

Refuge Monitoring and Modeling: Update

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U.S. Fish & Wildlife Service

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Loxahatchee National Wildlife Refuge

Background

- Initial draft of '04-'06 Work Plan prepared Jan
- Final version incorporates comments from State, Federal, and other colleagues.
- A part of the plan is designed to incorporate modifications based on principles of adaptive science and adaptive management.



Activities since Feb 3, 2004 TOC

- Comments received at Feb 4 workshop
- Plan notably revised to incorporate input
- Final plan posted on TOC WebBoard

- Transects currently being instrumented
- Preparing to initiate monthly sampling in May
- Contracting alternatives investigated
- Initiated hiring of term employees
- Coordination with other studies



Project Focus – Monitoring

- 1) Additional monthly water quality sampling sites focus outside of existing marsh monitoring network
 - characterize 40% of the marsh that is not currently monitored
 - Total of 40 sites located on transects and additional locations in the marsh



Project Focus – Monitoring

- 2) Monitoring of canal water intrusion using seven surface water conductivity transects
- identify patterns of canal water intrusion into the interior marsh
 - transects run from canal towards marsh interior



Major Revisions - Monitoring

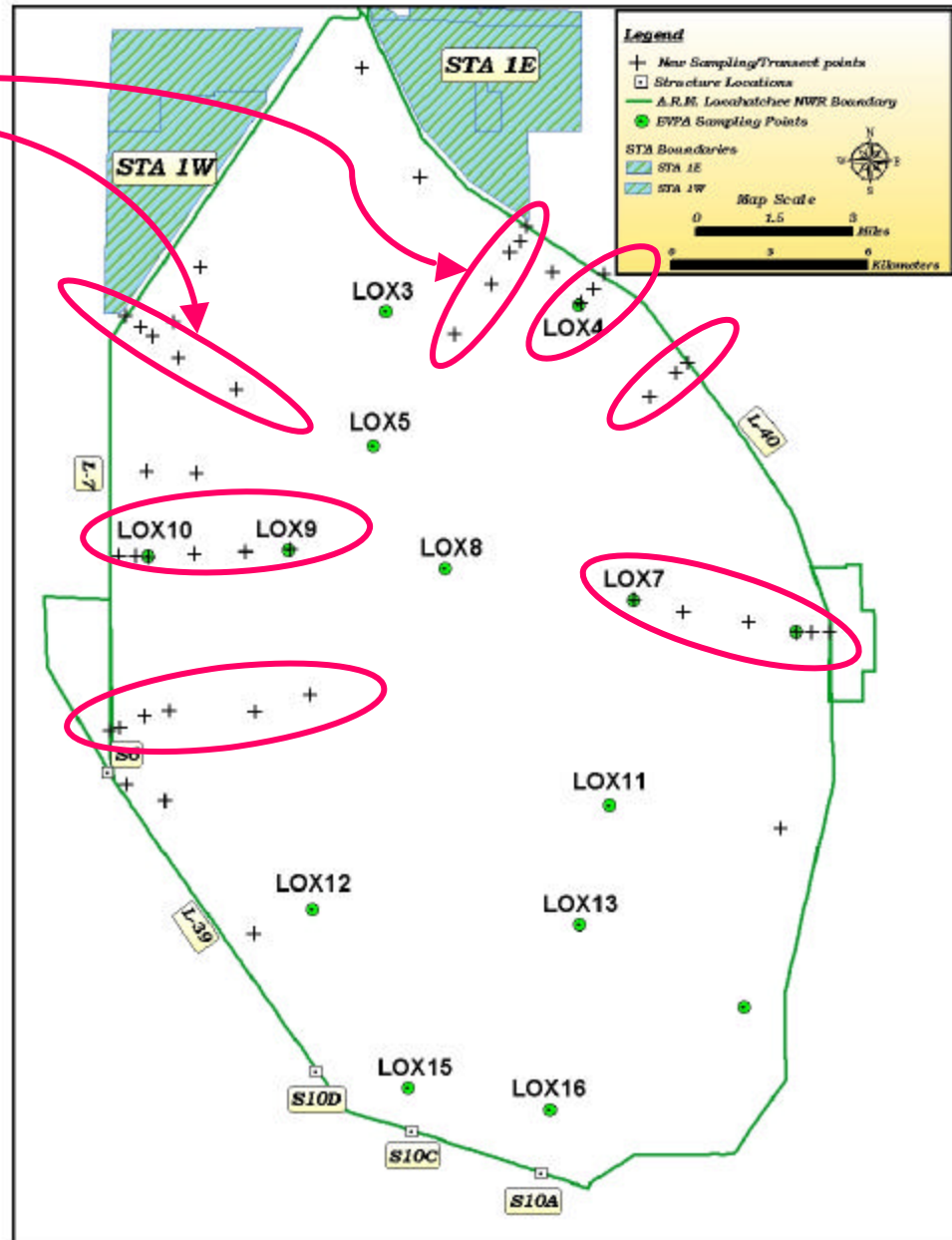
- Helicopter-based synoptic conductivity mapping effort dropped
- Conductivity mapping incorporated into other sampling
- Transects selected
- Aspects of STA downstream monitoring added
- Sampling sites identified
 - Number sites/parameters likely to decrease over time



STA
Downstream
monitoring

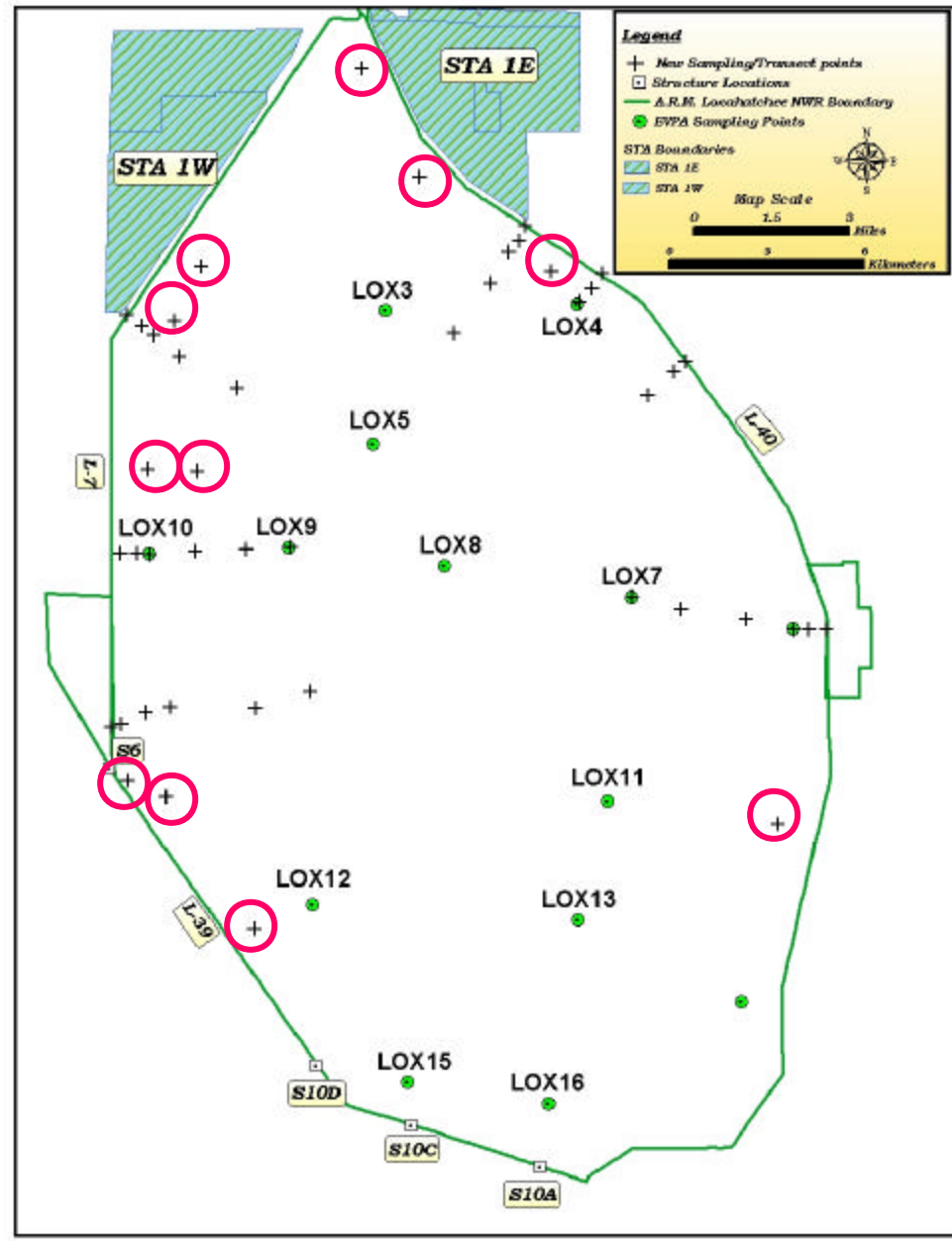
Revised Sampling Site Map

Transect Locations



Revised Sampling Site Map

Additional Stations



Project Focus - Modeling

- 3) Development of hydrodynamic and water quality modeling
- improve understanding of hydrology and water quality
 - understand impacts of water management activities to help with refuge management decisions
 - support planning of future water quality and ecological studies



Major Revisions - Modeling

- New plans underway to establish an independent external model selection committee that will recommend the model(s) to be used and provide technical input
- Details added on spatial and temporal scales, model selection, model design, and measuring calibration and verification



Acknowledgement

This project has benefited from numerous technical comments, suggestions, and reviews from colleagues working on Everglades science and management.

Their contribution is gratefully acknowledged.



Questions?

