

Refuge Enhanced Monitoring Program: Update

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Update to TOC, August 26, 2004



U.S. Fish & Wildlife Service

Arthur R. Marshall

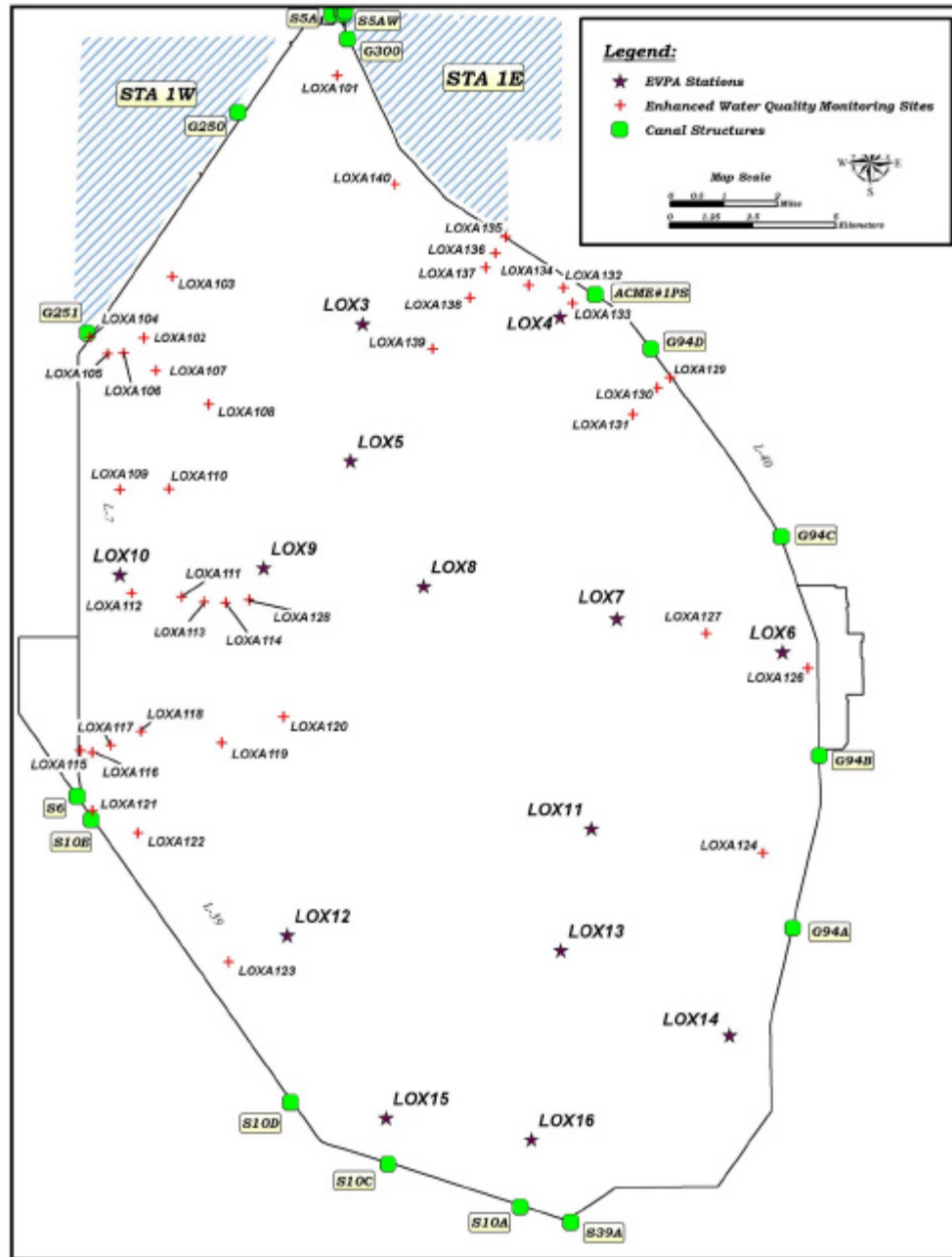
Loxahatchee National Wildlife Refuge

Update since April 6, 2004 TOC

- Purpose:
 - Show early status of project
 - Solicit feedback on report format
- All stations selected/marked
 - Transects being instrumented
 - 7 transects; 29 sondes total; 14 sondes currently in place
 - water levels rising; all sondes in place by Oct.
- Monthly sampling in June, July, August
 - final data to be posted on DBHYDRO
- Fires in Refuge
- Modeling update
- Canal monitoring update

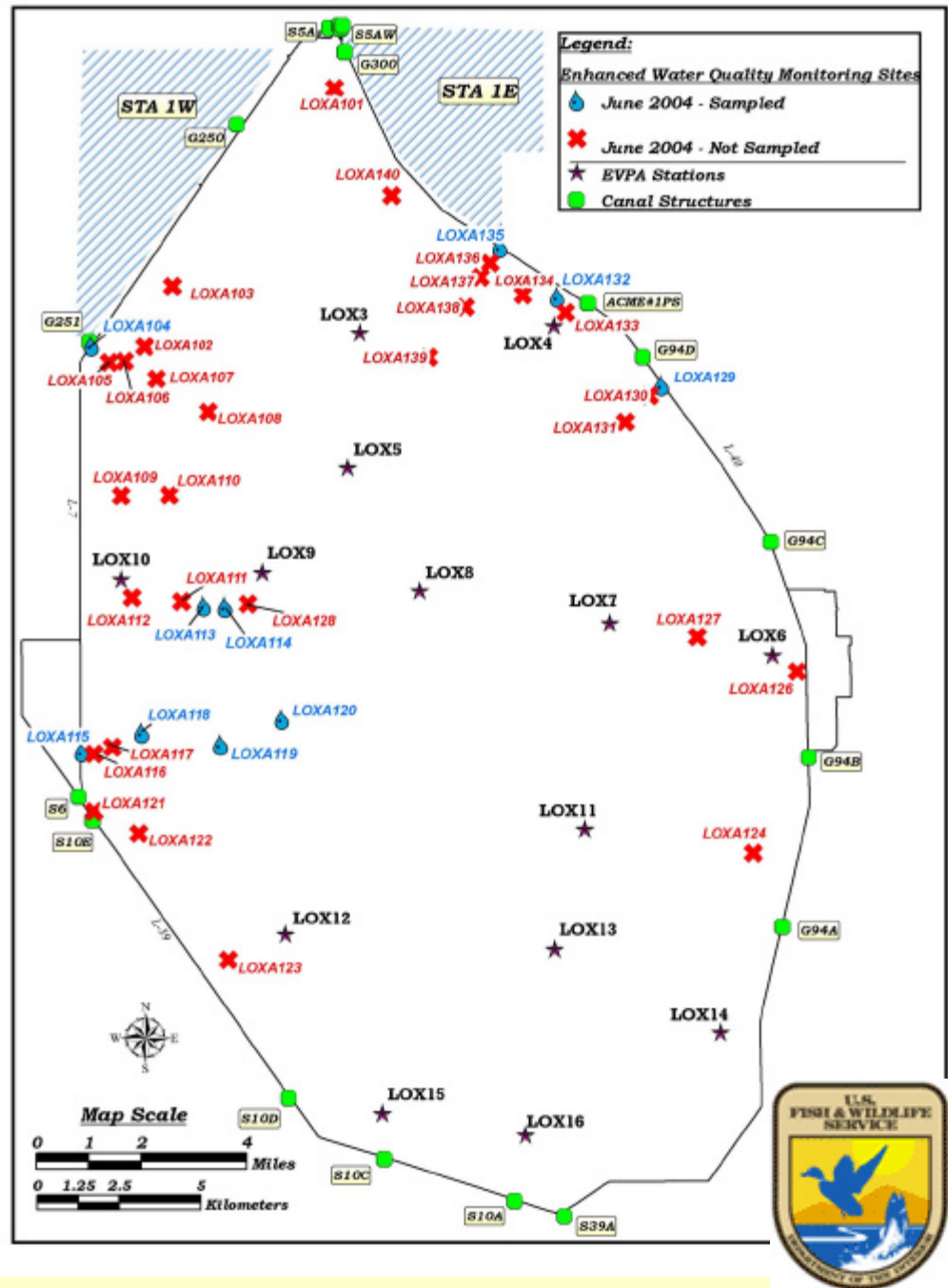


Refuge Sampling Site Map



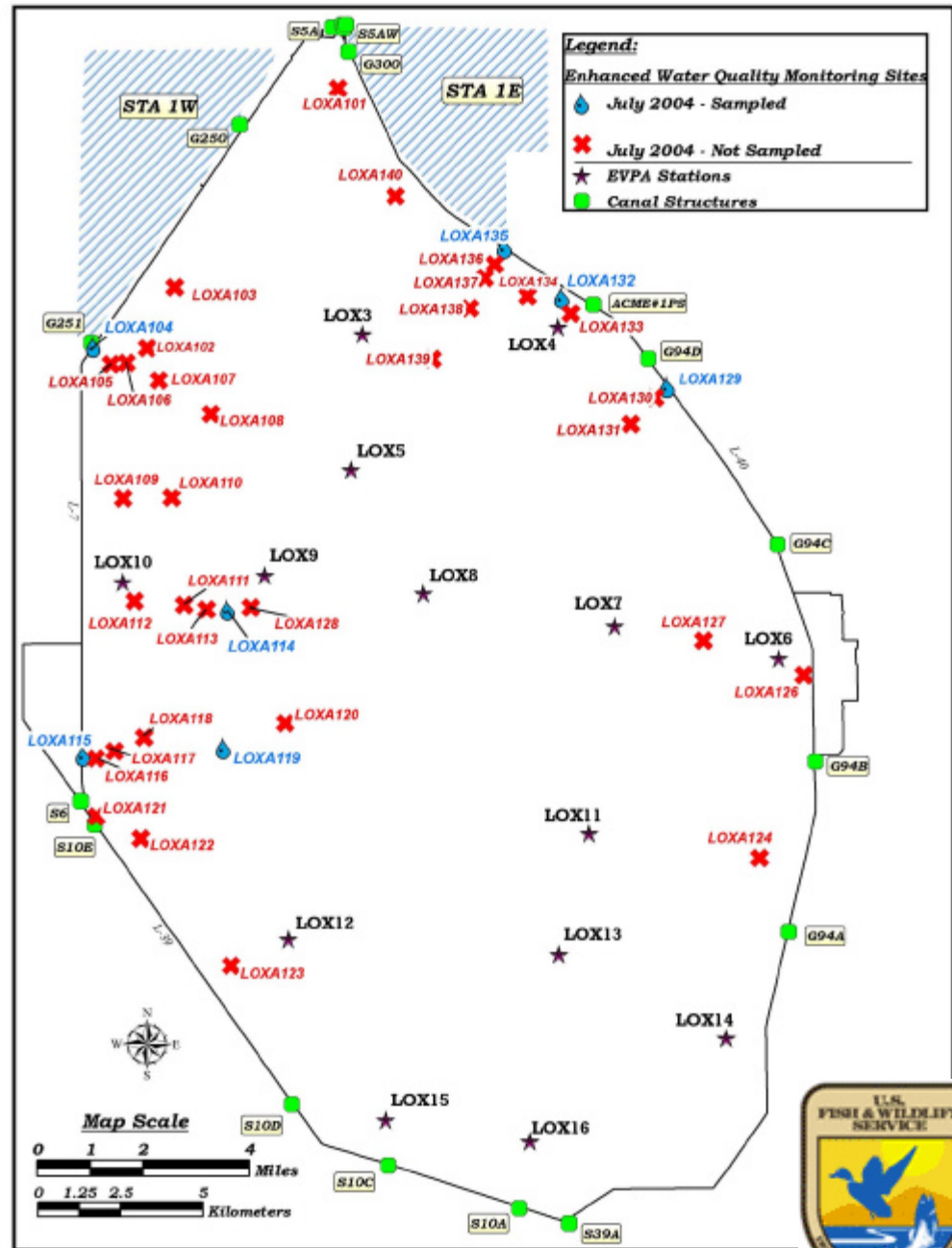
Enhanced Monitoring Network:

Stations sampled in June 2004



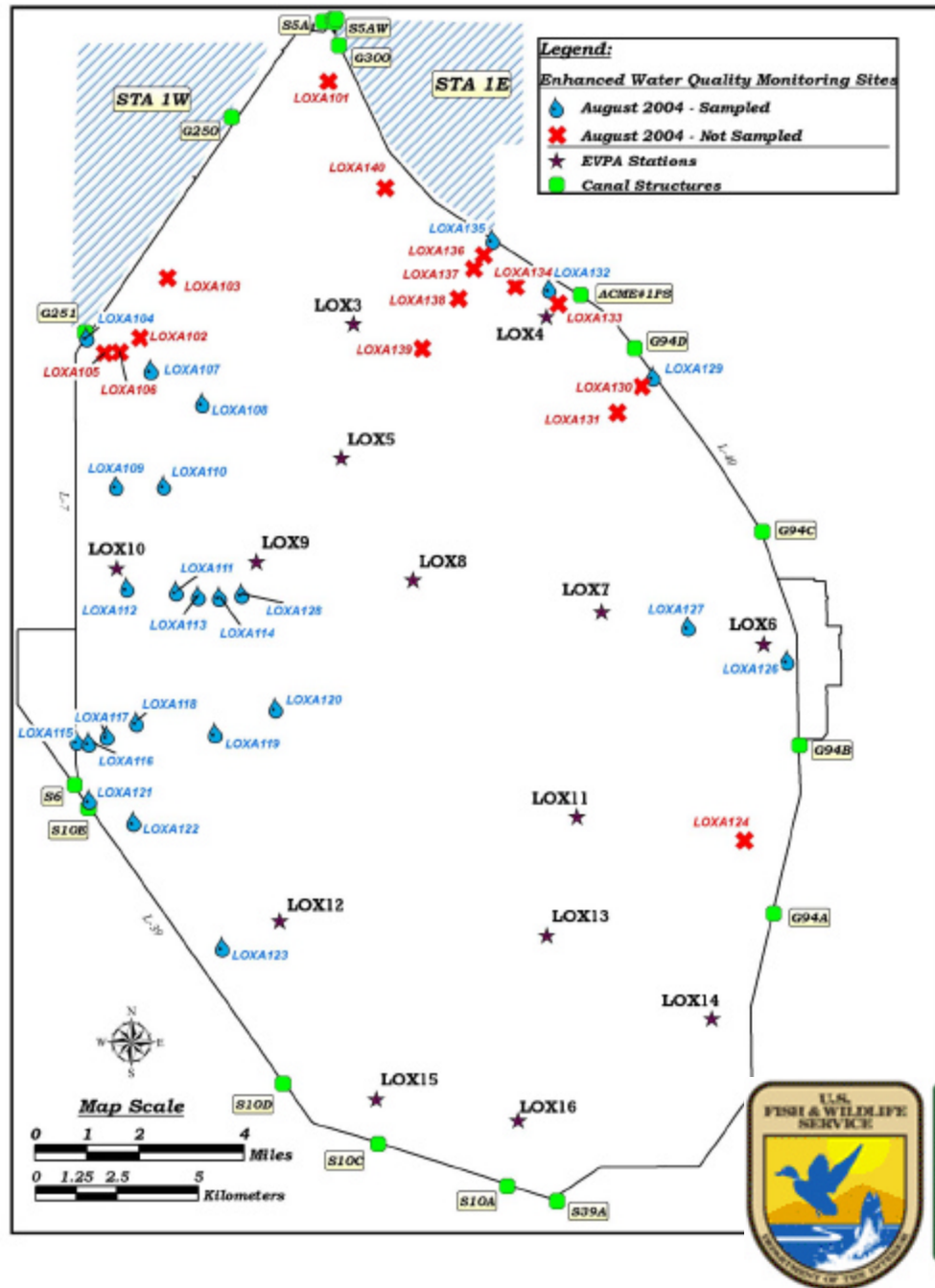
Enhanced Monitoring Network:

Stations sampled
in July 2004



Enhanced Monitoring Network:

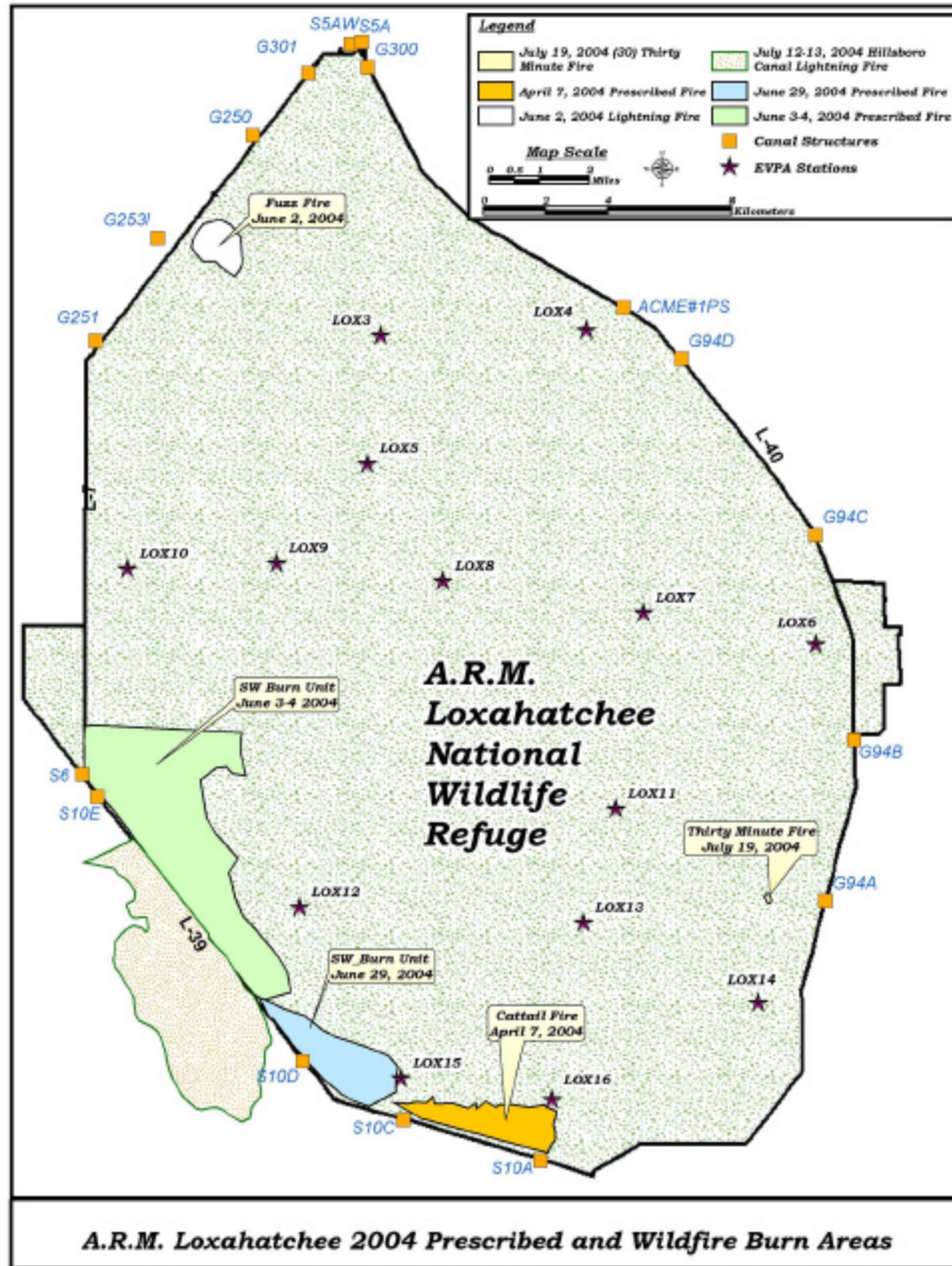
Stations sampled
in August 2004



Water Quality Monitoring - Fire

- Fire is natural component of the system
- Prescribed fire is used as a management tool
 - Refuge has a Fire Management Plan
- Wild Fires
 - June 2 (441 acres), July 12 (81 acres [5217 acres in WCA2]), July 19 (11 acres), July 26 (@100 acres)
- Prescribed Fires
 - April 7 (1016 acres), June 3-4 (5247 acres), June 29 (1306 acres)
 - Attempted water quality monitoring of June 29 burn





A.R.M. Loxahatchee 2004 Prescribed and Wildfire Burn Areas

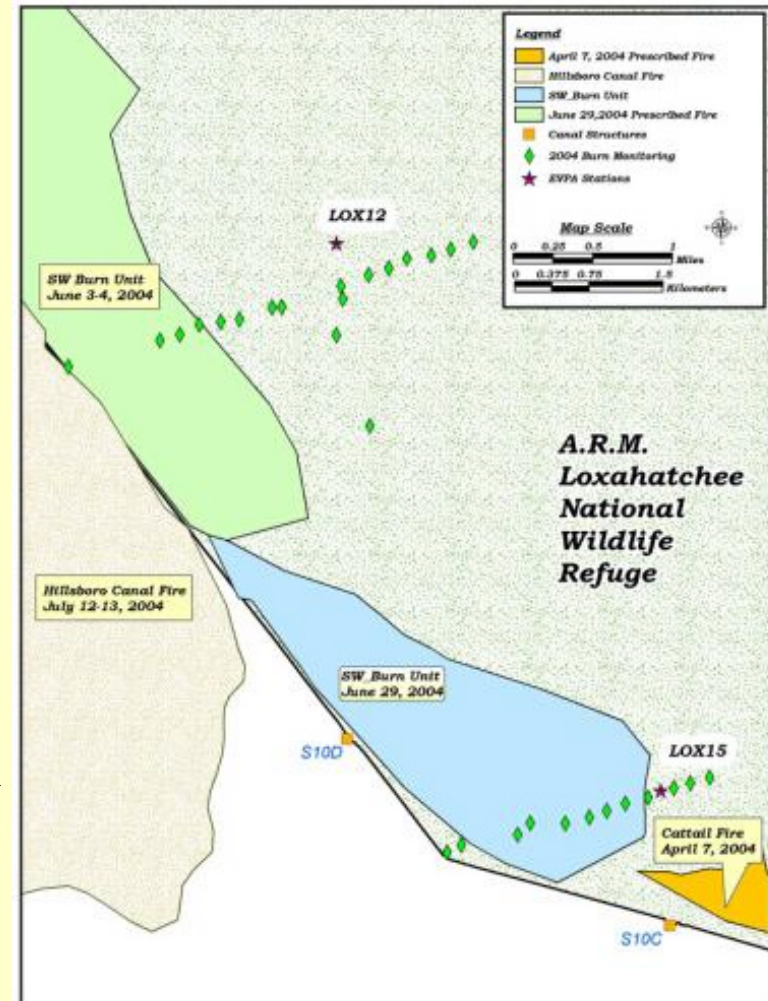
Prescribed Fire Monitoring

Refuge interested in possible effects of fire on water quality

- Original plan was to establish transects across burn front
- Samples to be collected pre- and post-burn

Lessons learned and future approach

- The burn mosaic is unpredictable and did not coincide well with transects
- Many of pre-fire sample sites did not burn
- Many stations selected were <10cm when visited
- More human and financial resources were needed than available
- May need to switch sampling pattern from transects to grid
- Need to develop sampling plan with dedicated resources
- Refuge in process of updating Fire Management Plan
- Next prescribed fires planned for Spring, 2005



Modeling Update

Development of hydrodynamic and water quality modeling

- Modeling contract underway – (CESU)
 - Dr. Ehab Meselhe (U. Louisiana – Lafayette)
- Model selection review panel contract in progress – (CESU)
 - Dr. Vince Neary (Tennessee Tech) coordinate; 4 panelists
 - Scope allows for input from interested parties at multiple entry points
 - *“Communication and coordination with all interested parties will be essential for the success of this project.”*
 - One of first tasks in contract is for PI to establish process for input from interested parties



Canal Monitoring Update

Canal monitoring update

- Monitoring contract in progress – (Cooperative Agreement)
 - Dr. Samira Daroub (UF - IFAS)
 - Canal hydrographic surveys and canal sediment characterization over time
 - distribution, abundance, water quality characteristics



Questions?

