

Central Florida Coordination Area

Environmental Assessment Status Report

October 27, 2010

Work Plan - EAS Components

Completed Tasks:

- Organization, Background Investigation and Comparison of Review Criteria (B1)
- Ecological Assessments and Database Compilation (B2)
- Data Evaluation (B3)
 - Baseline condition of wetlands has been evaluated
- Evaluate Existing Environmental Monitoring Network (B4)
 - Existing monitoring network has been identified

Work Plan - EAS Components

Work In Progress:

- Data Evaluation (B3)
 - Comparison of simulated model results to observed field conditions
 - Coordination with Modeling and Tools Subgroup to estimate groundwater availability
 - Presentation of findings at public workshops

Work Plan – EAS Components

Work In Progress:

- Evaluate Existing Environmental Monitoring Network (B4)
 - Identification of additional monitoring needs
- Environmental Assessment Report (B5)
 - Development of a final report describing the methods and results of the environmental impact assessments (current and future)

Environmental Assessment Process

- Identification of evaluation sites
- Data collection (field data, aerials and other sources)
- Database compilation (Google/KML and ArcMap/GIS)
- Data evaluation (wetlands, lakes, and streams)
- Verification
- Additional data collection
- Compilation of preliminary results

Field Assessment Data

- Habitat condition
- Photo documentation
- Soils
- Vegetative community characteristics
 - Community type(s)
 - Zonation
 - Plant species list and abundance
 - Observed health

Field Assessment Data

- Hydrologic indicators
 - Moss collars
 - Lichen or stain lines
 - Adventitious roots
 - Tree buttressing
 - Wetland edge characteristics
 - Observed water levels



Wetland SF-CT, Orange
County, Florida

Field Assessment Data

- Drainage alterations
 - Ditches
 - Canals
 - Drainage wells
 - Culverts
 - Retention ponds
- Landscape context
- Other field data or indicators

Other Sources of Data

- Drainage well locations
- Natural and man-made drainage feature maps
- County soil survey data
- USGS quad maps
- Landscape position maps (ridge, slope, valley)
- Historical aerial photography

Methods

- Separated sites into non-confounded and confounded (e.g., ditches, canals, regulated lakes, RIBS) categories
- Separated each category into wetland, lake or stream subgroups
- Reviewed field data/photos and historical aerial photography
- Determined if hydrologic stress is present

Field Indicators of Stress

- Vegetation
 - Invasion by plants of drier communities
 - Leaning/fallen trees
 - Dead trees or other vegetation
 - Shifts and changes in plant communities
 - Age class differences of trees
 - Lack of regeneration of wetland plant species

Field Indicators of Stress

- Organic soils
 - Oxidation/subsidence (exposed roots)
 - Fissuring
- Hydrology
 - Evidence of reduced hydrology
 - Lack of hydrologic indicators

Abnormal Tree Fall – Leaning Trees



Vegetation Shifts



Mature Pine Edge

New Pine Recruitment

Soil Fissures



Organic Soil Loss



Exposed roots (soil subsidence)



Soil subsidence

Methods for Determining Stress

Herbaceous Wetlands and Lakes

- Stress Indicators
 - Organic soil fissuring
 - Lack of hydrologic indicators
 - Shifts or changes in plant communities
 - Invasion of woody species
 - Changes from historical condition
- Aerial Photography – Time Series Analysis
 - Change in spatial extent and wetland type
 - Hydrologic change (drier condition)
 - Wetland alterations (dredging, filling)

Methods for Determining Stress

Forested Wetlands (includes all stream sites)

- Stress indicators

Soil subsidence/exposed roots	Soil fissuring
Invasion by plants of drier communities	Age class difference in trees
Shifts or changes in plant communities	Lack of regeneration
Leaning/fallen trees	Lack of hydrologic indicators
Dead trees or other vegetation	

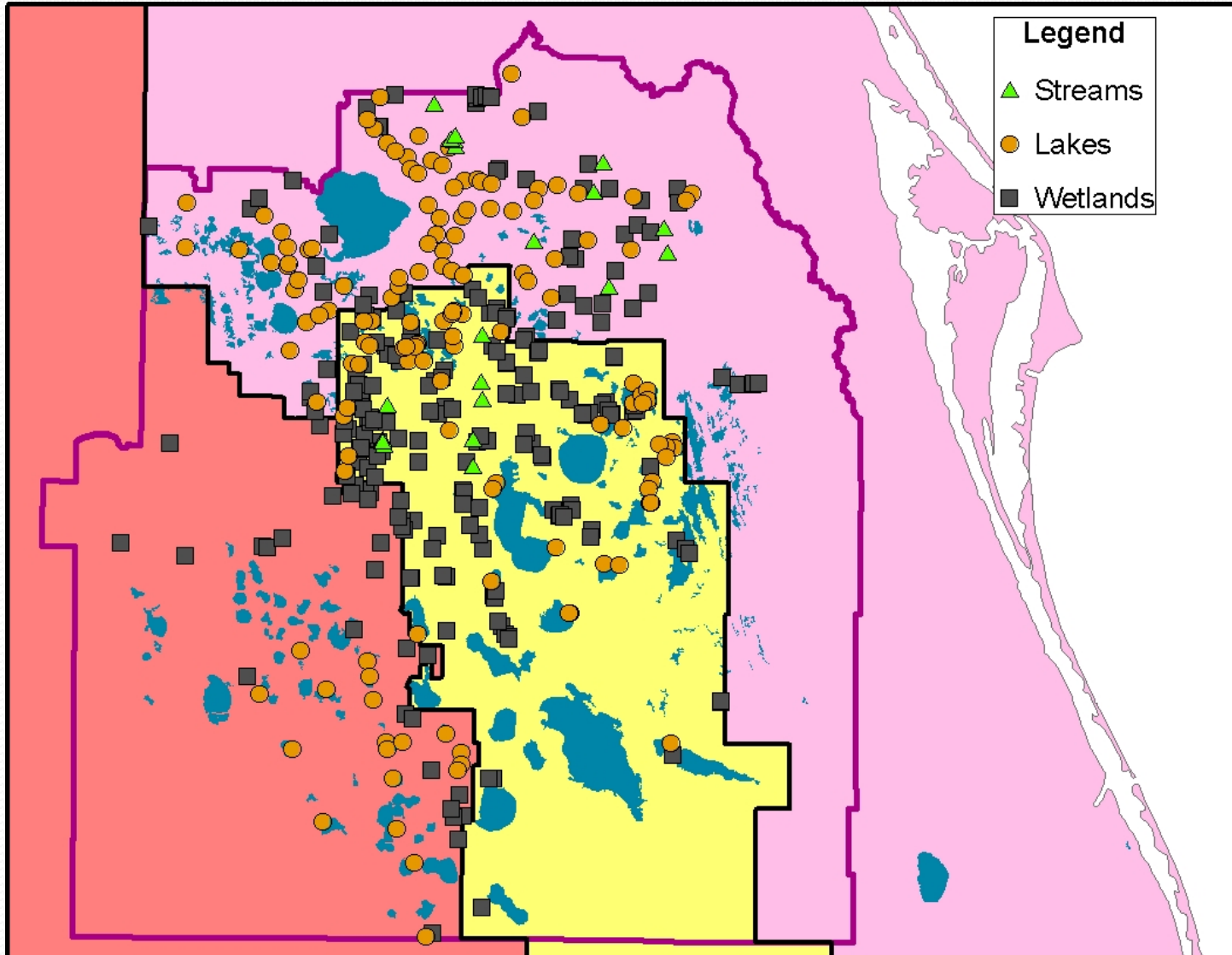
- Aerial photography analysis

- Fallen trees
- Wetland alterations (dredging, filling, logging)
- Change in spatial extent and wetland type

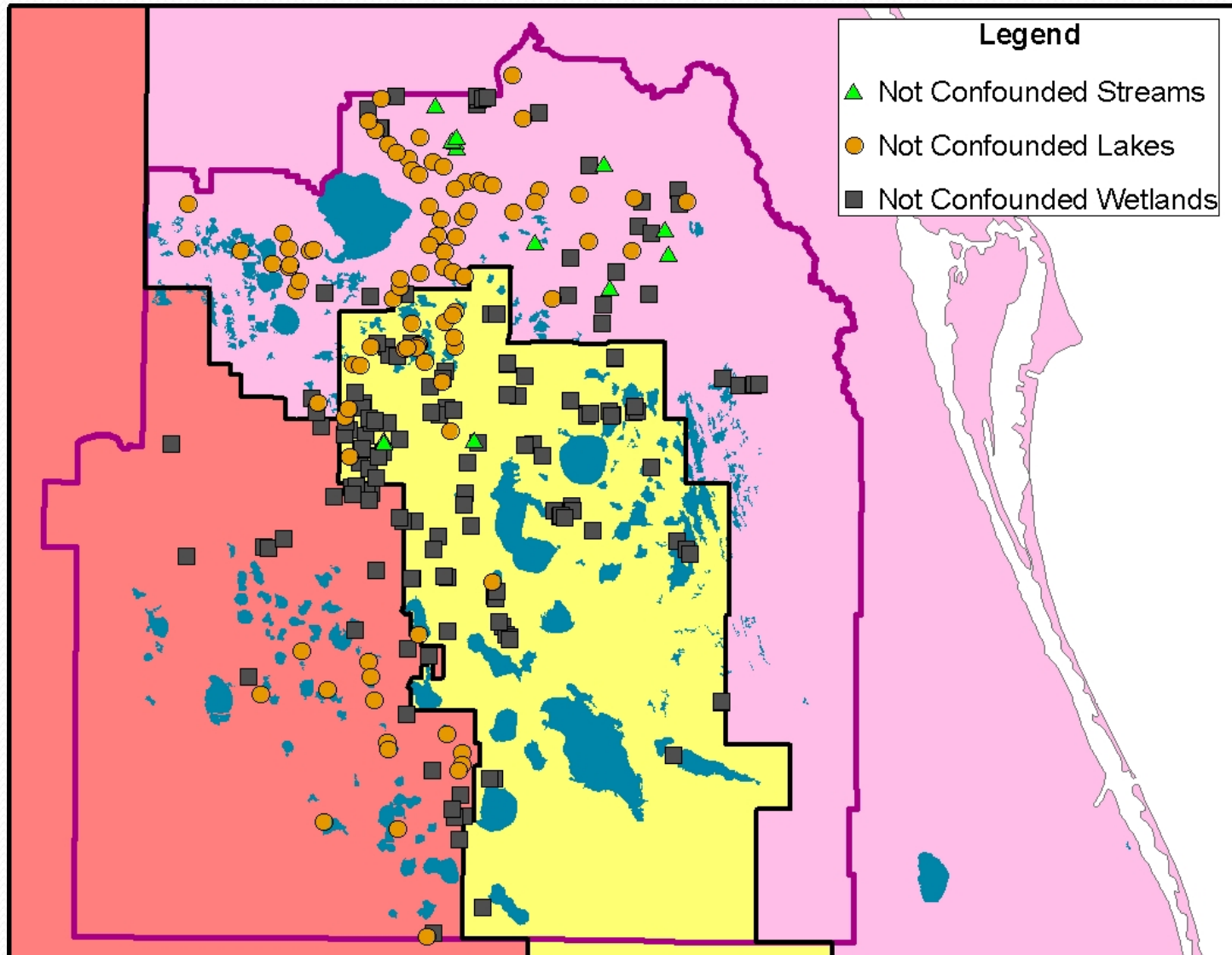
Preliminary Results

- 397 – Assessment sites
 - 231 – Wetlands
 - 20 – Streams
 - 146 – Lakes

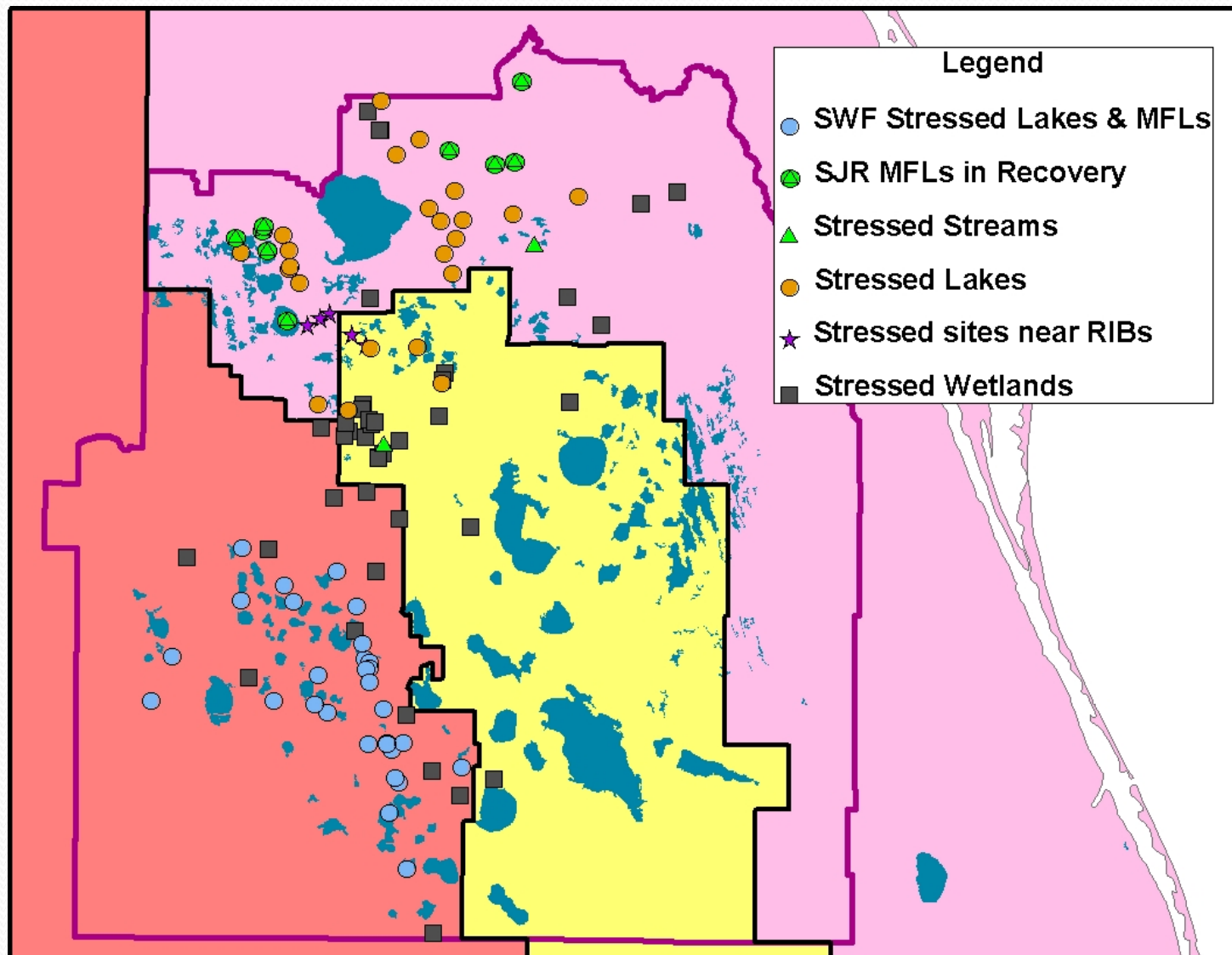
Assessment Sites



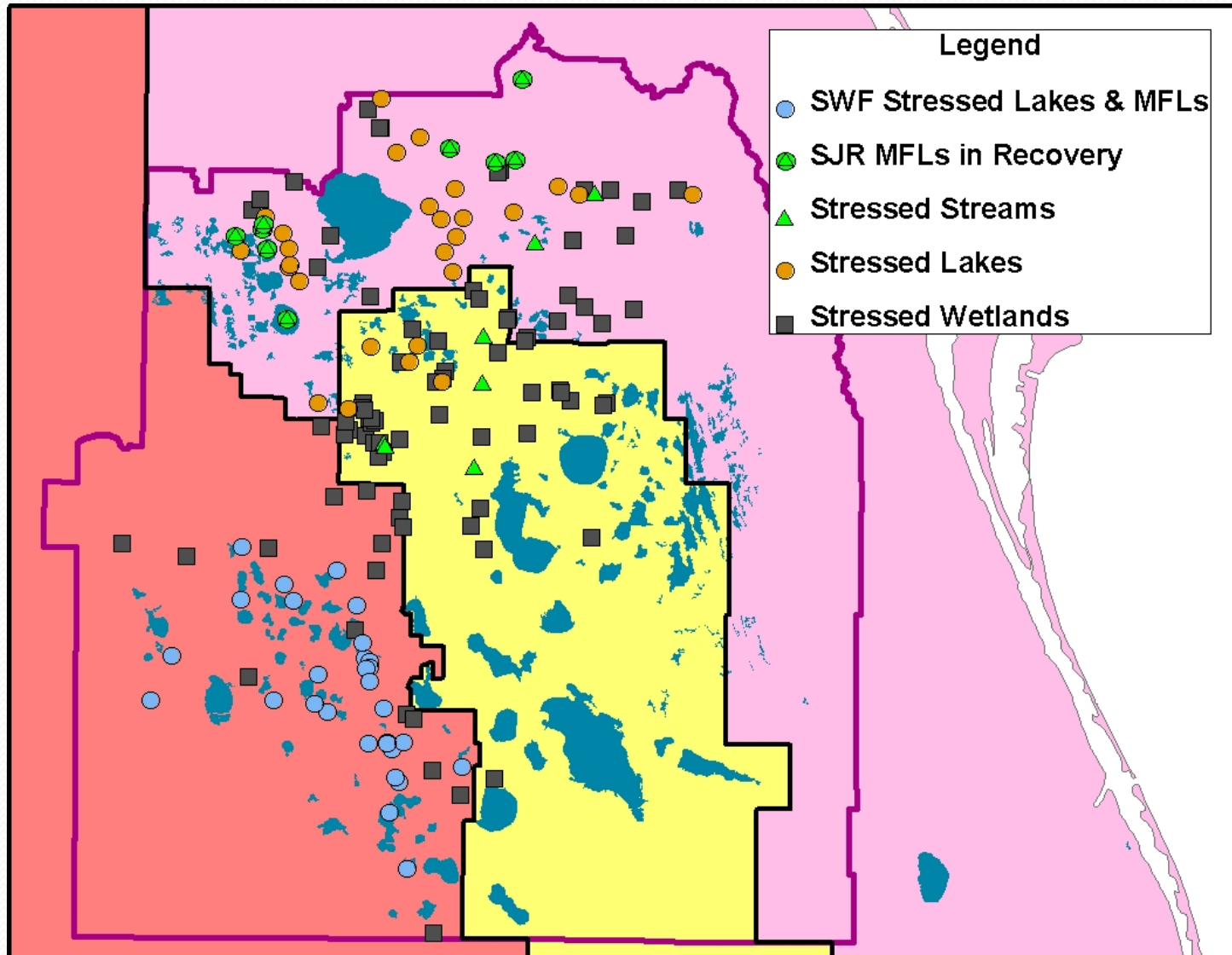
Non-Confounded Sites



Non-Confounded/Stressed Sites



All Stressed Sites



Work In Progress

- 25 additional sites to be evaluated
- Finalize results and databases
- Identify additional monitoring needs
- Develop Environmental Assessment Report

Work In Progress

- Coordination with Modeling/Tools Team
 - Evaluation of model runs
 - Identification of groundwater availability
 - Solutions evaluation



Questions