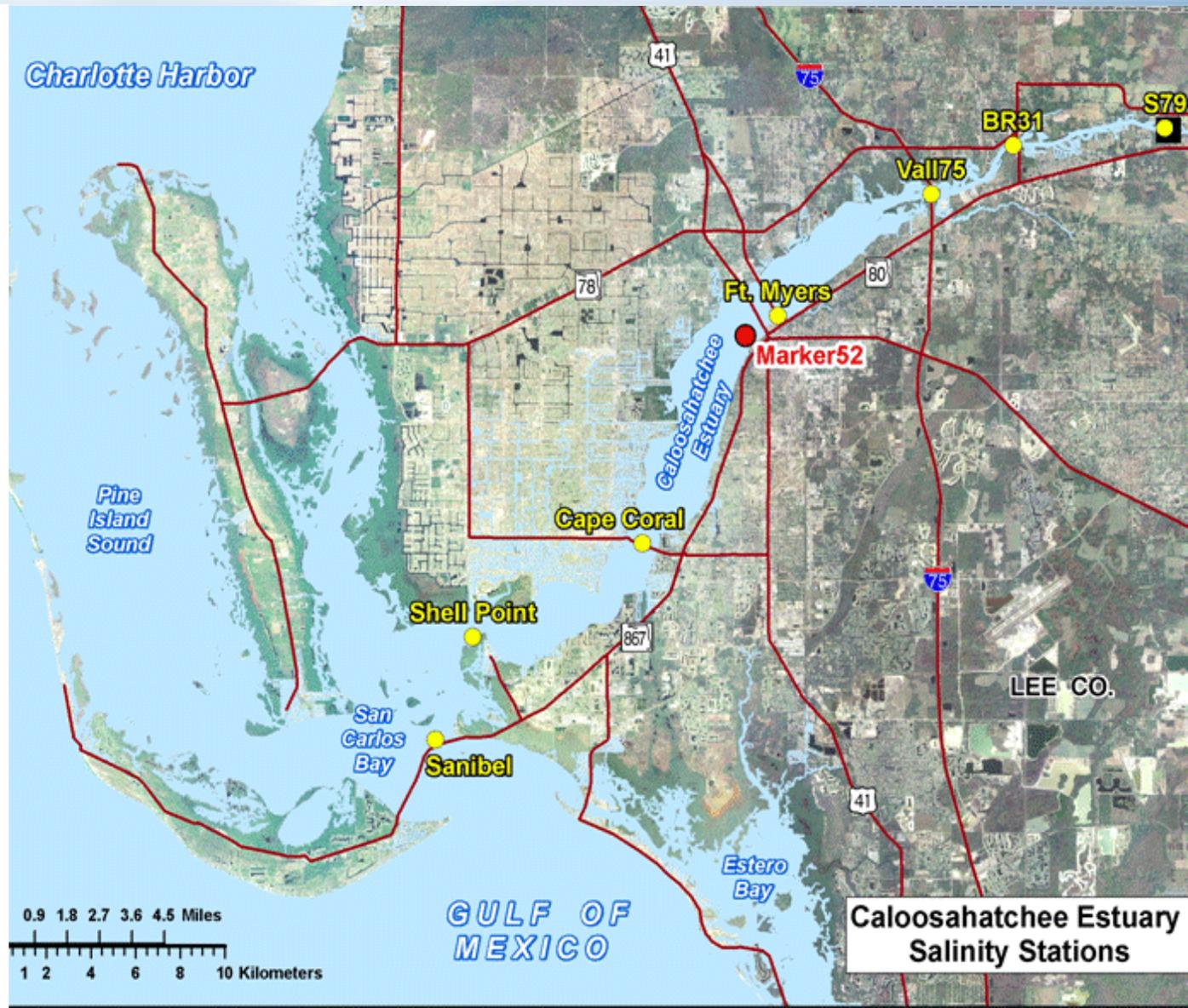
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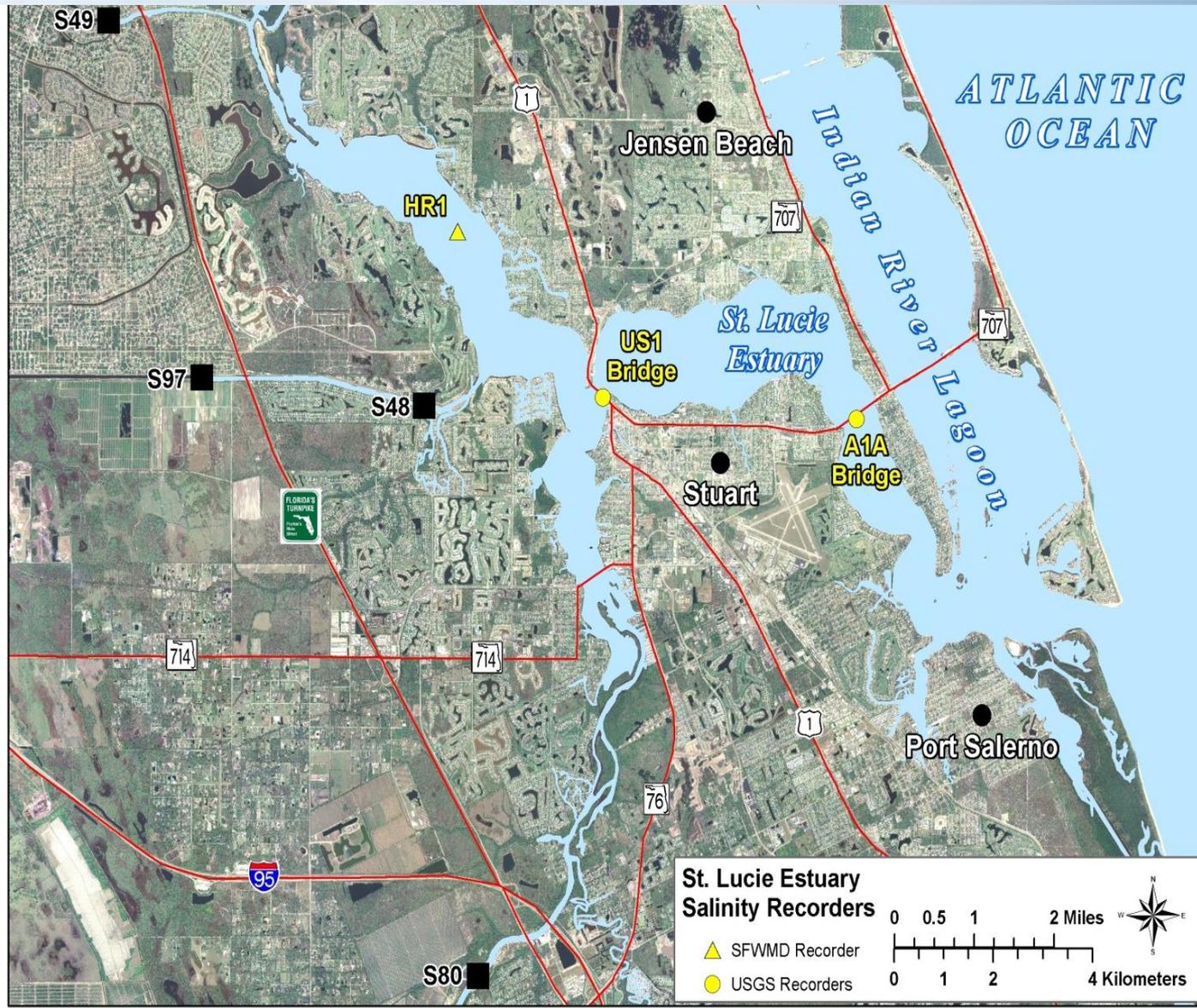
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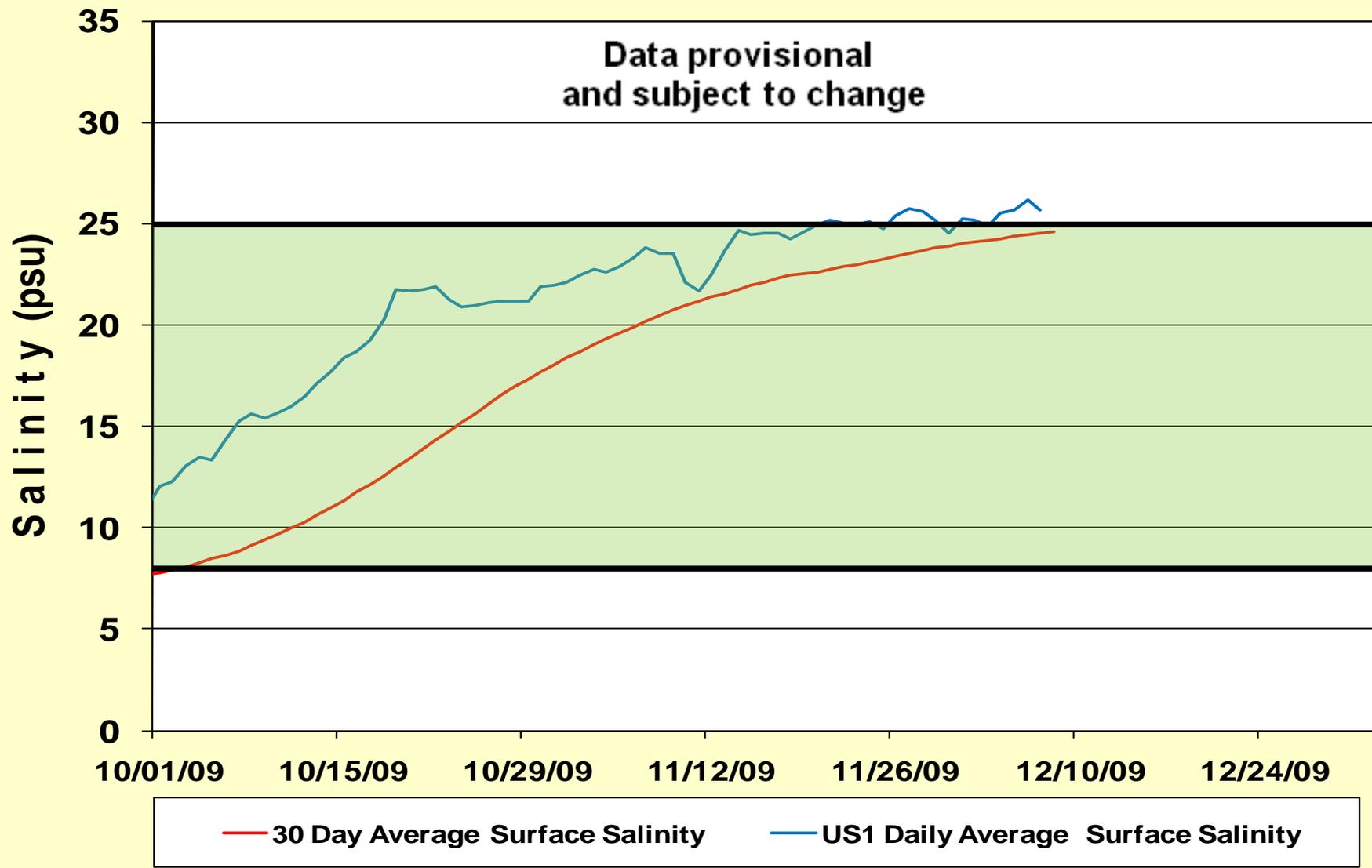


# St. Lucie Salinity: US 1 Bridge

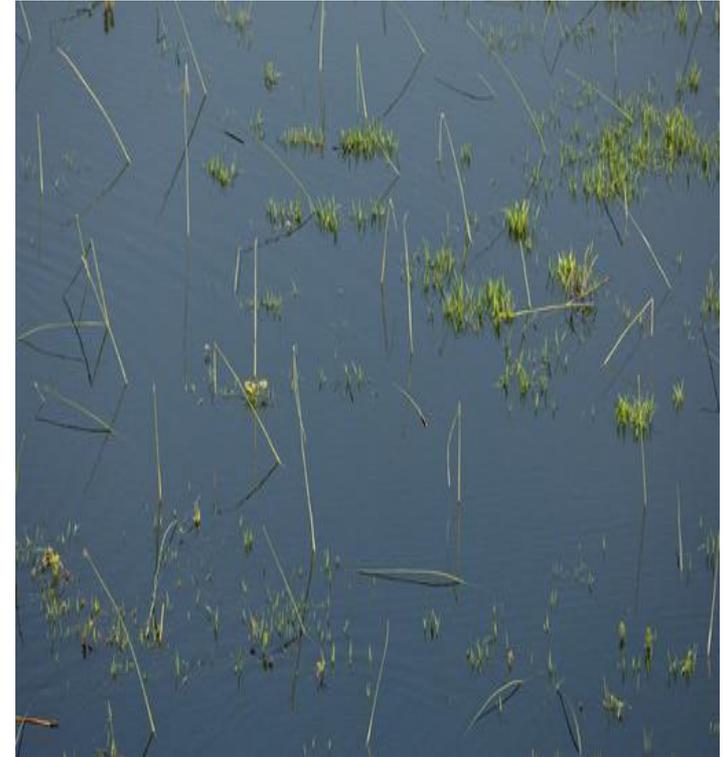
The 30-day average surface salinity at the US-1 Bridge was within the salinity envelope for the entire month of November.



# St. Lucie Salinity: US 1 Bridge



# Stormwater Treatment Areas: Giant Bulrush as Alternative Vegetation

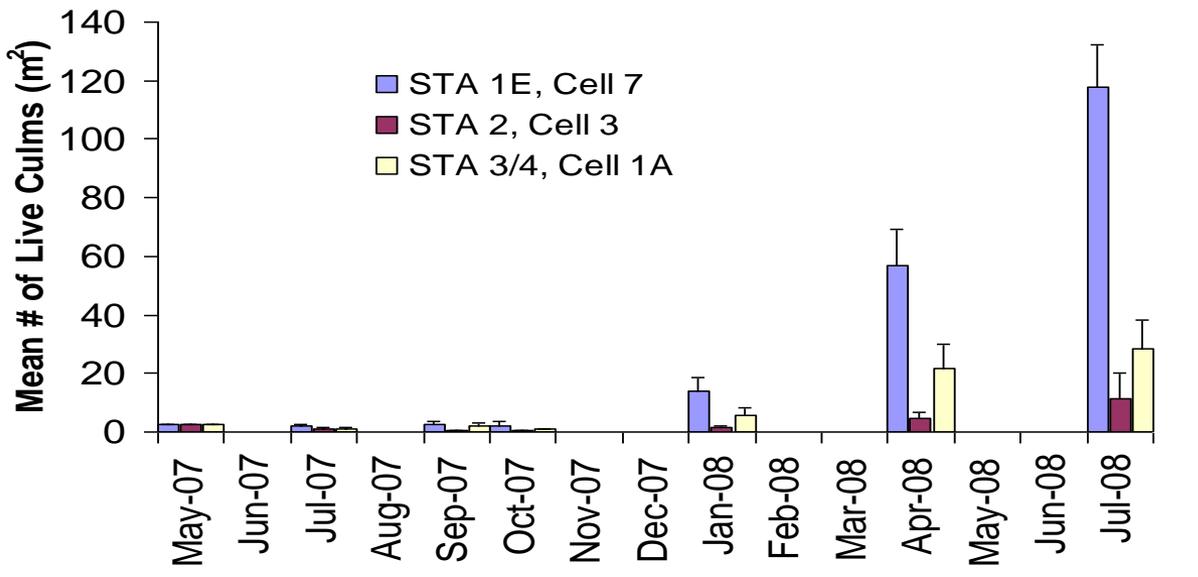


Giant bulrush plants are being tried as alternative vegetation in the STAs particularly for areas with persistent deep water condition.



# Previous Planting Efforts Have Been Successful

**Bullrush Planted in May 2007 (2.8 culms/m<sup>2</sup>)**

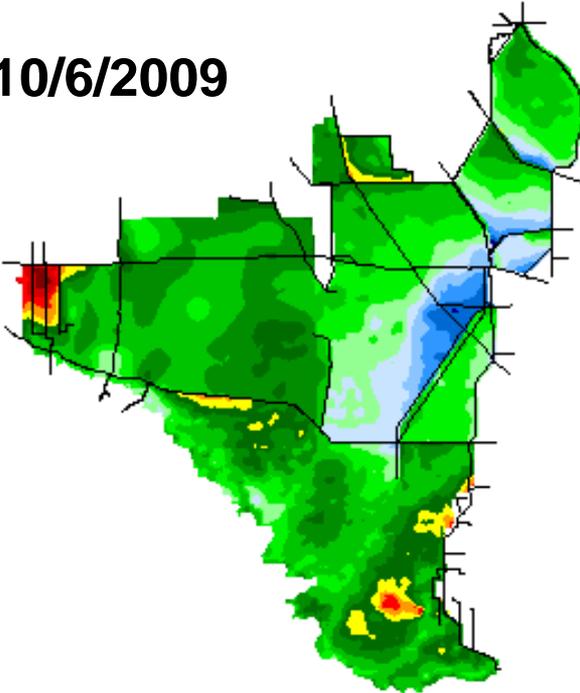


Successful giant bulrush established in STA-1W

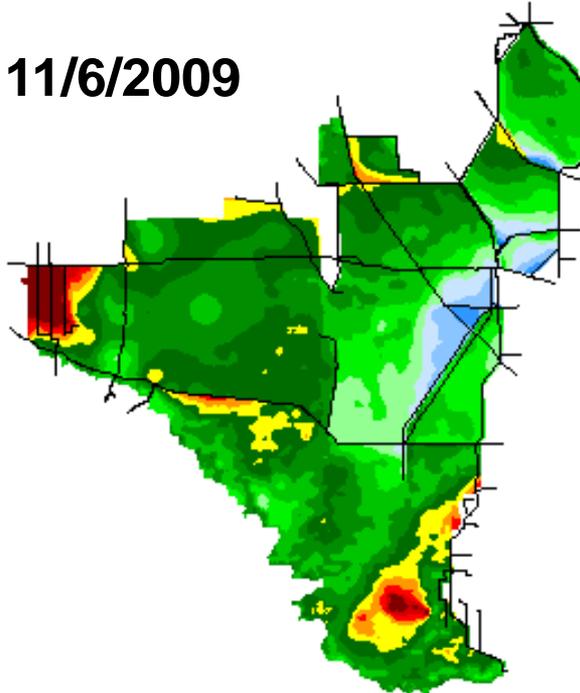


# Everglades Water Depth Changes (October - December)

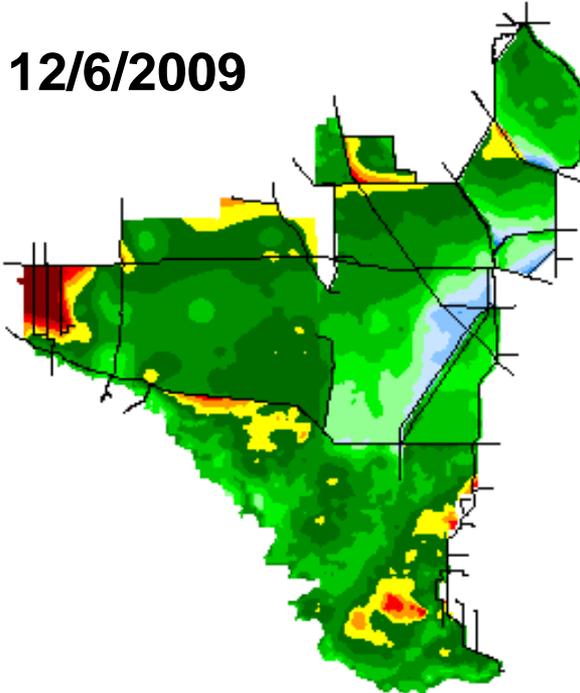
10/6/2009



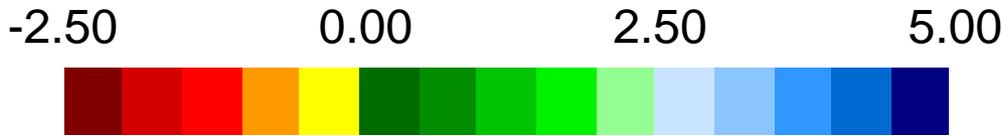
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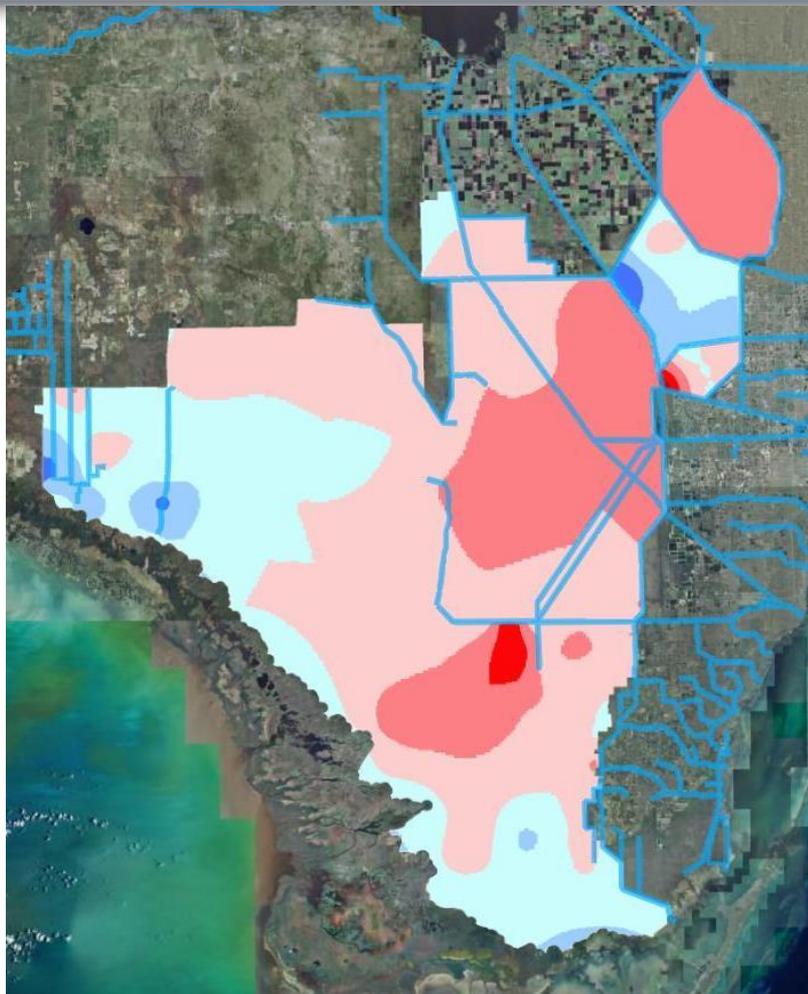
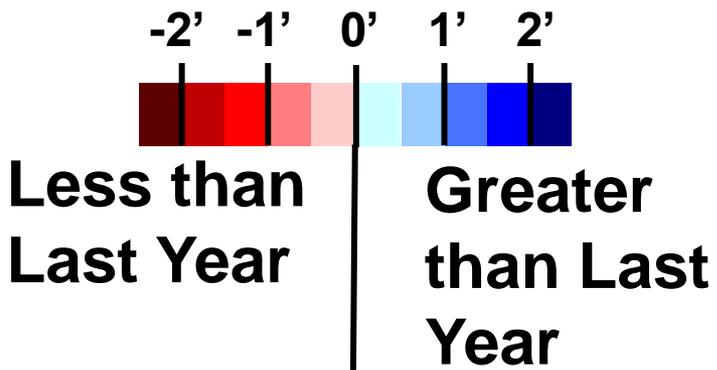


Water Depth (feet)



South Florida Water Depth Assessment Tool (SFWDAT)

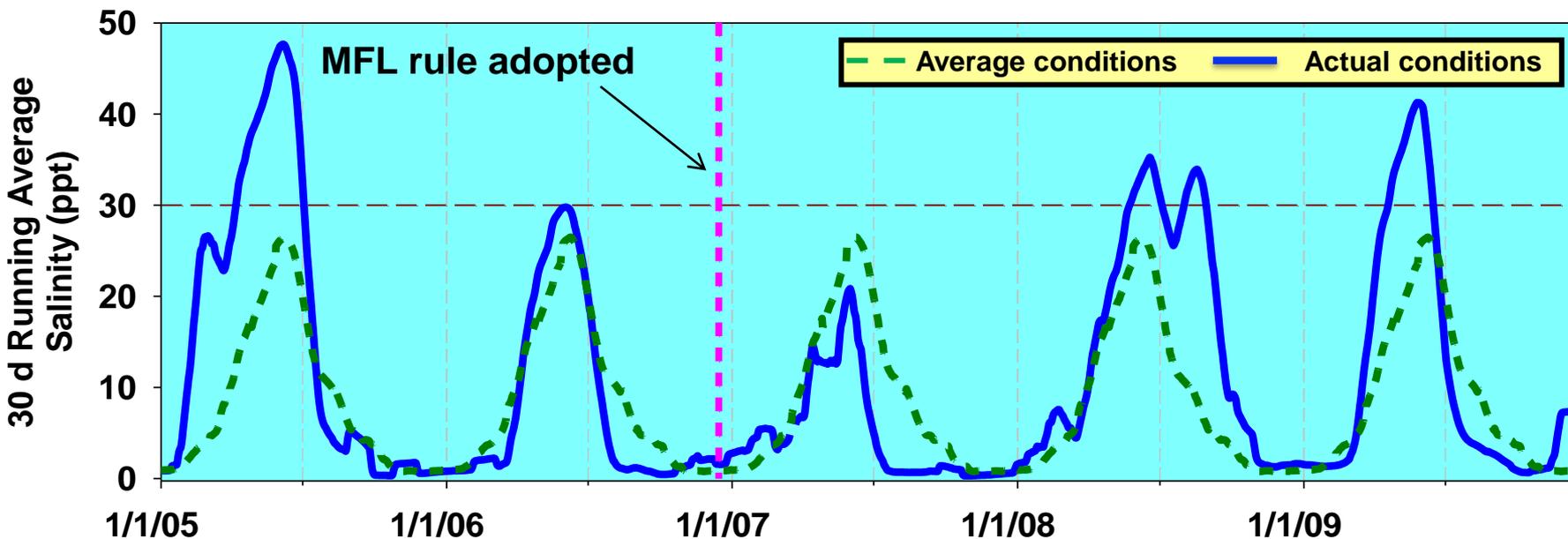
# One Year Water Depth Difference: Dec. 2009 - Dec 2008 (Feet)



South Florida Water Depth  
Assessment Tool (SFWDAT)



# Florida Bay MFL Status – Tracking Salinity



**Goal: Protect SAV habitat to prevent significant harm to ecosystem**

## Staff Recommendation:

- Limit discharge to the Caloosahatchee and St. Lucie Estuaries to basin runoff only
  - Most lakes & WCAs significantly drier than 2008
  - Still early in the dry season
  - Climate outlook uncertain
  - If Lake releases begin, they may need to be continued to sustain benefits
  - Consequences of not sending water in the early dry season not well understood
- Lake Okeechobee releases to the WCAs
  - Only if desirable or with minimal impacts
- Continue weekly monitoring & assessment

