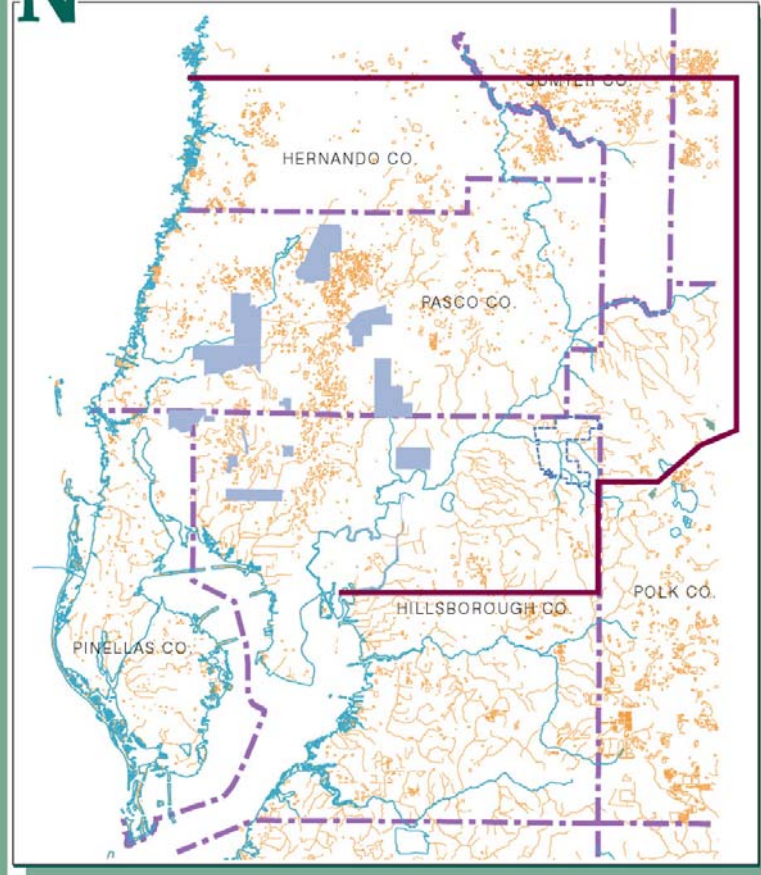


Northern Tampa Bay  
Phase II  
Projects – December 2004



# 1999

## Northern Tampa Bay Phase II Scope of Work



October 21, 1999  
DRAFT

# Northern Tampa Bay II

## Objectives

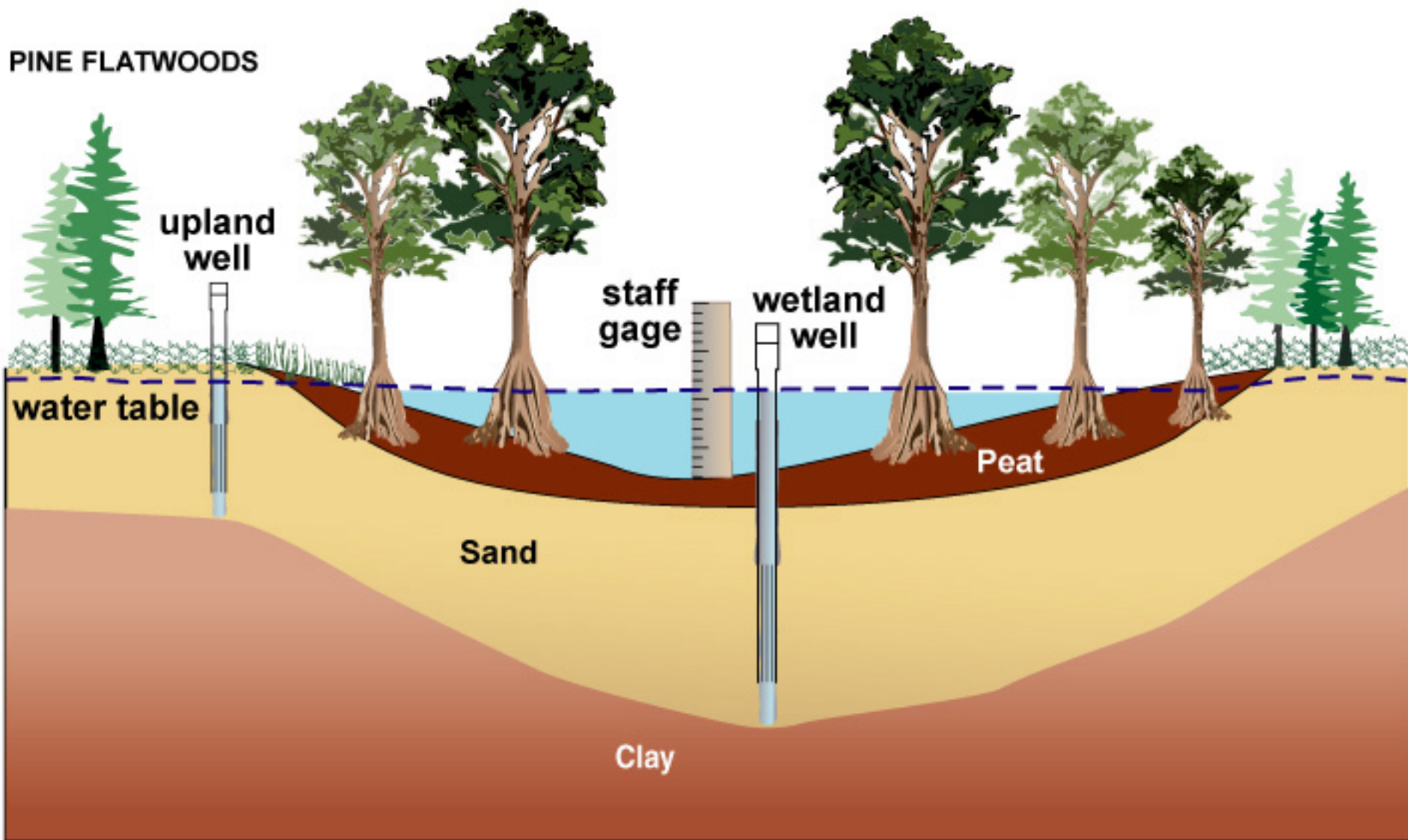
- Expand and Improve Data Collection
- Evaluate Existing MFL Methods and Develop New MFL Methods
- Evaluate the Effects of Recovery
- Evaluate Alternative Management Methods

# Expand and Improve Data Collection

- Review existing sites and upgrade as needed
- Identify and pursue new sites as needed
- Concentrate in wellfield areas, but expand to areas less affected
- Maintenance of network – new priority



# ***Wetland Monitoring Instrumentation***

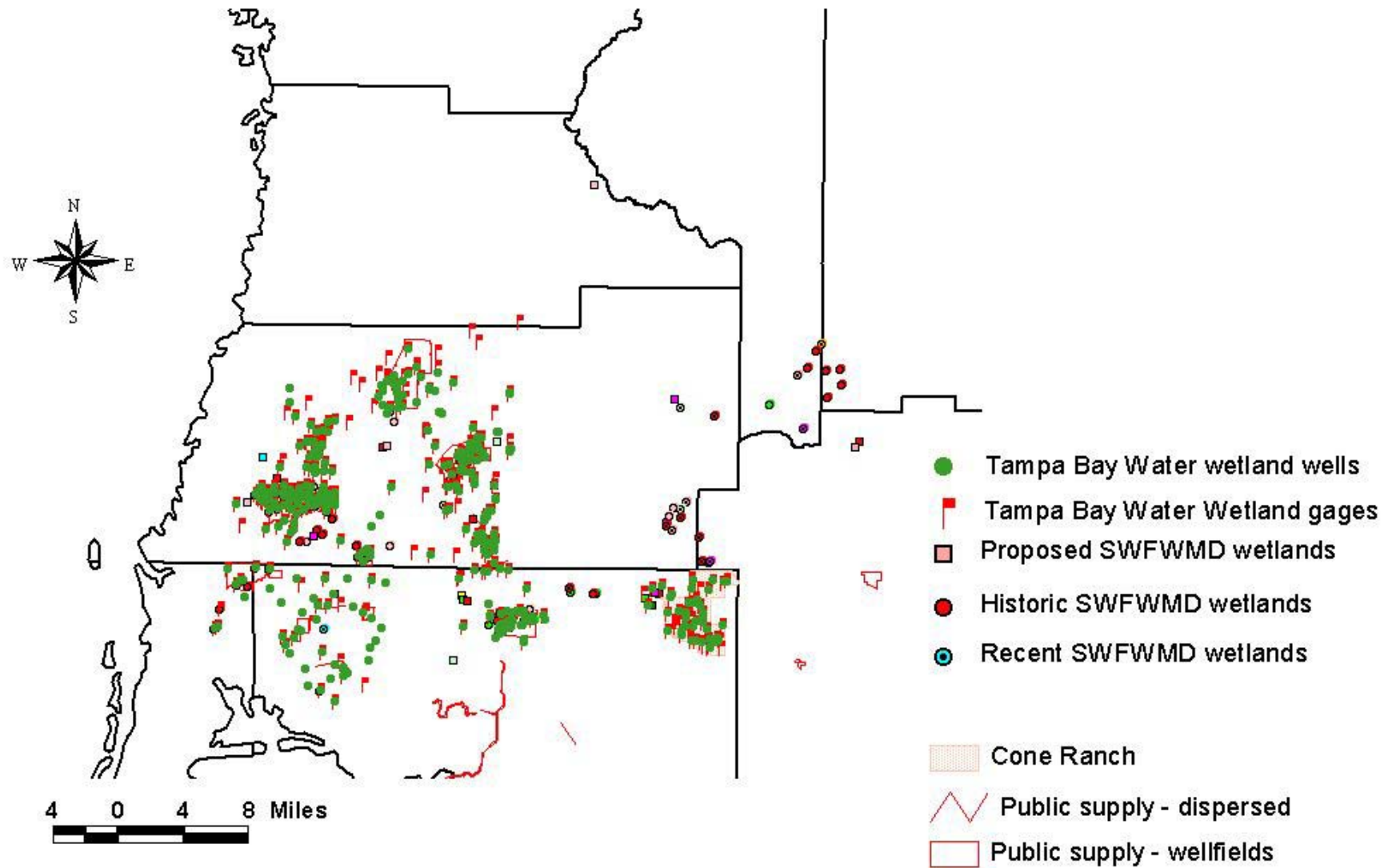


# Eleven Wetland Types





# Complete Wetlands Monitoring Network



# Wetlands Monitoring Network

SWFWMD	105
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Tampa Bay Water	317
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Both	45
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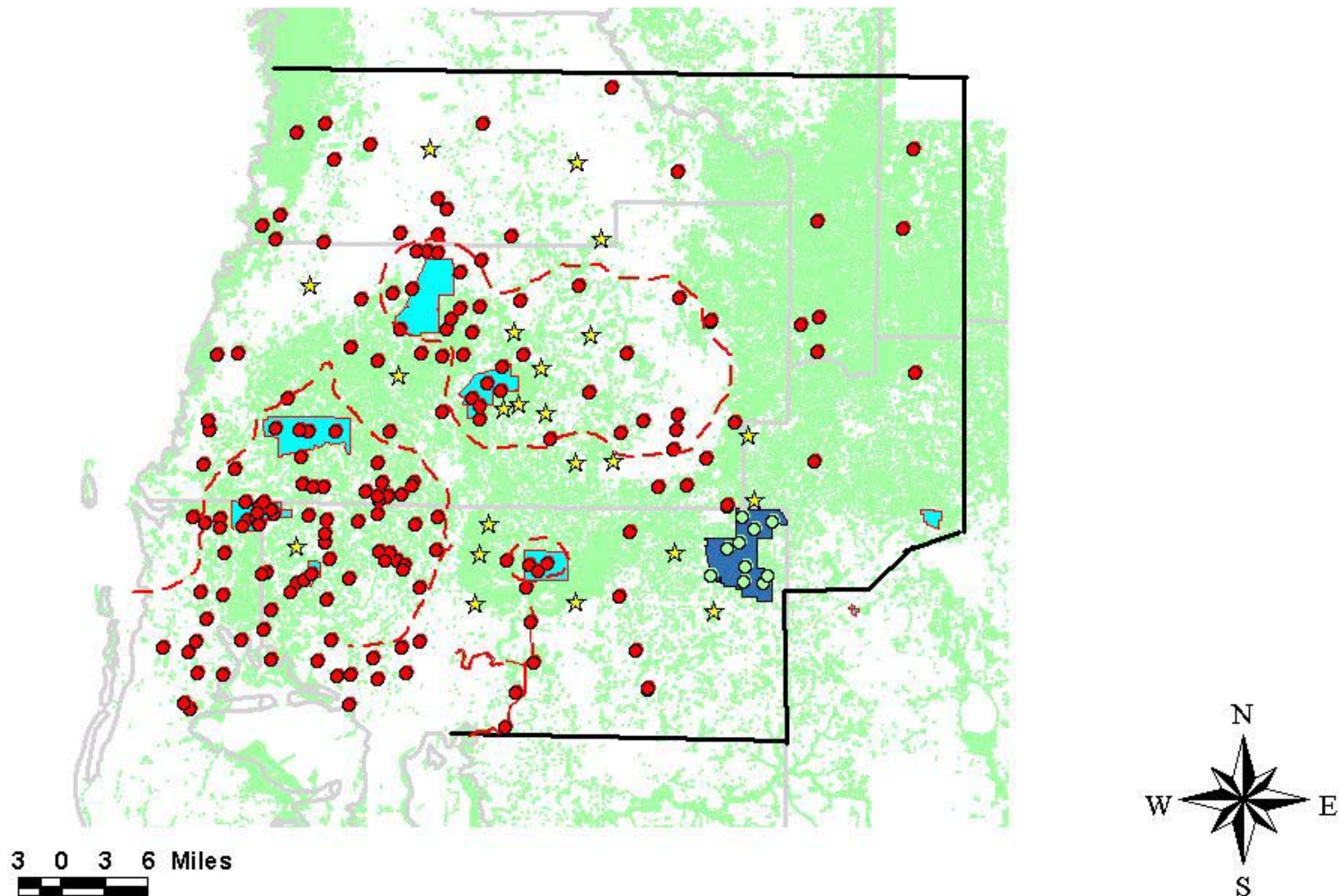
Total	467
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# Floridan and Surficial Aquifer Monitor Wells



# Monitor Well Network - Northern Tampa Bay





# Well Assessment and Maintenance

- Uniform construction specifications
- Taping of all surficial wells
- Logging of all Floridan wells
- Assessment of staff gage versus wetland wells
- Solutions to access problems
- Rehabilitation, replacement, or abandonment of problem or unneeded wells



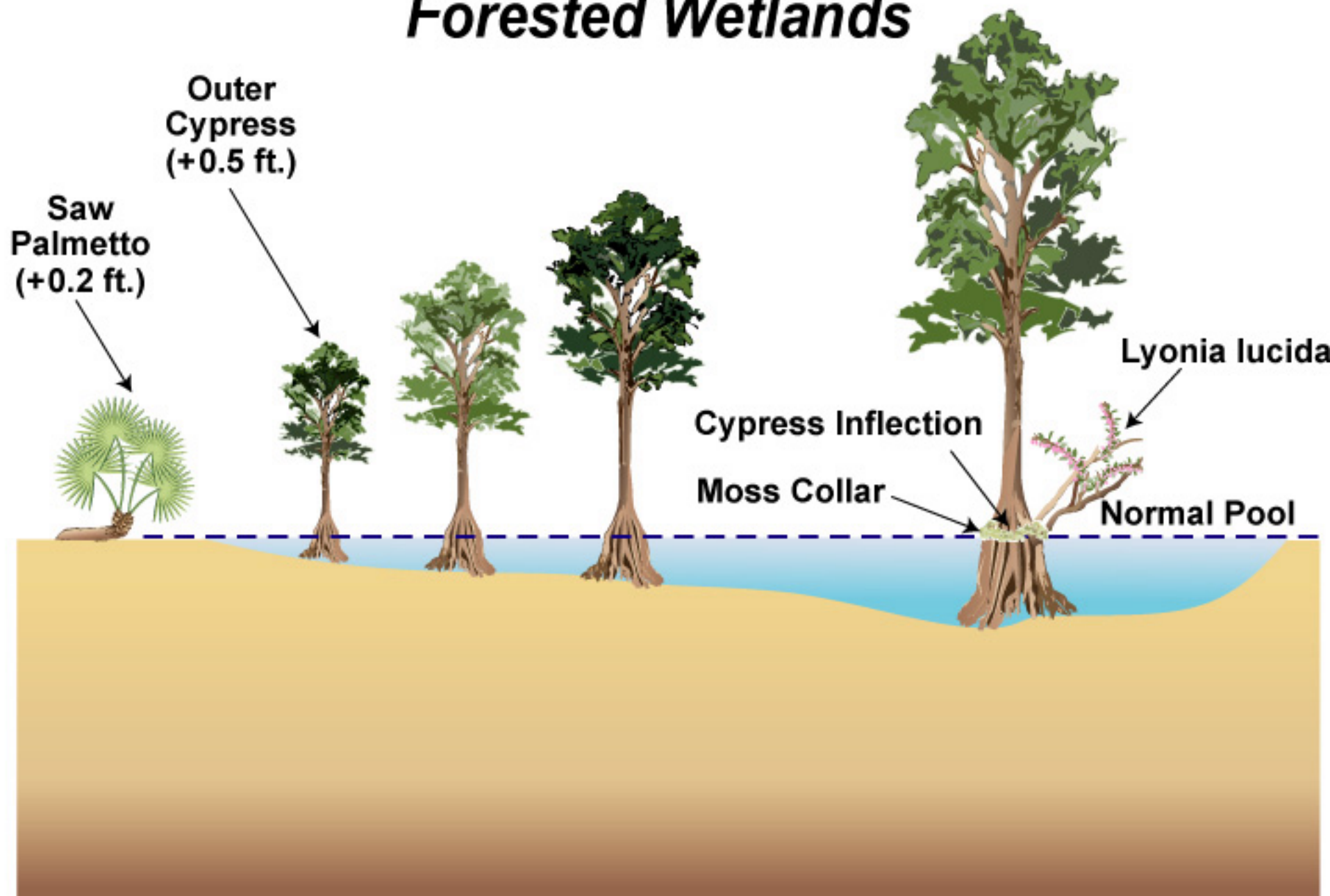
# WAP Assessment

- WAP program is the source of our biologic data for MFL methods and other uses
- Original method assessed
- New method devised and tested
- Newer method devised and tested
- Ongoing refinement and maintenance

# Normal Pool Research

- Key concept in all wetlands work
- Older methods of determination were somewhat ad lib
- Seeking a “universal” set of indicators
- Research and data collection by Ted Rochow and Carr
- “Second look” by Schultz and others
- Reassessment of Normal Pool elevations

# Indicators of Historic Normal Pool for Forested Wetlands





# Data base development and QA/QC

- Reassessment of SWFWMD data bases
  - WMDB
  - RDB
- Reassessment of TBW data bases
- Creation of biological data base (both TBW and SWFWMD)
- Assessment of historical data

# Other types of data

- Rainfall
- Evapotranspiration (ET)
- Water quality
- Aquifer characteristics

# Other NTB II Data Projects - Wetlands

- Monitoring of Lake Fringing Wetlands
- Wetland Wildlife Assessment -  
Amphibians
- Five -Year Wetland Assessment



# Other NTB II Data Projects - Lakes

- Lake MFLs - Lake User Survey
- Lake MFLs - Wildlife Conditions  
Associated with Impacted Lakes
- Lake MFLs - Lake Vegetation and Light  
Penetration

# Other NTB II Data Projects - Rivers

- Upper Hillsborough River Studies (MFL and USGS)
- Anclote River MFL studies
- Alafia River MFL studies
- Sulphur Springs MFL studies
- Hillsborough River Baseflow Study
- Lower Hillsborough and TBC studies
- Weeki Wachee River studies

# Other NTB II Data Projects - Hydrogeologic

- Pasco Co. Groundwater Protection Study
- Offshore Springs Water Quality
- Cypress Bridge Monitoring - WQ
- IHM Model Development



# Other NTB II Data Projects - Atmospheric

- ET Station Expansion
- GOES ET project
- NEXRAD-based Rainfall Data

# Other NTB II Data Projects - Other

- Comprehensive Watershed Management Pilot Project
- Water Resource Atlas

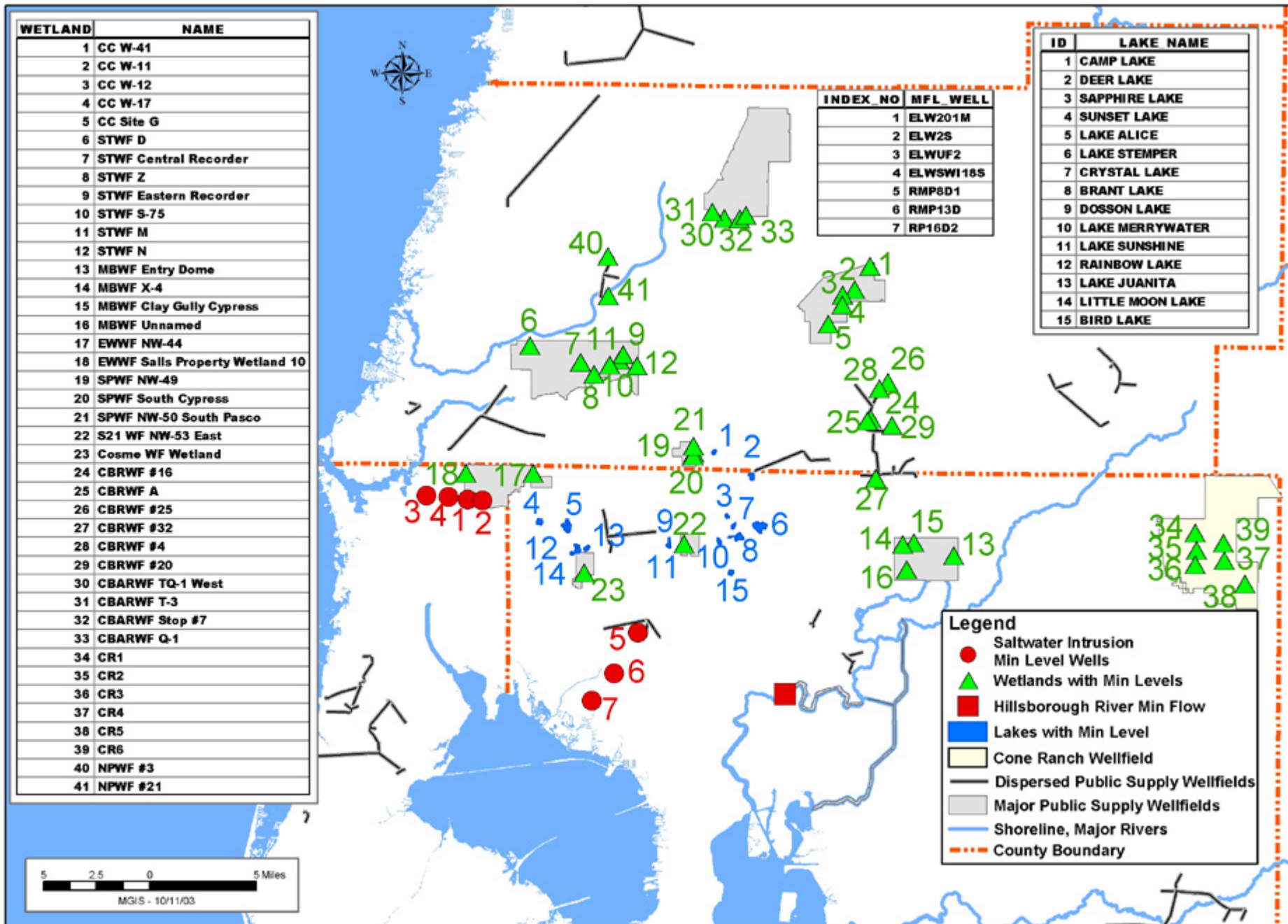
# Northern Tampa Bay II

## Objectives

- Expand and Improve Data Collection
- Evaluate Existing MFL Methods and Develop New MFL Methods
- Evaluate the Effects of Recovery
- Evaluate Alternative Management Methods



# Established Minimum Flows and Levels (2000)



# Routine MFL Tracking

- Annual Assessment and Reporting
- Ongoing Maintenance and Evaluation
- Testing of various methodologies of MFL assessment

# NTB II MFL Projects

## Lakes and Wetlands

- Statistics of Lake Stage
- WAP Database
- Assessment of WAP Methods
- Marsh MFL Methodology
- Revisit of Isolated Cypress MFL Methodology



# NTB II MFL Projects

## Rivers

- Withlacoochee River Feasibility Study
- Weekiwachee River Assessments
- Upper Hillsborough River Assessments
- Sulphur Springs Minimum Flows
- Lower Hillsborough River Re-evaluation
- Tampa Bypass Canal Minimum Flows
- Anclote and Alafia MFL Assessments

# Northern Tampa Bay II

## Objectives

- Expand and Improve Data Collection
- Evaluate Existing MFL Methods and Develop New MFL Methods
- Evaluate the Effects of Recovery
- Evaluate Alternative Management Methods

# NTB II Management Projects

## Augmentation

- Lake Augmentation - Hydrologic/WQ (USGS)
- Lake Augmentation – Biologic
  - Northwest Hillsborough Lakes Augmentation
  - Assessment of Augmented Lakes and Wetlands
  - Assessment of Augmented Lakes
  - Lake Sediment and Biota Assessments
- Wetland Augmentation (USGS)
- Section 21 Wellfield Rehydration
- Starkey Wellfield Rehydration Pilot
- Starkey Ecosystem Enhancement



# NTB II Management Projects

## Augmentation (cont.)

- Tampa Bay Regional Reclaimed Water and Downstream Augmentation Project
  - Beneficial Use of Wet Weather Reclaimed Water

# NTB II Management Projects

## Structural / Other

- Morris Bridge Structures Modification
- South Pasco Berm Modification
- Cross Bar Ranch Restoration
- Lake Armistead Structure
- Rocky Creek Lake Enhancement
- Lake Roger, Lake Raleigh, and Lake Starvation Drainage Basin Assessments

The background is a dark, abstract composition of swirling blue and purple hues. A faint, glowing pattern resembling a globe or a network of connections is visible, particularly on the left side. The overall effect is ethereal and futuristic.

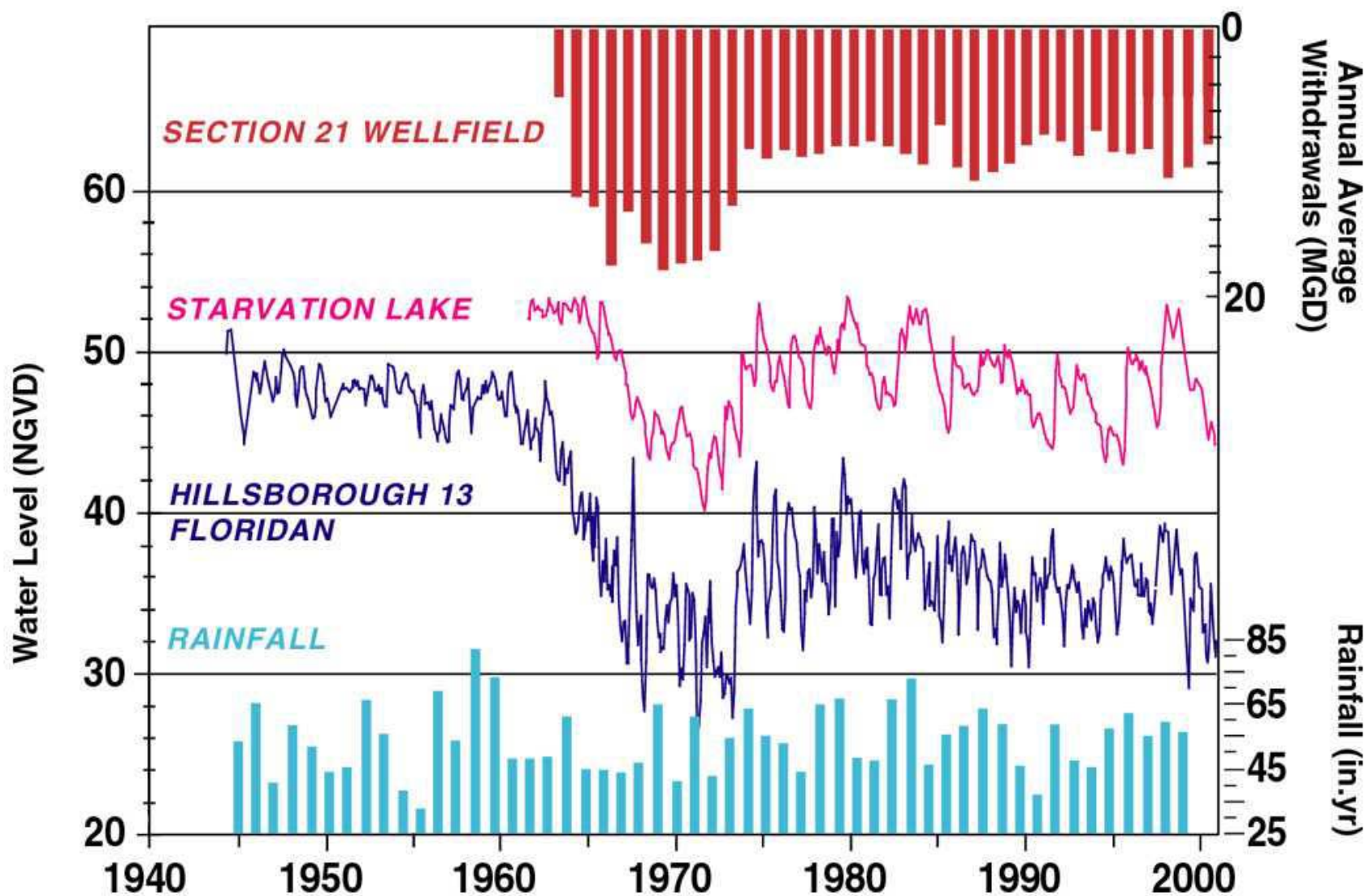
**Other Projects?**



# Northern Tampa Bay II

## Objectives

- Expand and Improve Data Collection
- Evaluate Existing MFL Methods and Develop New MFL Methods
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- Evaluate Alternative Management Methods



# Lake Starvation and Hillsborough 13

