

Recovery Analysis for Northern Tampa Bay

September 7, 2005



Recovery Overview

- Statutes and District Rules
- Other types of Recovery assessments
- District activities performed gearing up for 2010
- Types of analyses ongoing or planned for Recovery assessment

Recovery (Chapter 373)

If the existing flow or level in a water body is below, or is projected to fall within 20 years below, the applicable minimum flow or level established pursuant to s. [373.042](#), the department or governing board, as part of the regional water supply plan described in s. [373.0361](#), shall expeditiously implement a recovery or prevention strategy, which includes the development of additional water supplies and other actions, consistent with the authority granted by this chapter, to:

- (a) Achieve recovery to the established minimum flow or level as soon as practicable; or
- (b) Prevent the existing flow or level from falling below the established minimum flow or level.

Objectives of the Recovery Strategy (40D-80)

- All water use permittees within the Area are addressed by this Rule 40D-80.073, F.A.C. However, Tampa Bay Water facilities account for the majority of water withdrawals within the Area. For this reason, these facilities are the primary focus of the portion of the recovery strategy encompassed by this Rule 40D-80.073, F.A.C. Other users are addressed in 40D-80.073(5), F.A.C.
- Recovery to Wetland and Lake Minimum Levels for wetlands and lakes described in and established in 40D-8 is the objective of this Rule 40D-80.073, F.A.C.

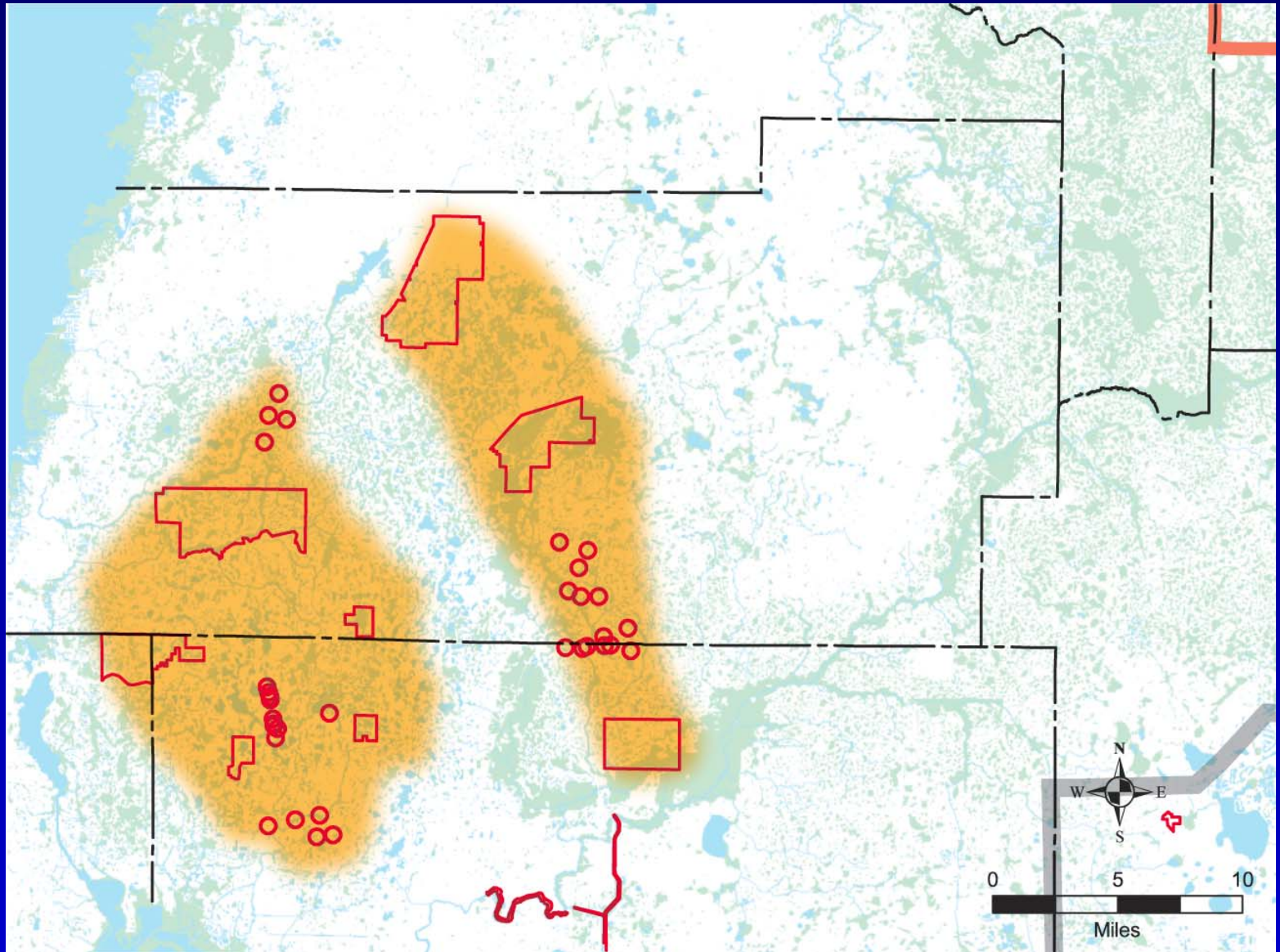
Components of the Recovery Strategy (40D-80)

- ...the Floridan Aquifer Recovery Management Levels set forth in Table 80-1 below shall be used as long-term guidelines for allocating withdrawals within the Operations Plan, submitted to the District by TBW pursuant to the Agreement, and shall be reevaluated in 2010
- Interim Recovery monitoring
- Addressing other (non – Tampa Bay Water) water use
- Supplemental hydration of lakes and wetlands
- New applications for water use

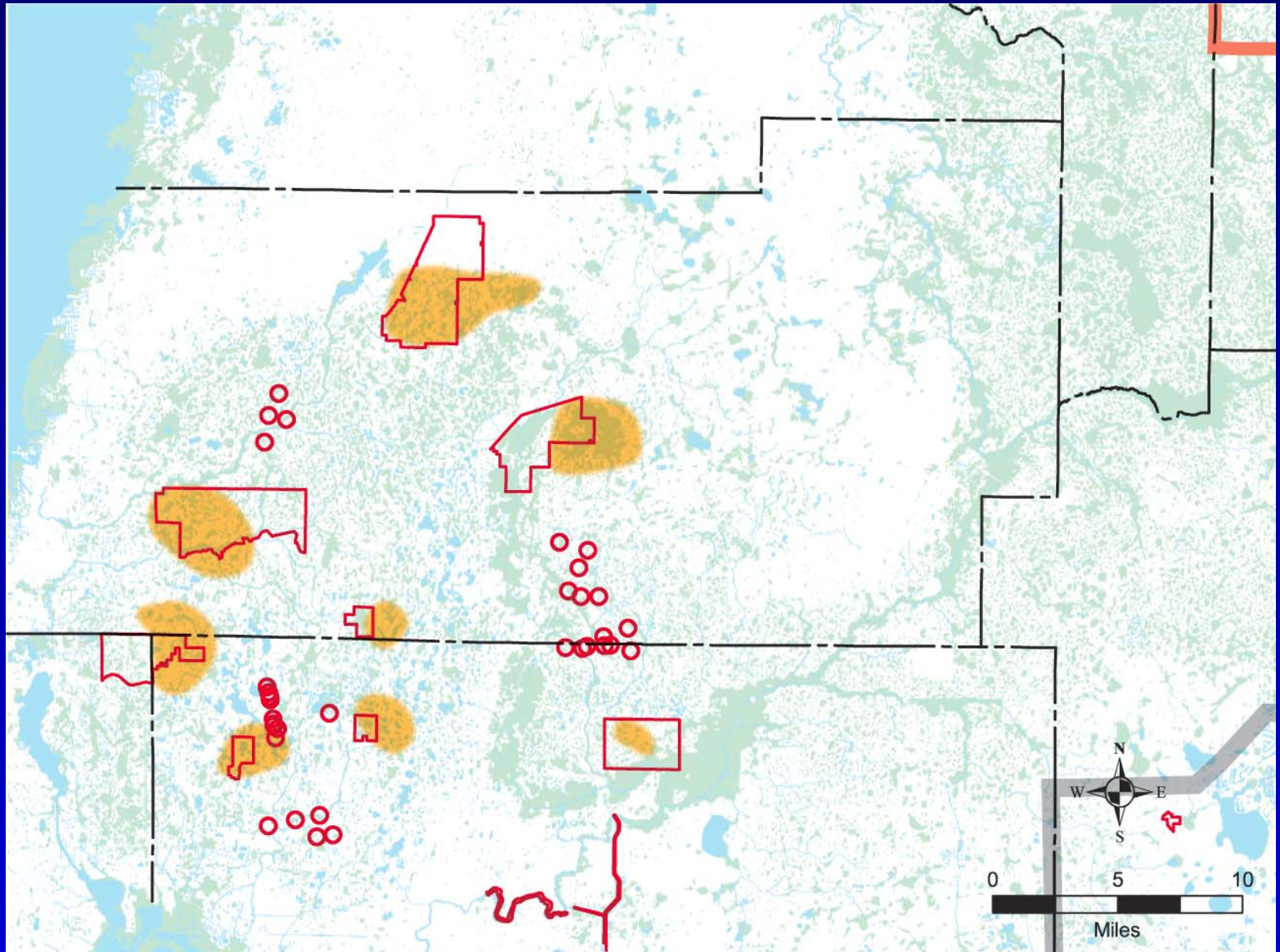
2010 Recovery Assessment (40D-80)

- The portion of the District's recovery strategy embodied within this Rule.... is the first regulatory phase of a long-term approach toward eventual attainment of the Minimum Flows and Levels

Impacts in 1998



Impacts in 2010



2010 Recovery Assessment (40D-80)

- The District will evaluate the state of knowledge of these matters in 2010, including analysis of all information and reports submitted pursuant to Rule 40D-80.073(3)(c), data collected and analyzed and relationships determined pursuant to Rule 40D-8.011(5), F.A.C., regarding the Minimum Flows and Levels for the priority waters in the area (The "MFLs") and the Central System Facilities permit(s).

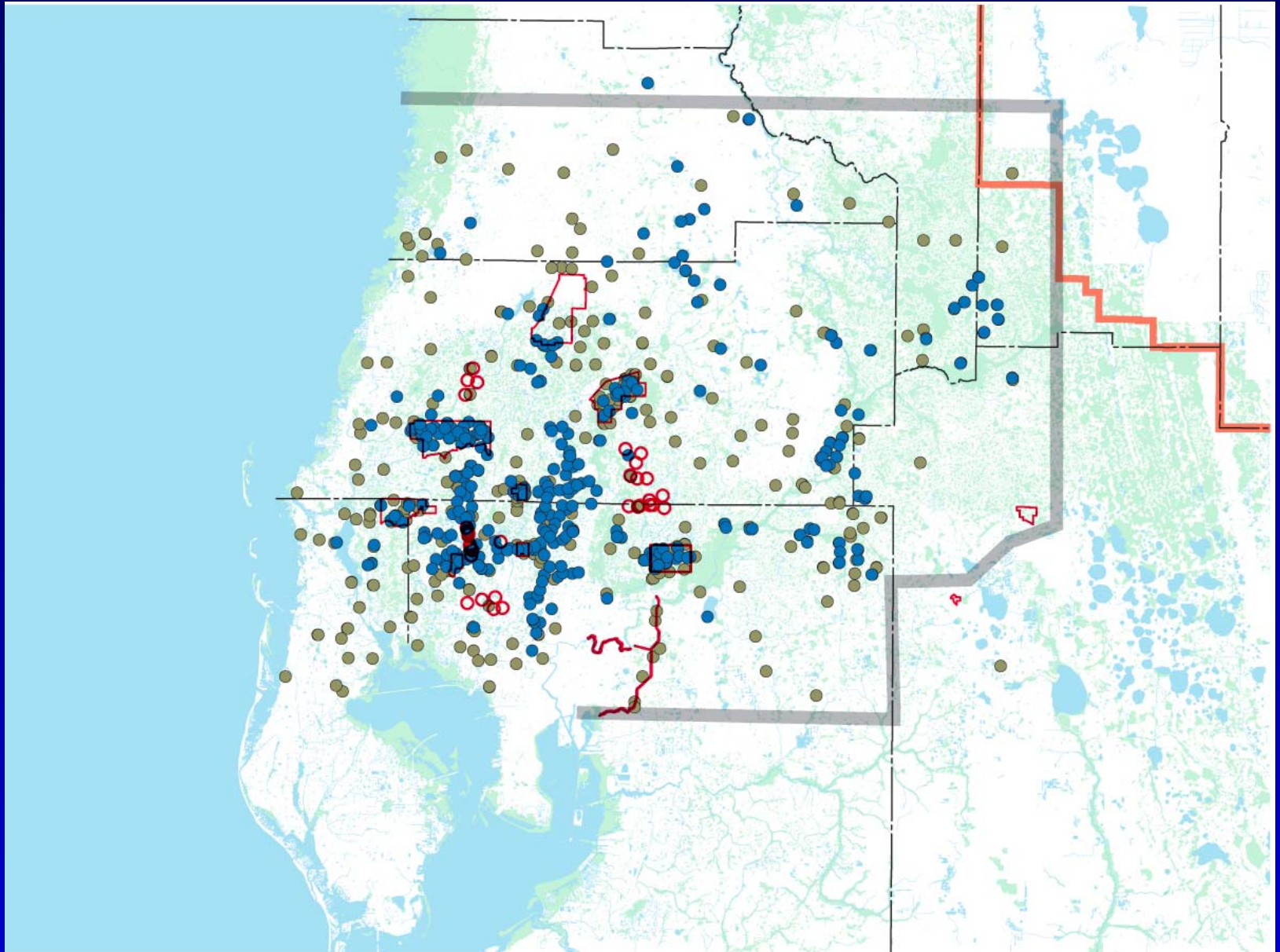
2010 Recovery Assessment (40D-80)

- Based on that analysis and evaluation, on or before December 31, 2010, the District will initiate rulemaking to
 - revise the MFLs ...as necessary;
 - adopt rules to implement the existing or the New MFLs ...; and
 - revise this ... to incorporate a second phase to this Recovery Strategy

Additional Assessments

- Hundreds of monitoring sites exist throughout the Northern Tampa Bay area
 - water levels
 - flow
 - biologic
 - atmospheric

NTB Monitor Well Sites and Staff Gages



Additional Assessments

- Integrated Model
- Statistical assessments

NTB II Scope Approach to Recovery

- Review hydrologic data network and update as needed
- Review biologic data network and update as needed
- Work on “Tools in toolbox”
- Work on new MFL methodologies
 - Marsh
 - Cat. 3 lake
 - Other
- Perform Recovery Assessments

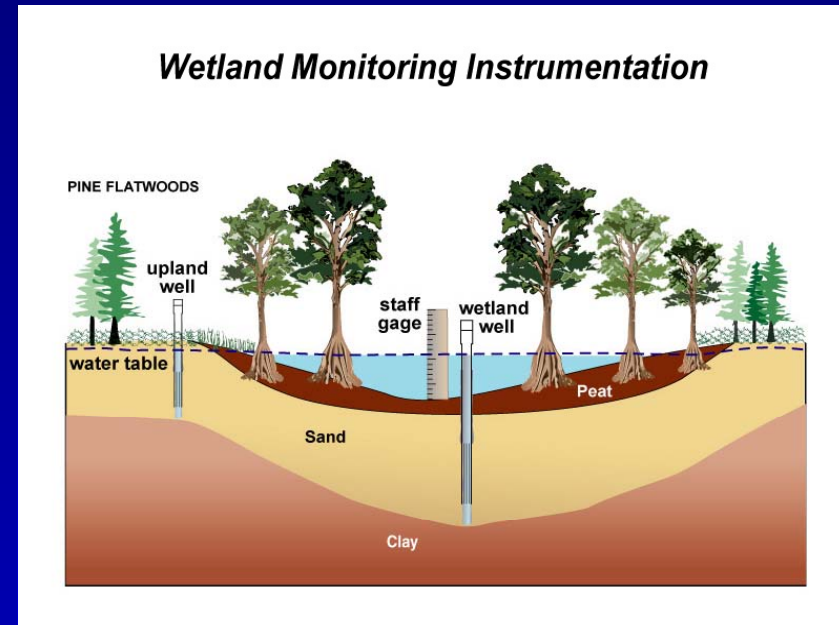
Monitoring Network Assessment

- Over 30 new nested sites added to key areas (all with recorders)



Monitoring Network Assessment

- Approximately 50 new District wetland sites in key locations
- All wetlands upgraded with new wells and/or staff gages as per EMP standards (along with Tampa Bay Water)



Monitoring Network Assessment

■ WAP methodology upgrade

WETLAND ASSESSMENT PROCEDURE (WAP)
INSTRUCTION MANUAL FOR ISOLATED WETLANDS
March 2005



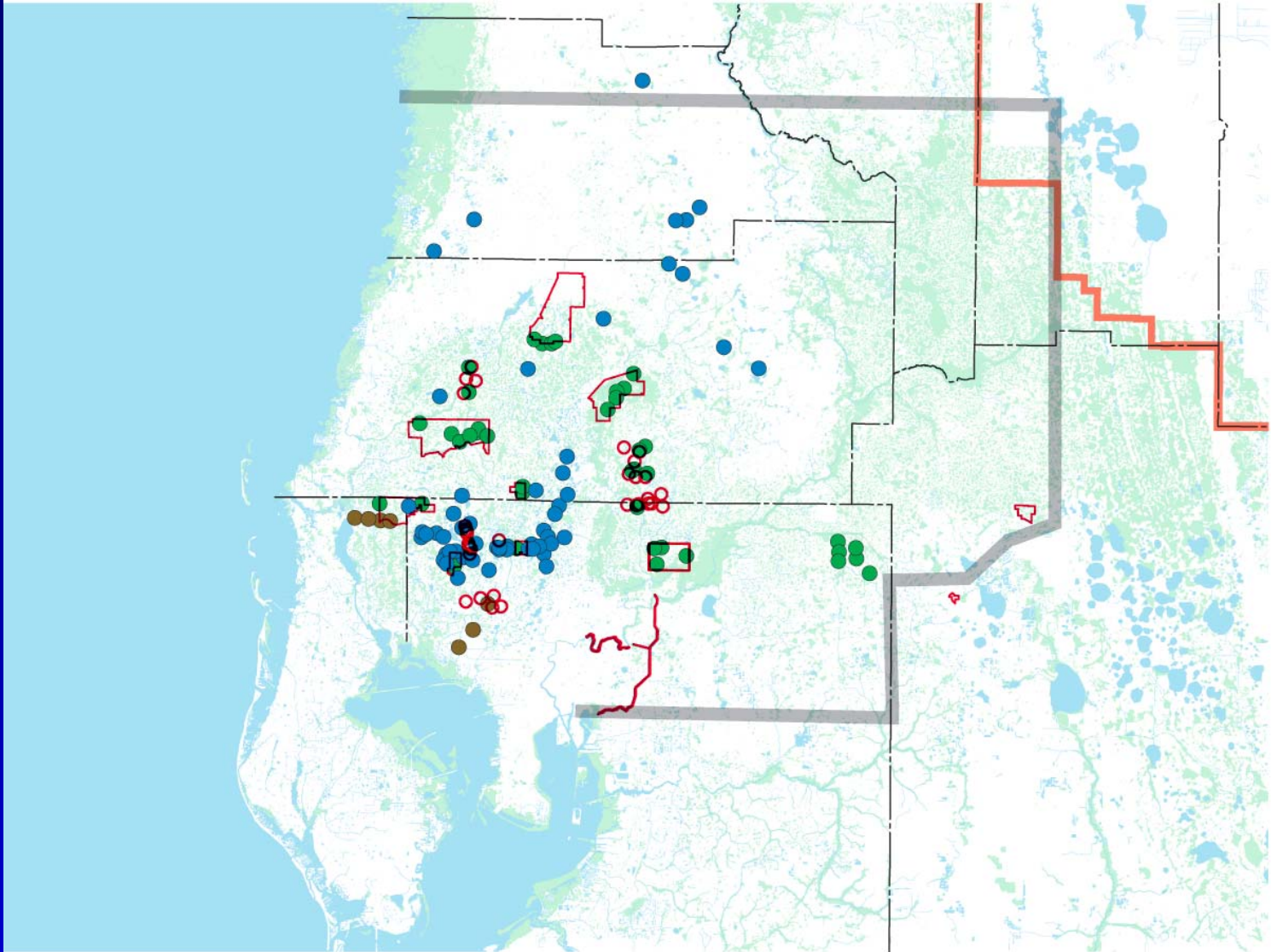
Multiple levels of monitoring

- District and TBW water level monitoring
- District and TBW biologic monitoring (WAPs)
- TBW annual assessment of wellfields (annual reports)
- District MFL monitoring
- EMP referrals to the Operations Plan

District's Recovery Analysis

- MFL assessments
- Regional assessments
 - Use of control sites
 - Use of models
- Atmospheric Assessments
 - Use of new rainfall tools
- Other Issues

MFL Assessments



Issues with MFL Assessments

- Period of record used
 - Pumping history
 - Atmospheric conditions
- Evaluation of specific sites
 - Effects of drainage and surrounding land use
 - Karst and structural effects
 - Other

Issues with MFL Assessments

- “Tools in the toolbox”
- MFLs as control sites

Regional Assessment

- “MFL” assessment in other wetlands
- Spatial patterns
- Regional models
- Control Sites

Atmospheric Assessments

- Assessment of spatial rainfall patterns
 - NEXRAD data
- Rainfall cycles
 - Atlantic Multidecadal Oscillation (AMO)

Other Issues

- Re-evaluation of MFL methodologies
- Quality control of data
- Evaluation of other existing users

