

Hydrologic Analysis Team

*Steering Committee Meeting
April 25, 2014*

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Steering Committee

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- Progress Update
 - Revisions to the ECFT Model
 - Development of an ECFSS Model
 - HAT Interactions with the SPT Process
 - Documentation of ECFT Model Revisions
- Next Steps for the HAT
 - Review of the ECFSS Model
 - Development of Additional Tools
 - Documentation

Revisions to the ECFT Model

- New HAT improvements to the ECFT model
 - Previously assessed balance of PWS withdrawals & irrigation at a regional scale
 - Recently assessed balance of PWS withdrawals & irrigation at a sub-regional scale
 - Readjusted PWS irrigation distribution to match county-by-county comparison to PWS withdrawals

Development of an ECFSS Model

- East Central Florida Steady State (ECFSS) model
 - Developed by SJRWMD with input from HAT
 - Approximately reproduces ECFT average responses
 - A tool for faster screening of alternatives
 - Final assessment of short-listed alternatives will use the ECFT model

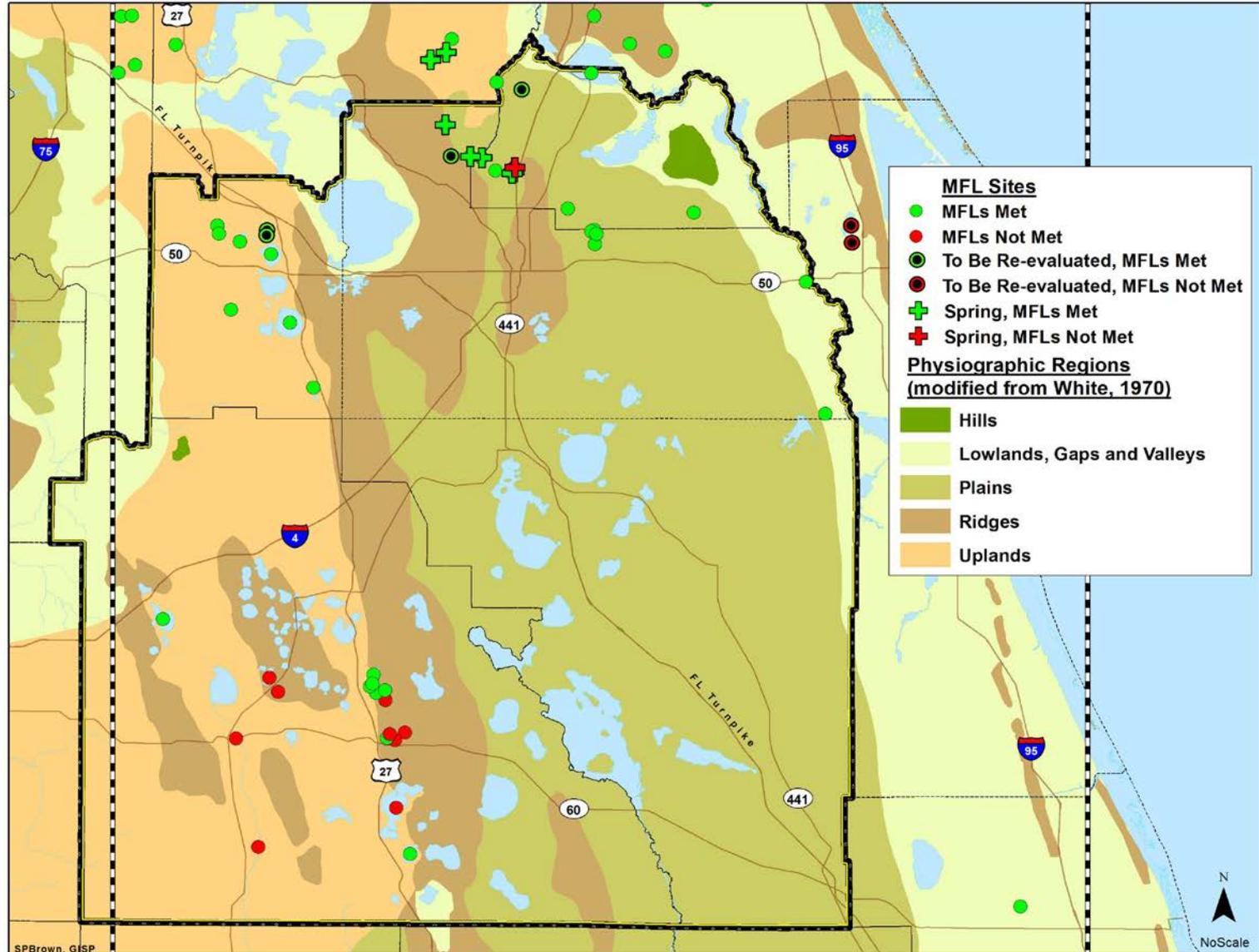
Development of an ECFSS Model

- Prioritized reproduction of ECFT results over reproduction of observed data
- Objective: adequately reproduce ECFT outputs without re-running ECFT
 - Have to approximate or ignore effects of ECFT storage change
 - Have to approximate ECFT unsaturated zone ET
- Did not change ECFT aquifer and confining unit properties

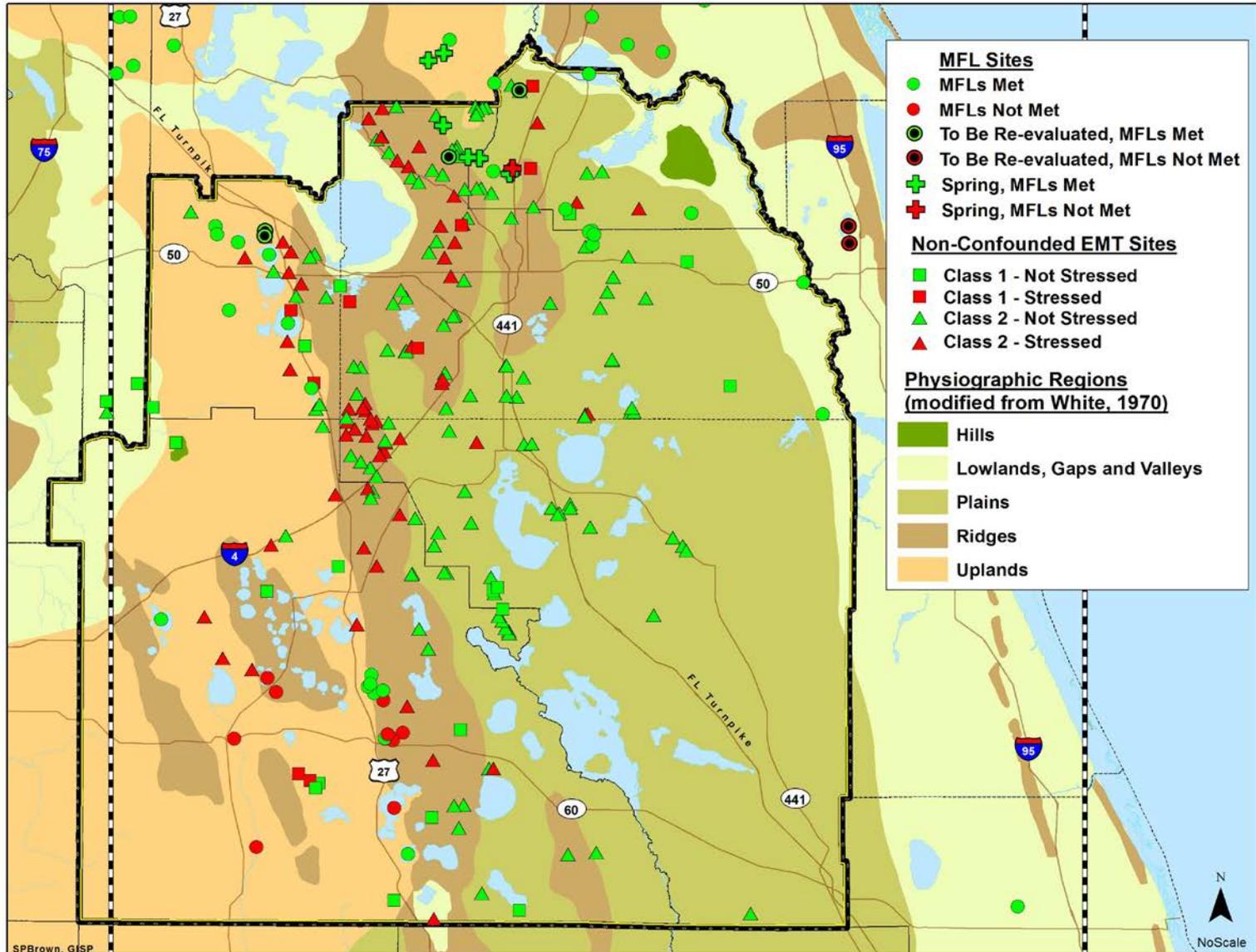
ECFSS Products

- Influence coefficients for SJRWMD MFL Prevention/Recovery process
- Under discussion:
 - Influence coefficients for SPT process
 - Visualization tools
 - Maps showing relative influence of Floridan aquifer recharge/withdrawal locations on primary individual capacity constraints
 - Composite map showing relative influence of Floridan aquifer recharge/withdrawal locations on combined primary capacity constraints??
 - Influence coefficients & visualization tools are not "Constraints"
 - Capacity constraints to be assessed by same methods as for the groundwater availability assessment

Recent Status of MFL Sites with Physiography



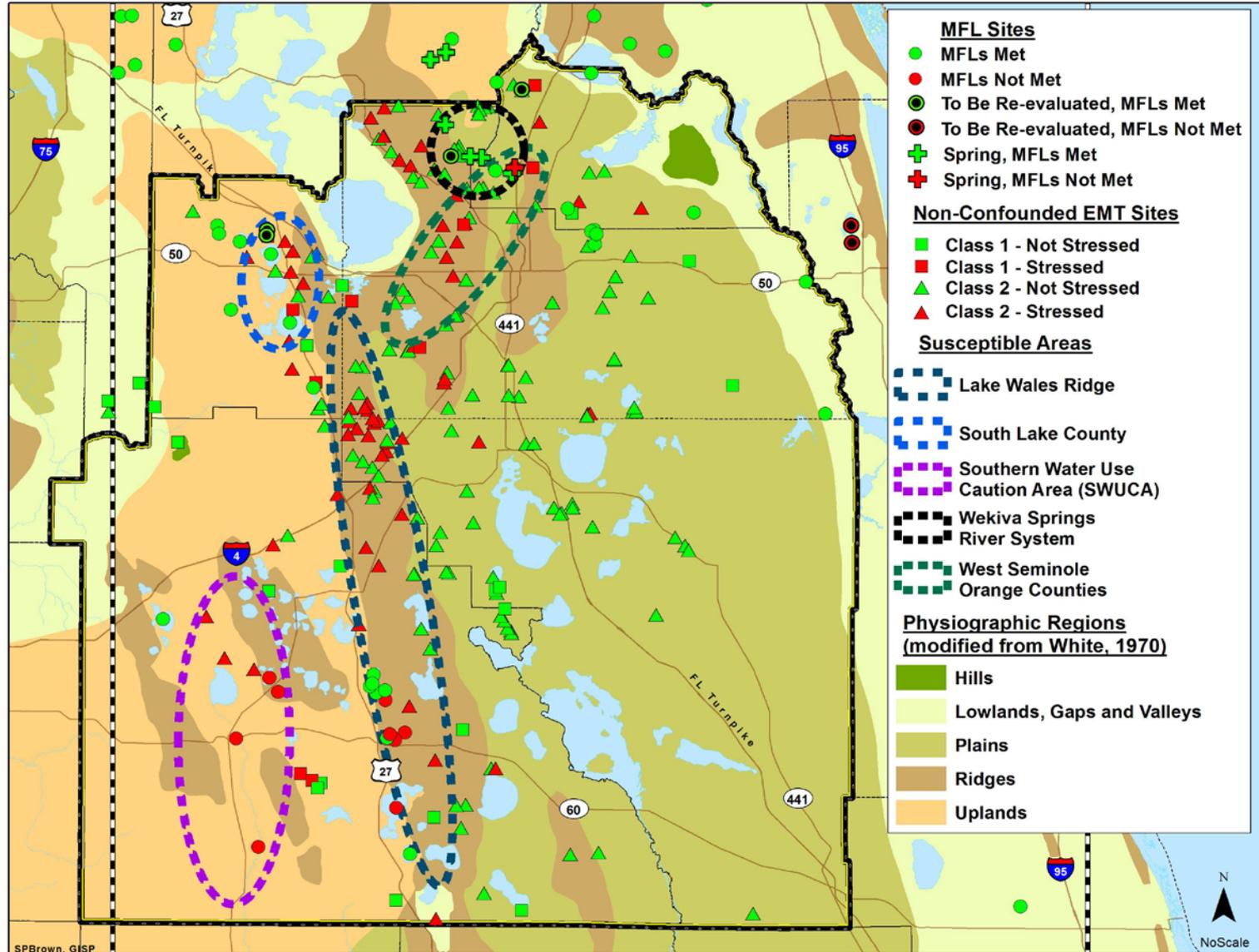
Recent Status of MFL and EMT Sites with Physiography (EMT sites with significant surface hydrologic alterations excluded)



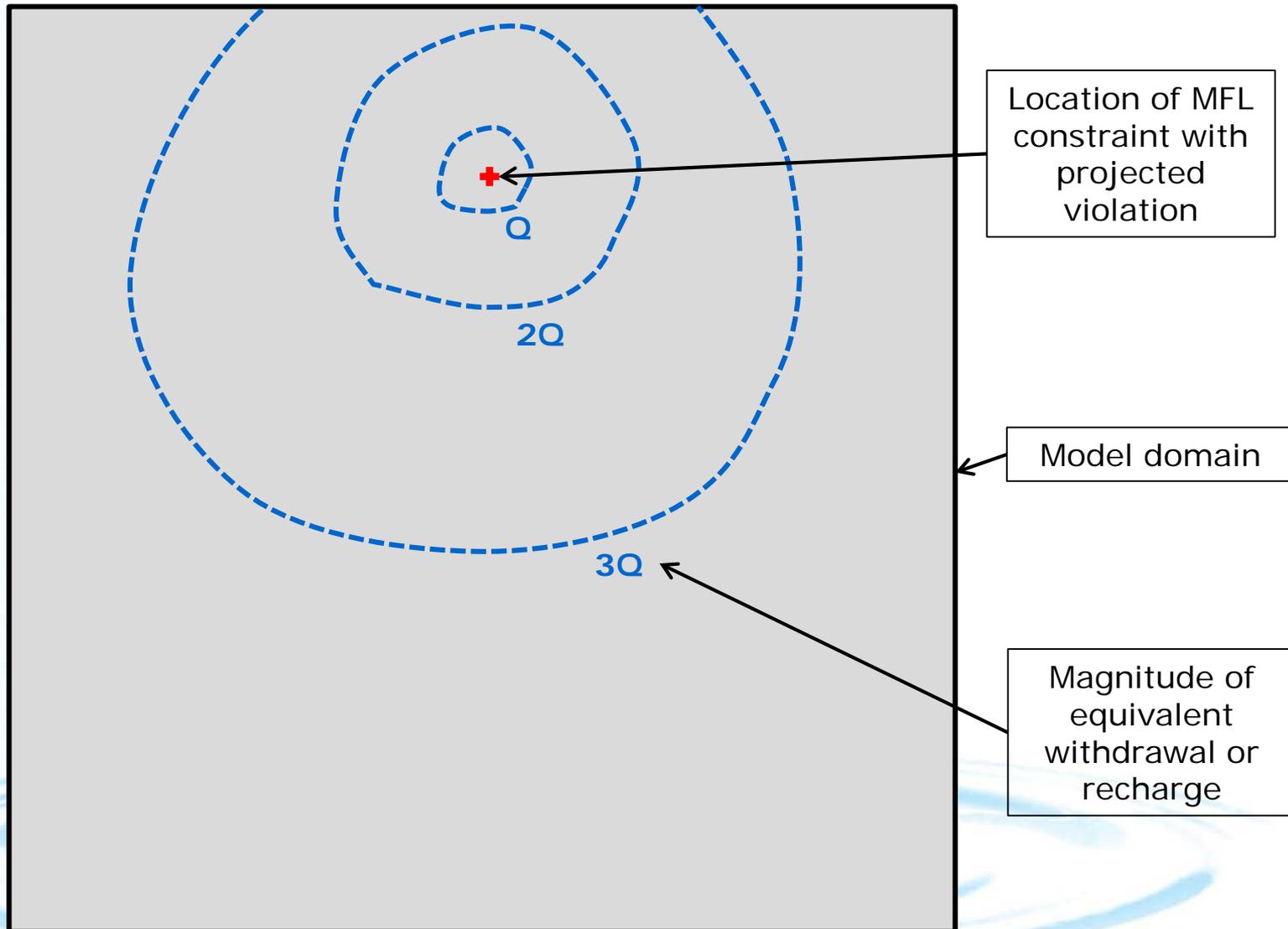
Recent Status of MFL and EMT Sites with Physiography

(EMT sites with significant surface hydrologic alterations excluded)

Areas Most Susceptible to Upper Floridan Aquifer Drawdowns



Conceptual Example of Contour Lines of Equivalent Effect on a Single MFL Constraint



HAT and the SPT Process

- Made presentations at 2 SPT sub-team workshops on
 - Process to develop groundwater availability assessment
 - HAT tools and support process for SPT and sub-teams
- Provided input to SPT sub-teams on
 - Formulation of new alternatives
 - Visualization tools

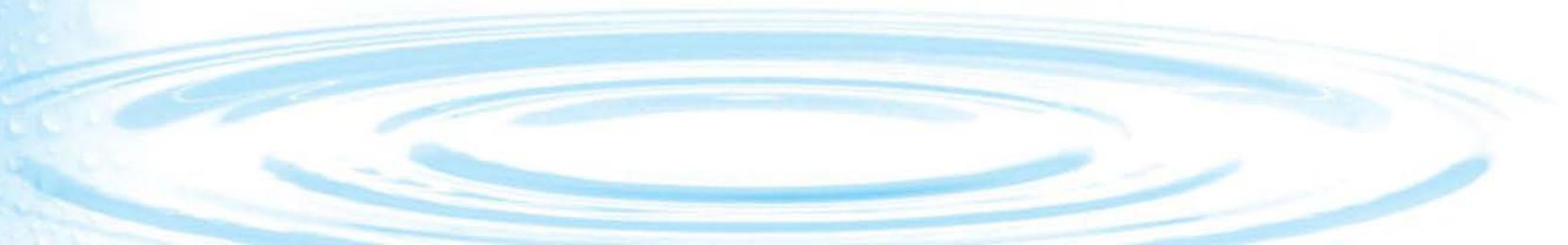
HAT Next Steps - ECFSS Model Review; Visualization Tools

- ECFSS Model
 - Review ECFSS model set-up
 - Review ECFSS model products
 - Comparison to ECFT results
 - Application of derived influence coefficients
- New Visualization Tools
 - Review potential use of new visualization tools
 - Influence contours for individual constraints
 - Influence contours for multiple combined constraints
 - Assess
 - Level of development effort required
 - Schedule effects

HAT Next Steps - Documentation of ECFT Model Revisions

- Documentation of ECFT modifications made by HAT for groundwater availability assessment
 - Priority was subordinated to preparations for the SPT process
 - Currently in draft form
 - Should go to TOC for review in May

Questions?



List of Acronyms

Acronym	Meaning
ECFSS	East Central Florida Steady State
ECFT	East Central Florida Transient
EMT	Environmental Measures Team
ET	Evapotranspiration
HAT	Hydrologic Analysis Team
MFL	Minimum Flow & Level
PWS	Public Water Supply
SJRWMD	St. Johns River Water Management District
SPT	Solutions Planning Team
TOC	Technical Oversight Committee