



Agricultural irrigation and streams in the Georgia Coastal Plain: Flint and Suwannee Basins

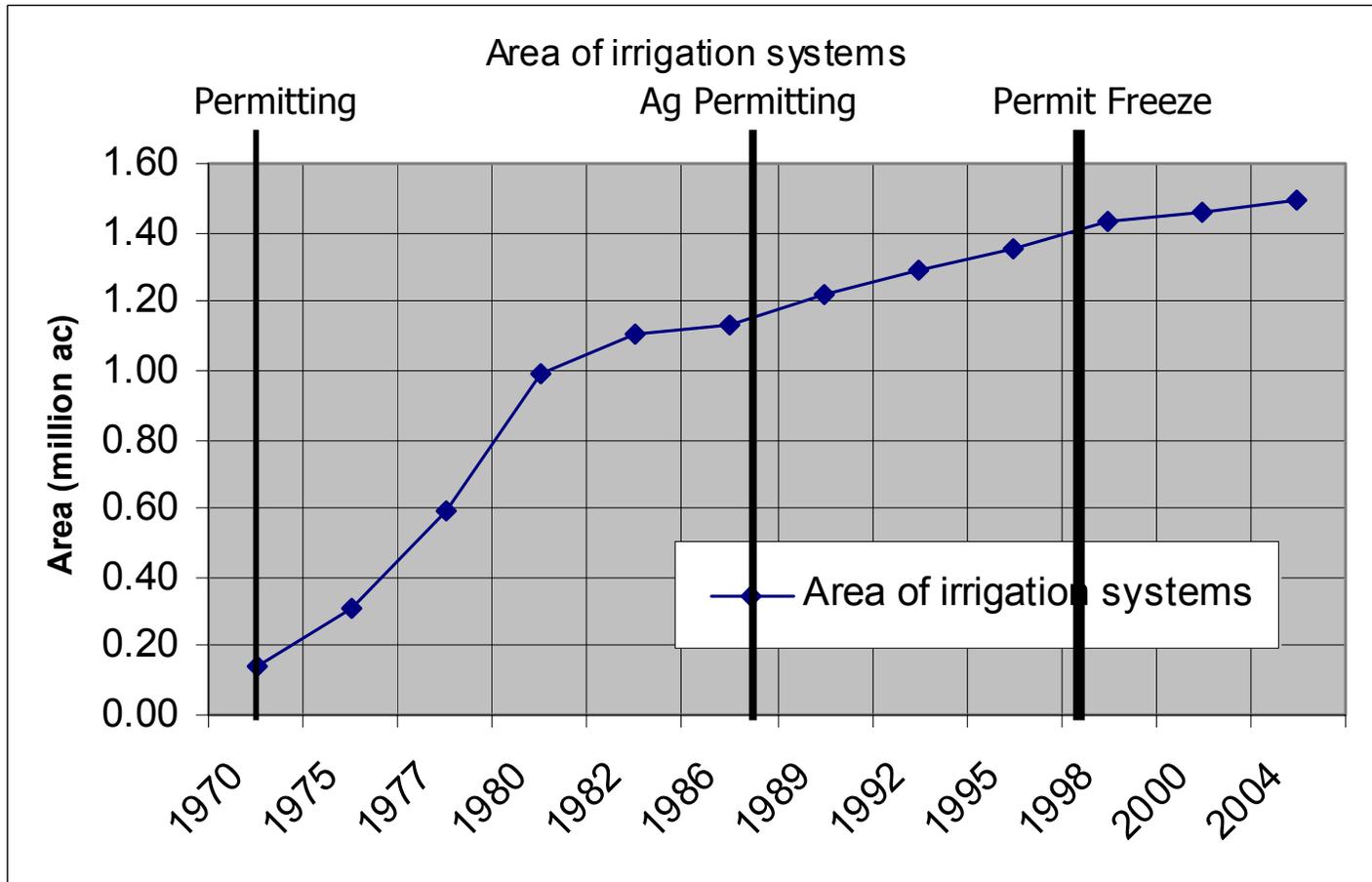
Jim Hook & Kerry Harrison

National Environmentally Sound Production Agriculture Laboratory

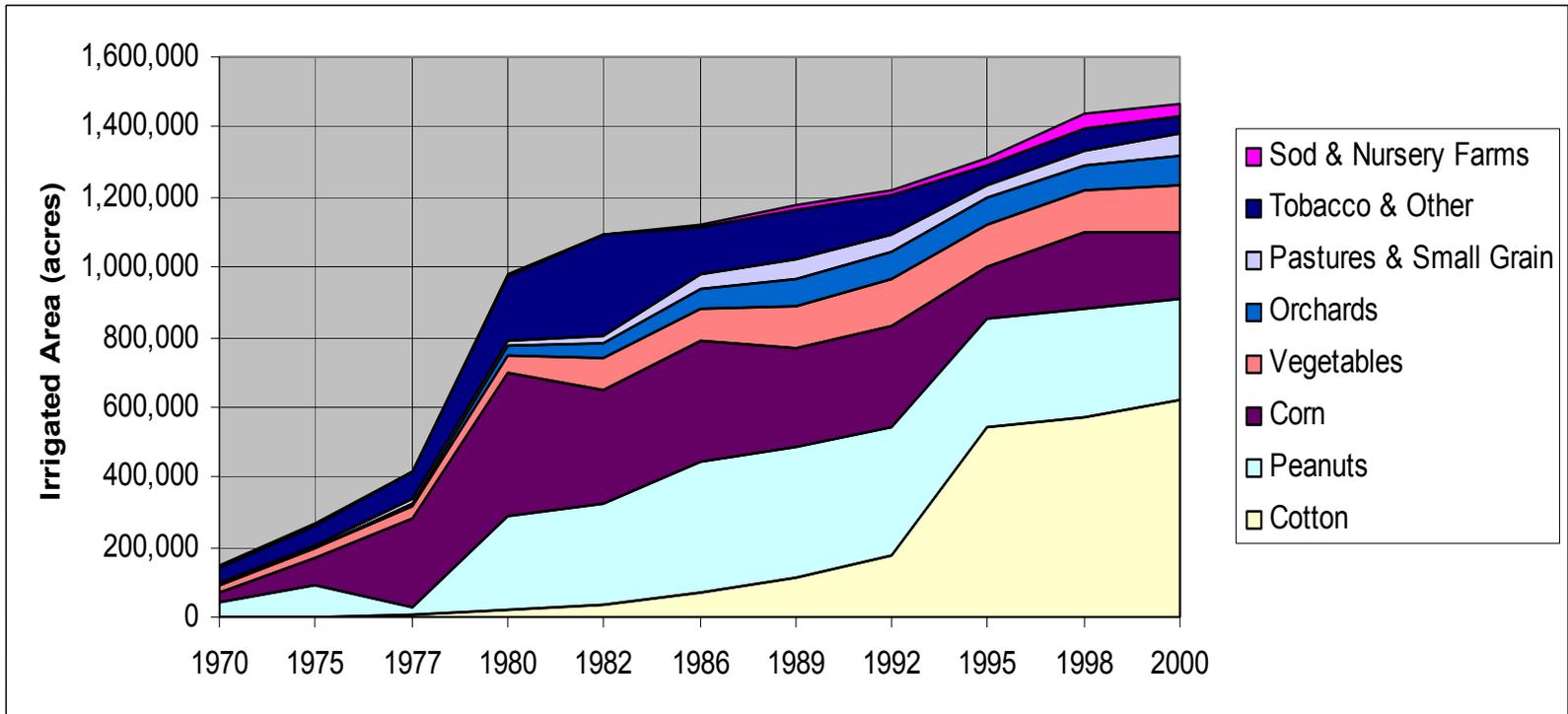
January 31, 2007

CSREES National Water Conference

Irrigation and Permitting - Georgia



Irrigation and Permitting - Georgia



Ag Permits for withdrawals:

By pumping rate (pump capacity)

No application Fees

SW low flow protection 7Q10 >1cfs

No Conservation Plan

No Drought Contingency Plan

Exempt from reporting

No expiration date

ACF Interstate Problems

(1980)---1990---2007+

Flint Basin Plan

1999 freeze on Ag Permits

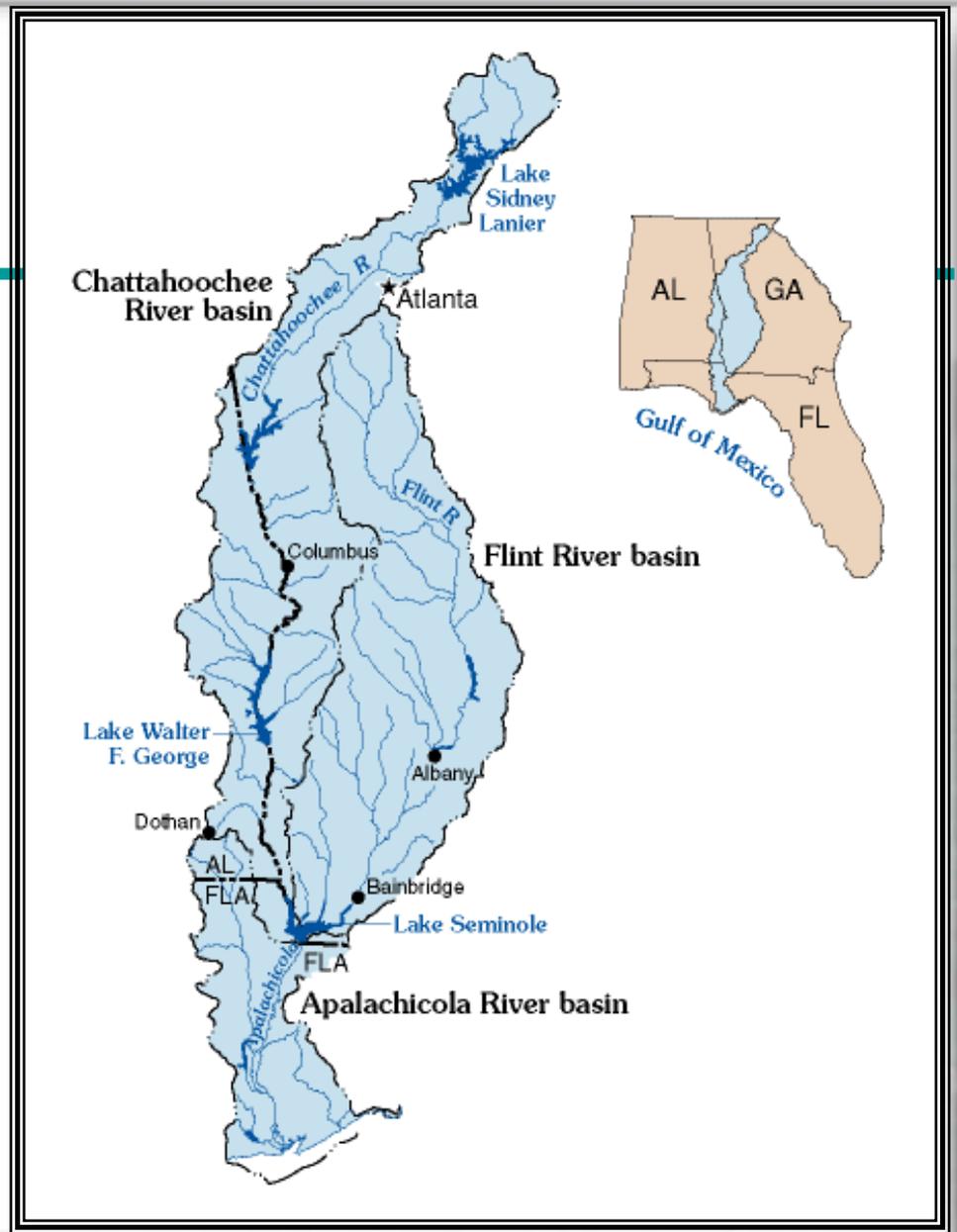
Sound science

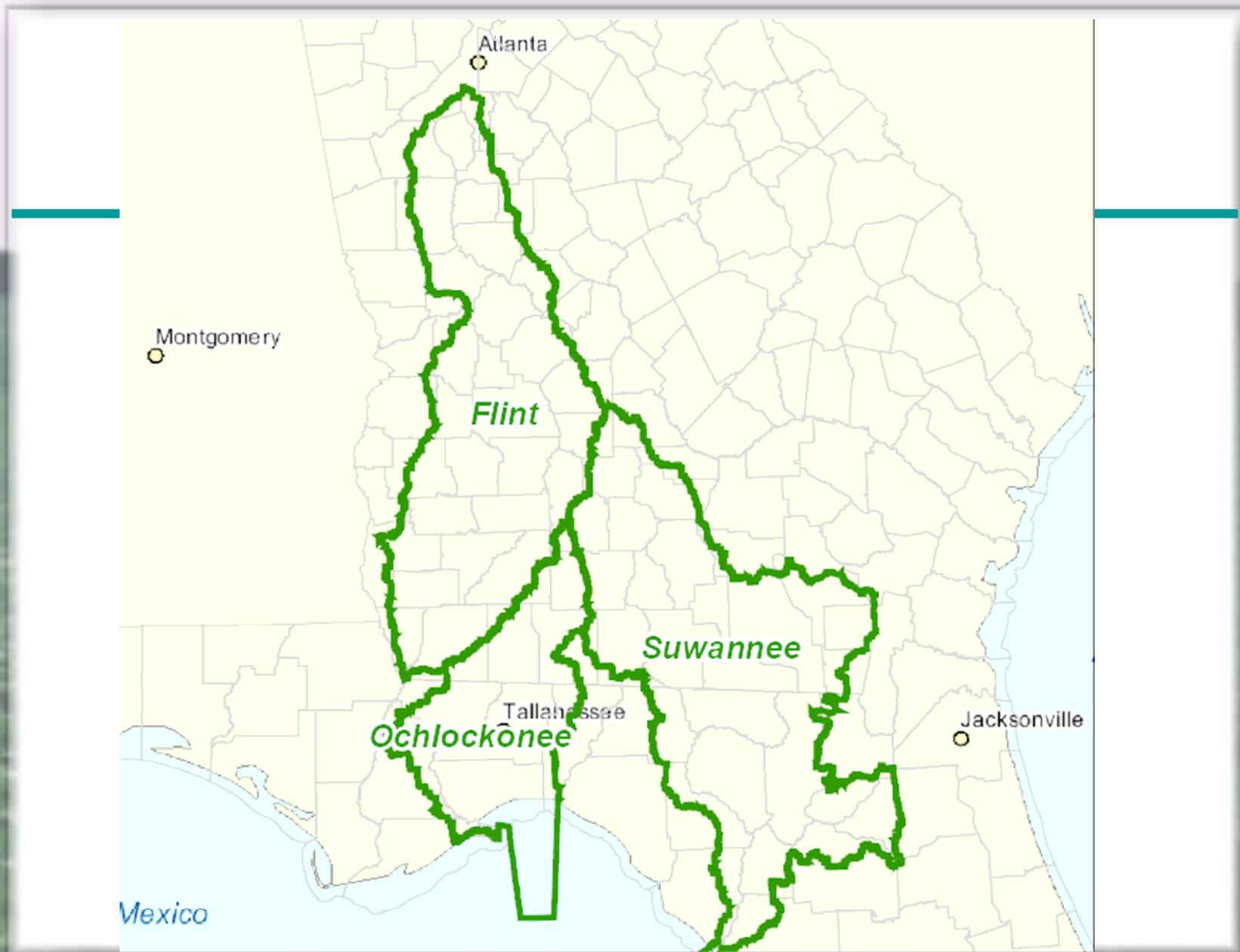
Flint Plan adoption 2006

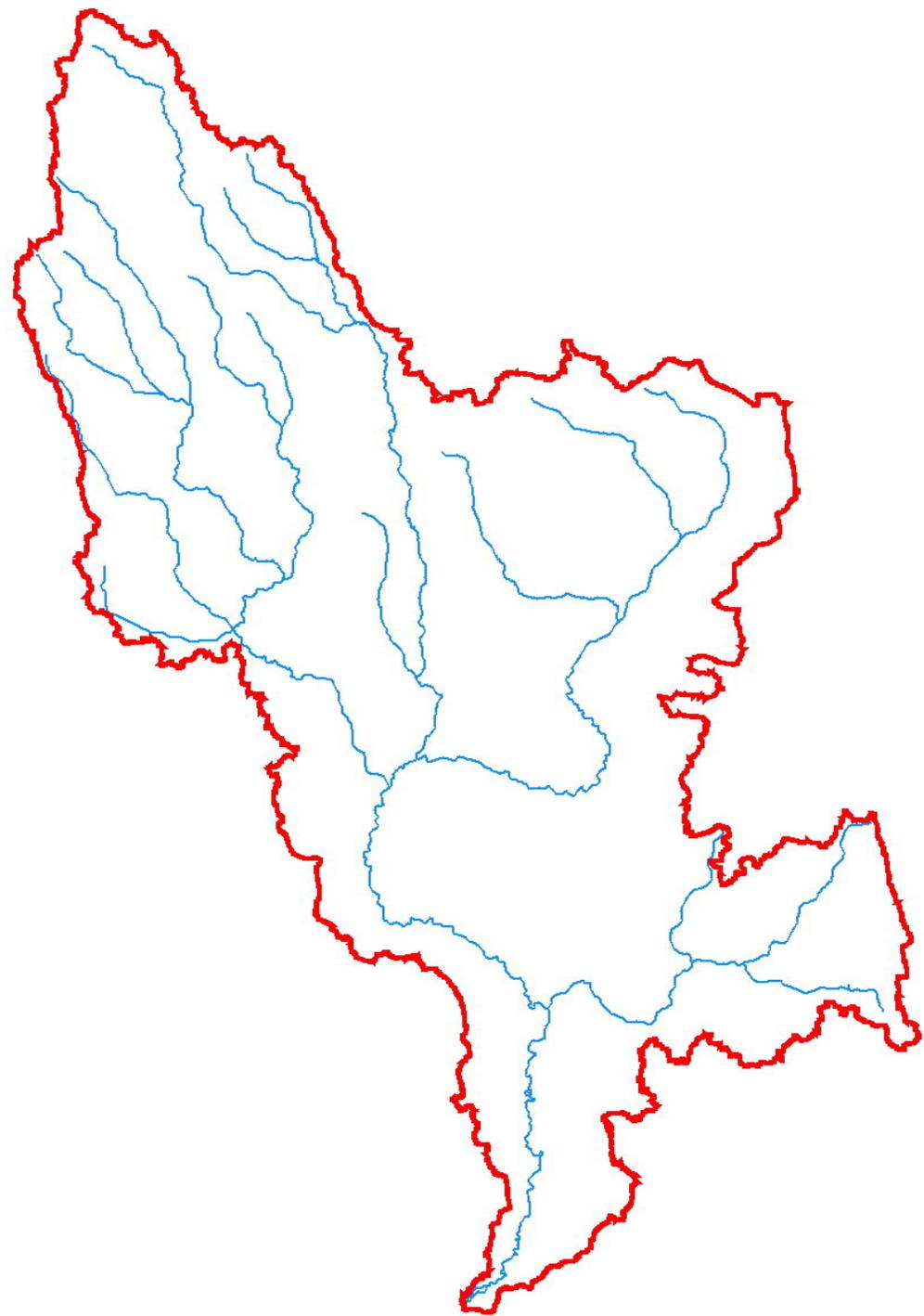
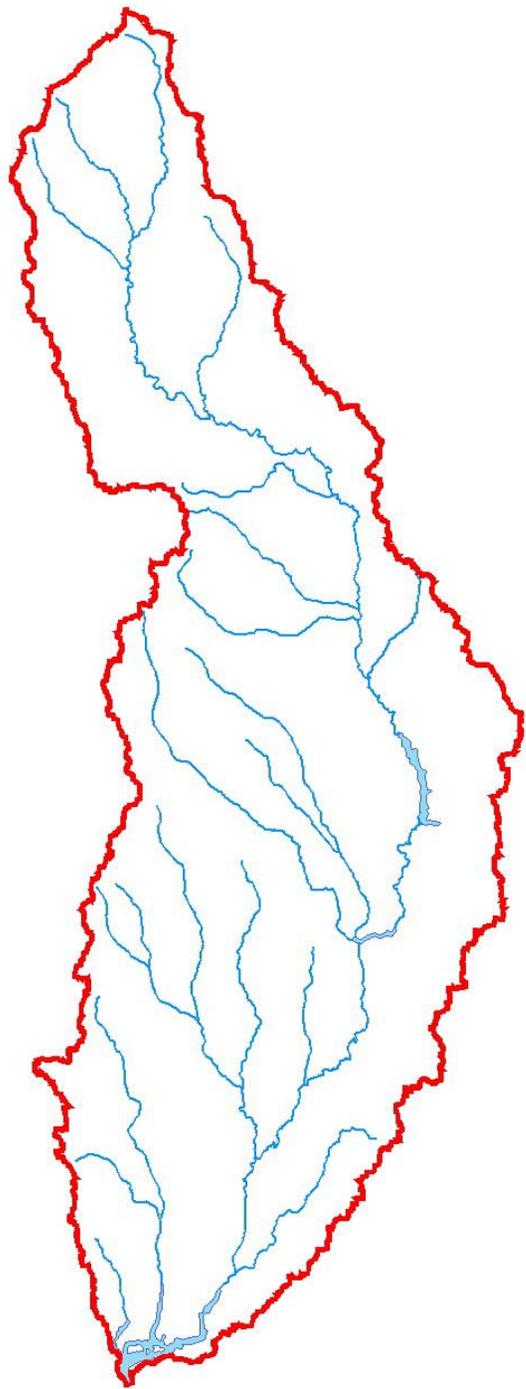
Permitting resumed

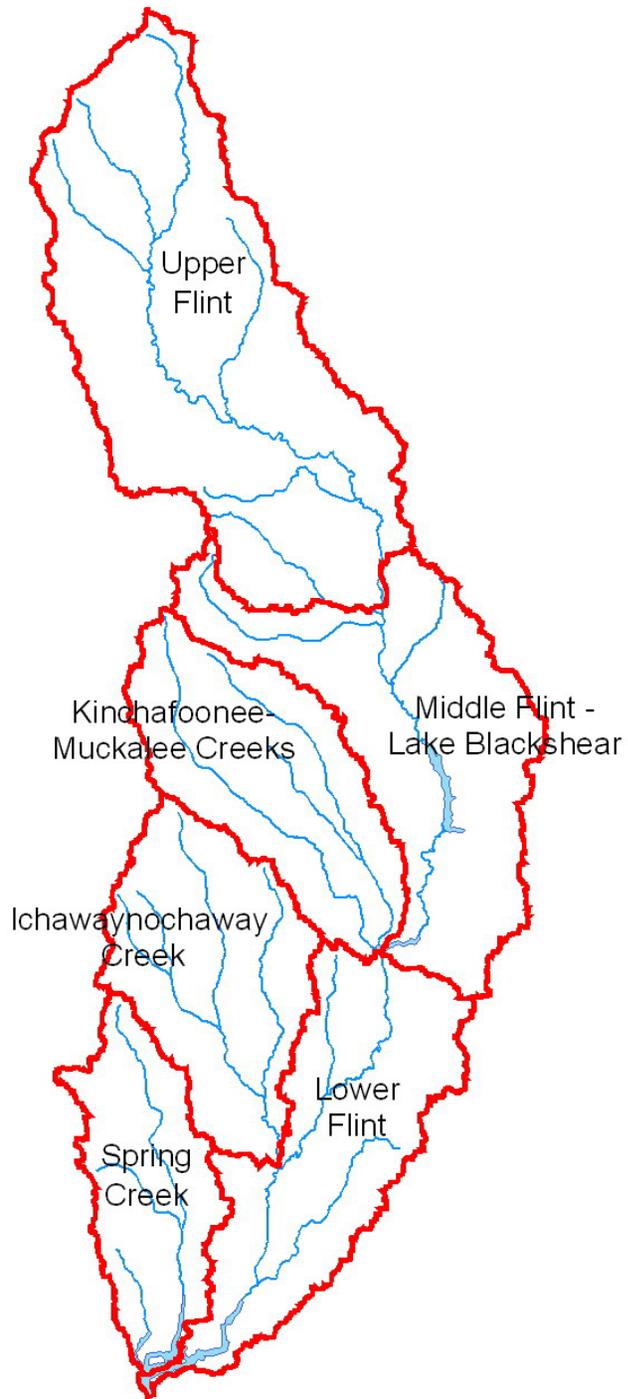
New rules & laws

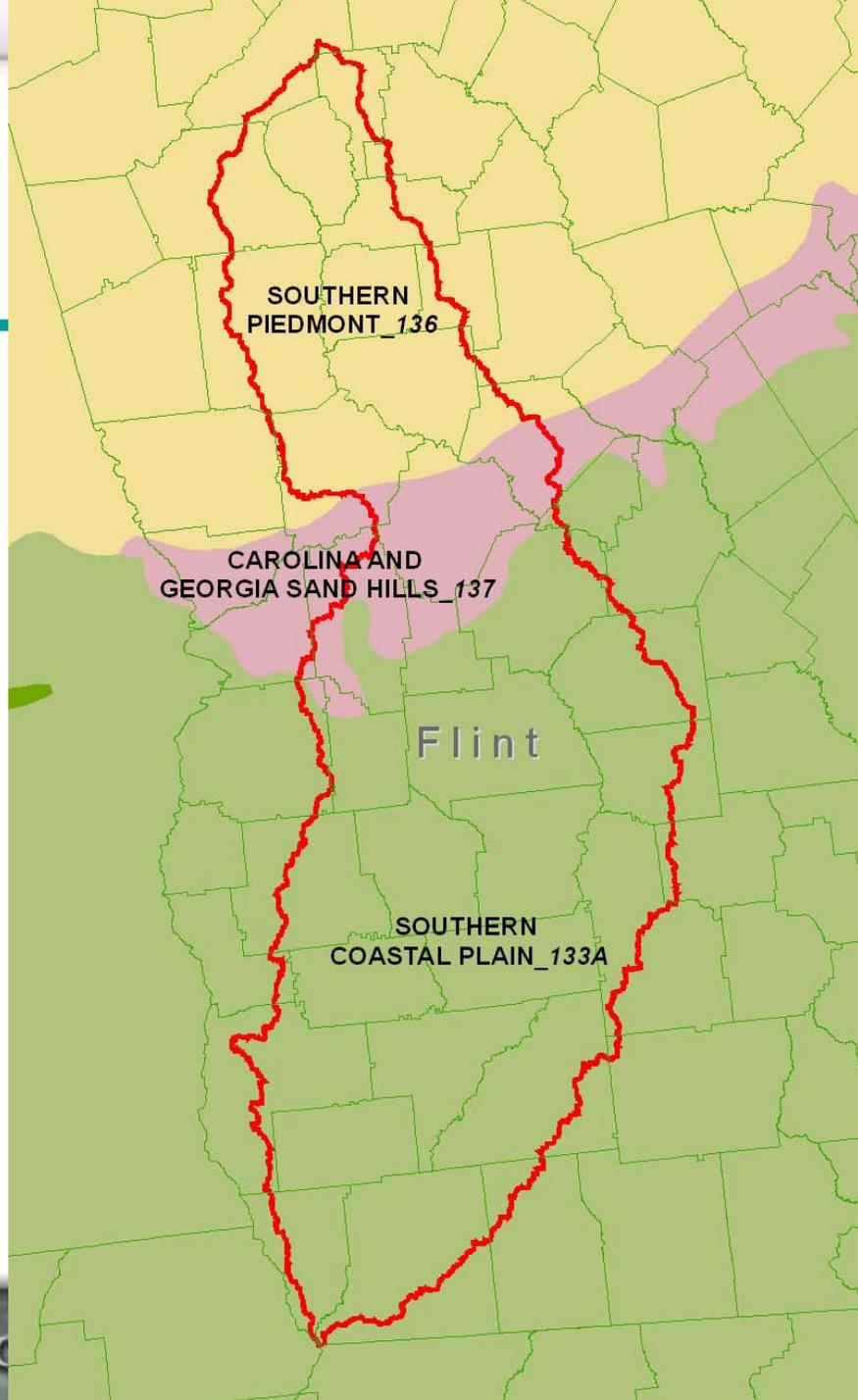
No longer one size fits all

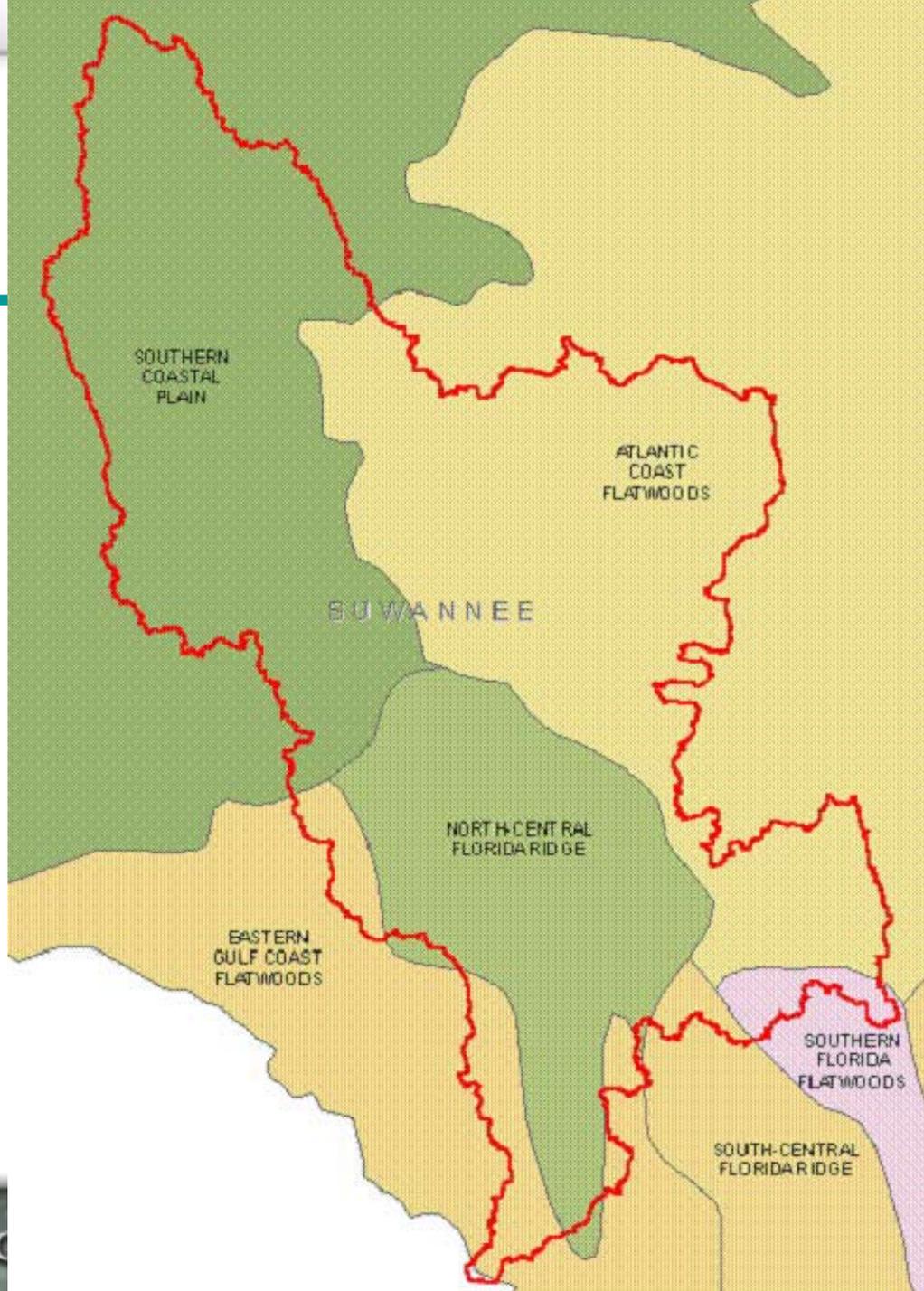




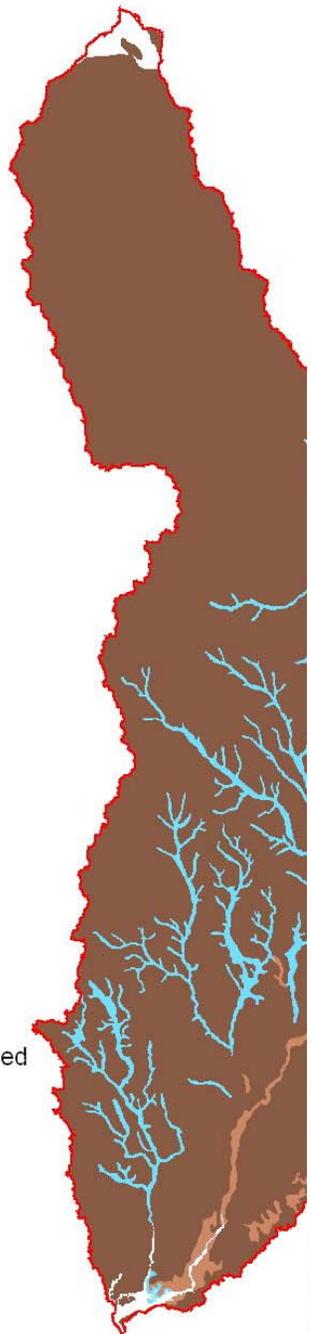




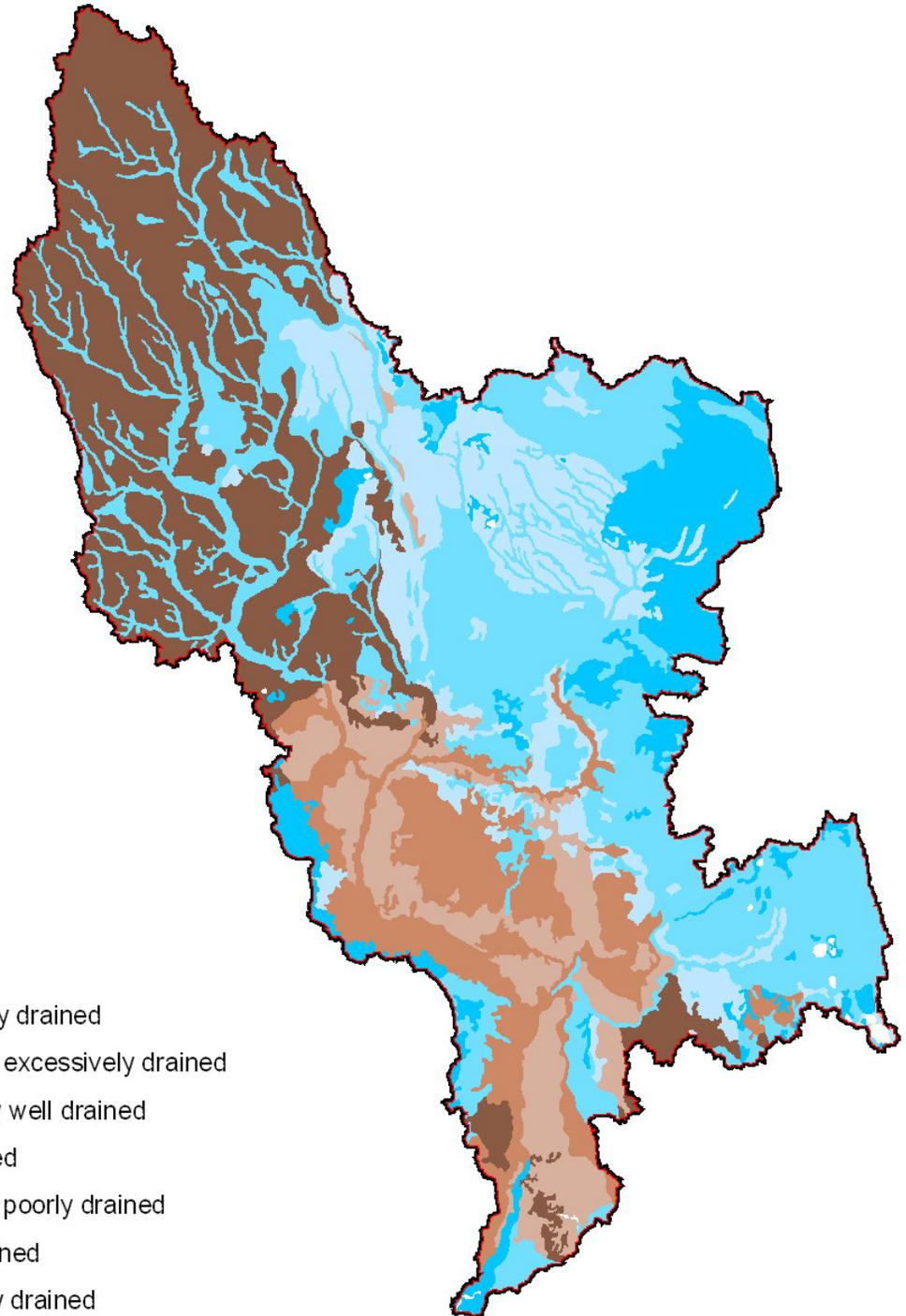


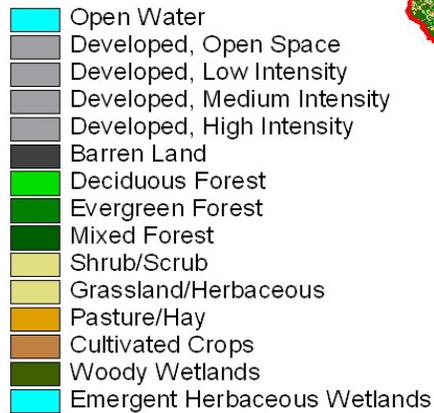
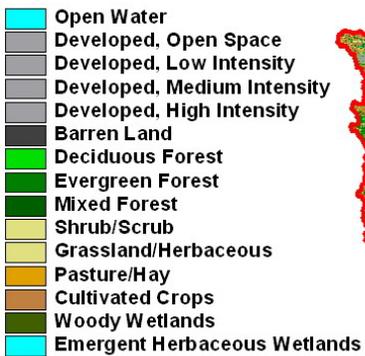


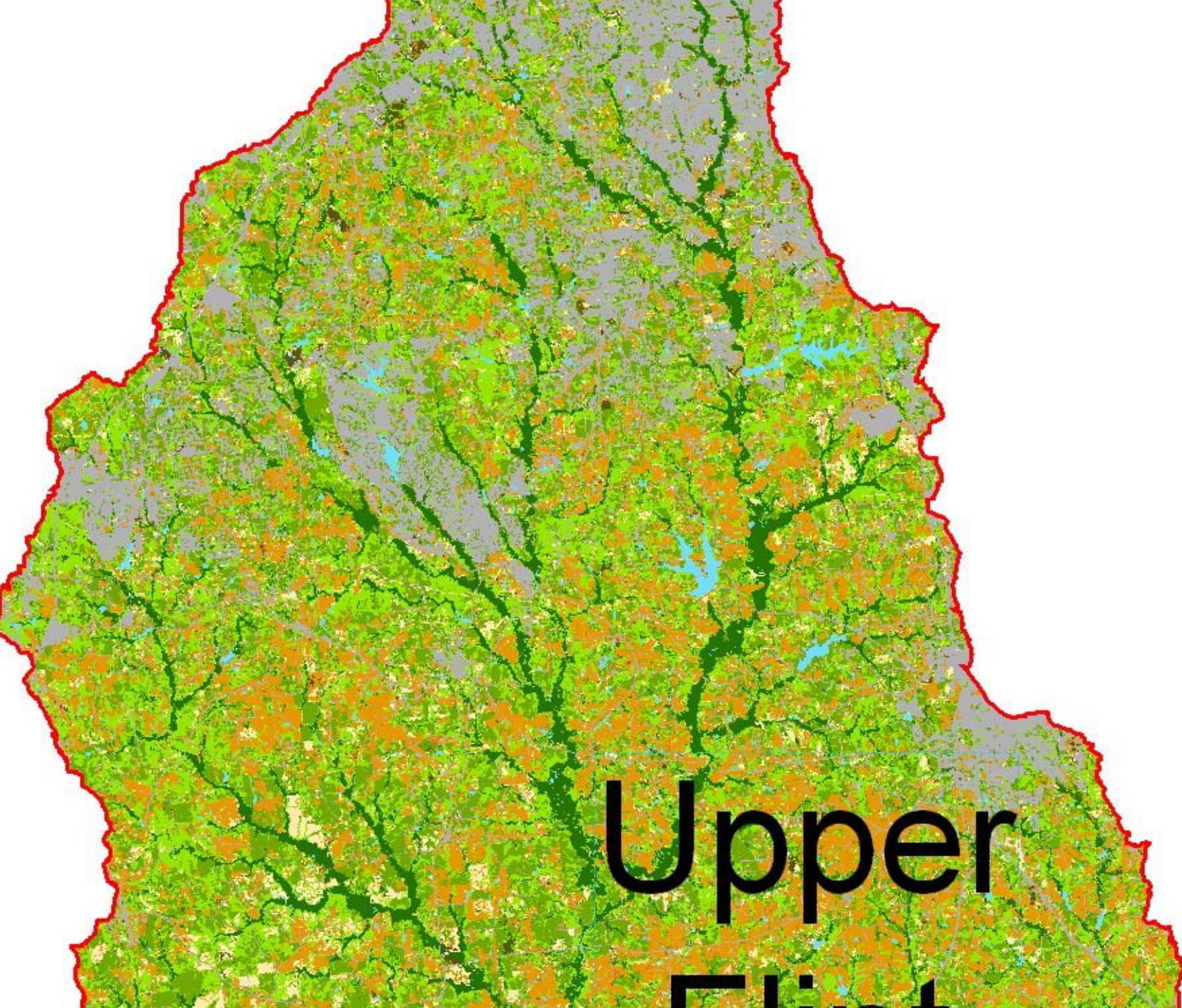
STATSGO
Soil Drainage



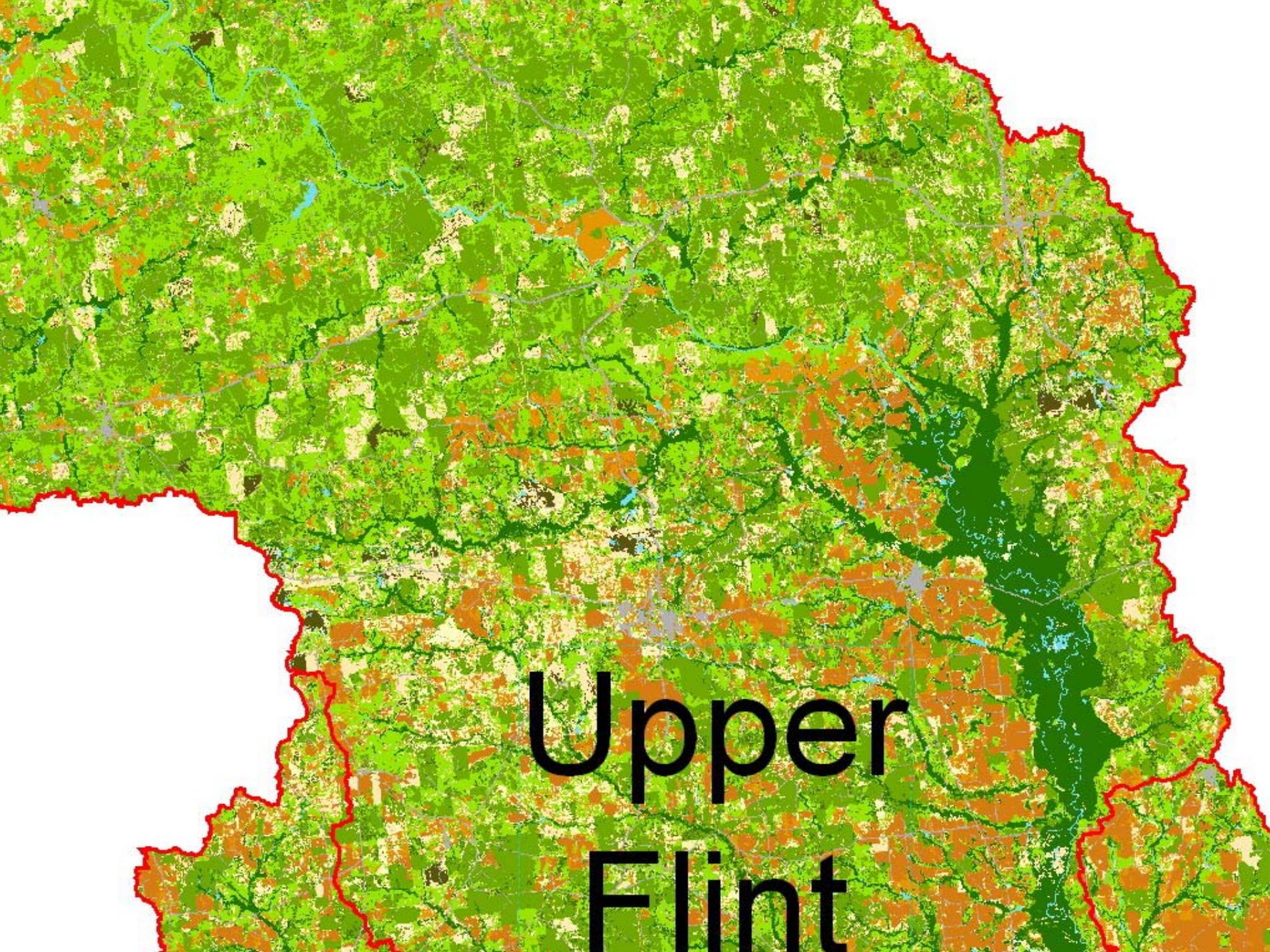
STATSGO
Soil Drainage







Upper
Flint



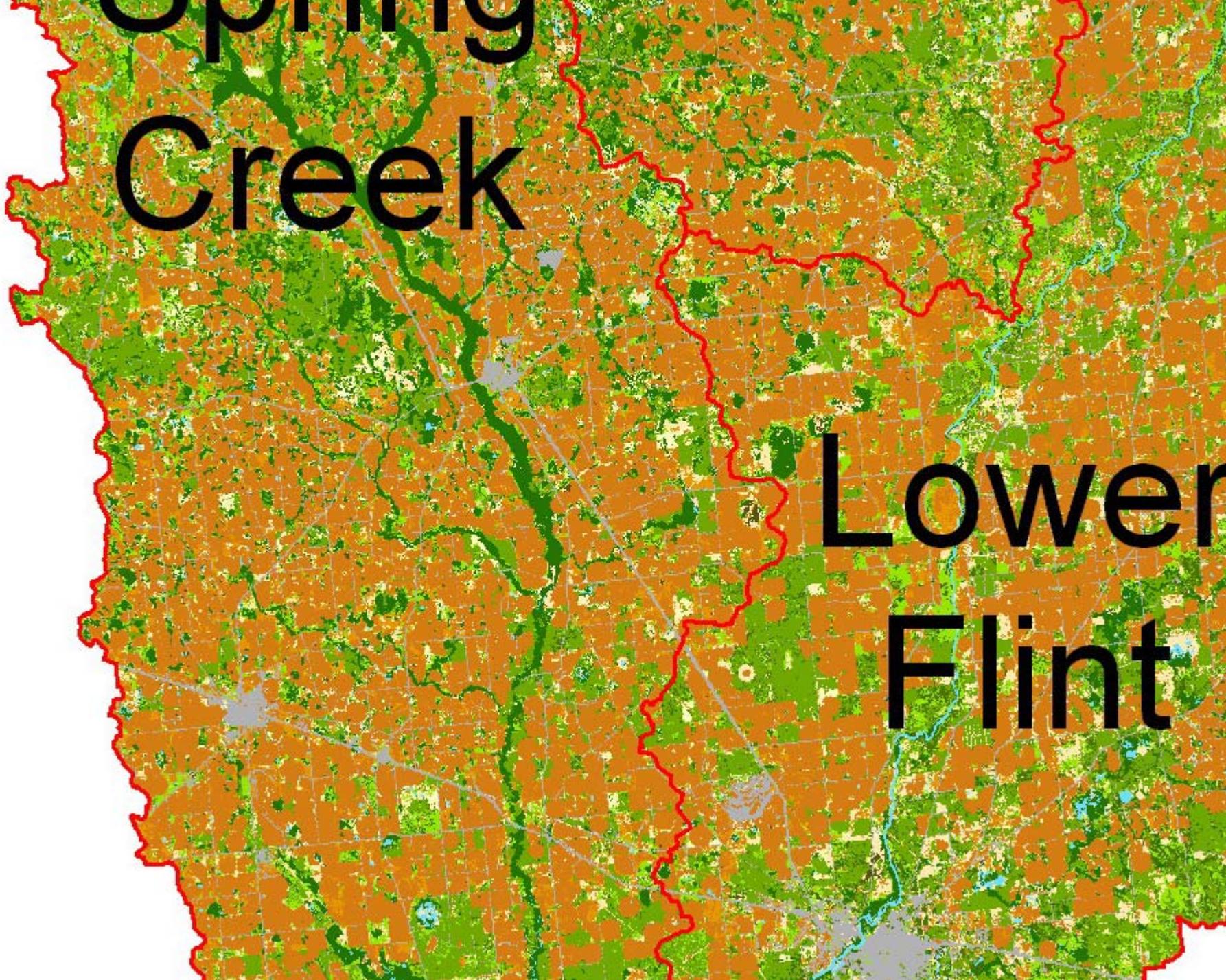
Upper
Flint

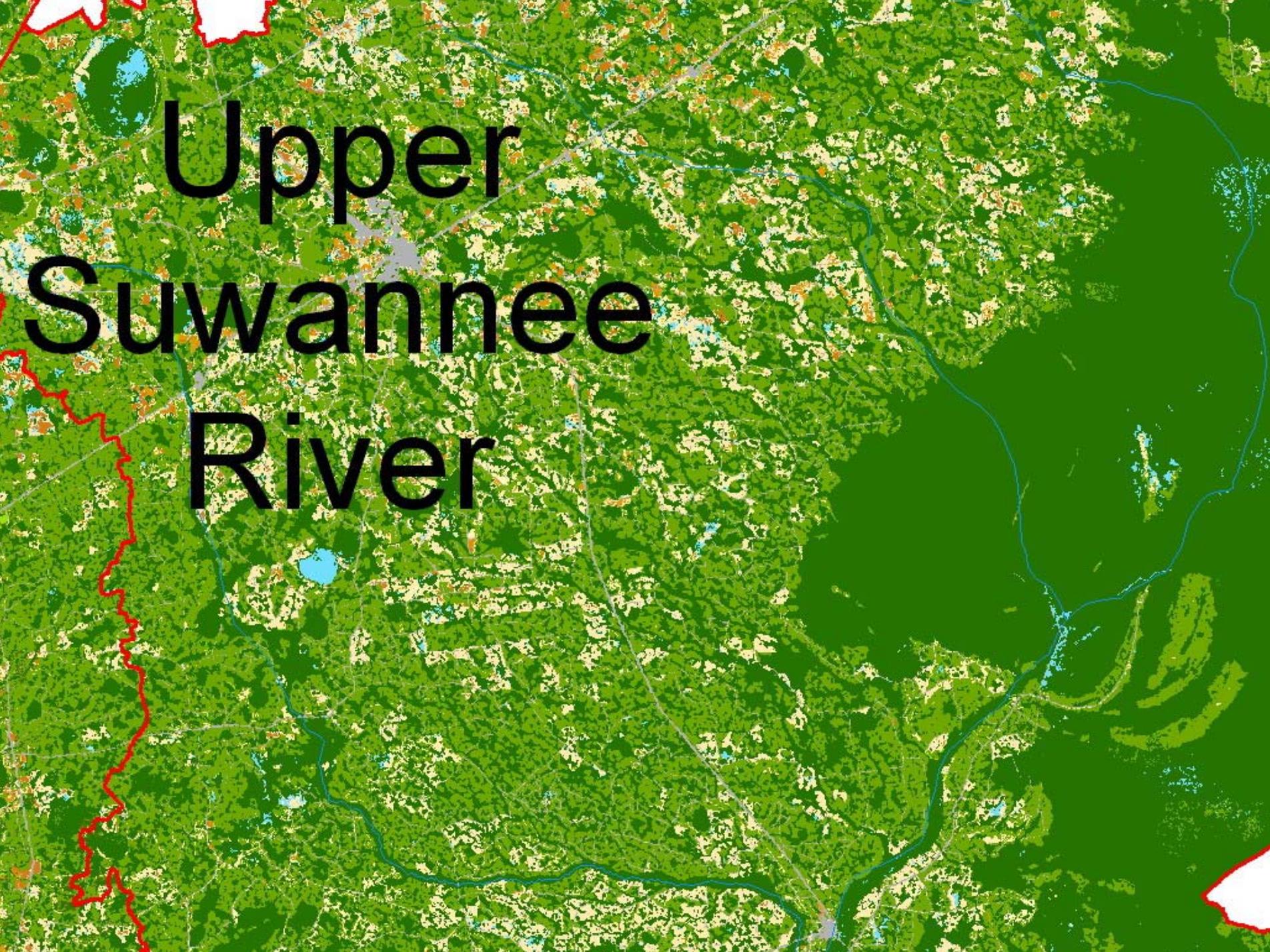


Ichawaynochaway

**Upper
Creek**

**Lower
Flint**



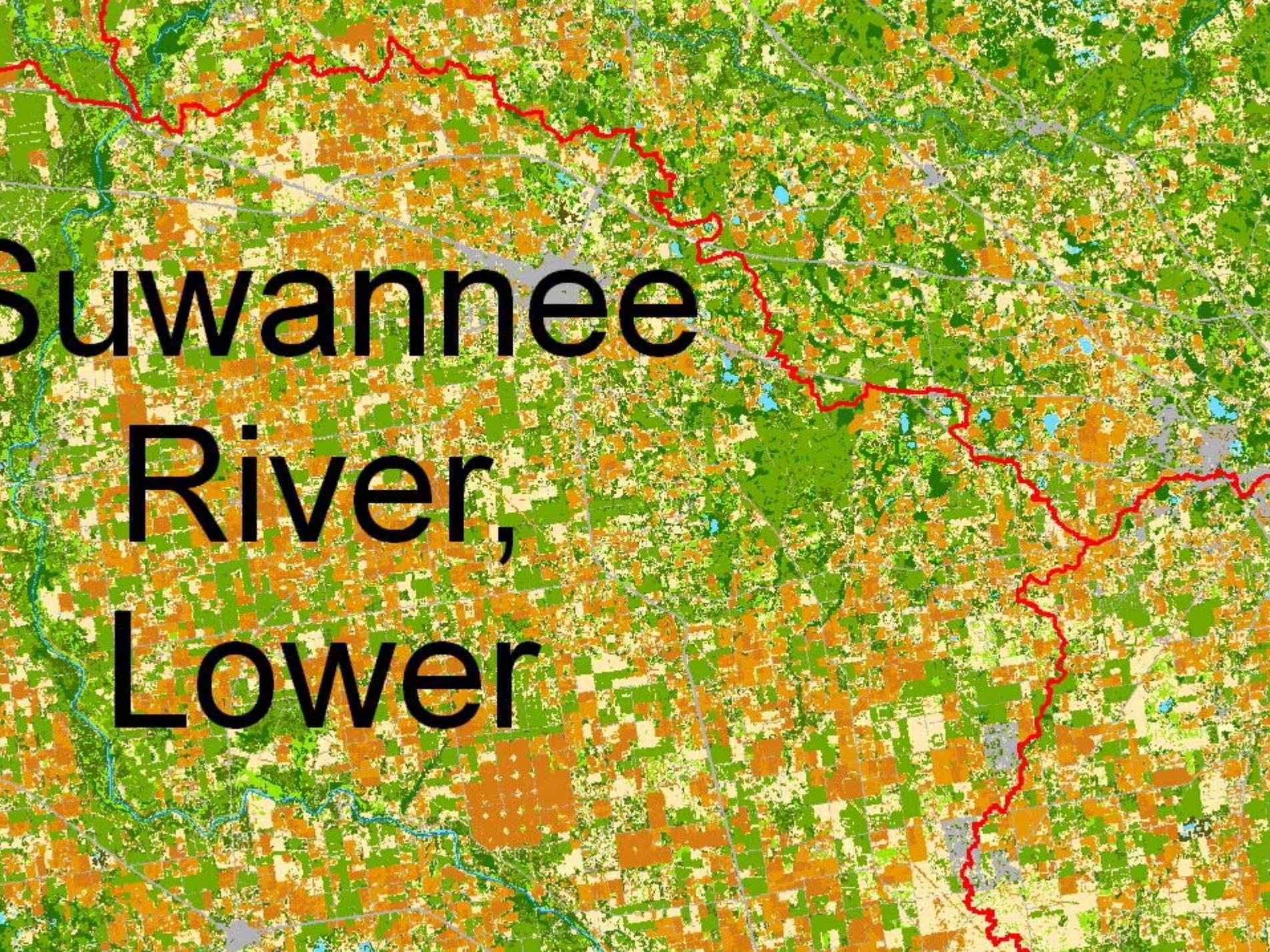


Upper Suwannee River

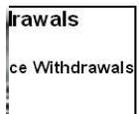
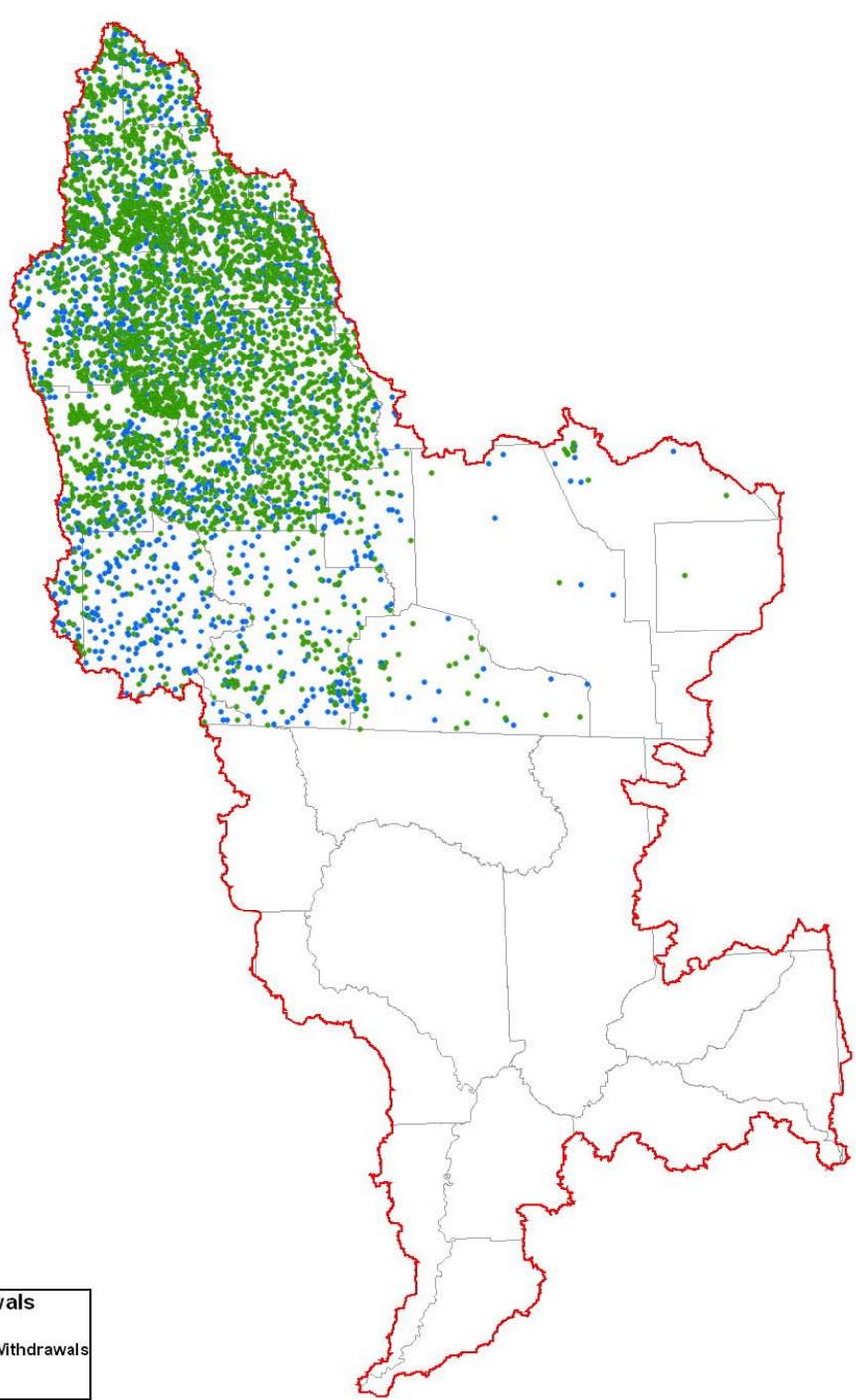
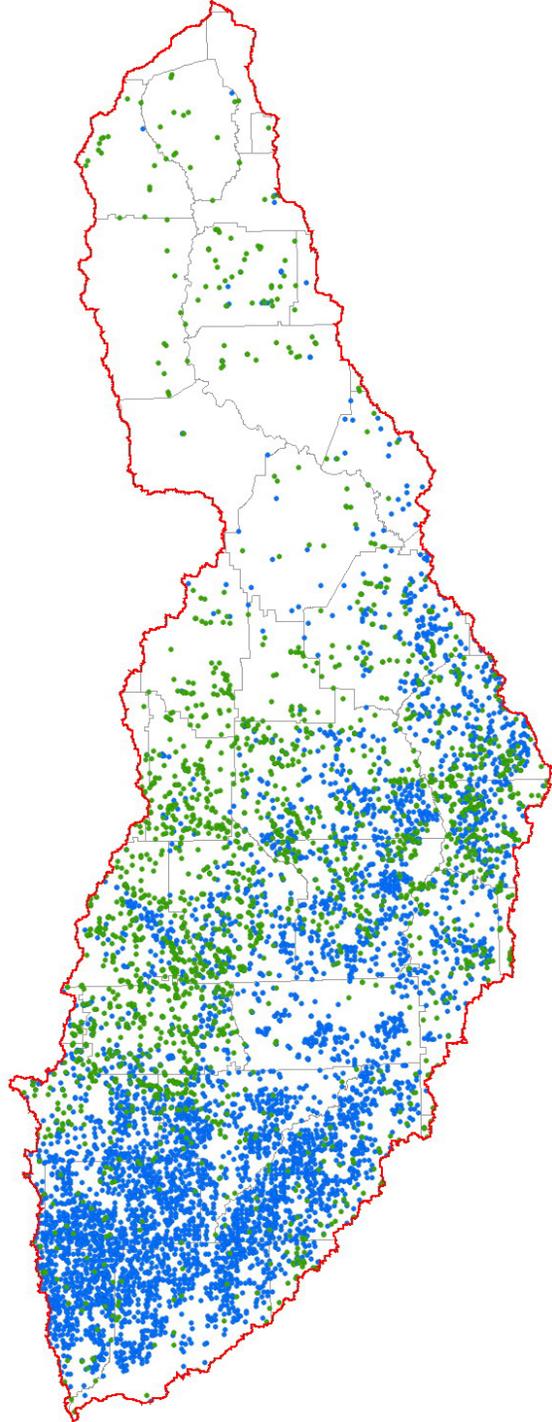
A topographic map of the Alapaha River watershed. The map uses a color gradient to represent elevation, with green for lower elevations and brown/orange for higher elevations. The Alapaha River is shown as a prominent blue line winding through the center of the watershed. A red line outlines the boundary of the watershed. The text 'Alapaha River' is overlaid in large black font in the upper center, and 'Little' is partially visible in the bottom left corner.

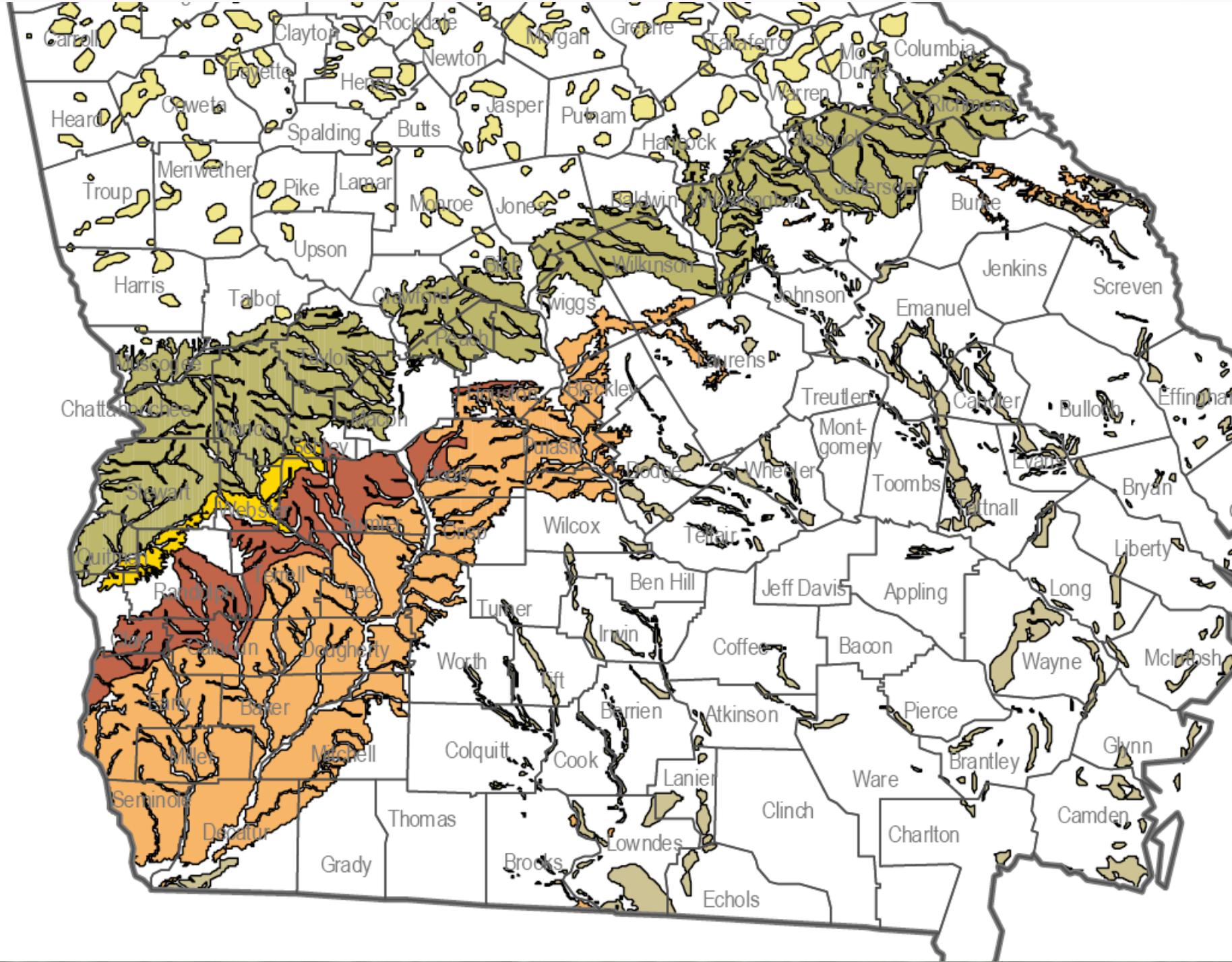
Alapaha River

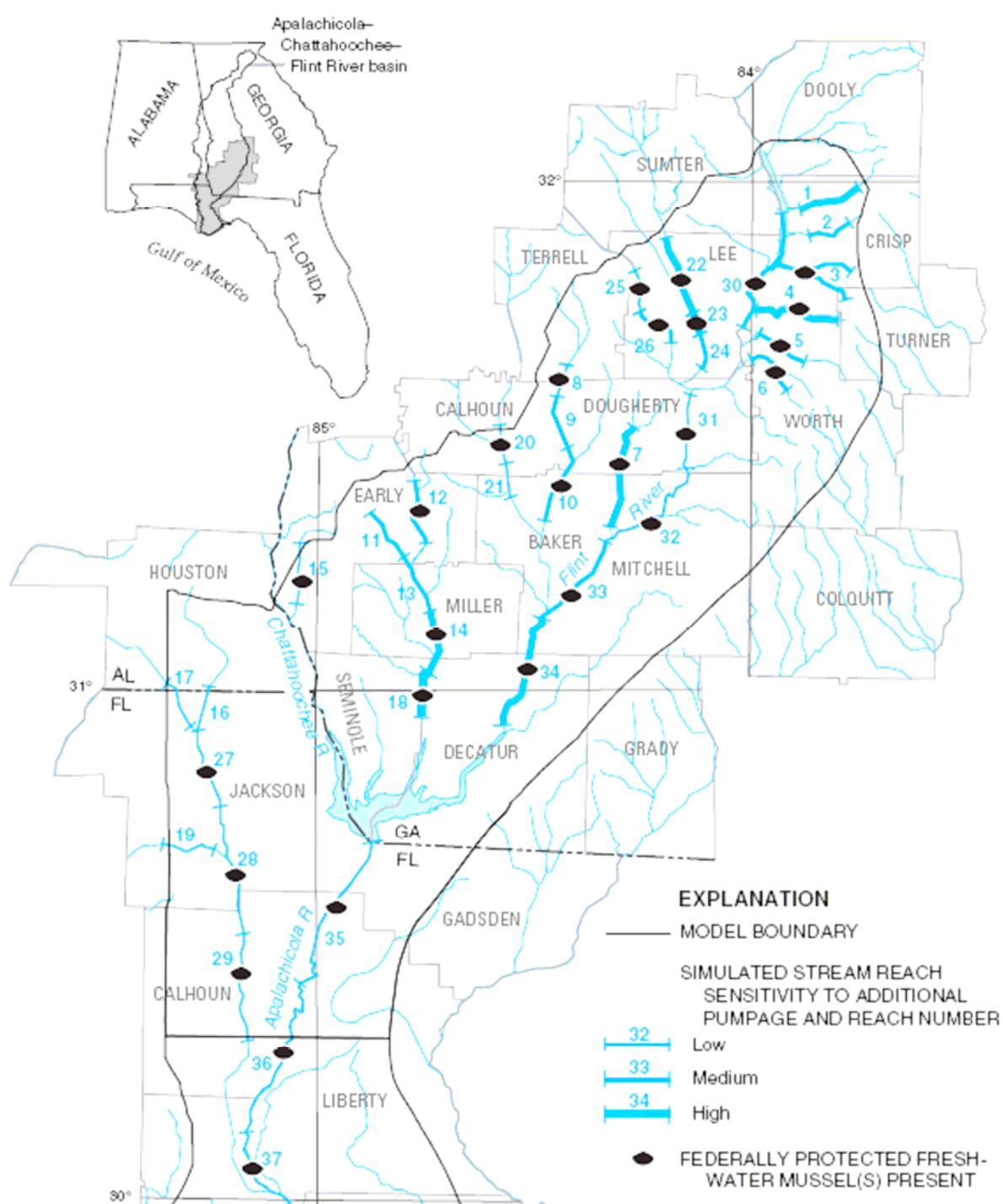
Little

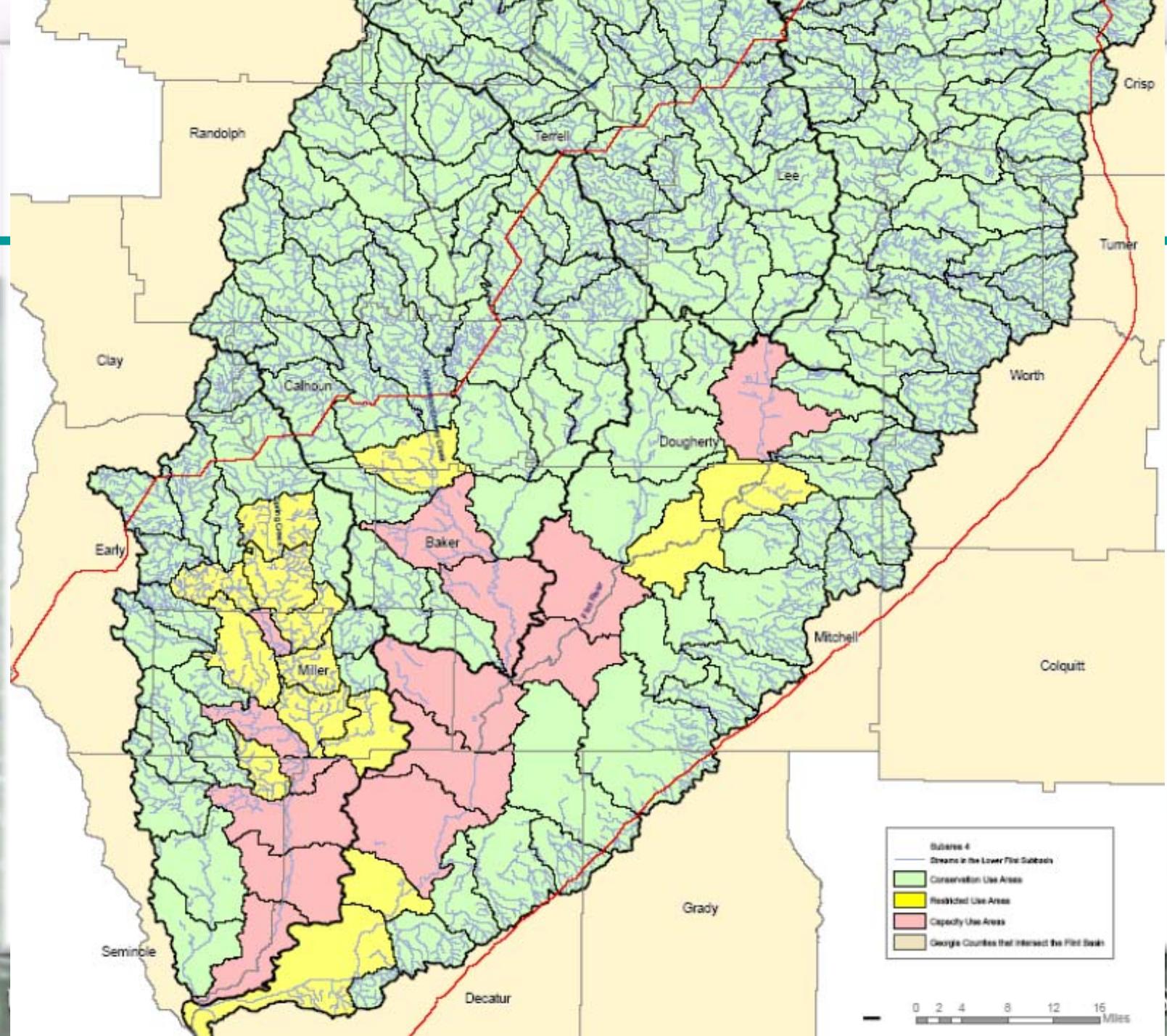
A satellite-style map of a region, likely in Florida, showing a network of roads and water bodies. A prominent red line traces a boundary across the landscape. The terrain is a mix of green (vegetation) and brown/orange (open land or agriculture).

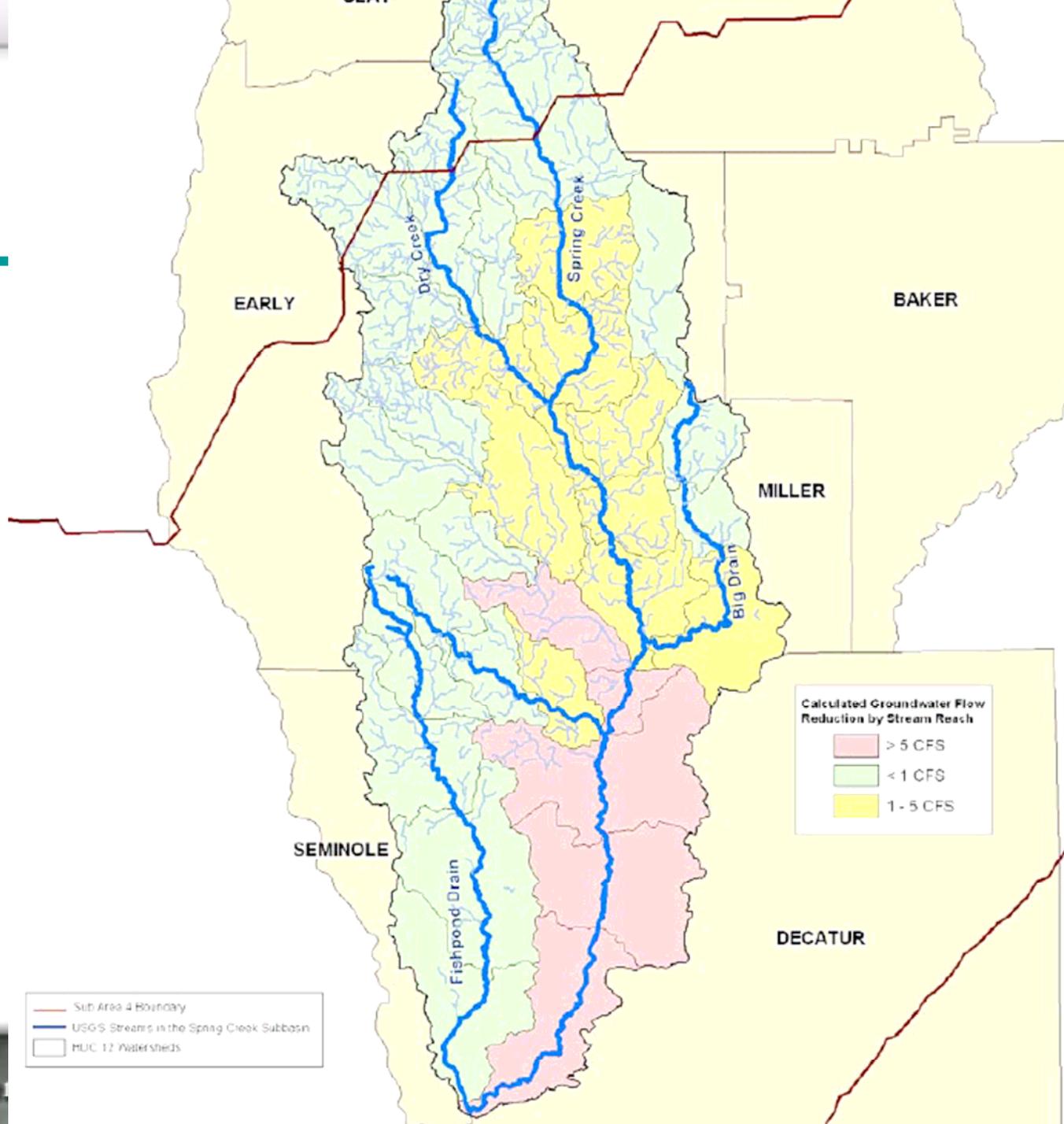
Suwannee River, Lower



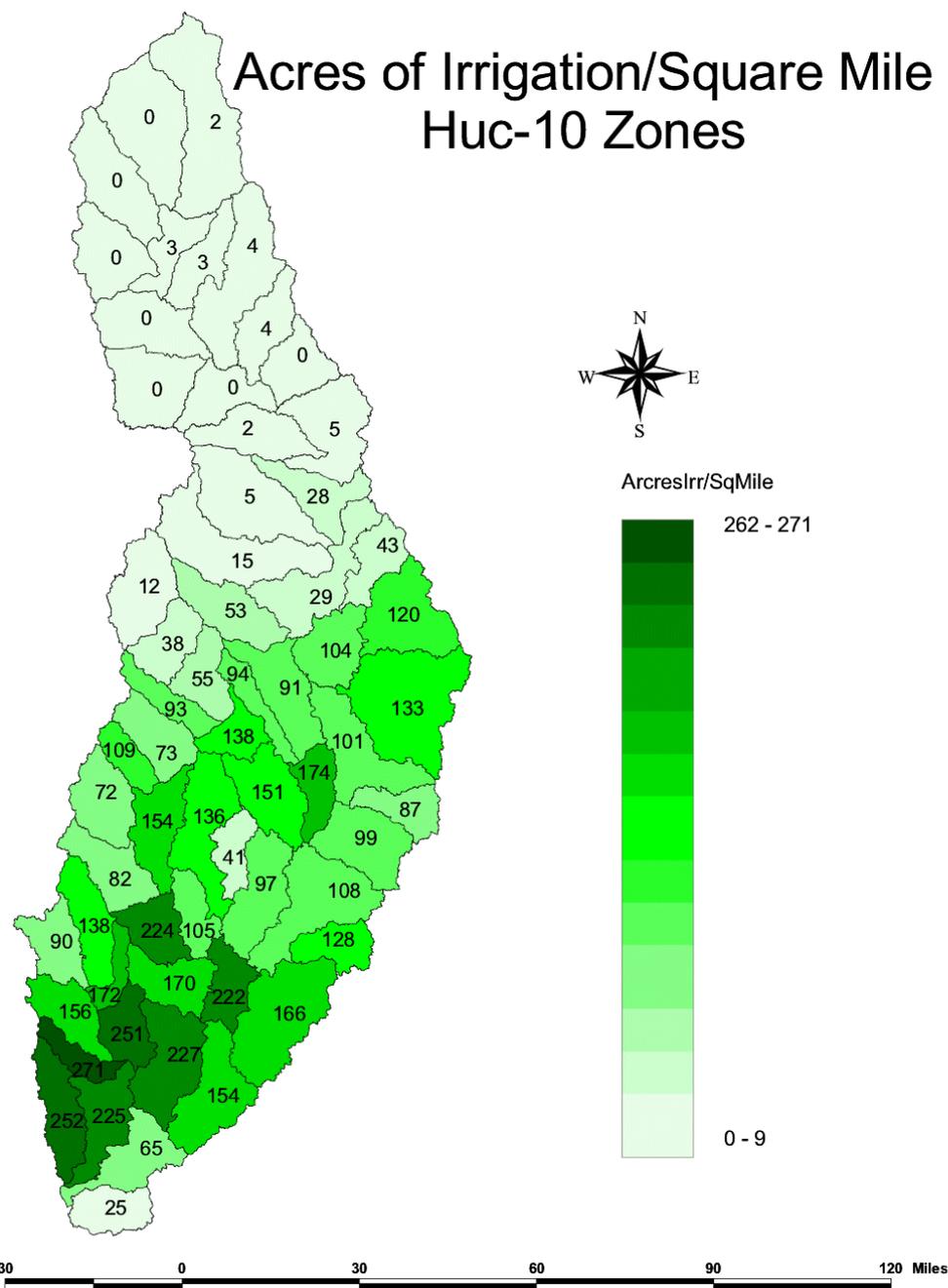




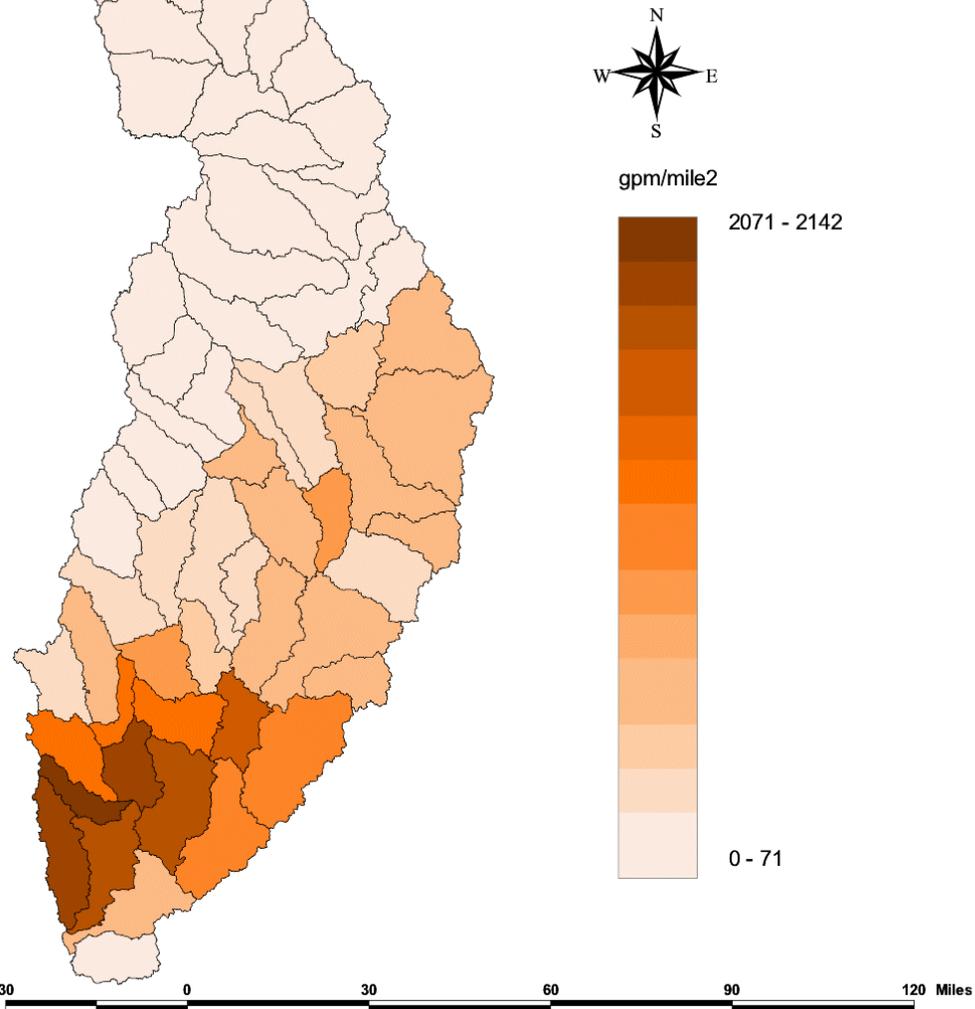




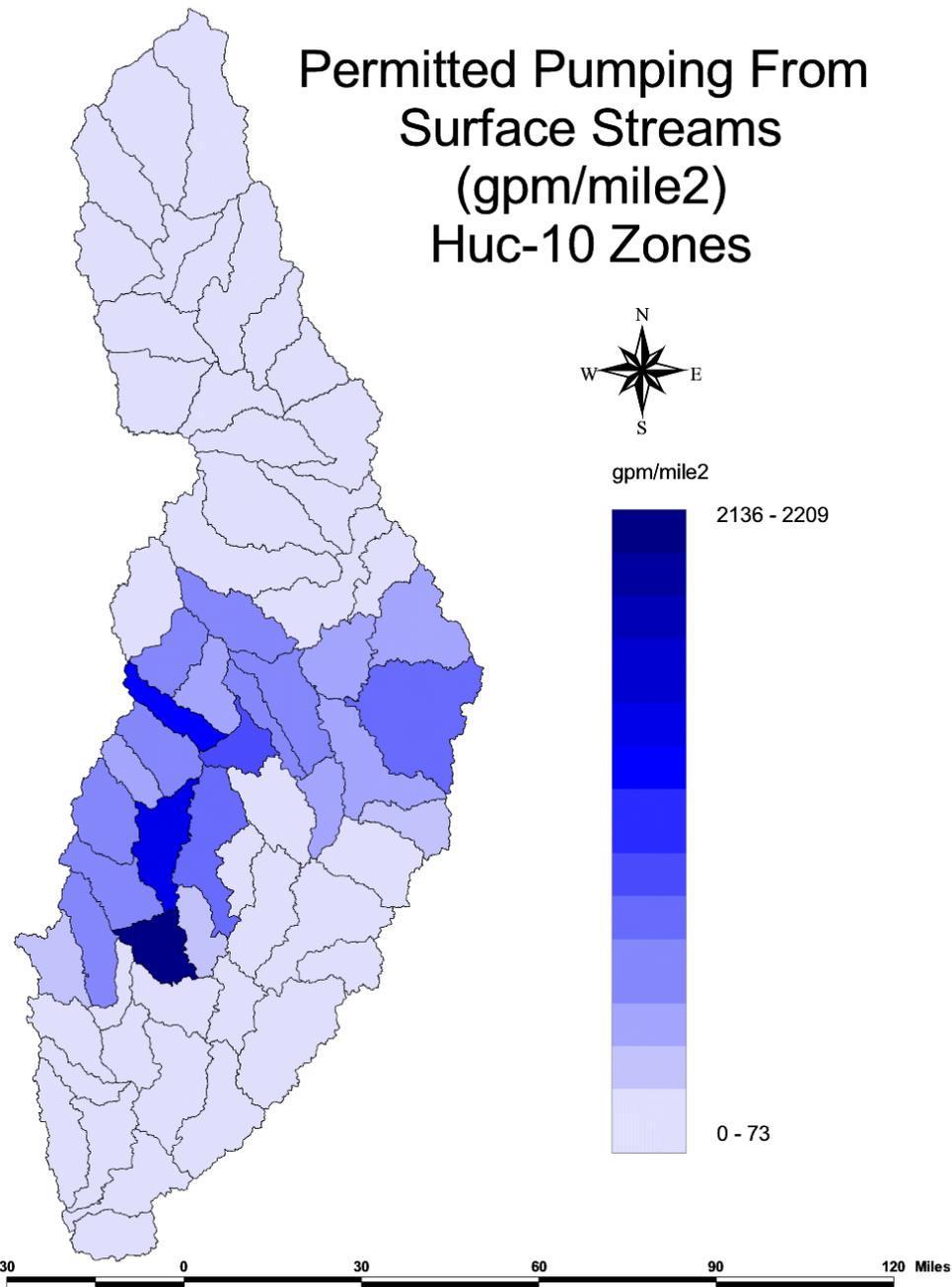
Acres of Irrigation/Square Mile Huc-10 Zones



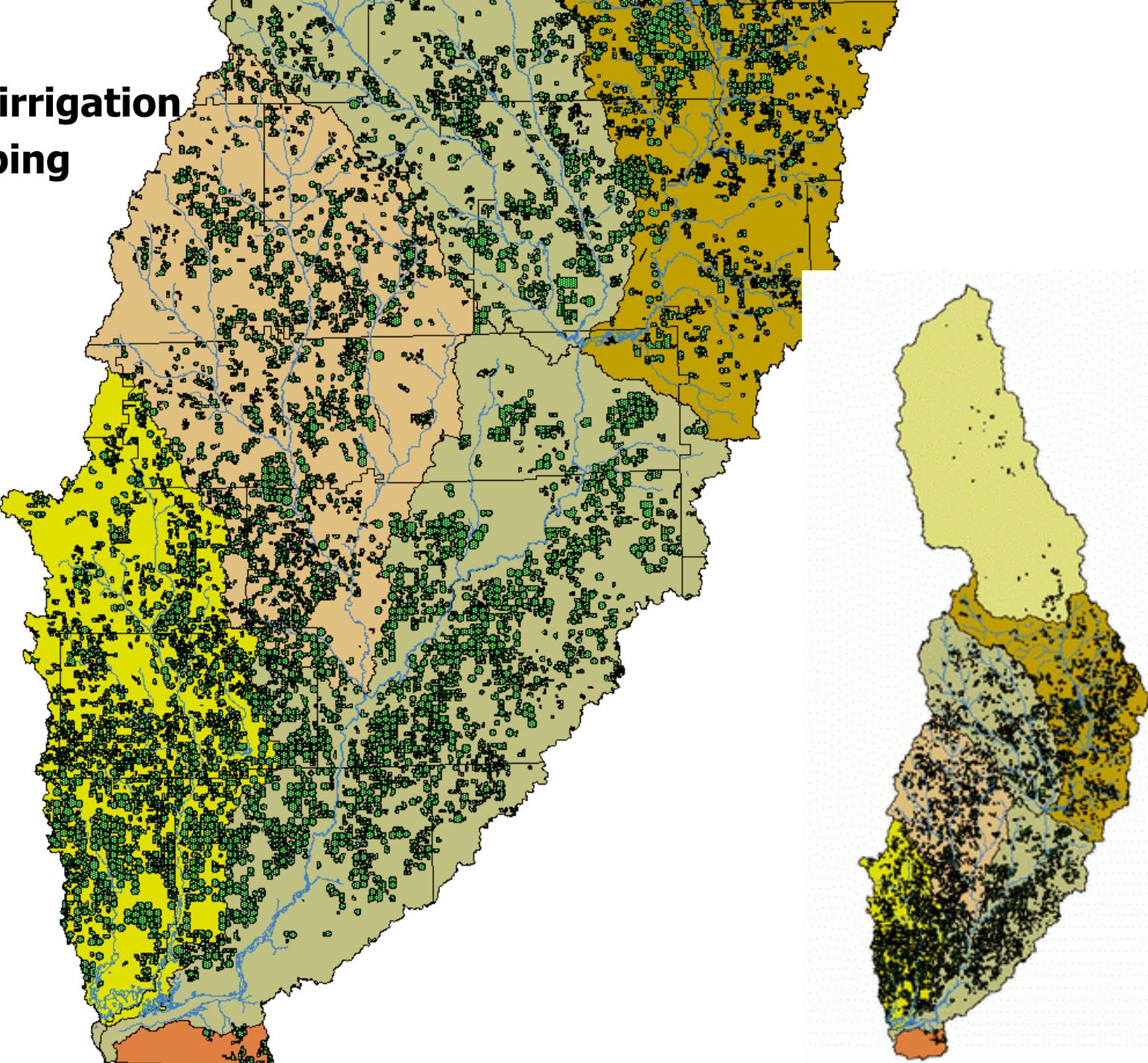
Permitted Pumping From Wells (gpm/mi²) Huc-10 Zones



Permitted Pumping From Surface Streams (gpm/mile²) Huc-10 Zones

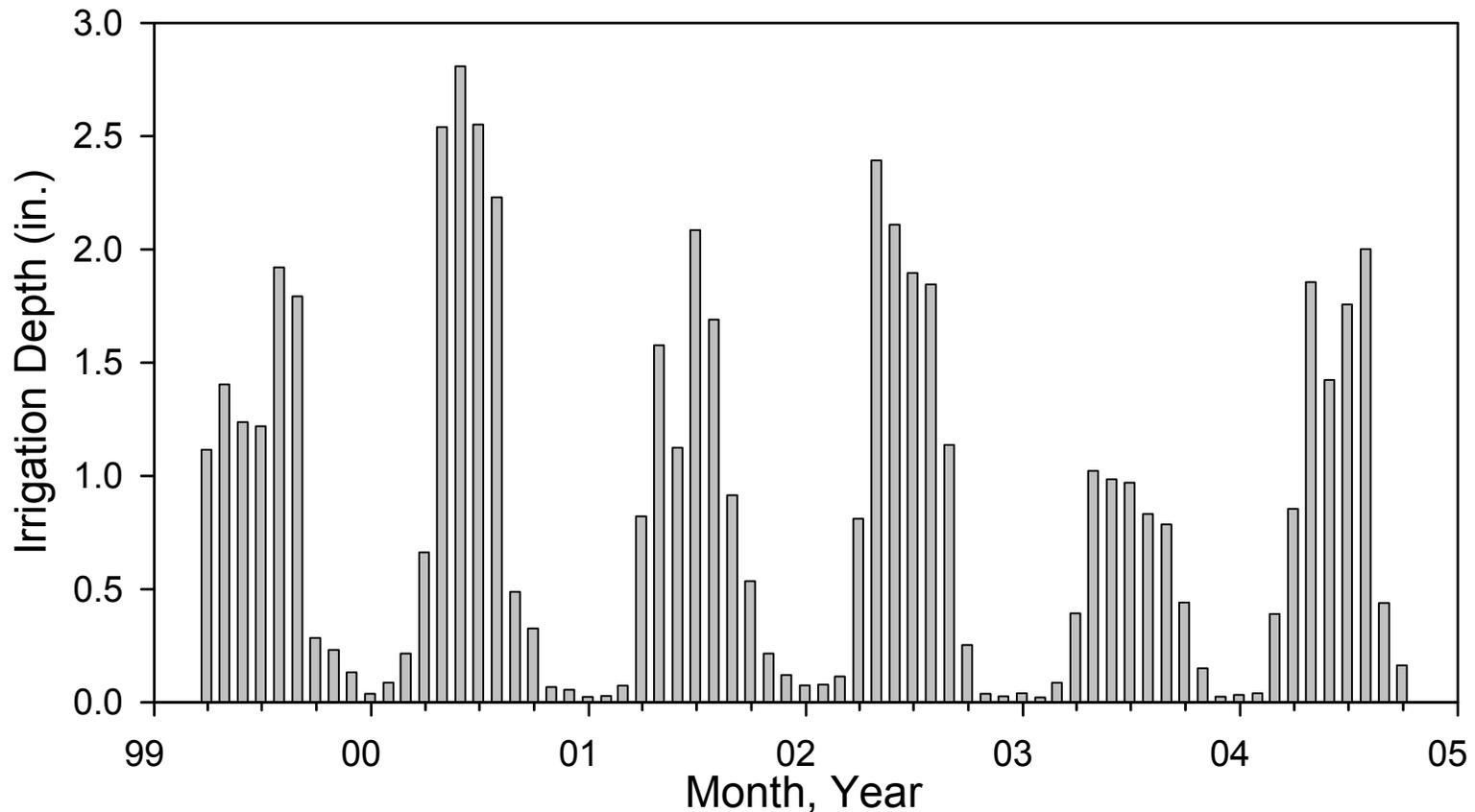


Flint irrigation mapping

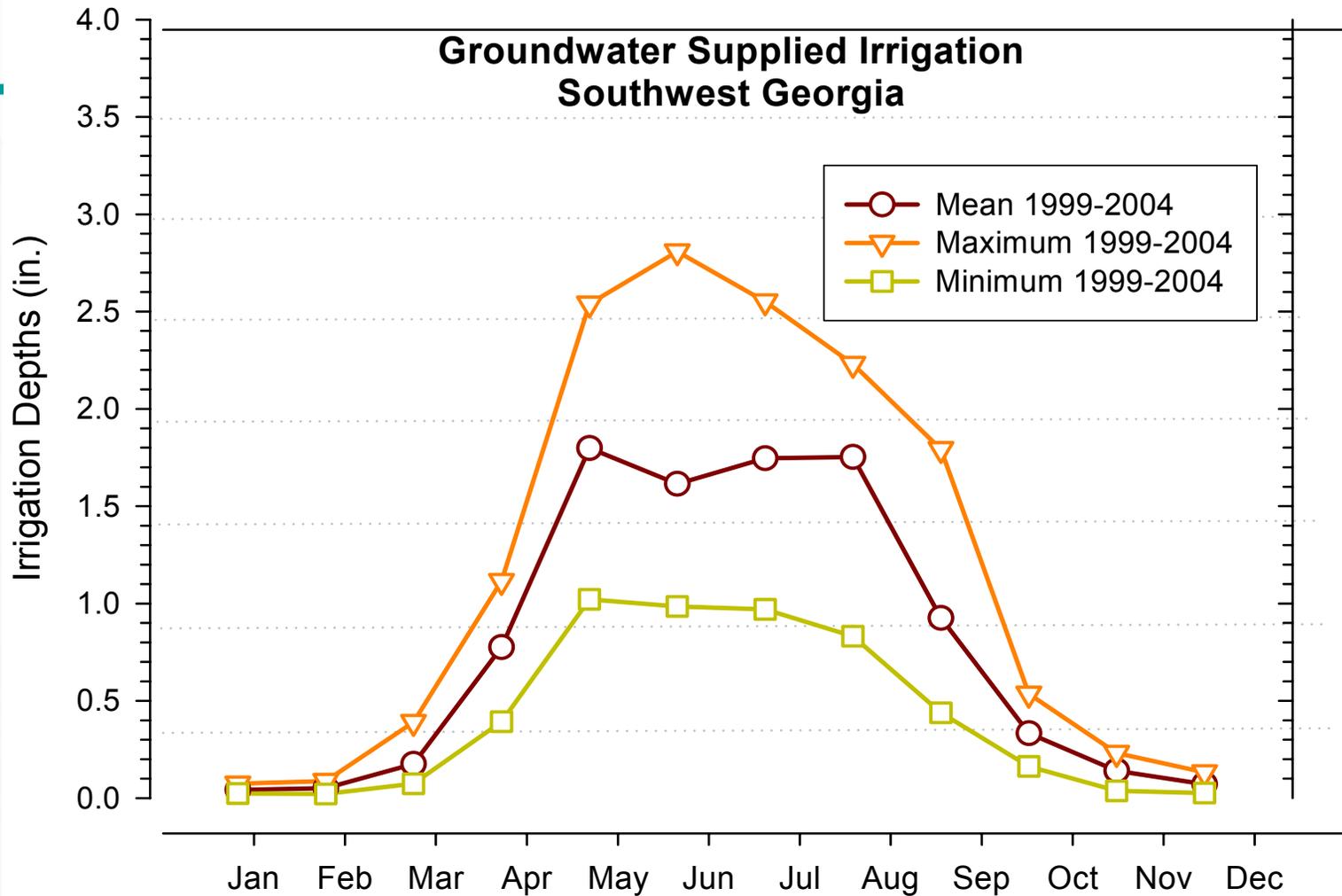


Mean Monthly Irrigation Depths:

Flint irrigation amounts, Groundwater Supplied Systems



Mean Monthly Irrigation Depth: Extremes

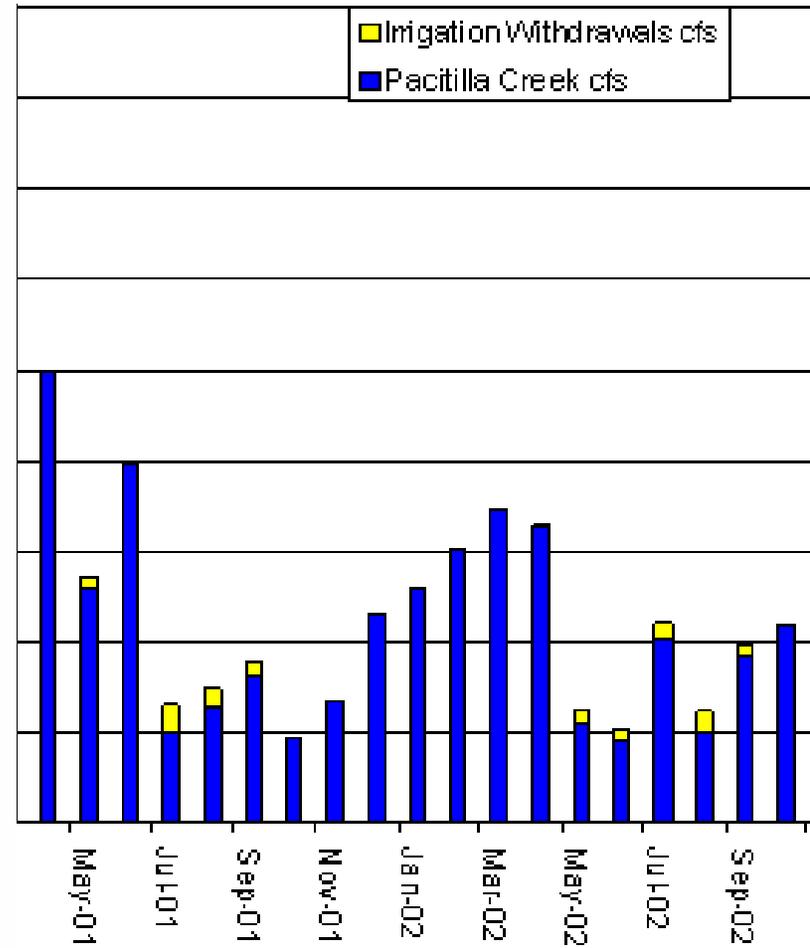
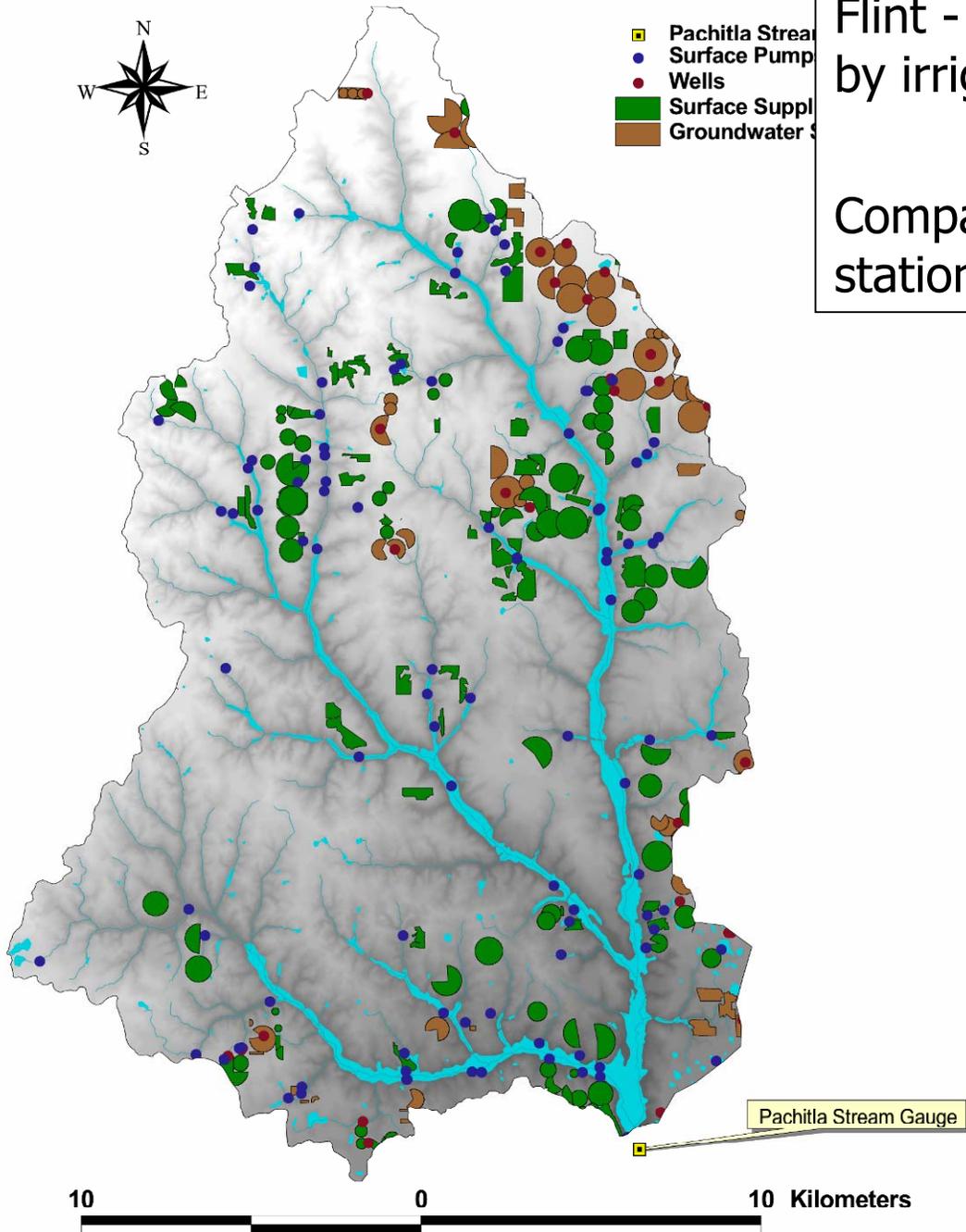


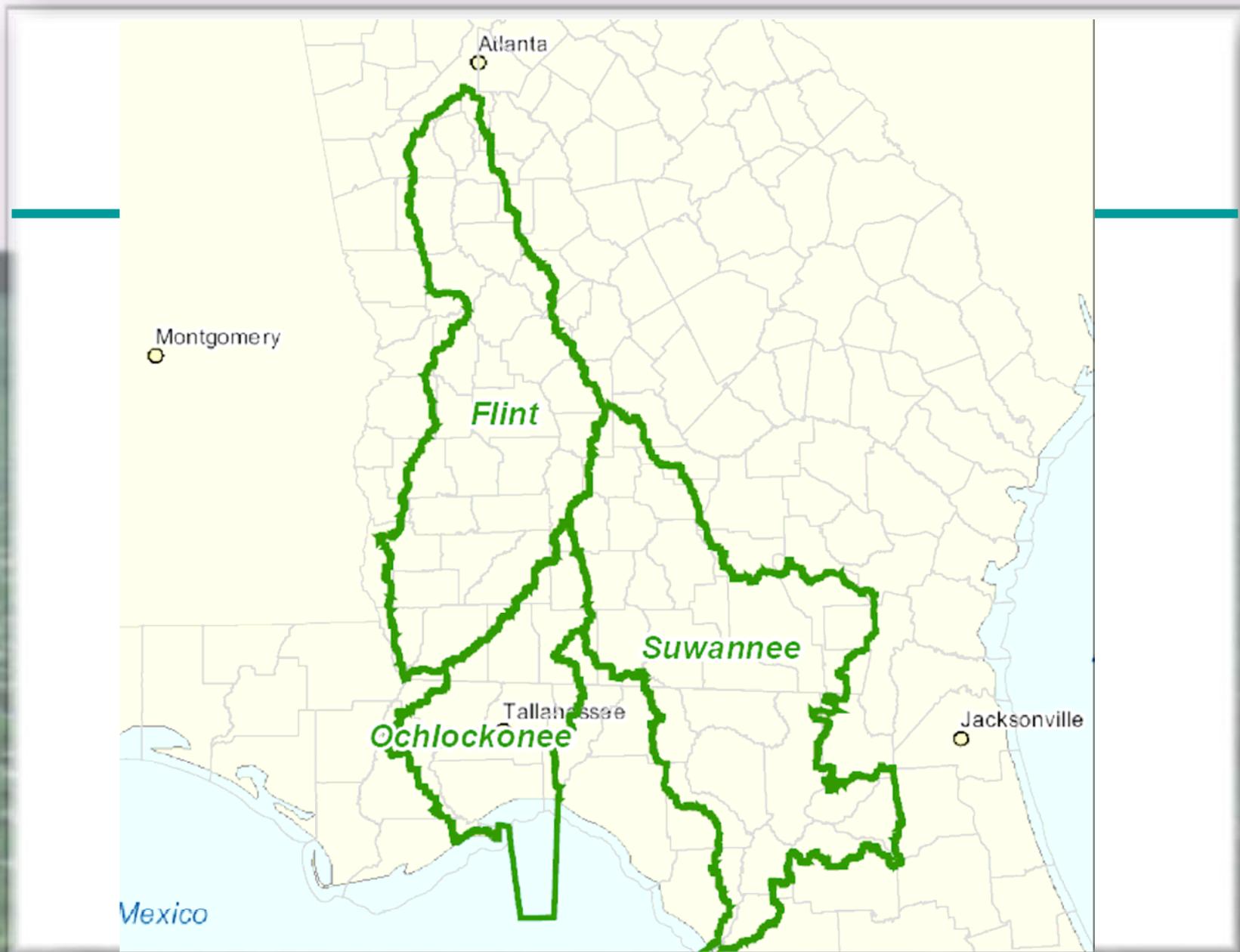


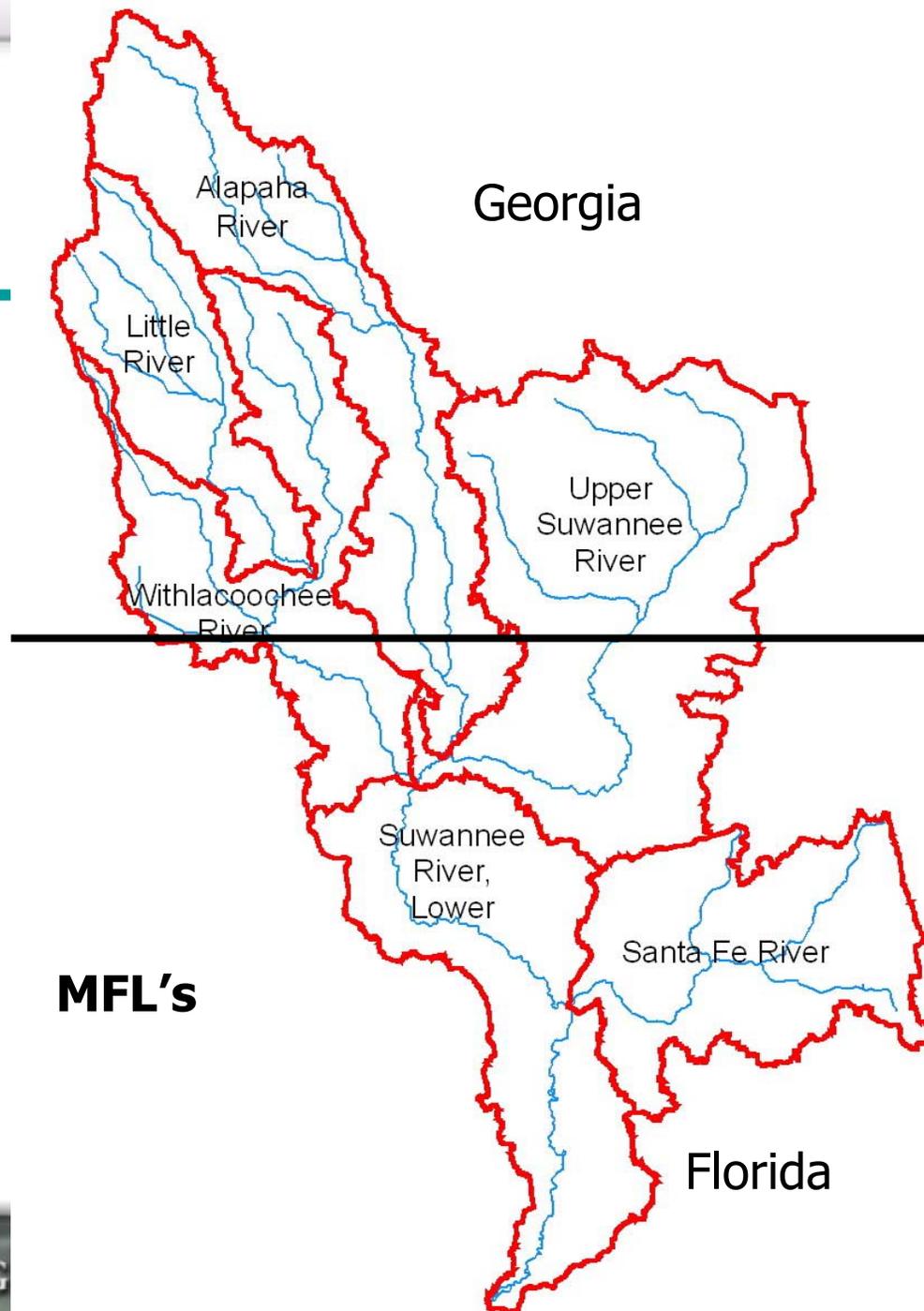
- Pachitla Stream Gauge
- Surface Pump
- Wells
- Surface Supply
- Groundwater Supply

Flint - Detailed hydrology as impacted by irrigation.

Compared with hydrographs at gauging stations to assess accuracy.







Summary

- Regional planning has led to regional laws and rules for agriculture
 - Flint Basin; Coastal Zone
 - Difficult to administer with one state permitting and monitoring agency
 - Confusing to farmers

Summary

- Upper Suwannee Basin is an area of importance to irrigated production
 - Stream flow monitoring minimal
 - Ag water withdrawals only generally known
 - Pressure from within and without Georgia to come up with a Statewide plan to include Suwannee
 - Physical differences, as well as growth patterns, and water use patterns suggests that it too will need a separate set of plans and eventually separate water laws and rules.