

Minimum Flows and Levels The Upper and Middle Suwannee River Systems

MFL Initial Public Meeting
January 26, 2016



Agenda

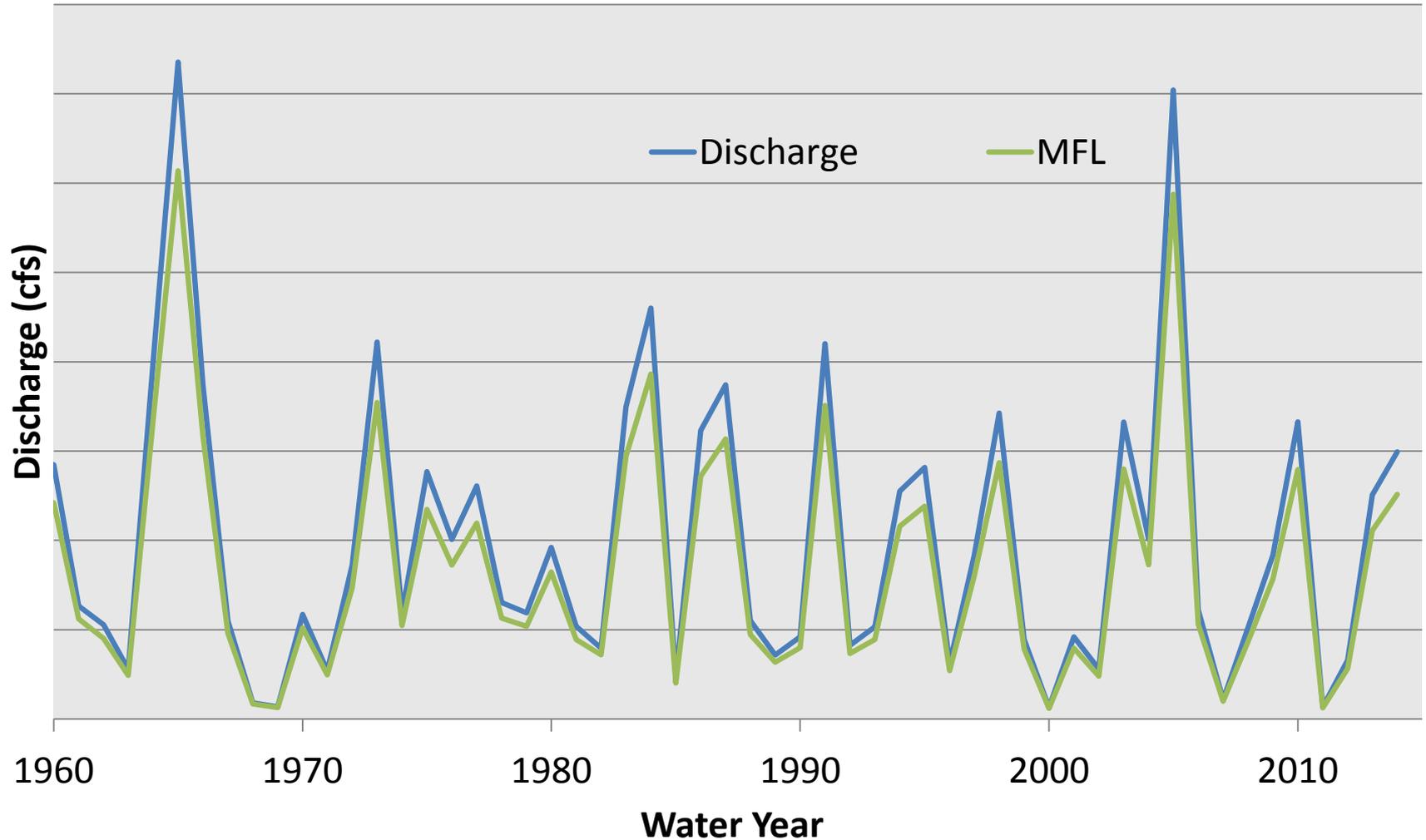
- Welcome and Introductions
- Powerpoint Presentation
- Ongoing Project information
- Questions

Minimum Flows and Levels

- Required by Chapter 373, F.S.
- Determines how much water is needed to maintain the health of rivers, springs, lakes and aquifers
- “The minimum flow for a given watercourse shall be the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area.”

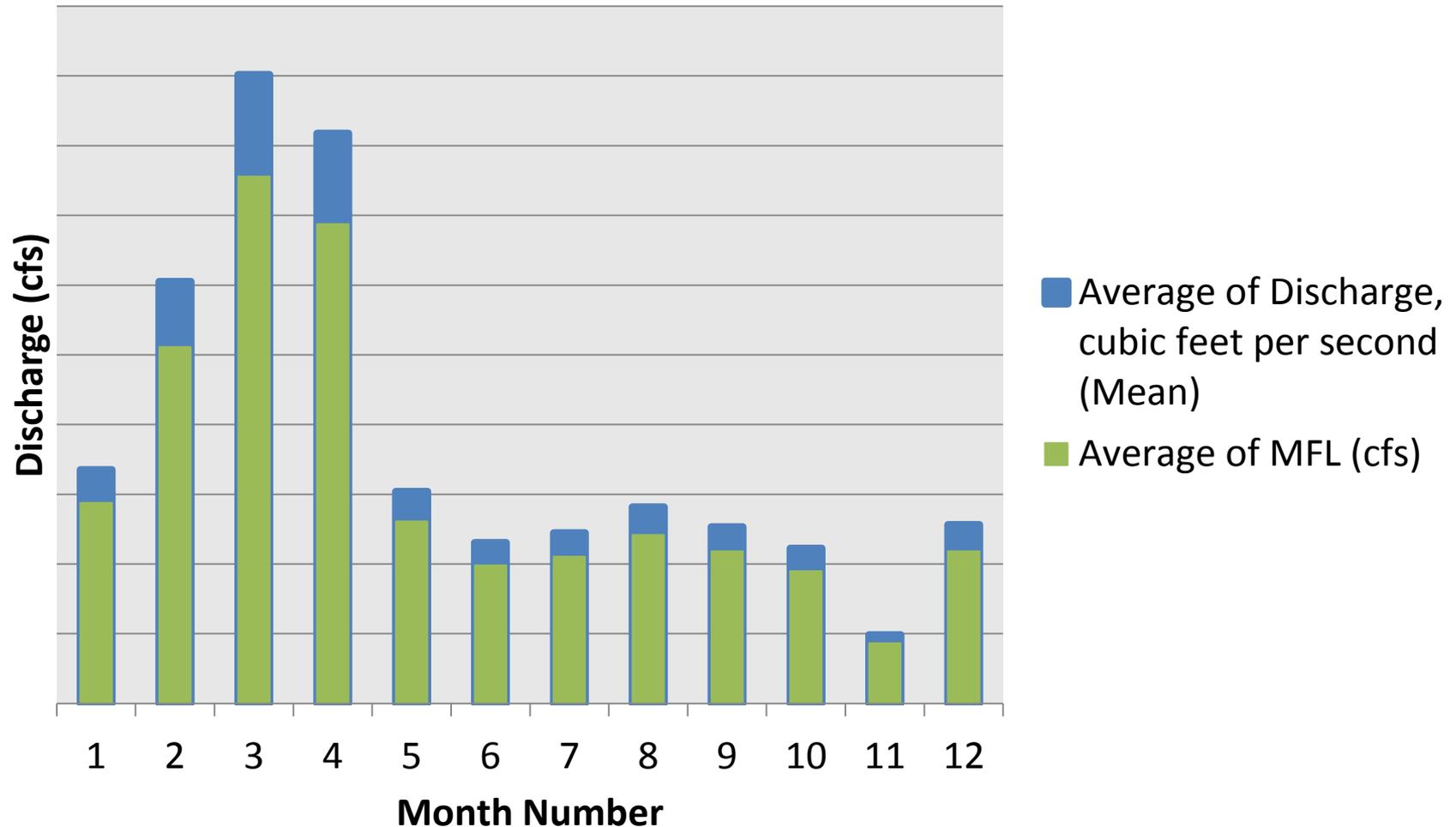


Example of Average Annual Flow



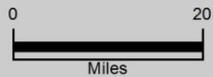
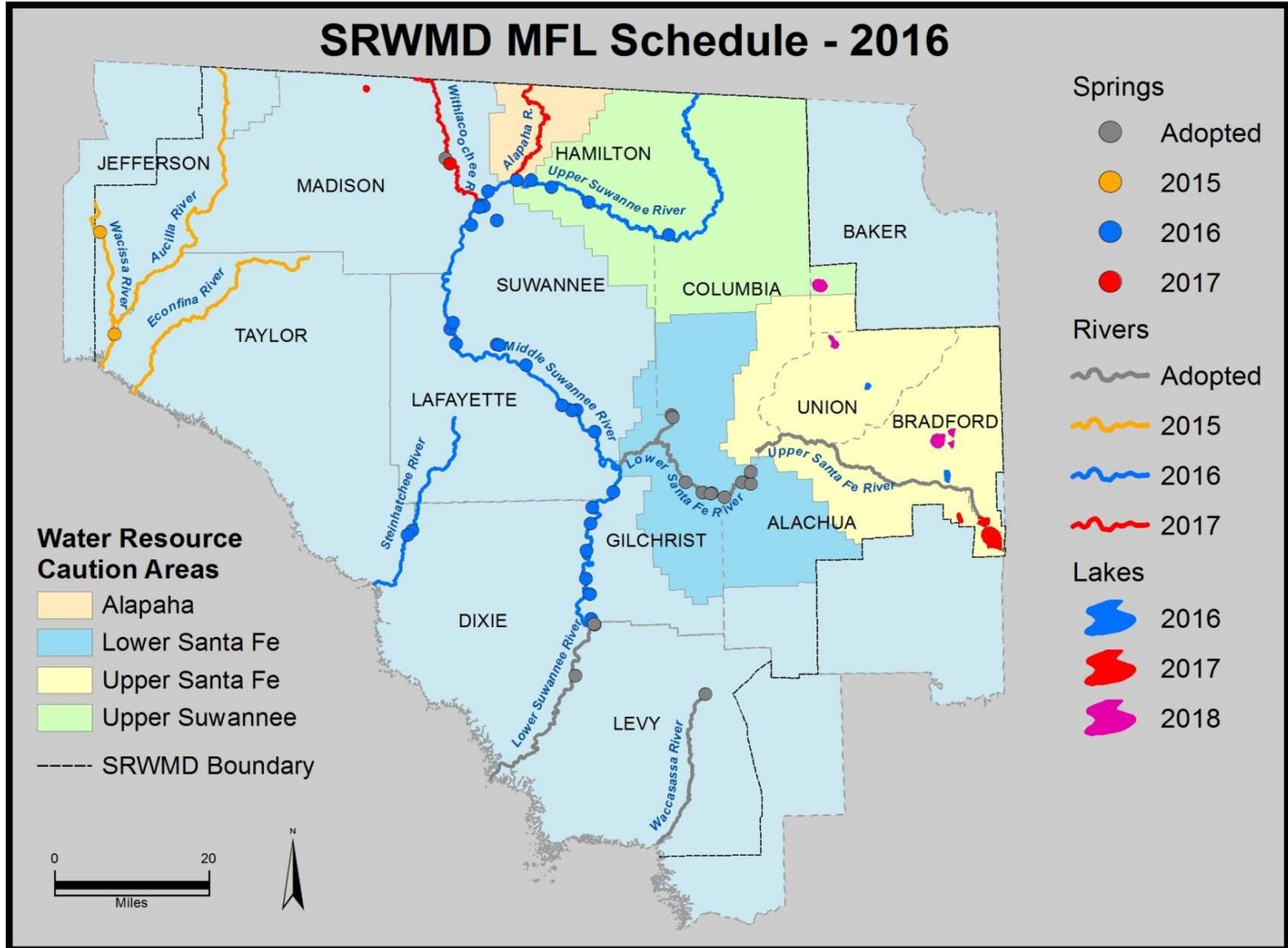


Example of Monthly Average Flow



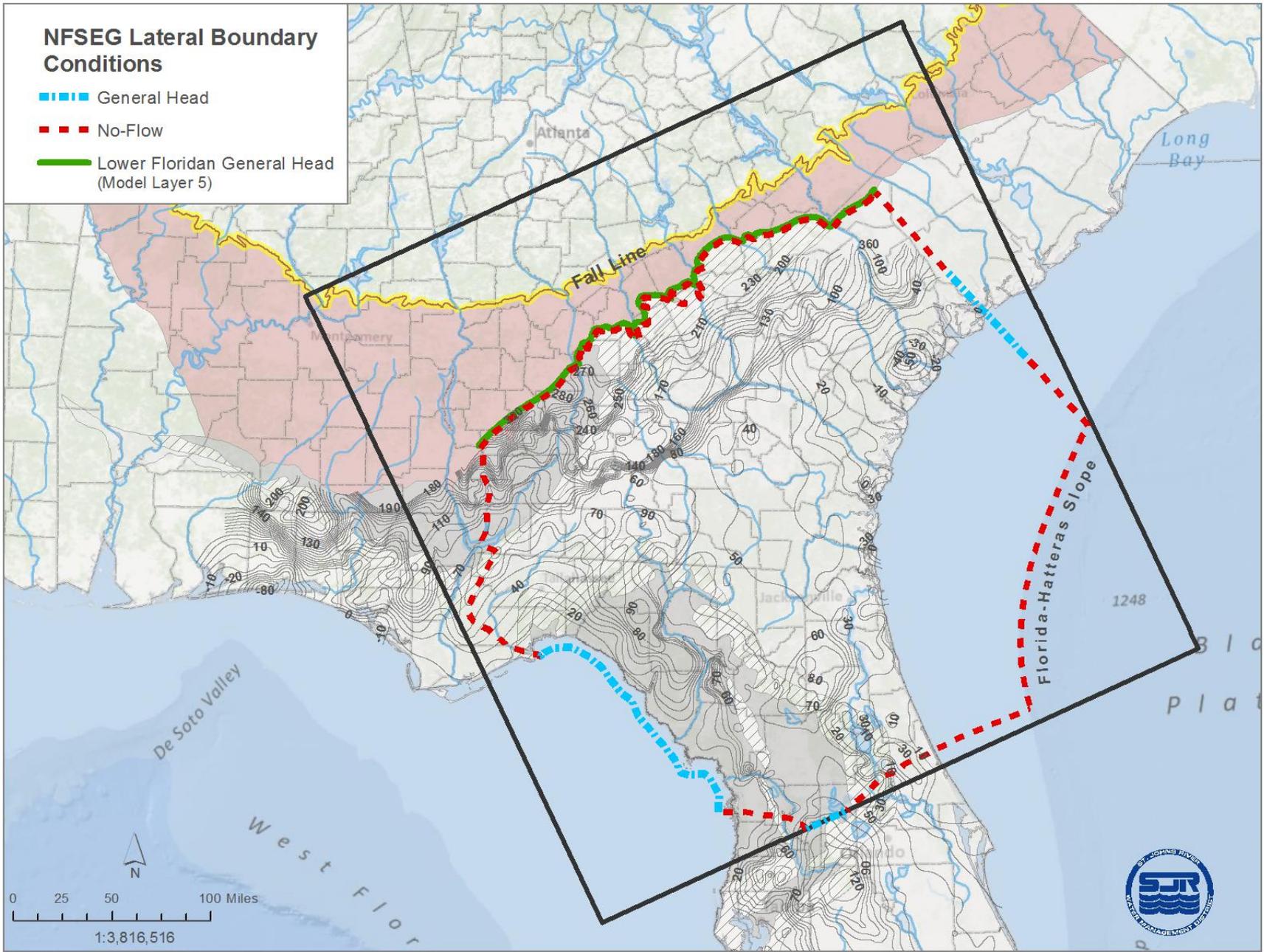


SRWMD MFL Schedule - 2016



History

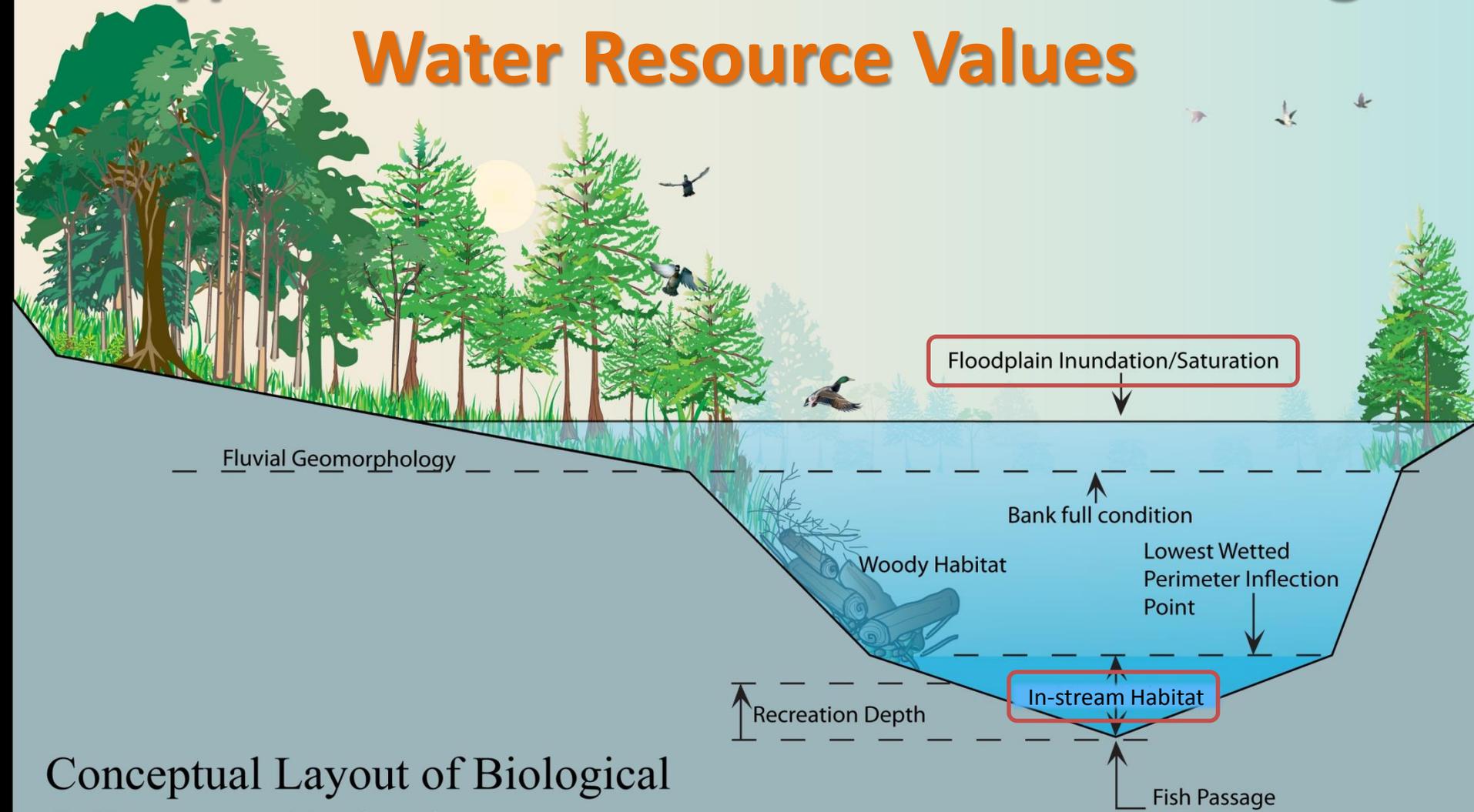
- Upper Suwannee
 - Work started late 2011
 - Hiatus: late 2013 until this year
- Middle Suwannee
 - Work started spring 2013
 - Hiatus: late 2014 until this year
- Both restarted late fall 2015



MFL Setting Process

- Gather & evaluate data
- **Analyze hydrology and biology data**
- Draft the MFL document
- Peer Review and public release for comments
- Board authorizes initiation of rule development
- Board authorizes rule making
- Rule promulgation

Typical River Cross Section Showing Water Resource Values



Conceptual Layout of Biological & Resource Evaluation

62-40 F.A.C.

Ecological and Water Resource Values

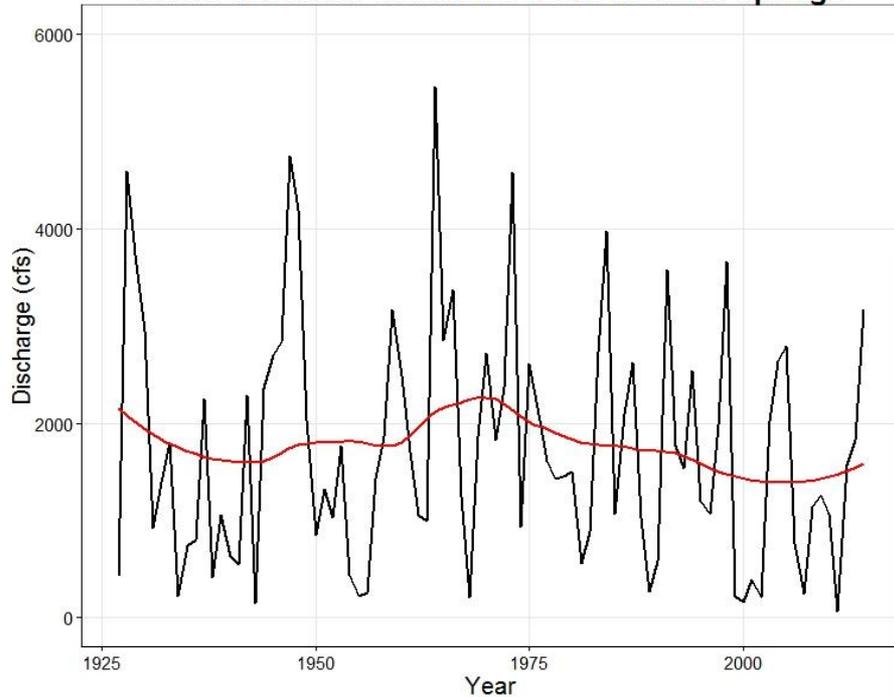
- Recreation
- **Fish & wildlife habitats and passage of fish**
- Estuarine resources
- Detrital transfer
- Freshwater storage and supply
- Aesthetic and scenic attributes
- Pollutant filtration and adsorption
- Sediment
- Water quality
- Navigation



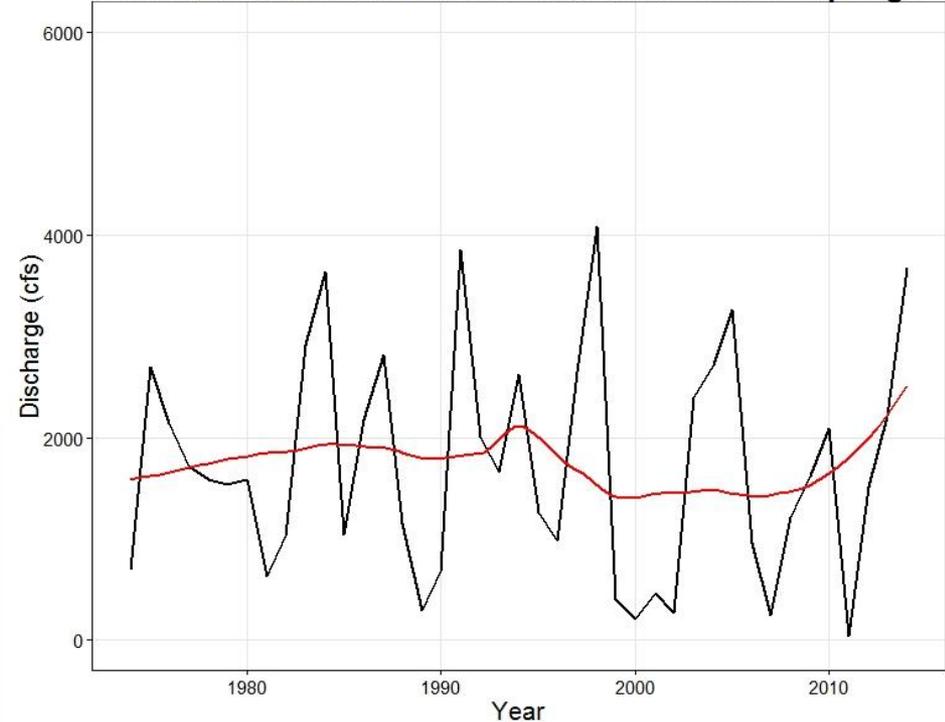
Hydrology

Average Annual Flow Upper Suwannee River Gages

USGS 02315500 Suwannee River at White Springs

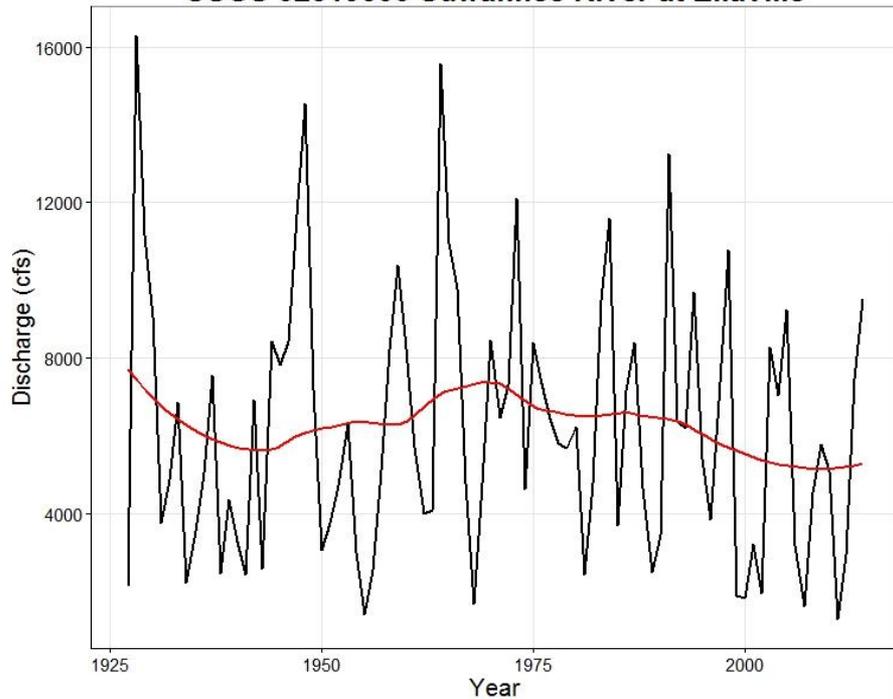


USGS 02315550 Suwannee River at Suwannee Springs

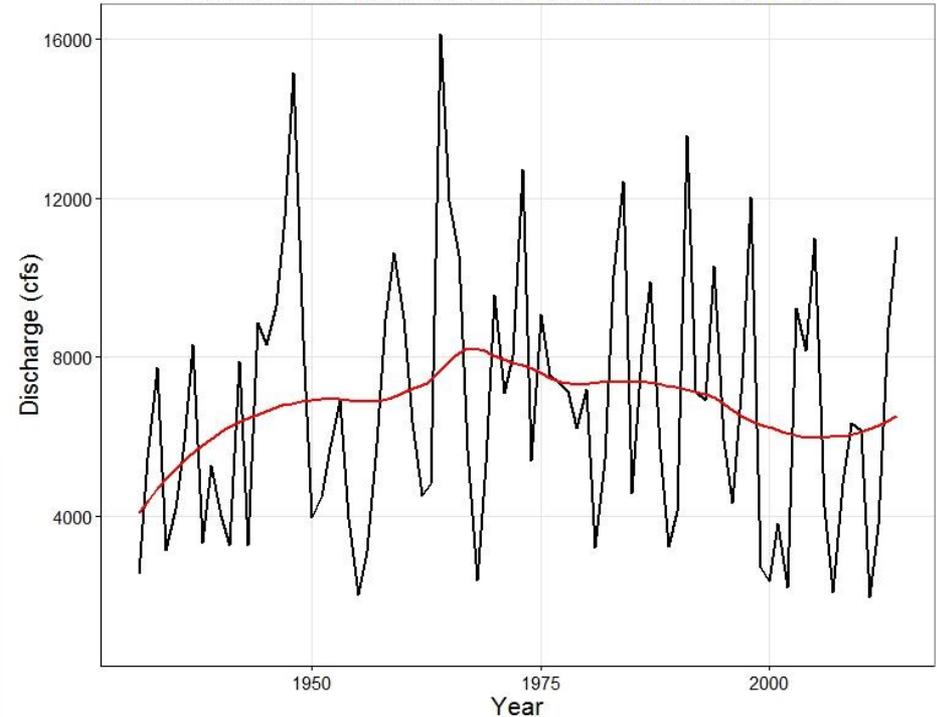


Average Annual Flow Middle Suwannee River Gages

USGS 02319500 Suwannee River at Ellaville

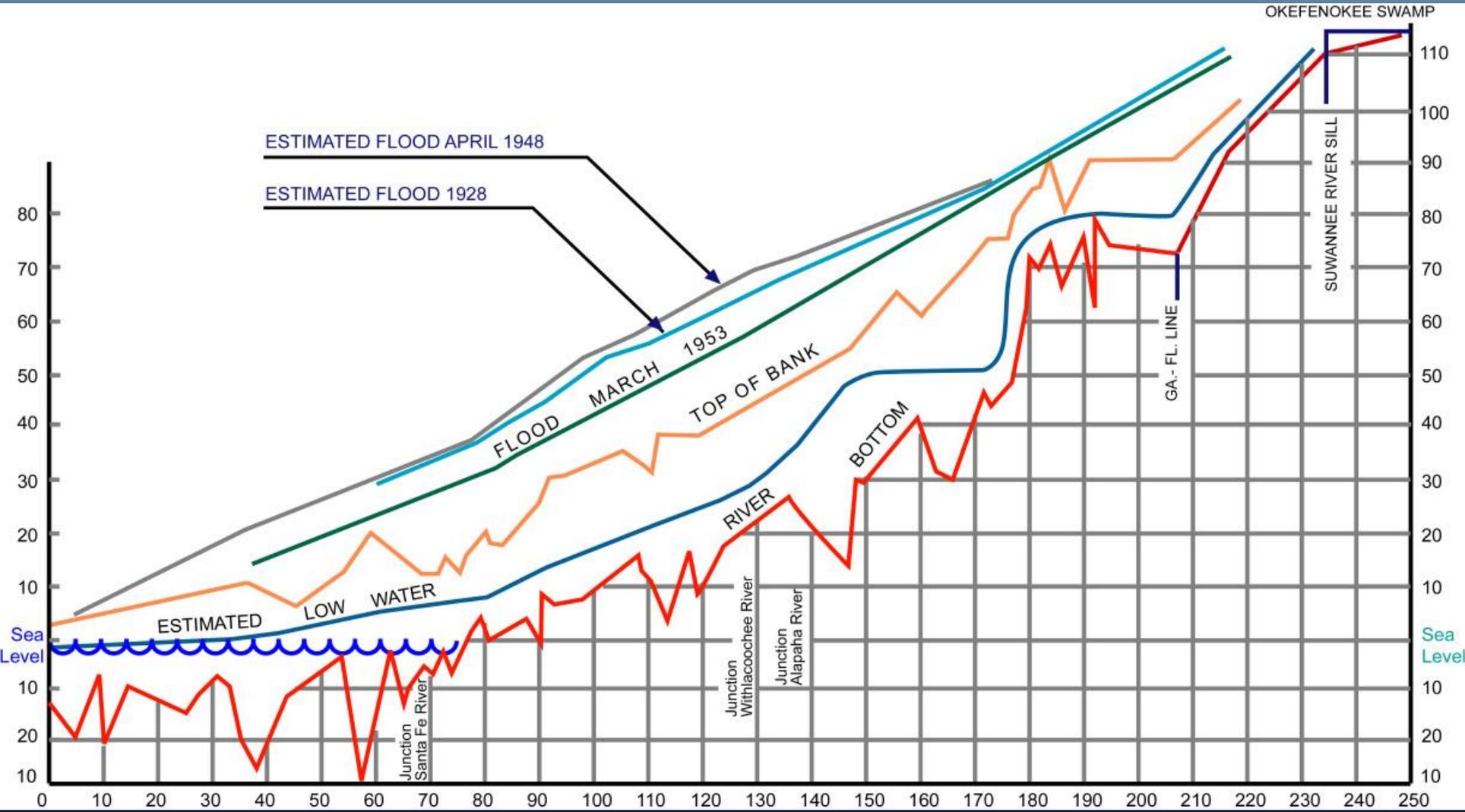


USGS 02320500 Suwannee River at Branford



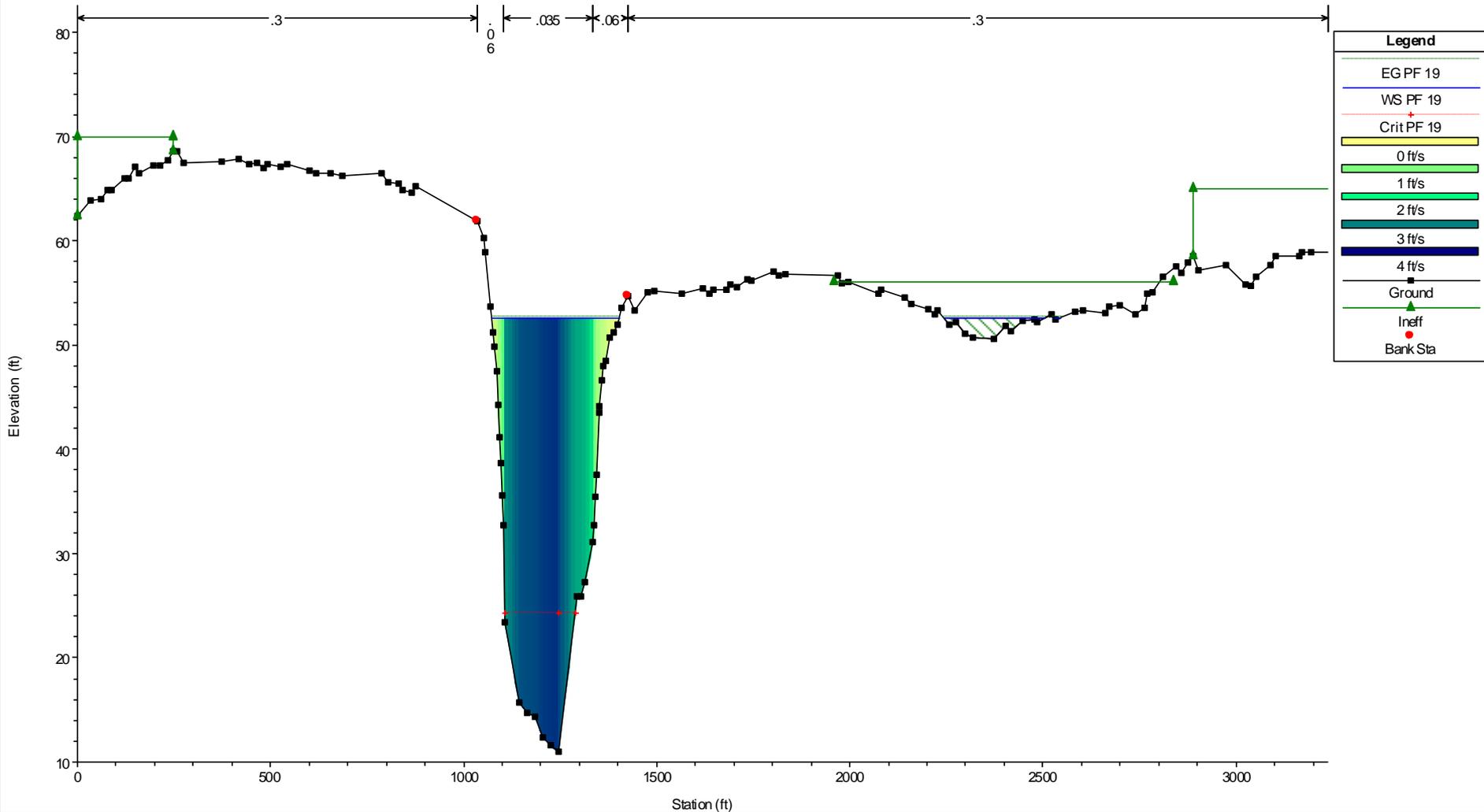


Suwannee River Profile

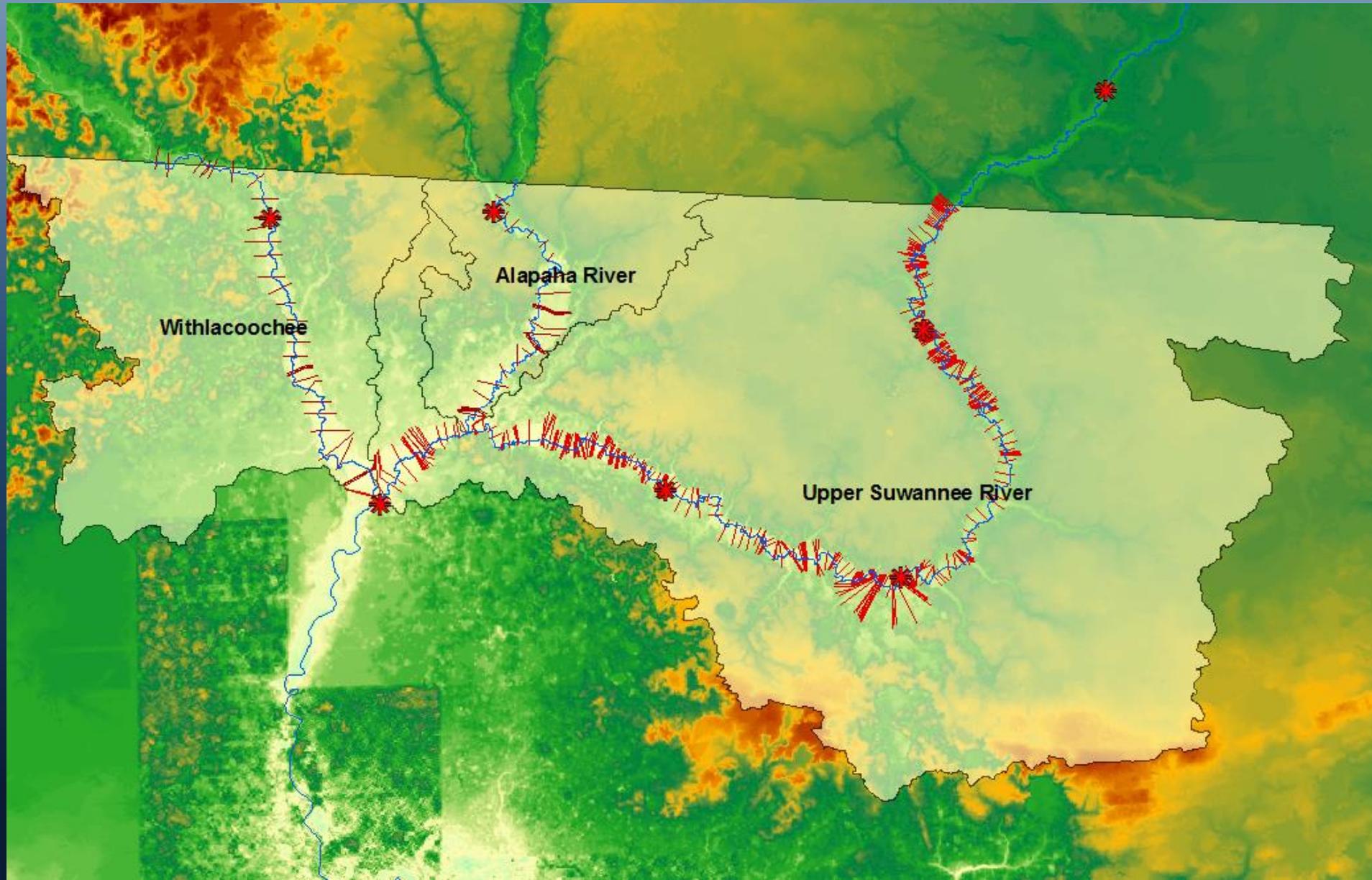


Hydraulic Modeling

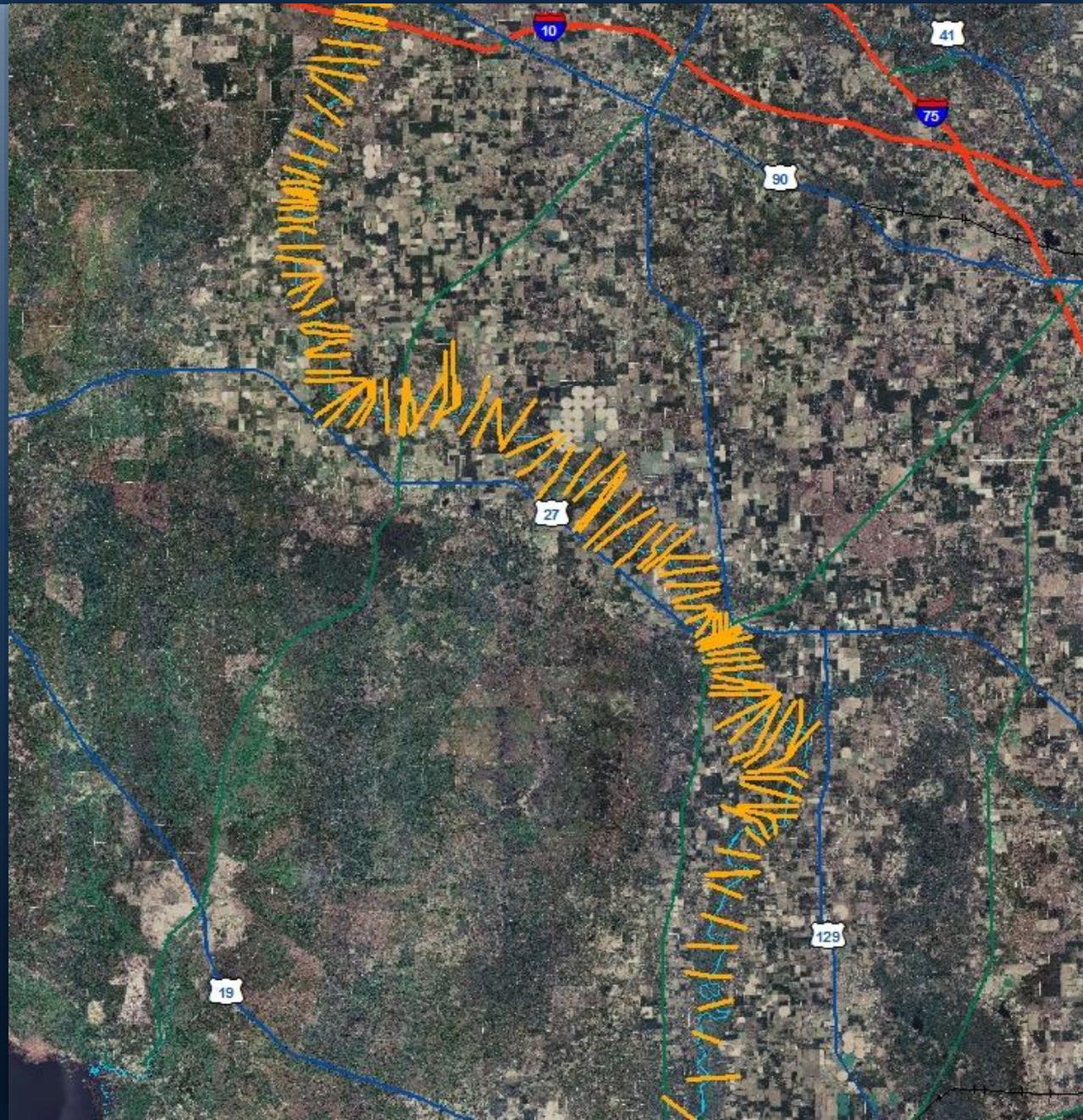
USR_V7_Steady Plan: Plan_V7_12_Steady_39-11 1/3/2013
Exist. HEC-RAS RM127.51 Combined



HEC-RAS Transects in the USR



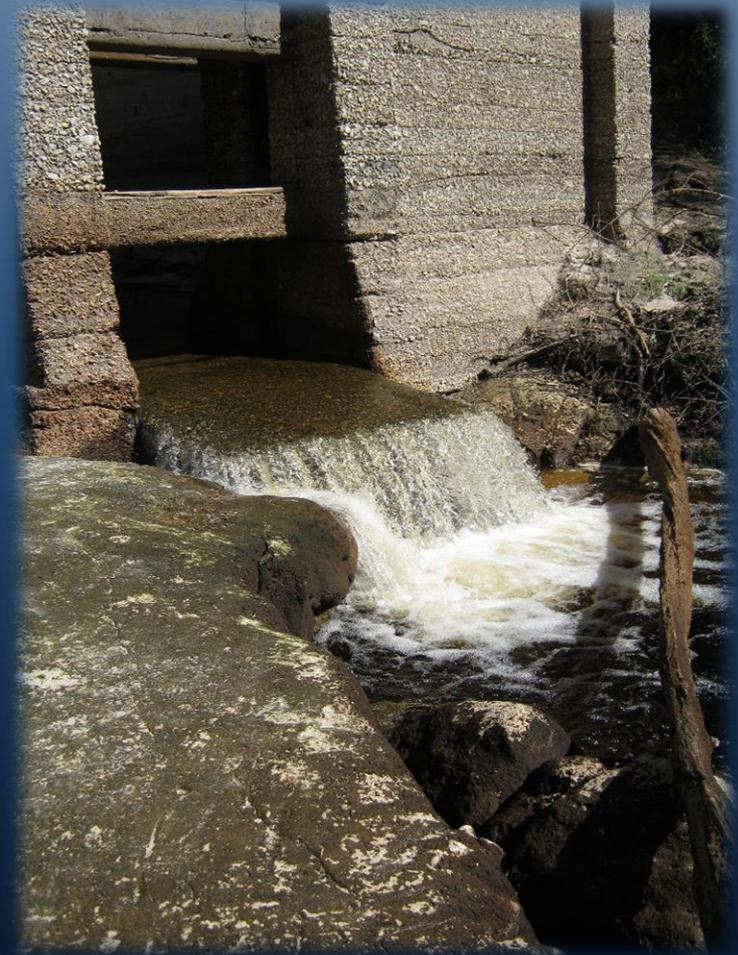
**Middle
Suwannee
River
HEC-RAS
Transects**





Springs

White Sulphur Springs



White Sulphur Springs

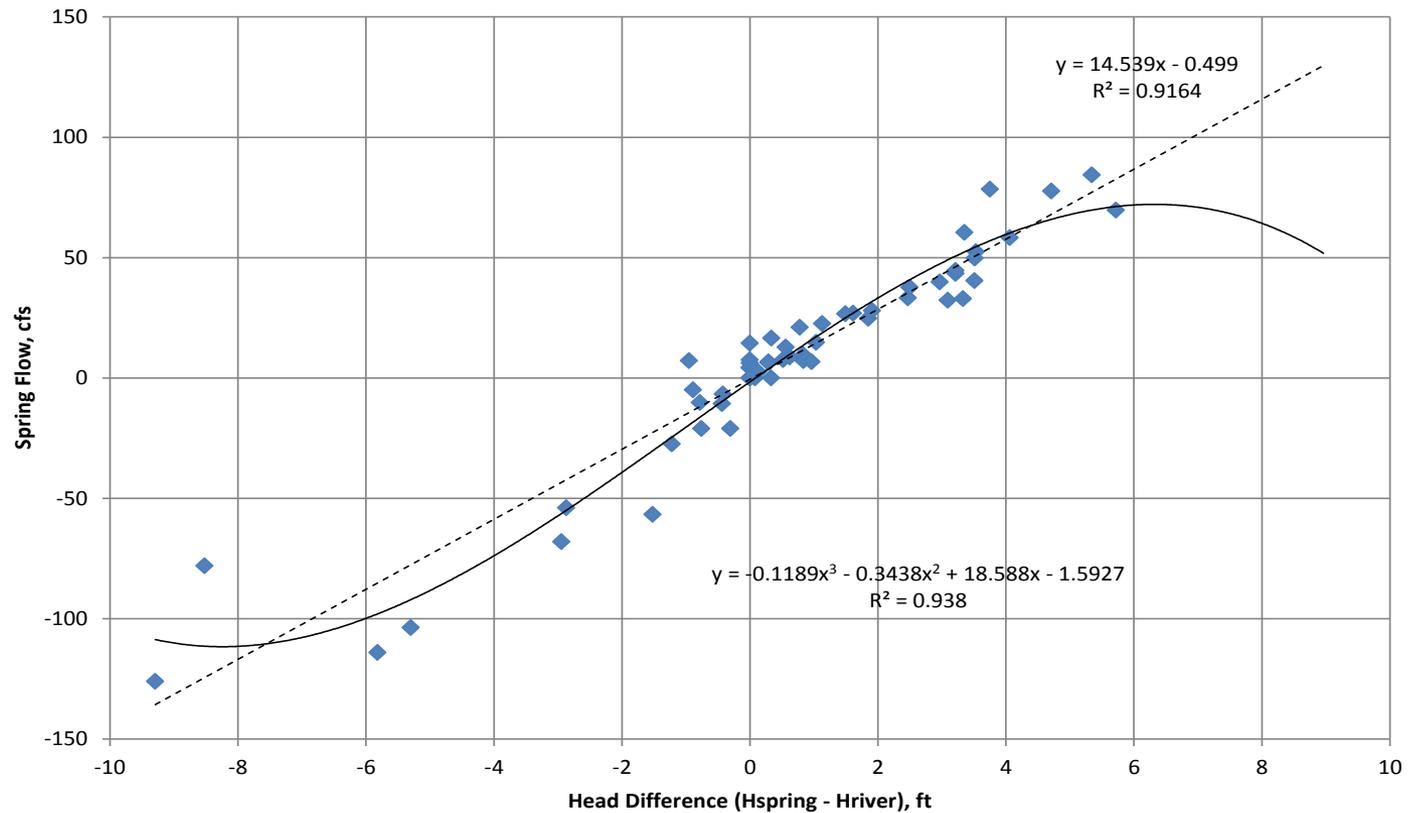


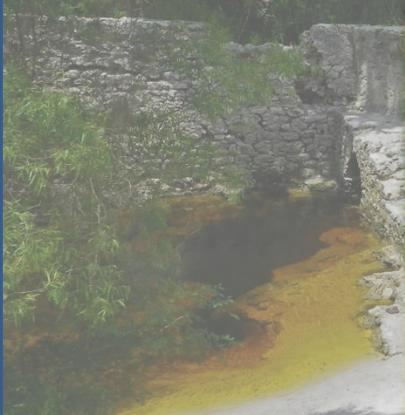


Springs Rating Curve Development

WSS Flow vs. Head Difference at Sill

DRAFT

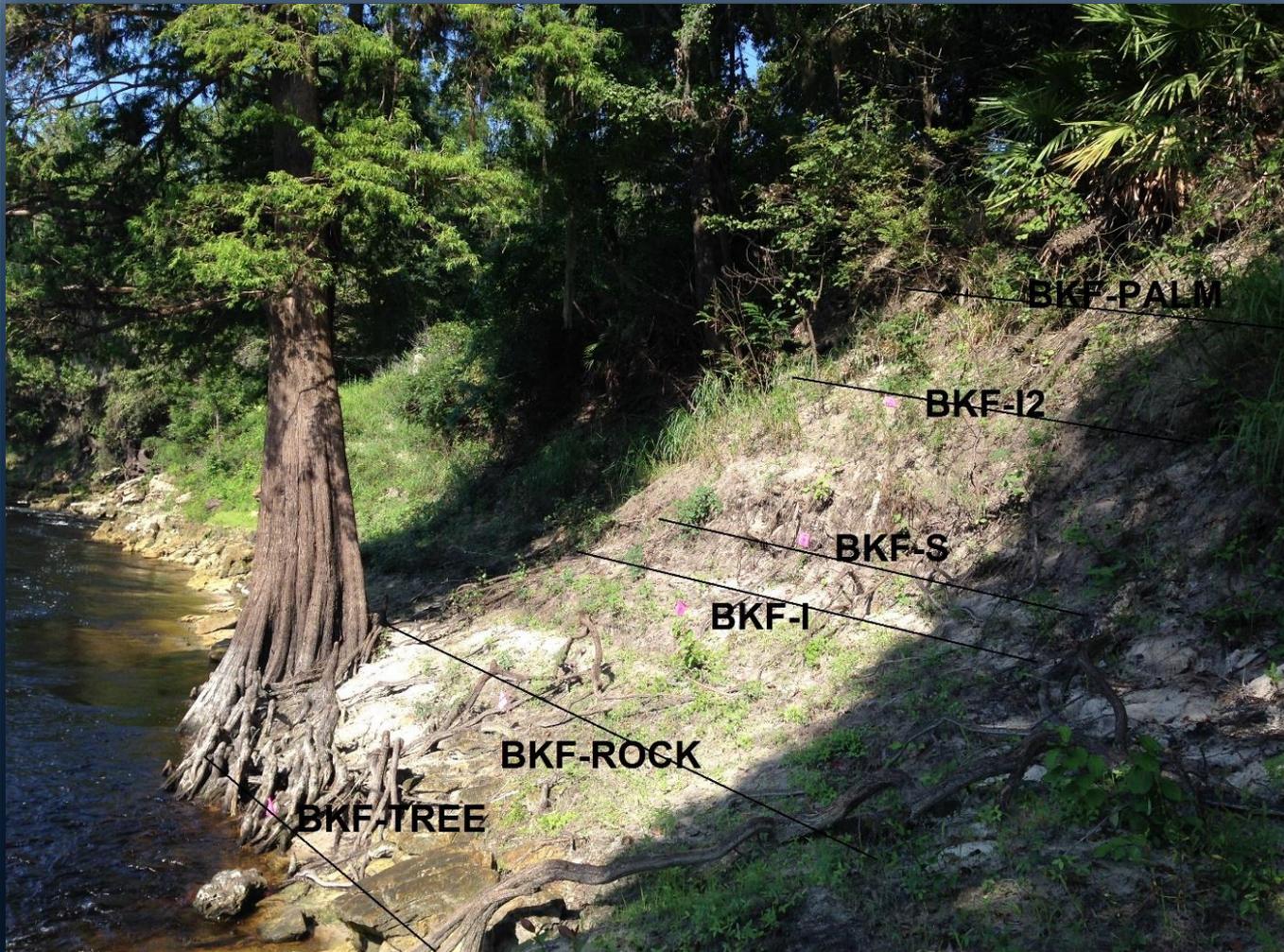




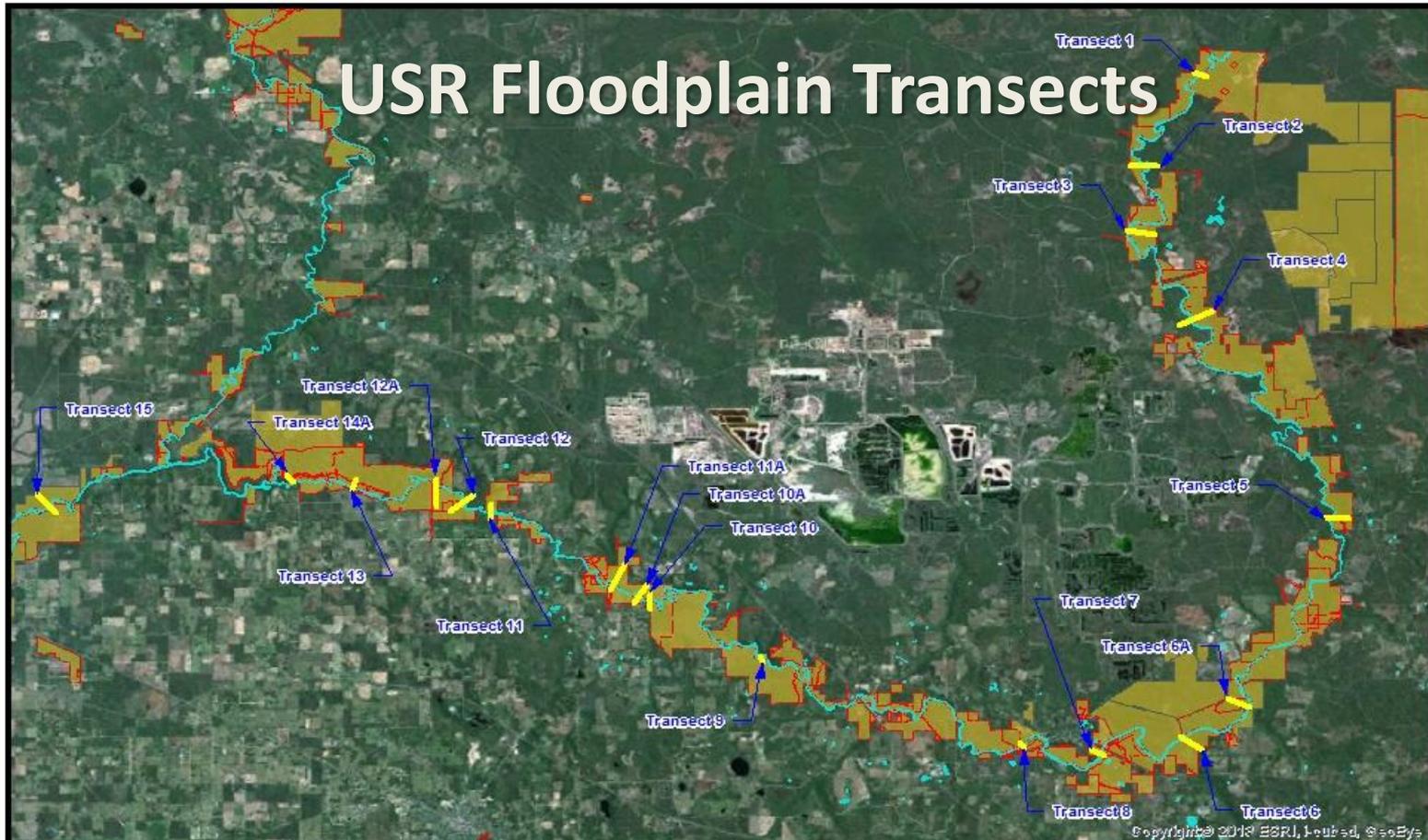


Floodplains

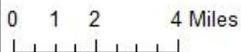
Suwannee River Channel Maintenance – Bankfull Indicators



USR Floodplain Transects



Aerial imagery used is based on Bing satellite and aerial photos taken between January 2011 and March 2011.



Legend

- MFL Vegetation Transects
- Surface Waters
- Florida Managed Areas-SRWMD Owned
- Florida Managed Areas

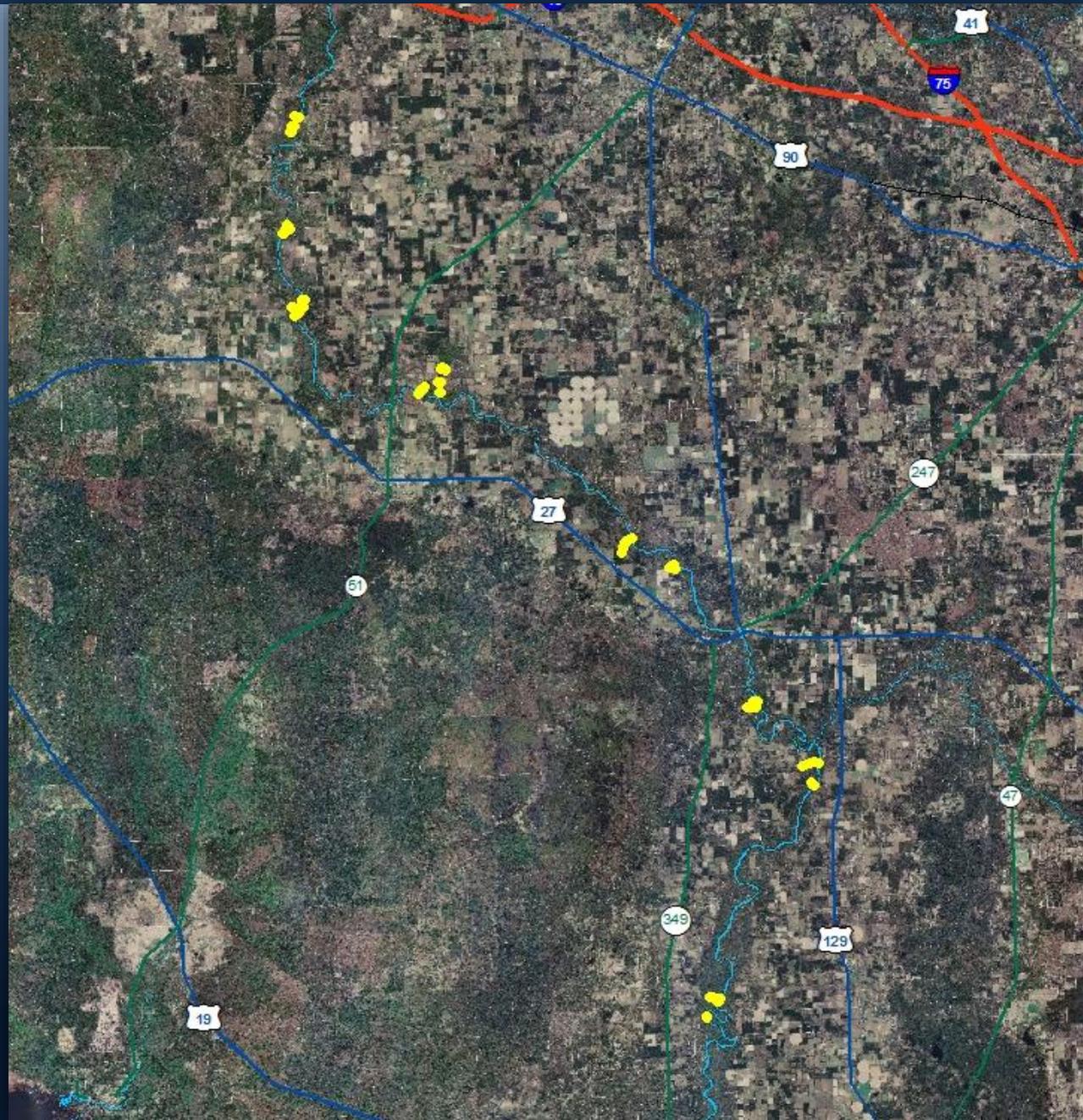
Suwannee River Water Management District
Upper Suwannee River

MFL Vegetation-Soil Survey
Transect Key Map

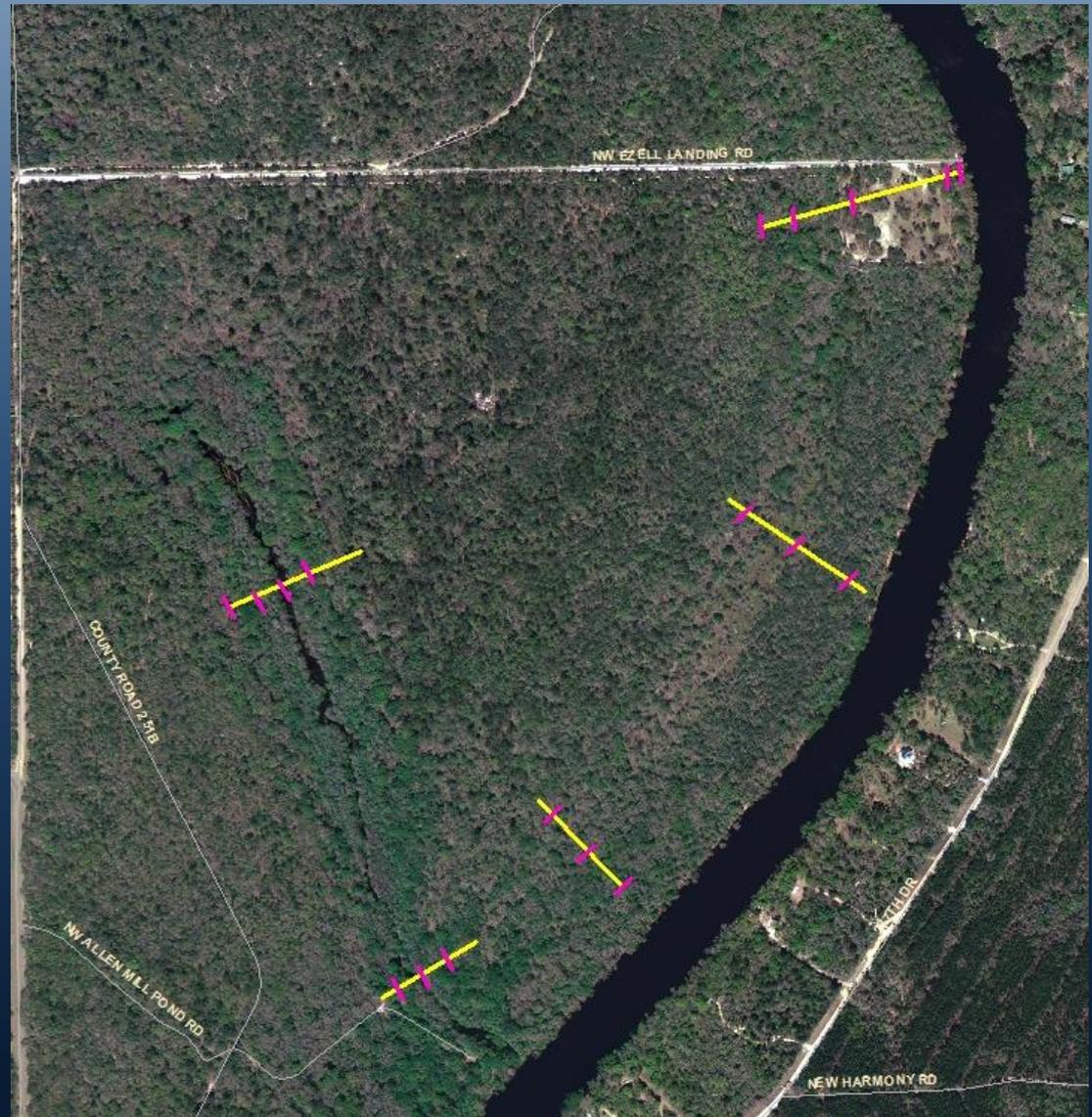


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Middle Suwannee River Floodplain Transects

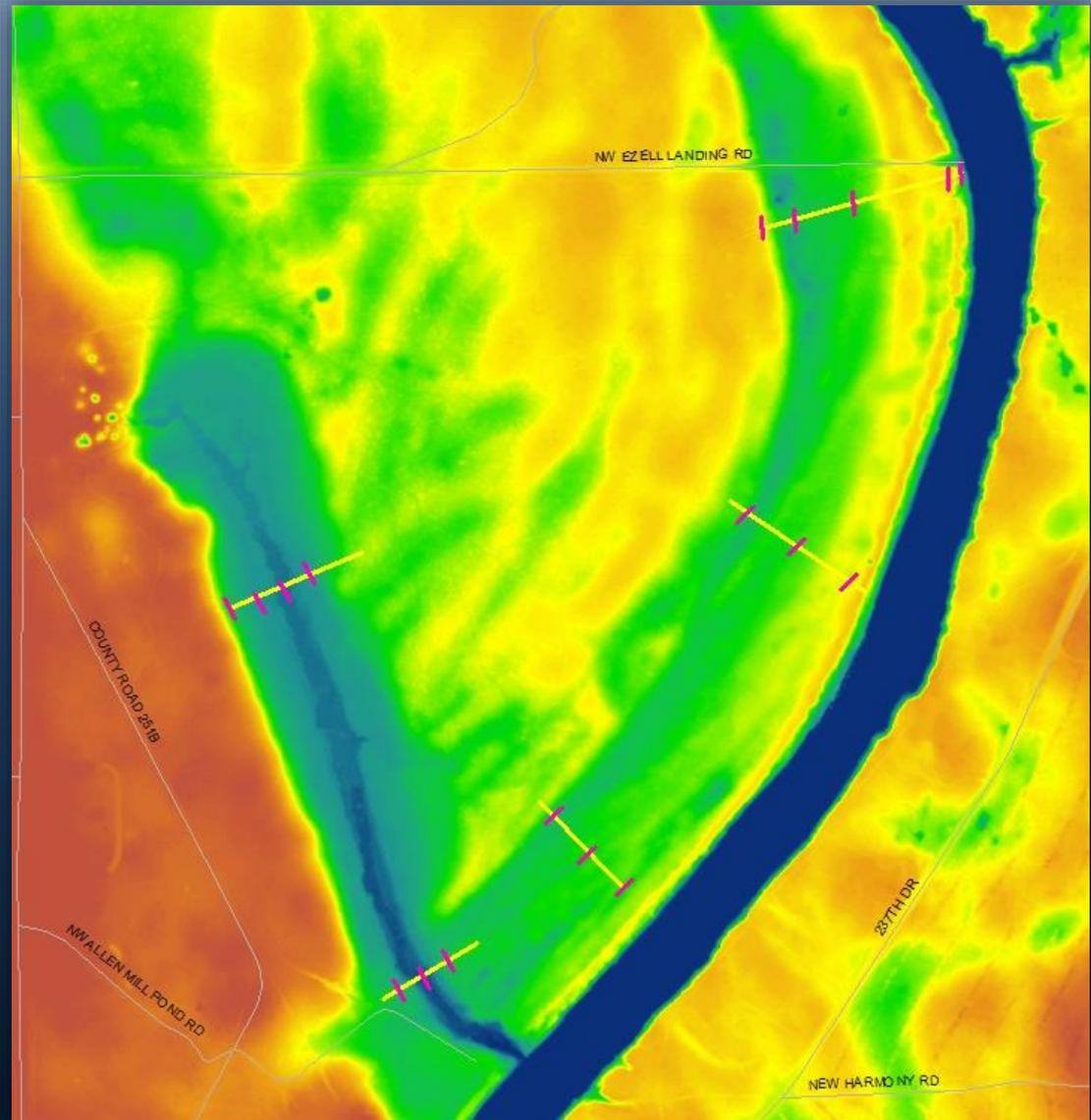


Middle Suwannee River Vegetation Sampling Plots



Middle Suwannee River Floodplain Transects

- Vegetation plots
- Geomorphic surfaces
- DEM



Examples of Floodplain Data Collection – Upper Suwannee River



Hydric Soils Identification



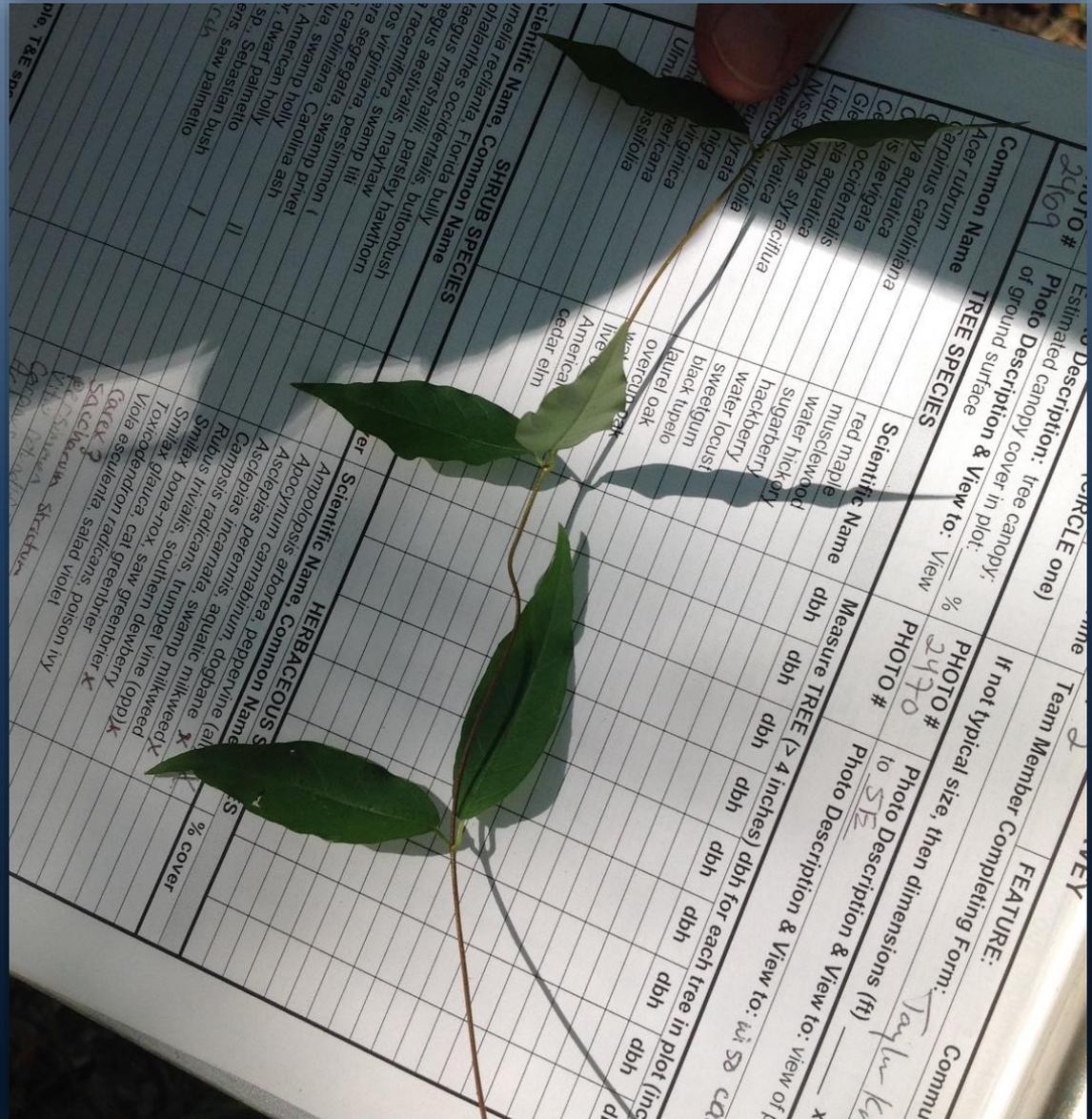
Wetland Species Identification and Classification

Middle Suwannee River

Vegetation
sampling –
transect
through
floodplain



Middle Suwannee
Floodplain
vegetation
sampling



Middle Suwannee River

Soil sample
along
floodplain
vegetation
transects

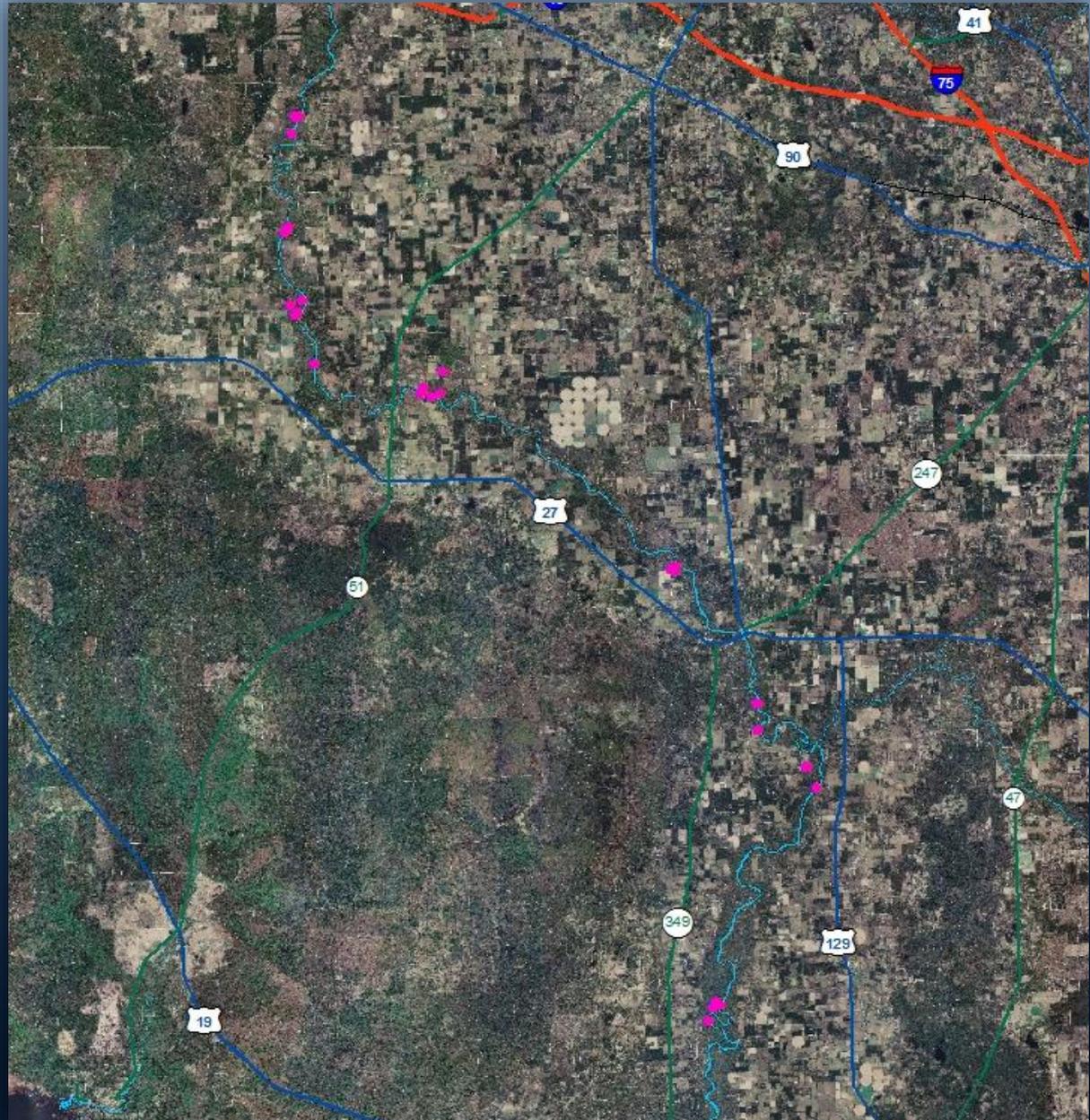


Middle Suwannee River

Vegetation
sampling –
Find the frog.



Middle Suwannee River Gages & Wells



Middle Suwannee River Floodplain Gages & Wells



Middle Suwannee River

Gage – Levelogger installation



Middle Suwannee River

Gage
Installation –
Karst
Window



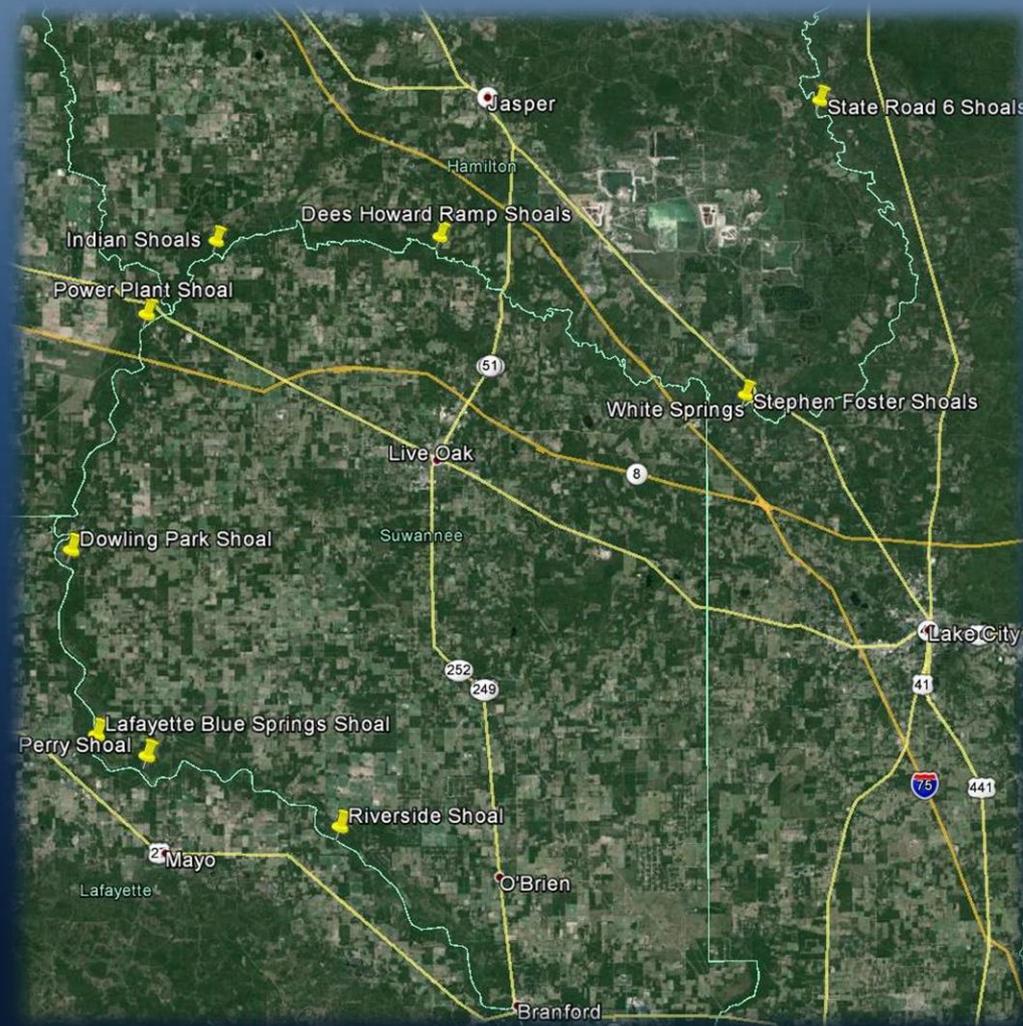
Middle Suwannee River – Floodplain Well Installation





In-Stream Biology

Instream Habitat Modeling



- Discharge (cfs)
- Flow (ft/sec)
- Depth (ft)
- Substrate Codes

Examples of Instream Data Collection – Upper Suwannee River



Handheld Acoustic Doppler Unit

Price AA Current Meter



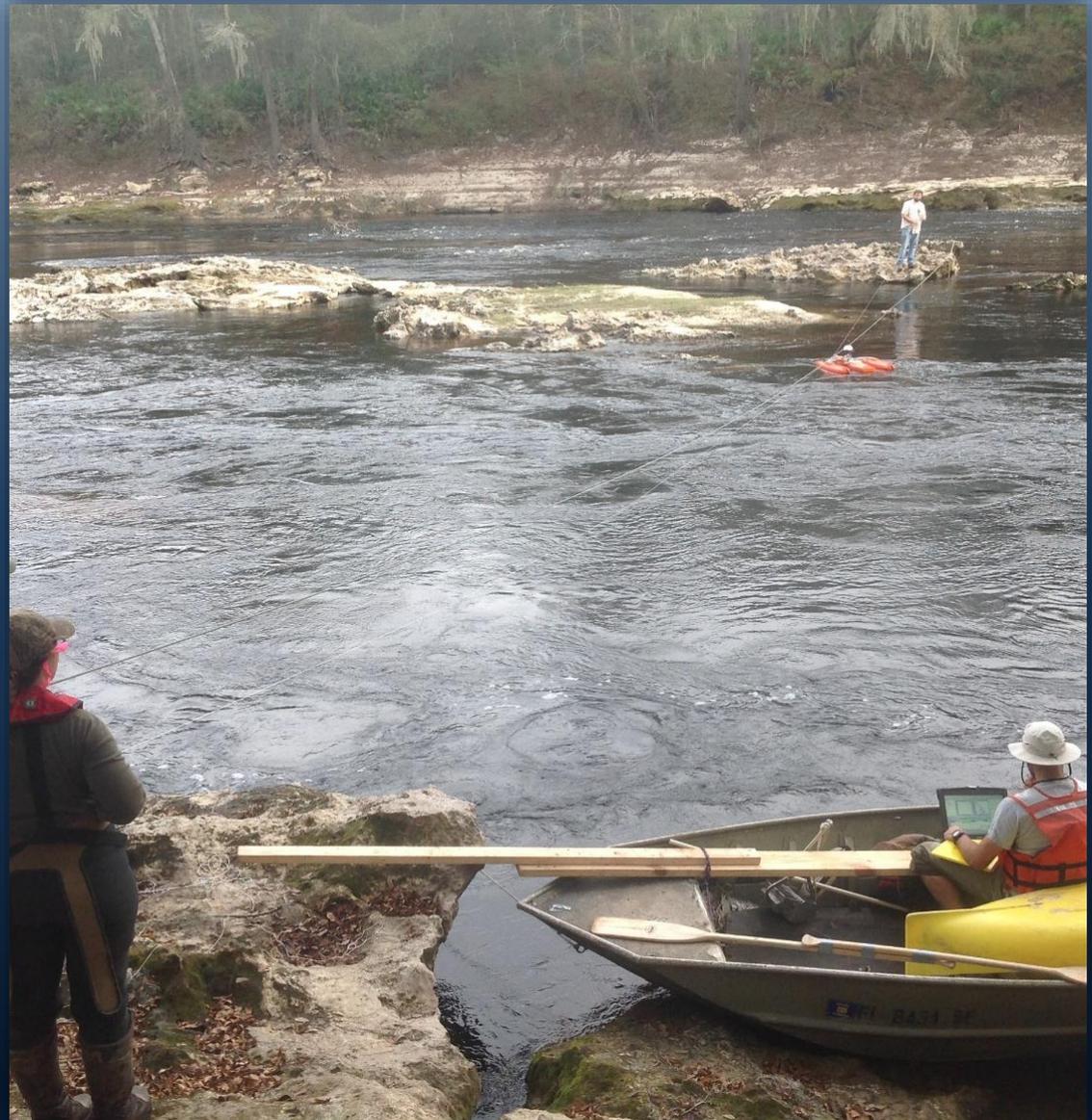
Middle Suwannee River

Flow
measurement
with Acoustic
Doppler
Current
Profiler
(ADCP)



Middle Suwannee River

Flow
measurement
with Acoustic
Doppler
Current
Profiler
(ADCP)



On-Going Communications

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[Waccasassa River](#)
[Withlacoochee River](#)
[Related Research](#)

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Minimum Flows & Levels

Overview

The Suwannee River Water Management District's Minimum Flows and Levels (MFLs) program is a means to ensure water availability for the present and future, and to prevent significant harm to the area's natural resources.

The District's MFL Program is a science-based process from which MFLs are established by the Governing Board of the District. This process uses the best information available to determine the recommended MFLs. Before adoption by the board in the [District rules](#) (40B-8, F.A.C.) the science supporting the MFLs is subject to a peer review process initiated by the District. For a brief overview of the MFL Program, read our two-page [fact sheet](#) (PDF, 532KB).

Annually, the District publishes a [priority list](#) (PDF, 15KB) of MFL water bodies with an anticipated completion schedule. This list is reviewed annually and submitted to the Florida Department of Environmental Protection for review and approval. A map of the water bodies is shown [here](#) (PDF, 206KB).

MFL Projects

Follow the links below to find information about the MFLs for the following rivers:

- [Santa Fe River](#)
- [Suwannee River](#)
- [Waccasassa River](#)
- [Withlacoochee River](#)

- **MFLs@SRWMD.org**
- **"Notify Me" feature**
- **Future Meetings**

Questions

- Name
- Organization Representing or Employer
- Part of River or Spring interested in

