



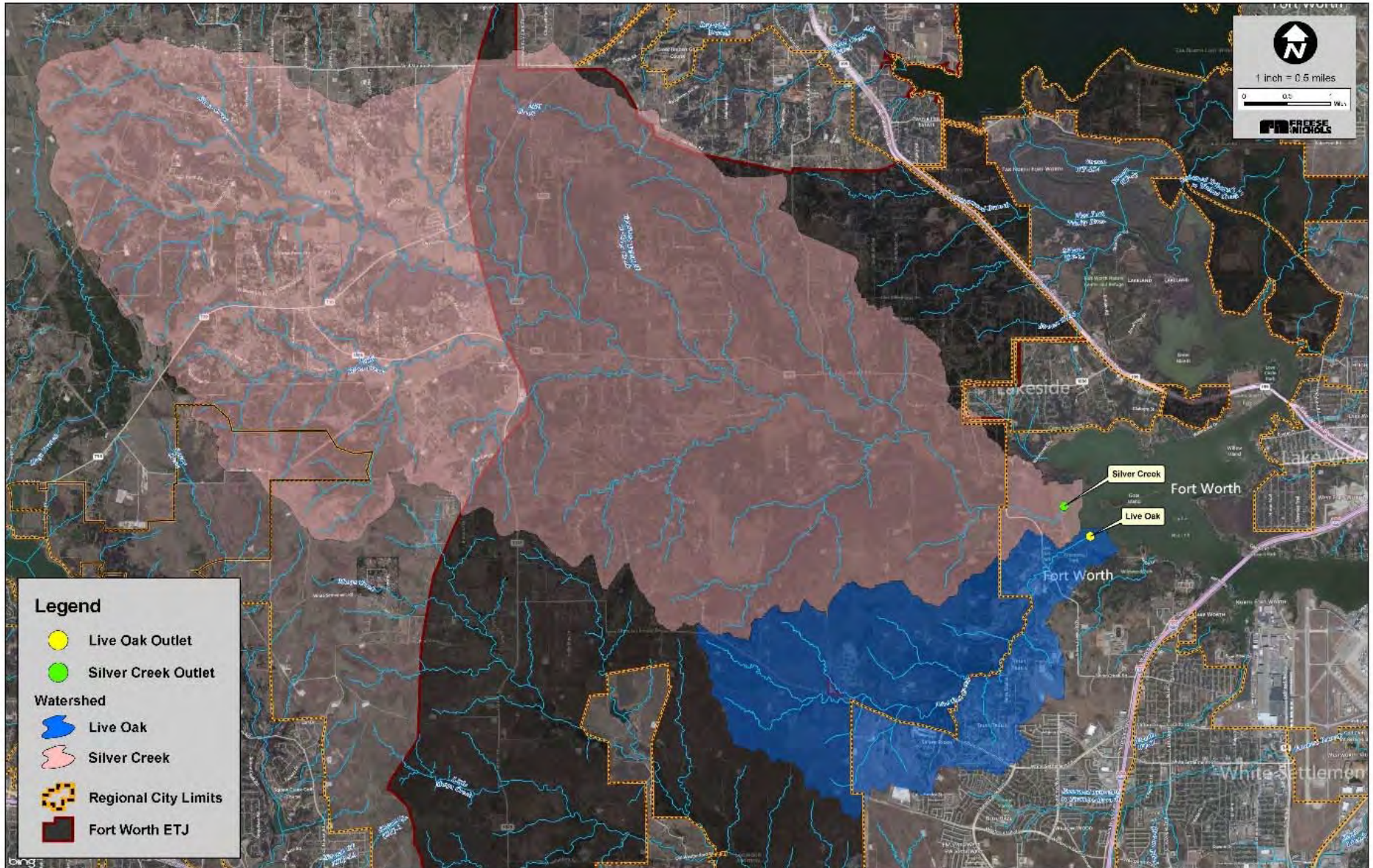
**FREESE
AND
NICHOLS**

Lake Worth Watershed Protection Study

**LAKE WORTH REGIONAL COORDINATION
COMMITTEE**

March 19, 2015

Lake Worth Watershed



Lake Depths Before Dredging



Lake Depths After Dredging



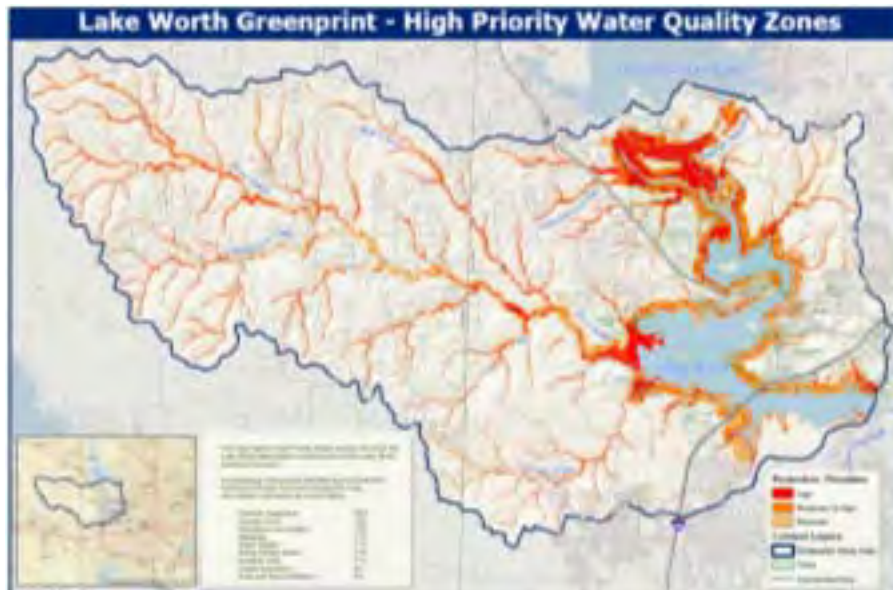
Pics of Dredge Operation



Pics of Dredge Disposal Site Silver Creek Materials



Watershed Protection Drivers

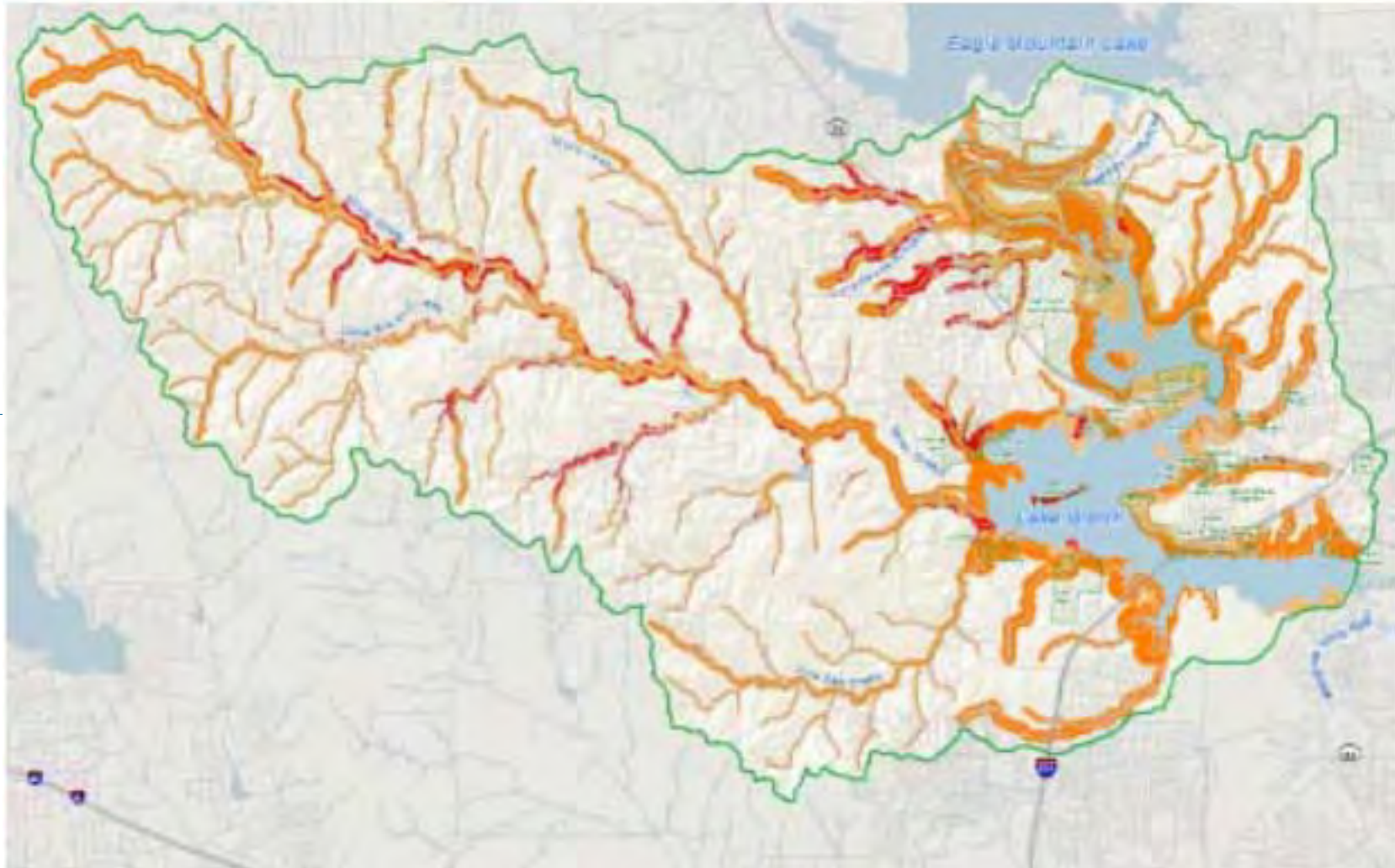


2010 Award Recipient

Study goals



Lake Worth watershed erodible soils



Approaches to be Studied

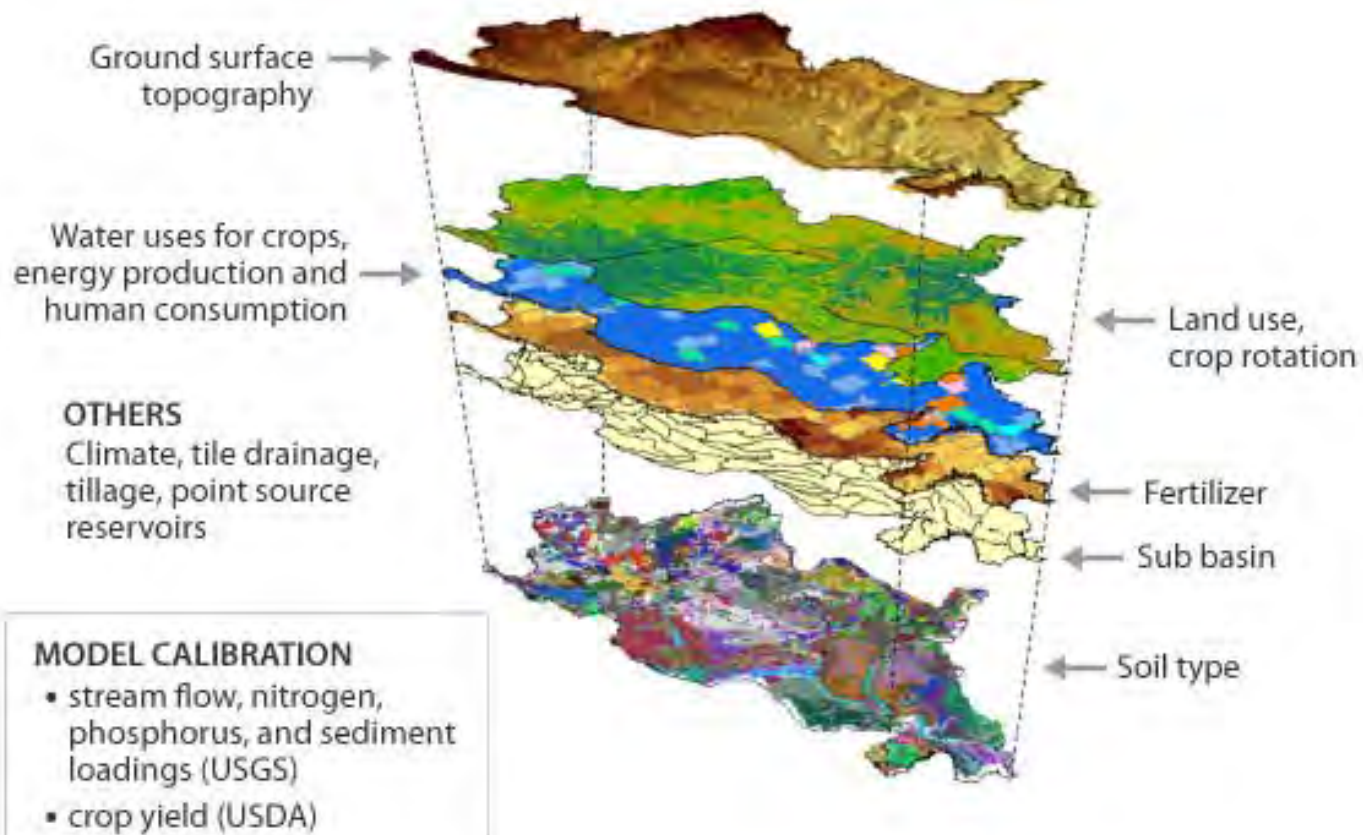


- Sedimentation forebays for Silver Creek and Live Oak watersheds
- Constructed wetlands for water quality polishing
- Watershed BMPs
- Plan for Watershed Monitoring

Sediment Modeling



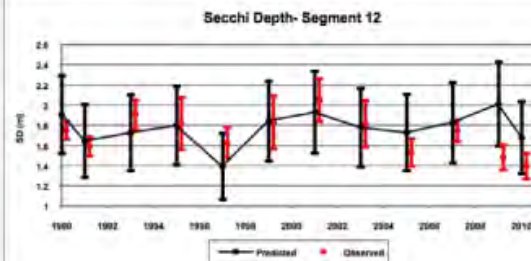
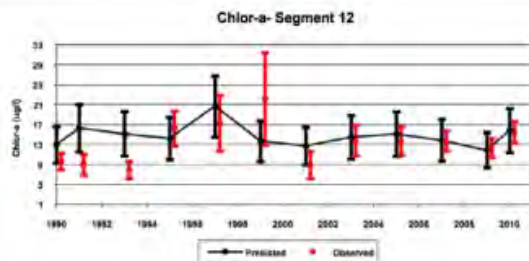
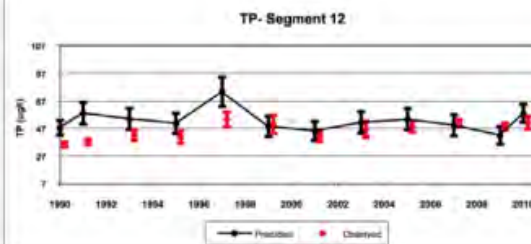
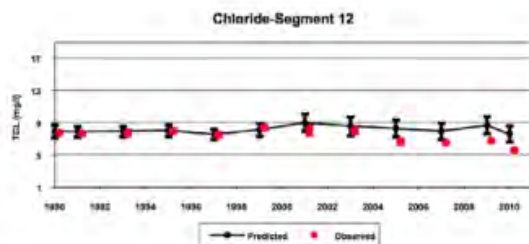
Soil & Water Assessment Tool | **SWAT**



In-lake Water Quality modeling



- BATHTUB
- Eutrophication-related water quality projections



BATHTUB

Model Uses

BATHTUB is a steady-state water quality model that simulates eutrophication-related water quality conditions in lakes and reservoirs.



Quarry Sedimentation Site Feasibility Analysis



- Silver Creek Materials (Live Oak Creek watershed)
- HJG Quarry (Silver Creek watershed)



Constructed Wetlands Feasibility Analysis



Watershed BMPs



Watershed Monitoring Plan



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Feasibility Report Deliverable



- Sediment and nutrient loading existing conditions model
- Sediment and nutrient loading model with BMPs
- In-lake water quality model for existing and proposed approaches
- Conceptual costs for quarry sedimentation BMP alternatives
- Conceptual costs for constructed wetlands
- Next steps