Upper Flint Council Meeting

December 2, 2022

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WATER PLANNING
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Agenda

Objectives:

1) Review water quality assessment results
2) Review and discuss committee reports from Water Quality and Quantity Committees
3) Discuss outstanding committee issues in break-out session (Water Quality/Water Quantity)
4) Discuss plan revisions that need input from the full Council
5) Consider revisions to recommendations from Inter-Council Coordination Committees
6) Discuss schedule for remaining plan revisions and meetings
7) Learn about seed grant proposal from region

9:45	Registration
10:00	Welcome, Agenda Review – *Kristin Rowles (GWPPC)*
10:10	Chair's Report & Seed Grant Proposal from Region – *Chairman Chase*
10:20	Summary from Last Meeting – *Courtney Cooper (GWPPC)*
10:30	Surface Water Quality Assessment Results – *Corinne Valentine & Steve Simpson (B&V)*
11:15	Water Quality Committee Report – *Barry Blount (Council Member)*
11:30	Tallapoosa Surface Water Quantity Assessment Results, Alternative Population Scenario, and Follow-up on West Point Results – *Kristin Rowles (GWPPC) and Wei Zeng (EPD)*
12:00	Group Photo
12:15	Lunch
1:00	Forecast Dashboard Update – *B&V*
1:10	EPD Update – *Kelli-Ann Schrage (GAEPD)*
1:20	Water Quantity Committee Report
1:35	Inter-Council Coordination Committee Report – *Beth English (Council Member)*
1:50	Break-Out Sessions: Water Quality/Water Quantity
2:40	Break
2:50	Report Back from Small Groups & Plenary Discussion of Plan Revisions
3:30	Next Steps in Plan Review and Revision – *Meagan Szydzik (GWPPC)*
3:35	Public Comment
3:45	Adjourn

Introductions

DONALD CHASE

Council Chair for:
Upper Flint
dgmkchase@gmail.com
(478) 472-7726

JOHANNA SMITH
Georgia EPD

Liaison for:
Upper Flint
Johanna.Smith@dnr.ga.gov
(470) 632-3158

STEPHEN SIMPSON
Black & Veatch

Council Advisor for:
Upper Flint
simpsonsl@bv.com
(770) 521-8105

CORINNE VALENTINE
Black & Veatch

Council Advisor for:
Upper Flint
valentinec@bv.com
(770) 752-5256

JASON HOWARD
Black & Veatch

Council Advisor for:
Upper Flint
howardje@bv.com
(770) 521-8133

KRISTIN ROWLES
GWPPC

Council Lead for:
Upper Flint
krowles@h2opolicycenter.org
(404) 822-2395

MARK MASTERS
GWPPC

Council Advisor for:
Upper Flint
mmasters@h2opolicycenter.org

MEAGAN SZYDZIK
GWPPC

Council Advisor for:
Upper Flint
mszydzik@h2opolicycenter.org
(770) 543-8497

COURTNEY COOPER
GWPPC

Council Advisor for:
Lower Flint-Ochlockonee
ccooper@h2opolicycenter.org

Upper Flint Council Members

Name	City	County
Brian Belcher	Ellaville	Schley
Barry Blount	Americus	Sumter
Michael Bowens	Vienna	Dooly
Gene Brunson	Reynolds	Taylor
Thomas Burnsed	Meansville	Pike
Donald Chase, Chair	Oglethorpe	Macon
Brad Ellis	Vienna	Dooly
Beth English	Vienna	Dooly
Steve Fry	Williamson	Pike
Adam L. Graft	Americus	Sumter
Rodney H. Hilley	Molena	Pike
Jack Holbrook (Alternate)	Preston	Webster
Terrell Hudson	Unadilla	Dooly
Raines Jordan, Vice Chair	Talbotton	Talbot
Bob Melvin	Oglethorpe	Macon
Kenneth L. Murphy	Gay	Meriwether
Sen. Ed Harbison (Ex-Officio)		

Name	City	County
Lamar Perlis	Cordele	Crisp
Gary Powell	Buena Vista	Marion
Jim Reid	Americus	Sumter
Gordon Rogers	Talbotton	Talbot
Charles Rucks	Brooks	Spalding
Bill Sawyer	Ellaville	Schley County
Walter E. (Butch) Turner	Reynolds	Taylor
Brian Upson	Griffin	Spalding
George (Teel) Warbington (Alternate)	Vienna	Dooly
Rodney Wilson	Zebulon	Pike
Benjamin (Joel) Wood	Cordele	Crisp
Ben Haugabook		Macon

Chair’s Report

Presented by Chairman Chase

Summary from Last Meeting

Courtney Cooper

August 24 Meeting Overview

- Reviewed surface water availability assessment results
- Reviewed revisions to management practices and recommendations
- Considered revisions to recommendations from Plan Review & Inter-Council Coordination Committees

Surface Water Quality Assessment Results

Corinne Valentine & Steve Simpson

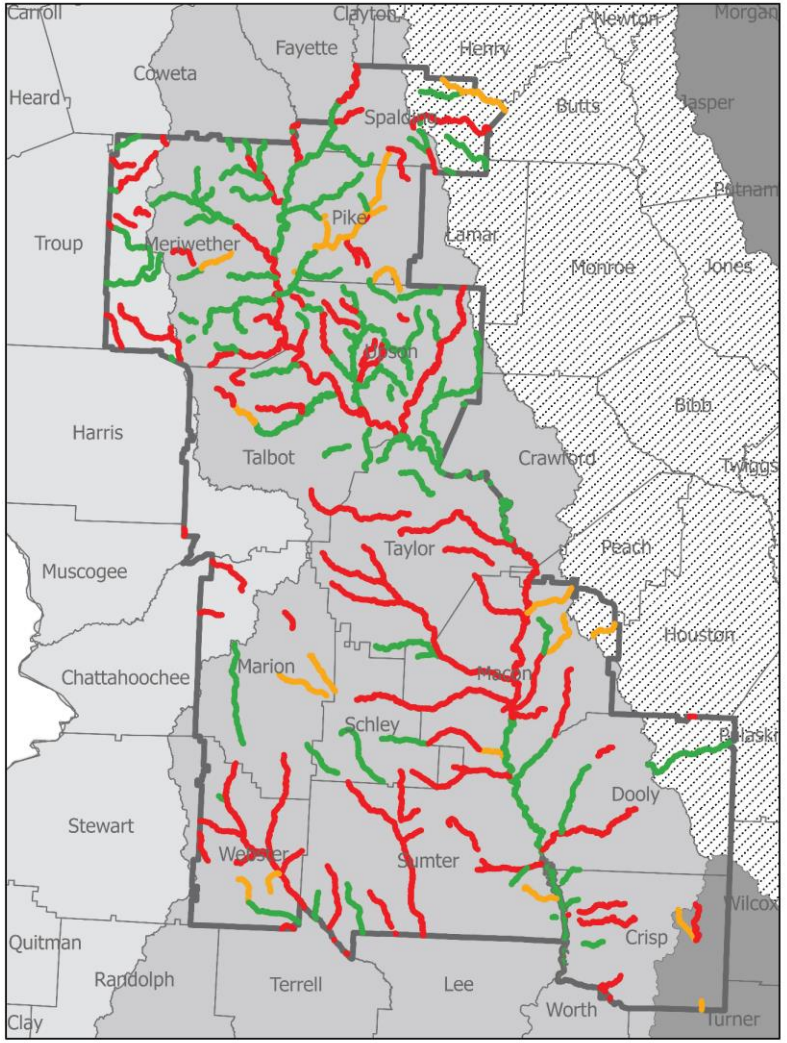
Water Quality Goals and Objectives

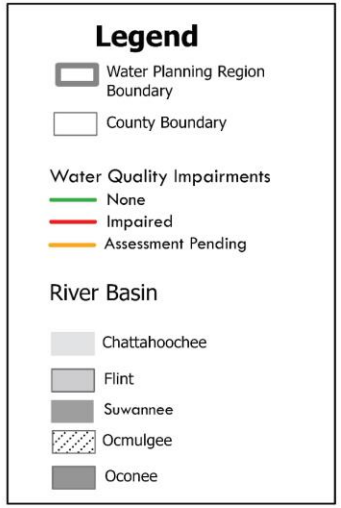
- Section 3.2.3 – Surface Water Quality
  - Covers existing water quality
- Section 3.3.1 - 303(d) List and TMDLs
  - Documents assessed stream segments meeting/not meeting designated uses
- Section 5.3 Surface Water Quality
  - Compares current and future projected differences in water quality
- Section 6.2 – Selected Water Management Practices
  - WQ1 through WQ-5
- Section 6.3 Recommendations to the State
  - IN-1, IN-11, WP-1

Water Quality Overview

- Impaired Waters Identification (305(b)/303(d) list
  - Based on actual water quality test data from specific stream reaches
  - Addressed by Total Maximum Daily Loads and Implementation Plans
- Dissolved Oxygen Modeling (Assimilative Capacity)
  - Calculated under low flow, high water temperature, maximum permit flows and limits
  - Future conditions evaluated with revised permit limits
- Watershed Modeling
  - Current conditions calibrated based on water quality test data
  - Future conditions projected based on land use changes

Upper Flint Impaired Stream Segments



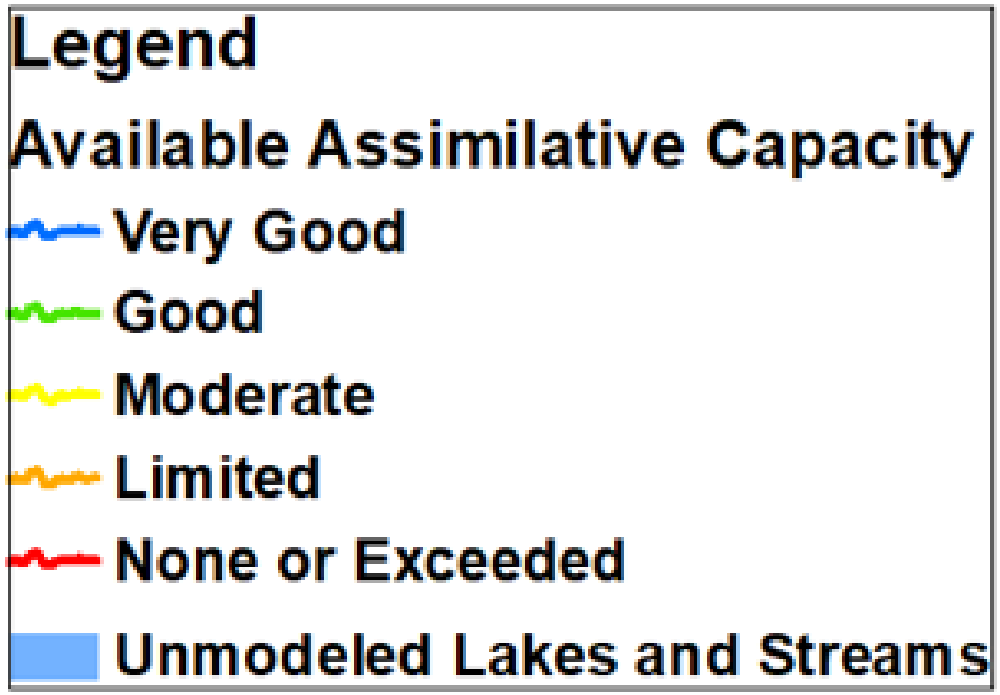


River Basin	Total River Miles Impaired in the Upper Flint Region			
Chattahoochee	0	21	0	28
Flint	21	363	47	192
Ocmulgee	0	12	0	13
Suwannee	0	0	0	5
Criterion Violated	DO	Fecal Coliforms	Metal	Other

Note: Stream reaches may have more than one criterion violated, i.e. the sum of DO, Fecal Coliform, Metals, and Other may be greater than the total number of stream miles listed as impaired. Metals include mercury trophic weighted residue value and fish consumptive guidance.

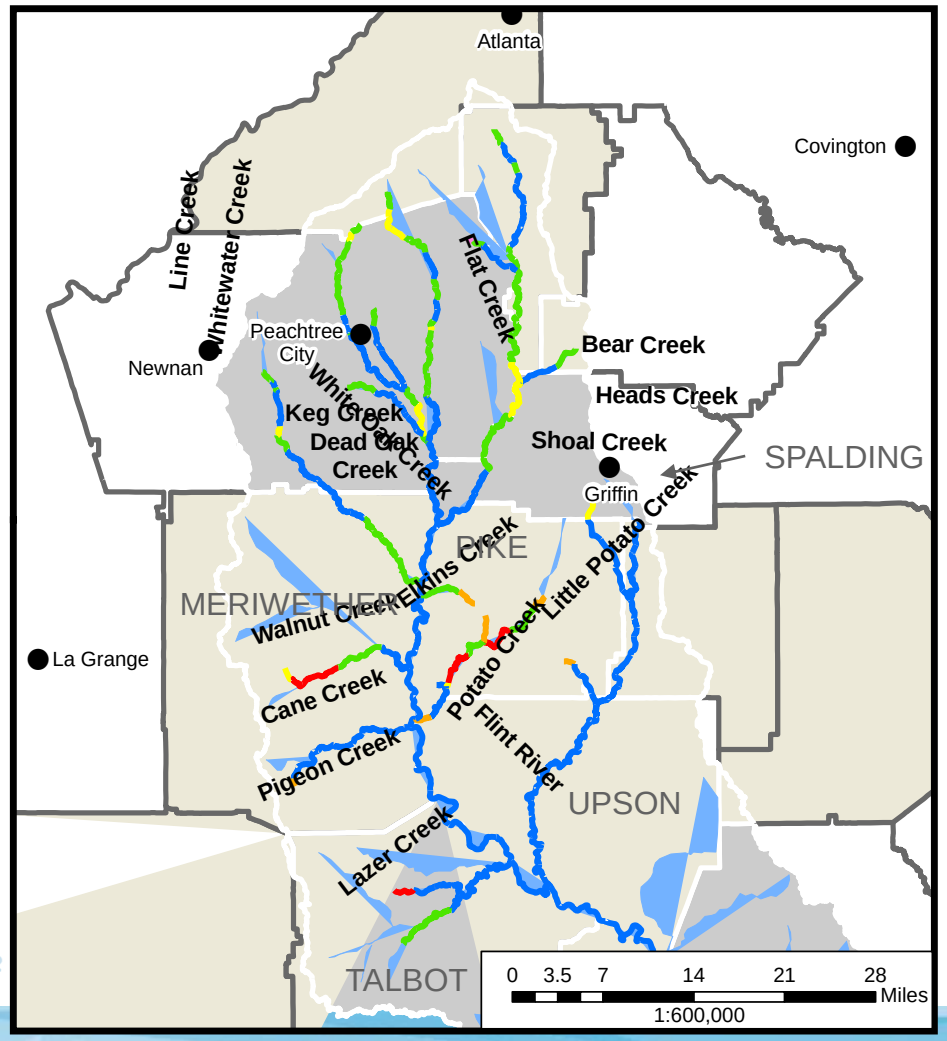
Dissolved Oxygen Modeling

- **Current Conditions**
  - 2019 Permit Limits
- **Future Conditions**
  - 2060 Assumed Permit Limits
- **DOSAG and Riv-1 Models:**
  - High temp, low flow conditions
- **Assimilative Capacity**
  - How DO levels compare to water quality standard of 5.0 mg/L (or natural conditions)

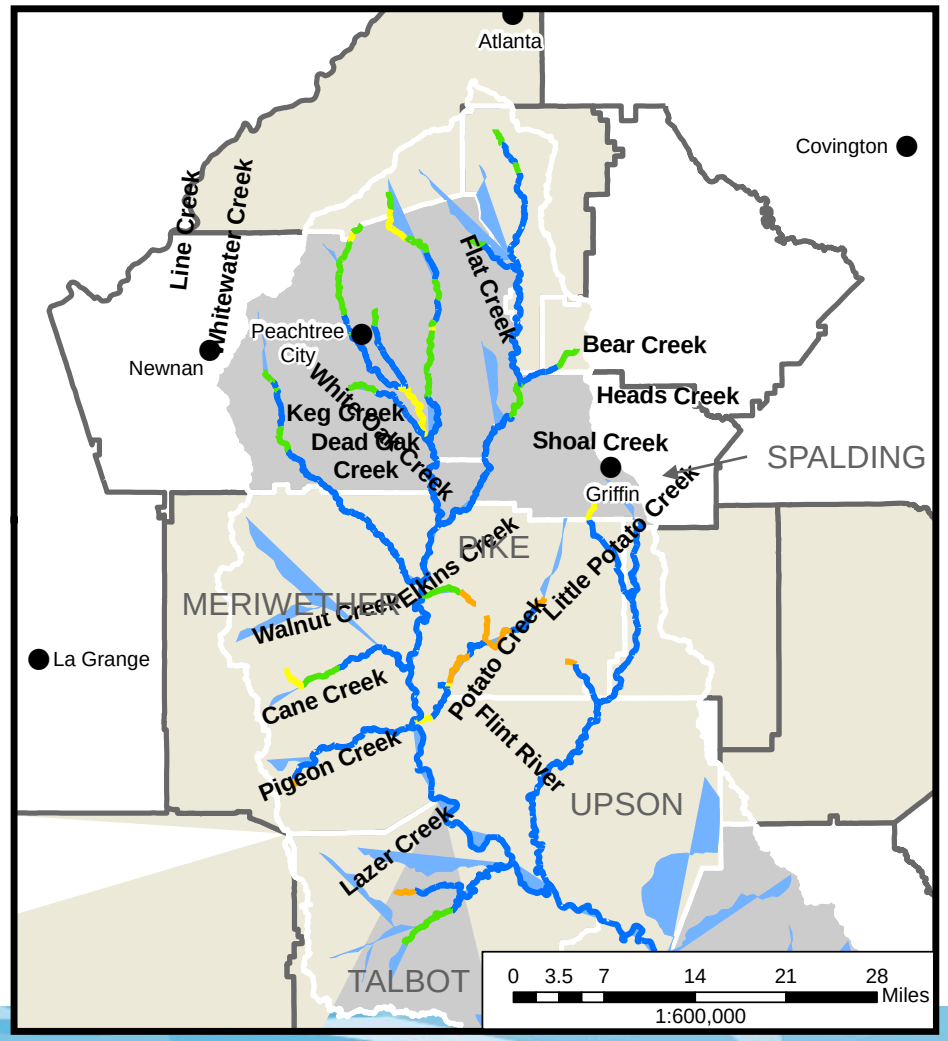


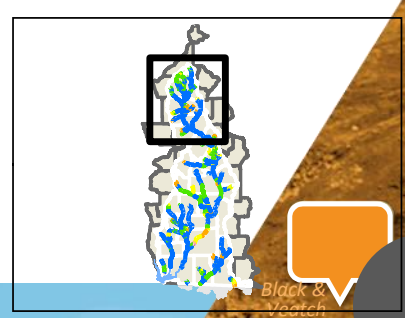
DO Conditions: Upper Flint Basin

Current Conditions



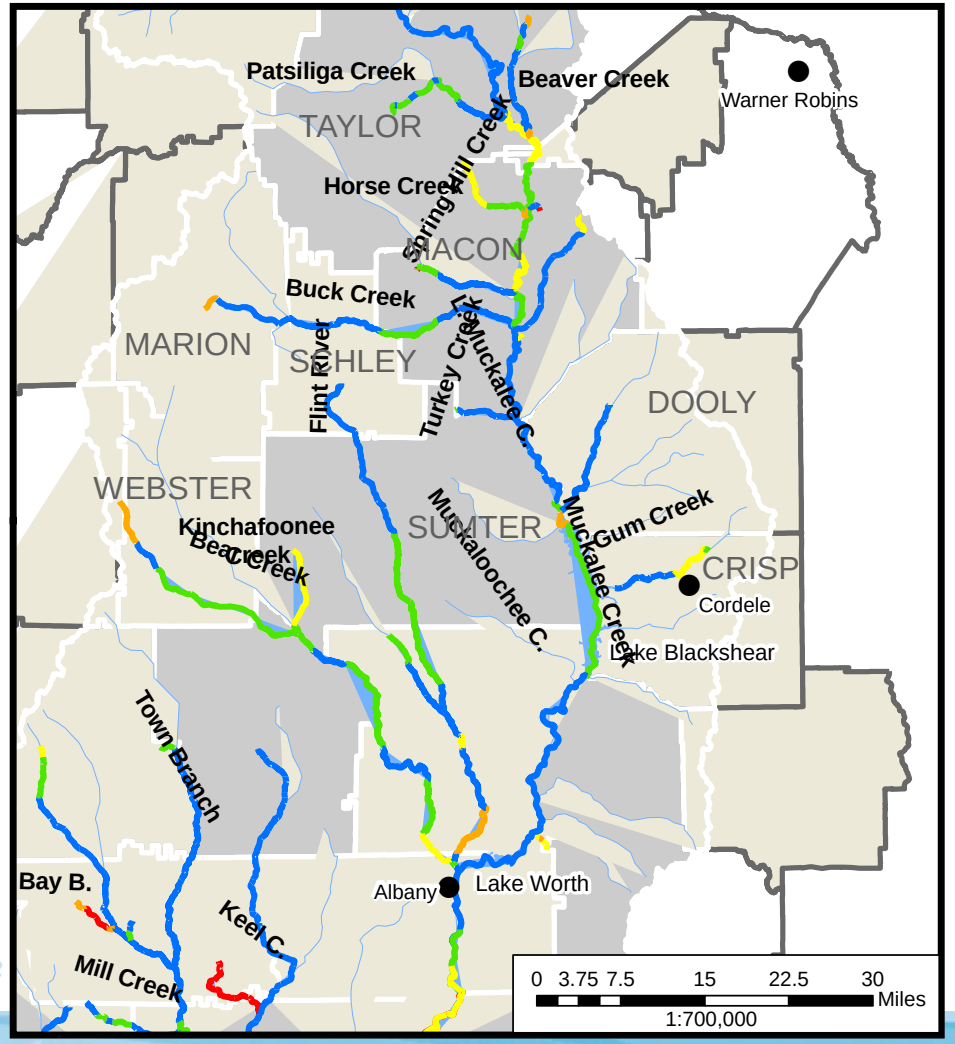
Future Conditions



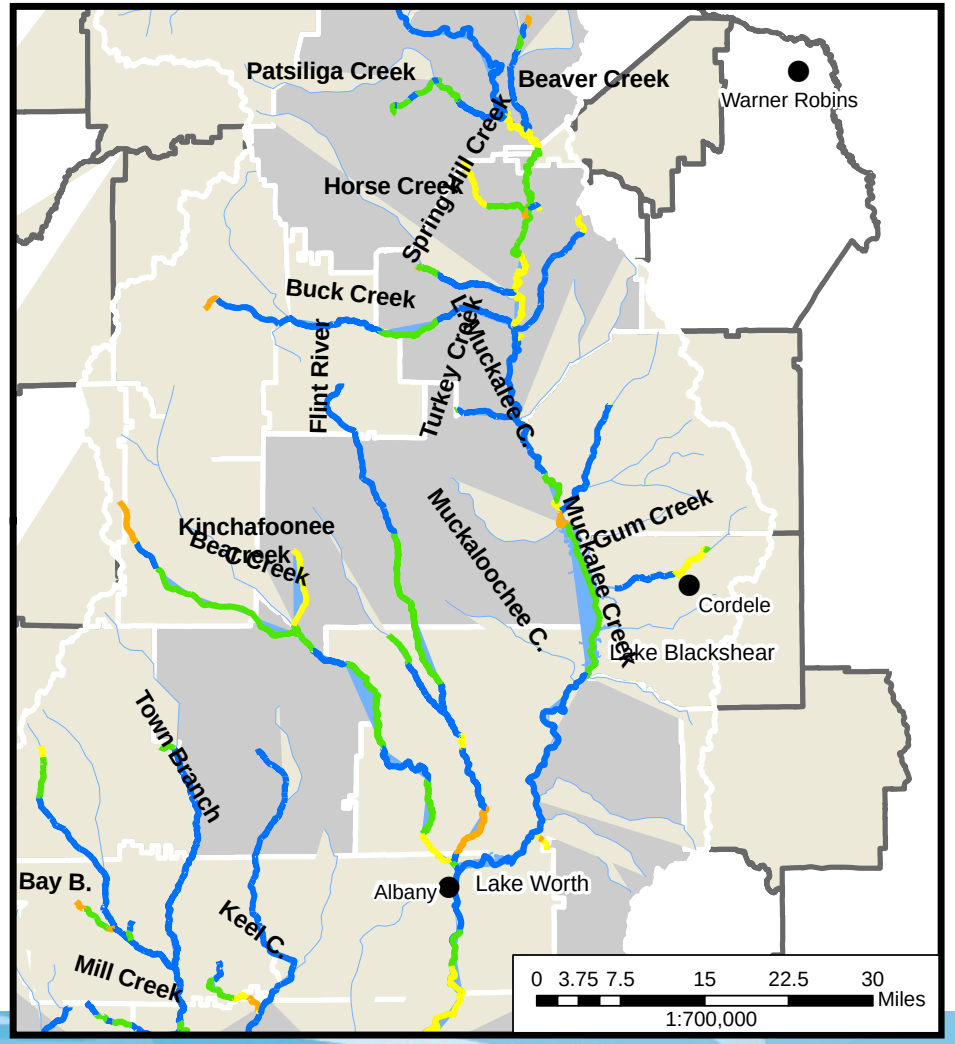


DO Conditions: Middle Flint Basin

Current Conditions



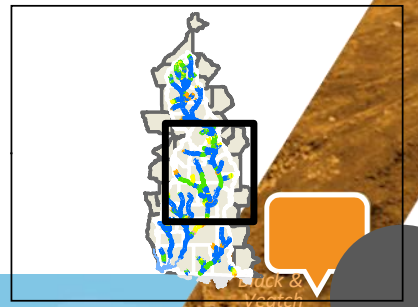
Future Conditions



Legend

Available Assimilative Capacity

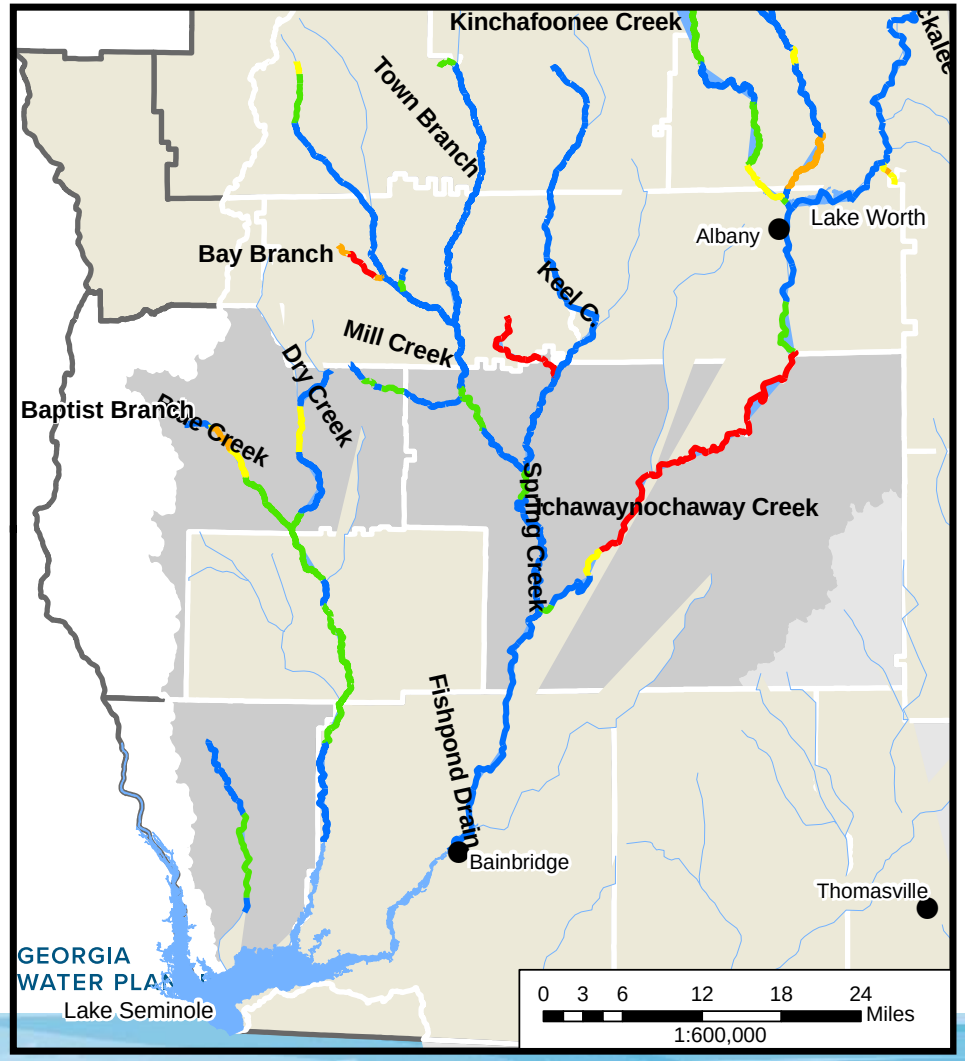
- Very Good
- Good
- Moderate
- Limited
- None or Exceeded
- Unmodeled Lakes and Streams



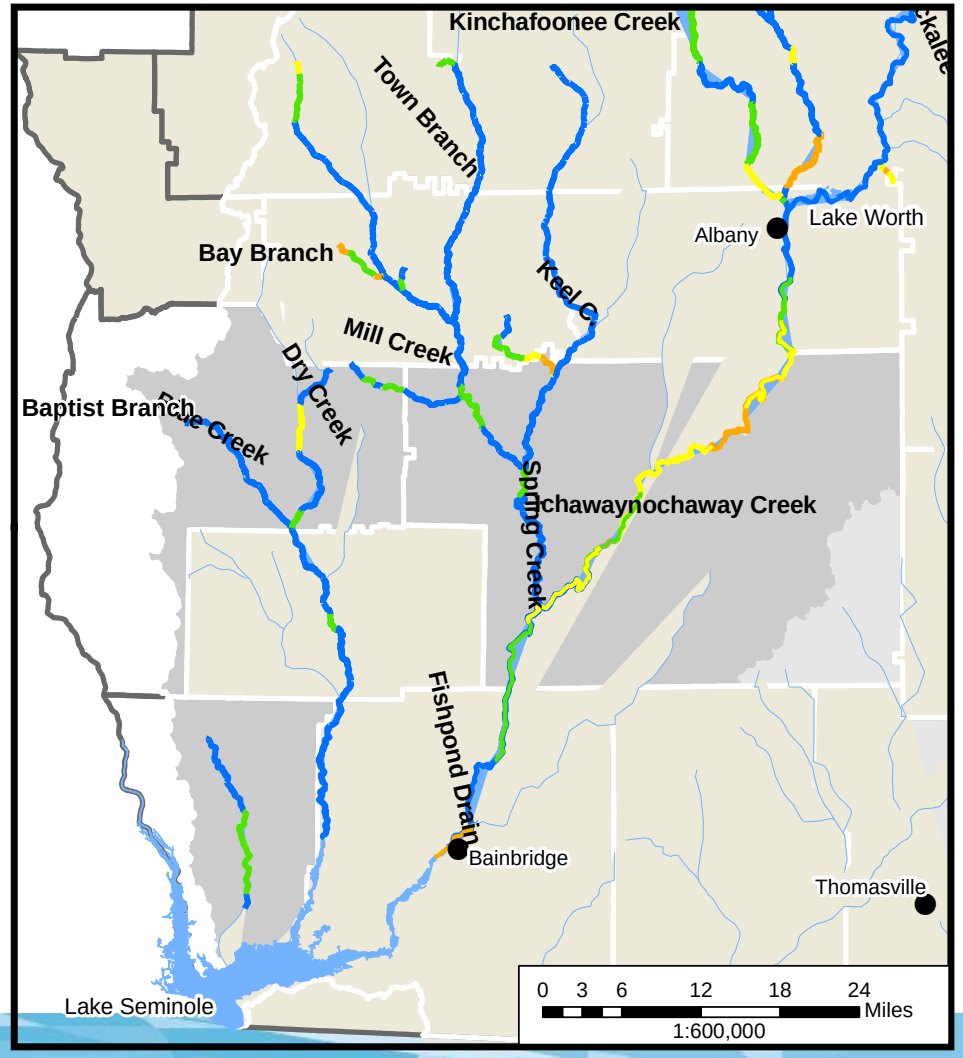
DO Conditions: Lower Flint Basin

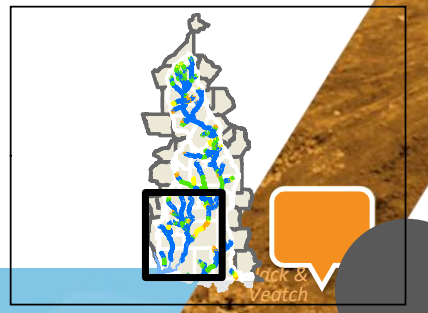
Legend
Available Assimilative Capacity
Very Good
Good
Moderate
Limited
None or Exceeded
Unmodeled Lakes and Streams

Current Conditions



Future Conditions





Assimilative Capacity Total Stream Miles

Current Conditions

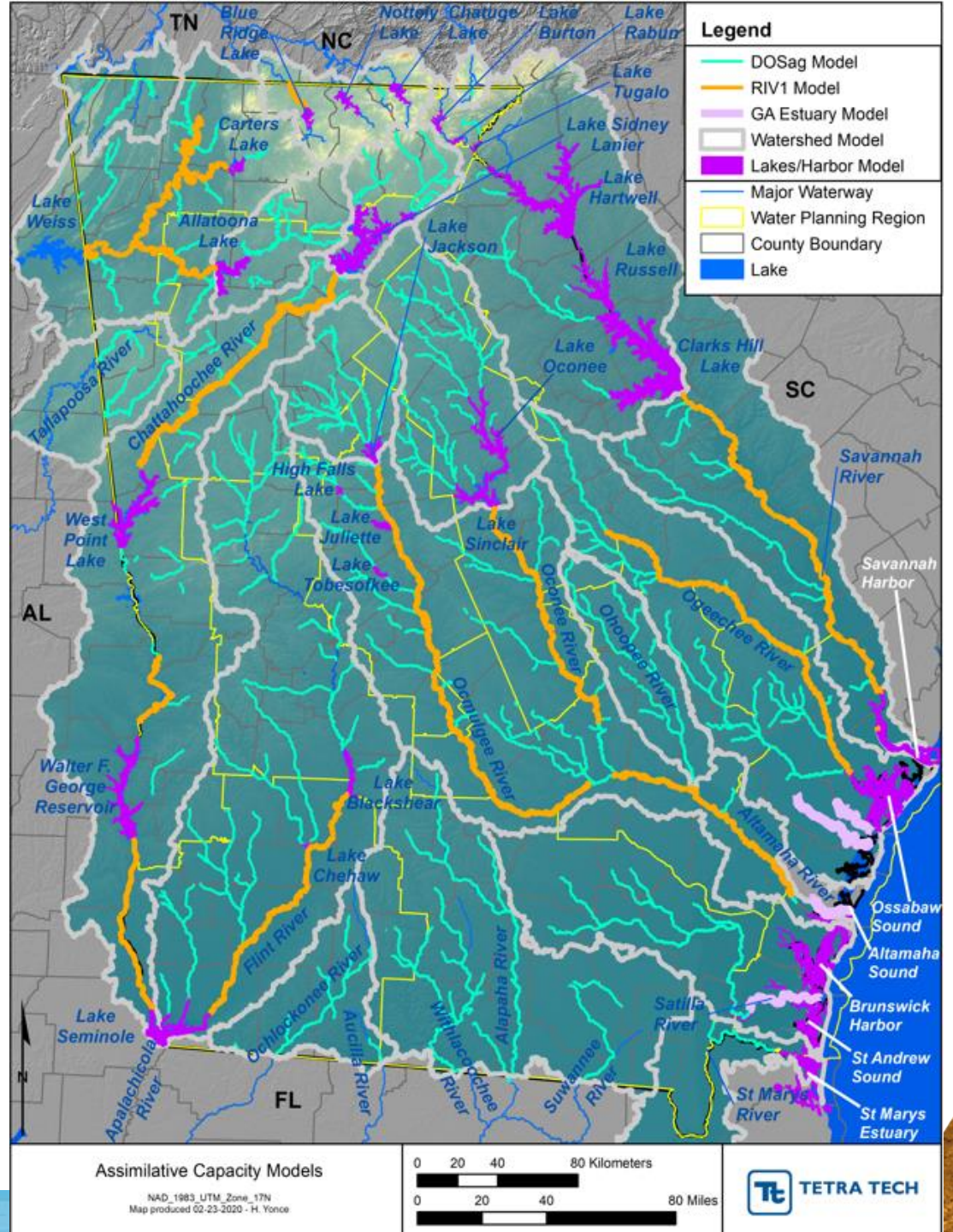
	Flint Basin-Available Assimilative Capacity (Total Mileage)					
Model Run	Very Good	Good	Moderate	Limited	At Assimilative Capacity	Exceeded
Current	664	267	72	32	0.51	56

Future Conditions

	Flint Basin-Available Assimilative Capacity (Total Mileage)					
Model Run	Very Good	Good	Moderate	Limited	At Assimilative Capacity	Exceeded
2060	712	229	102	43	0	0

Watershed Modeling

- **Model updates are underway**



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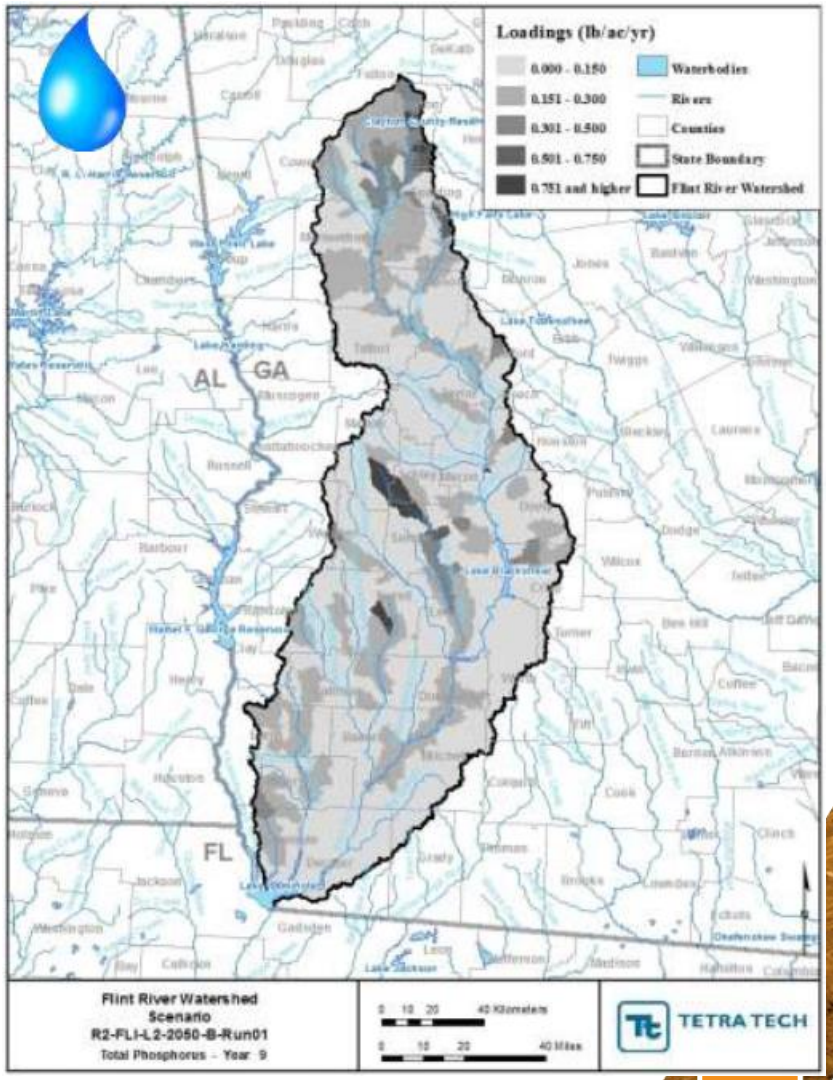
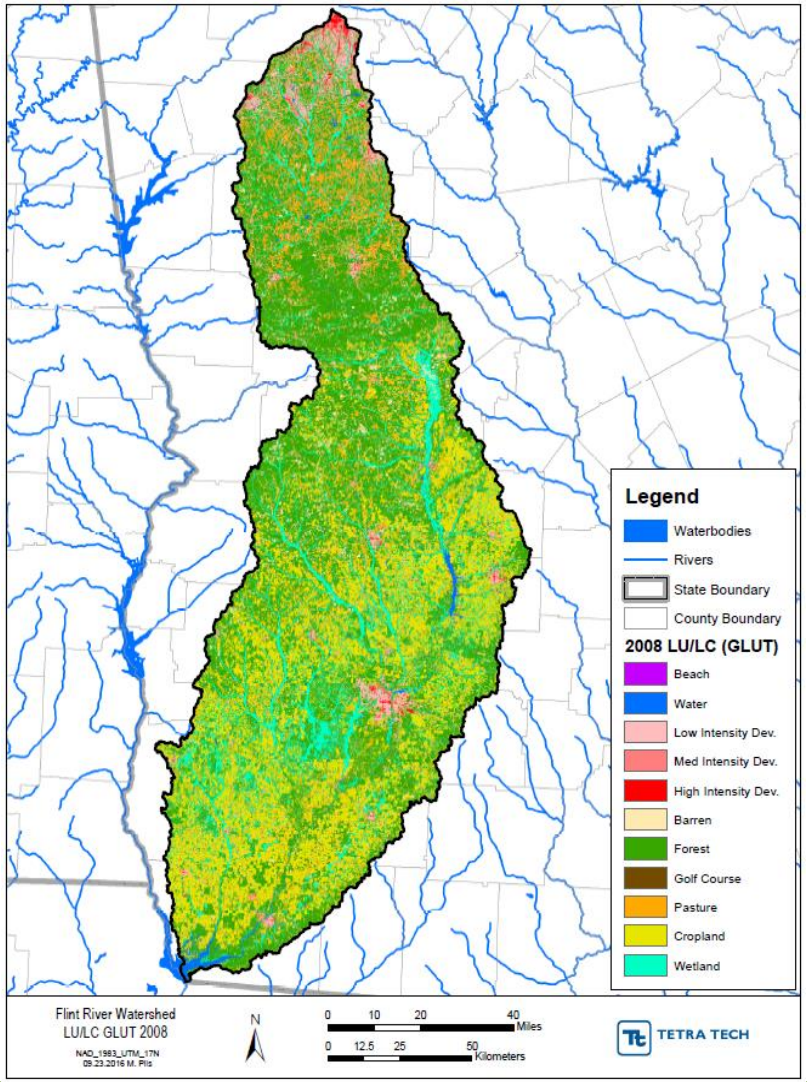
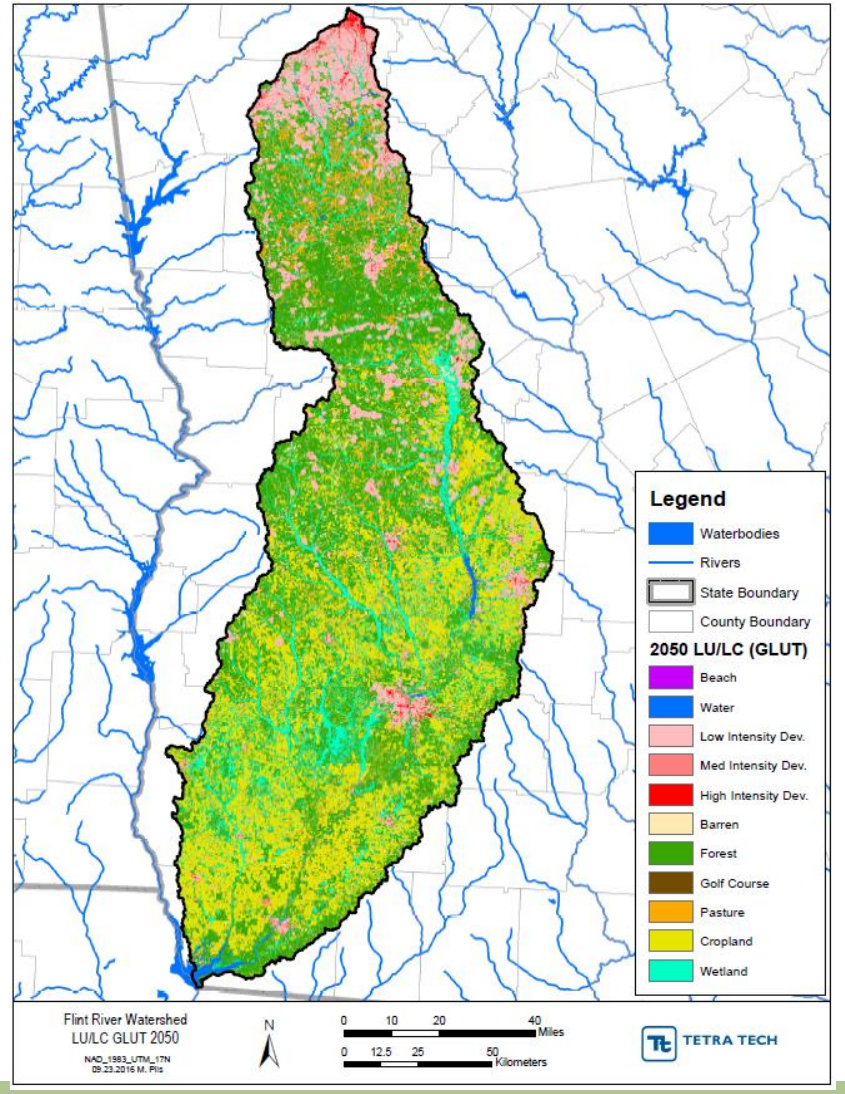
Watershed Modeling: Nutrients

- Current (2008) and future (2050) landuse
- Meteorological information (2001-2012)
- Point Source Discharges
  - Current 2014, Future 2050
- Heat maps
  - Loadings – by subbasin – under representative wet and dry years
  - Total Nitrogen
  - Total Phosphorus
- Increases under dry year conditions
  - Point source-driven
- Increases under wet year conditions
  - Nonpoint source-driven (land uses)

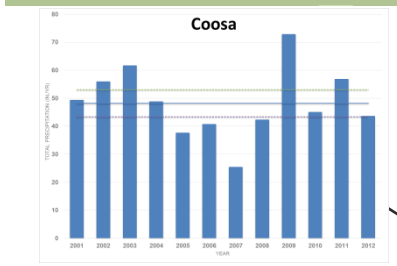


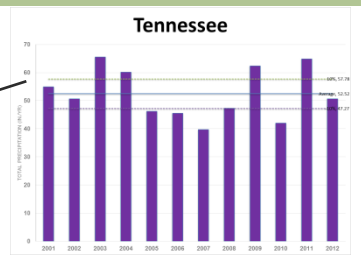
FLINT LAND USE CHANGES (2008-2050)

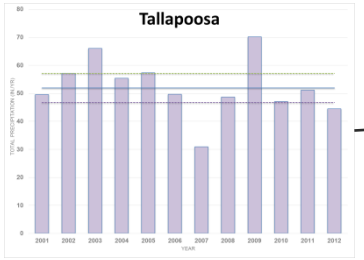


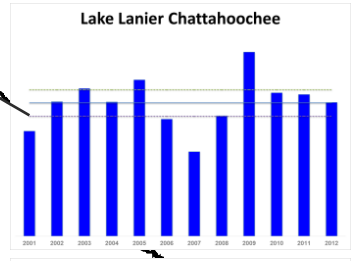


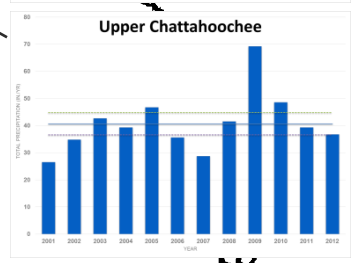
BASIN RAINFALL ANALYSIS

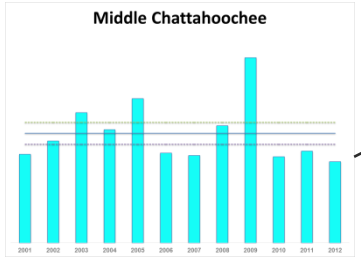


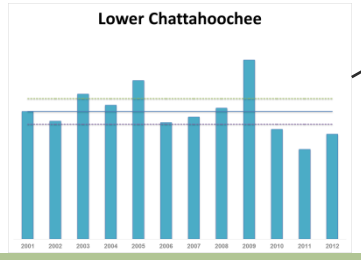


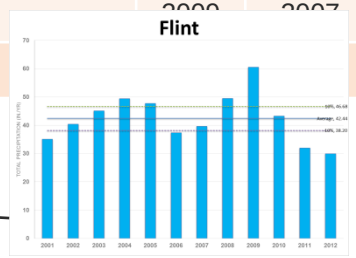


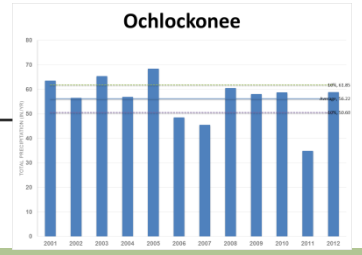






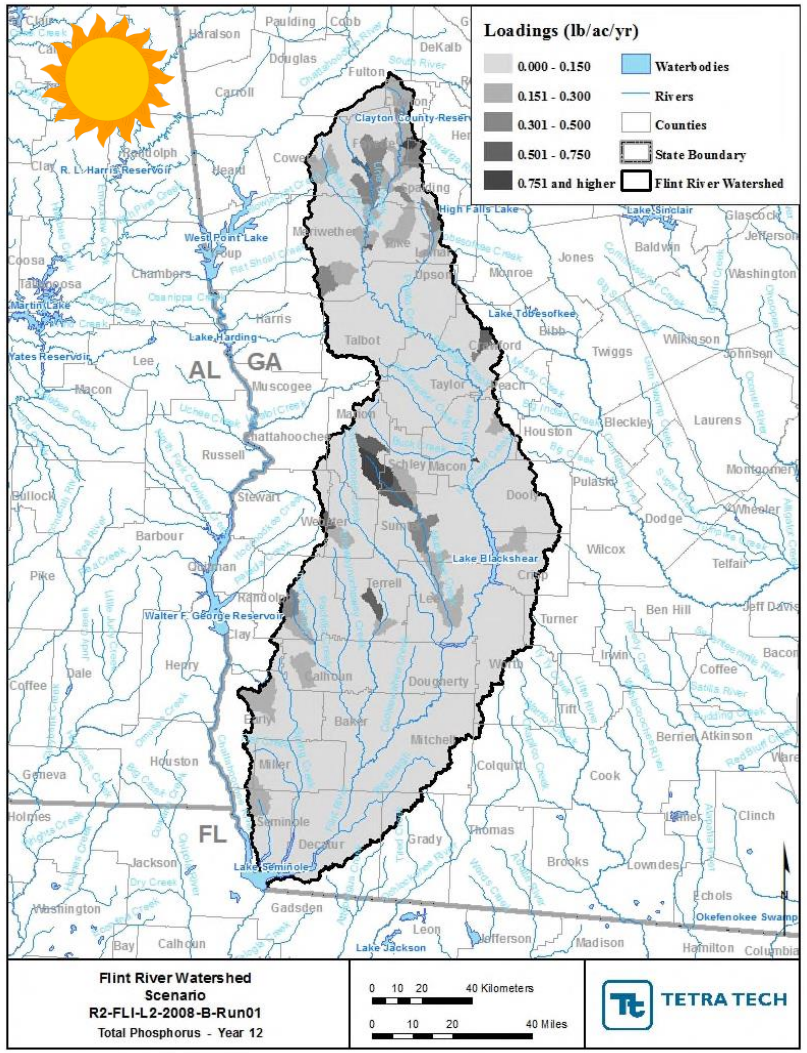


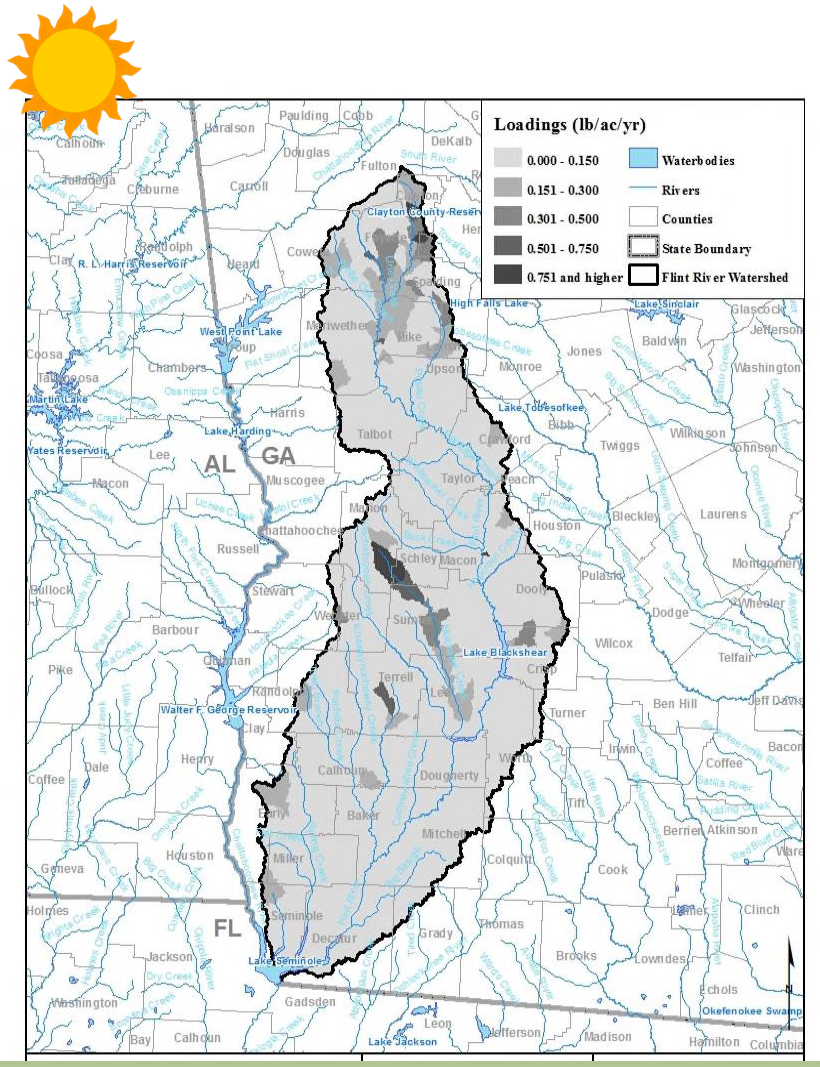




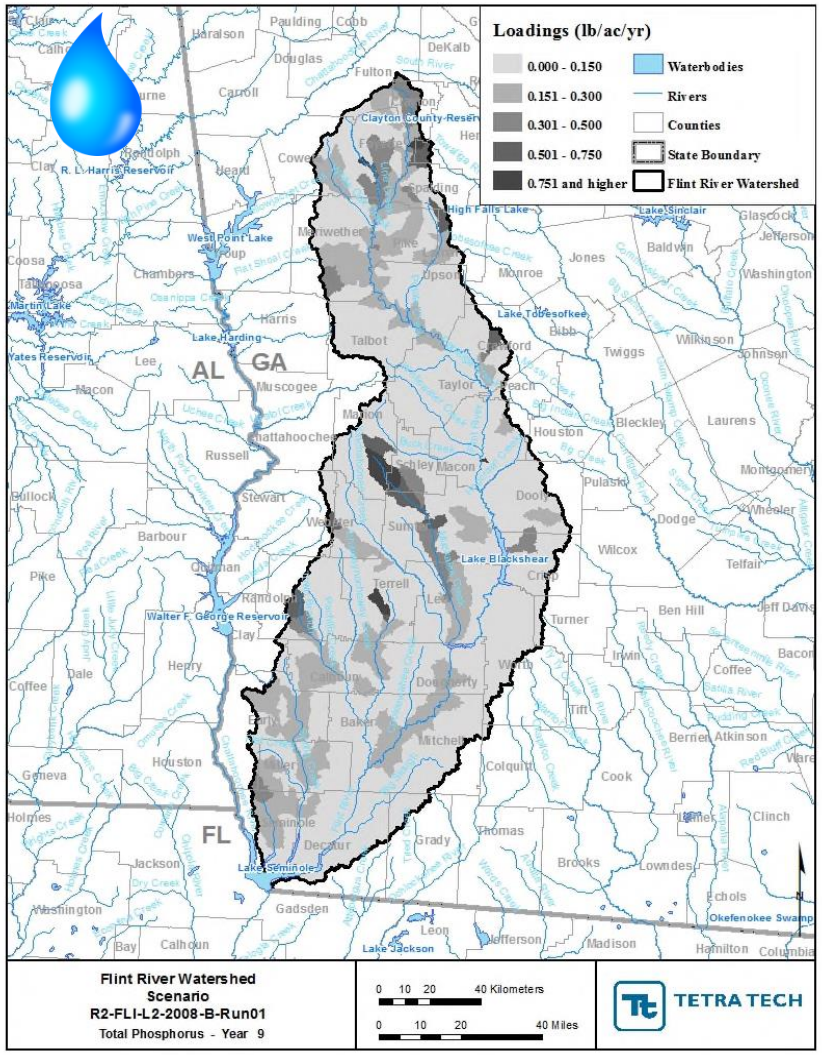
Basin	Wet	Dry
Ochlockonee	2005	2011
Flint	2009	2012
Lanier Chattahoochee	2009	2007
Upper Chattahoochee	2009	2001
Middle Chattahoochee	2009	2012
Lower Chattahoochee	2009	2011
Tallapoosa	2009	2007
Coosa	2009	2007
Tennessee		

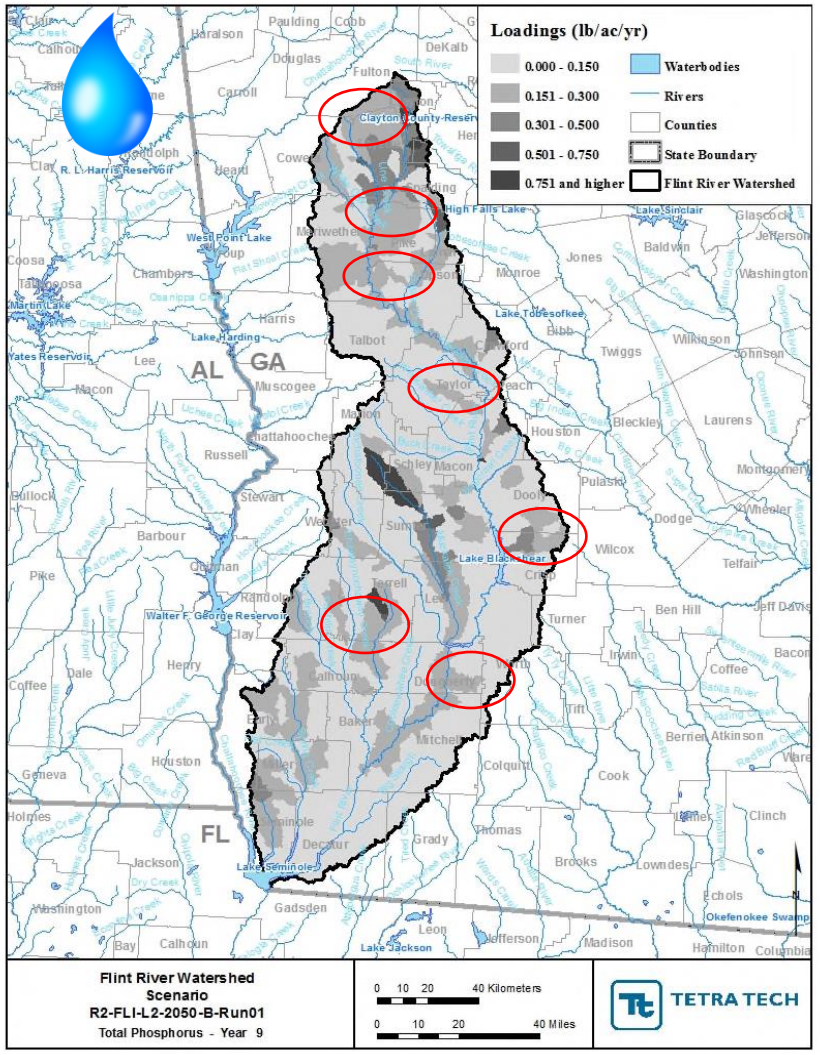
COMPARISON OF CURRENT AND FUTURE WATERSHED MODEL HEAT LOADS





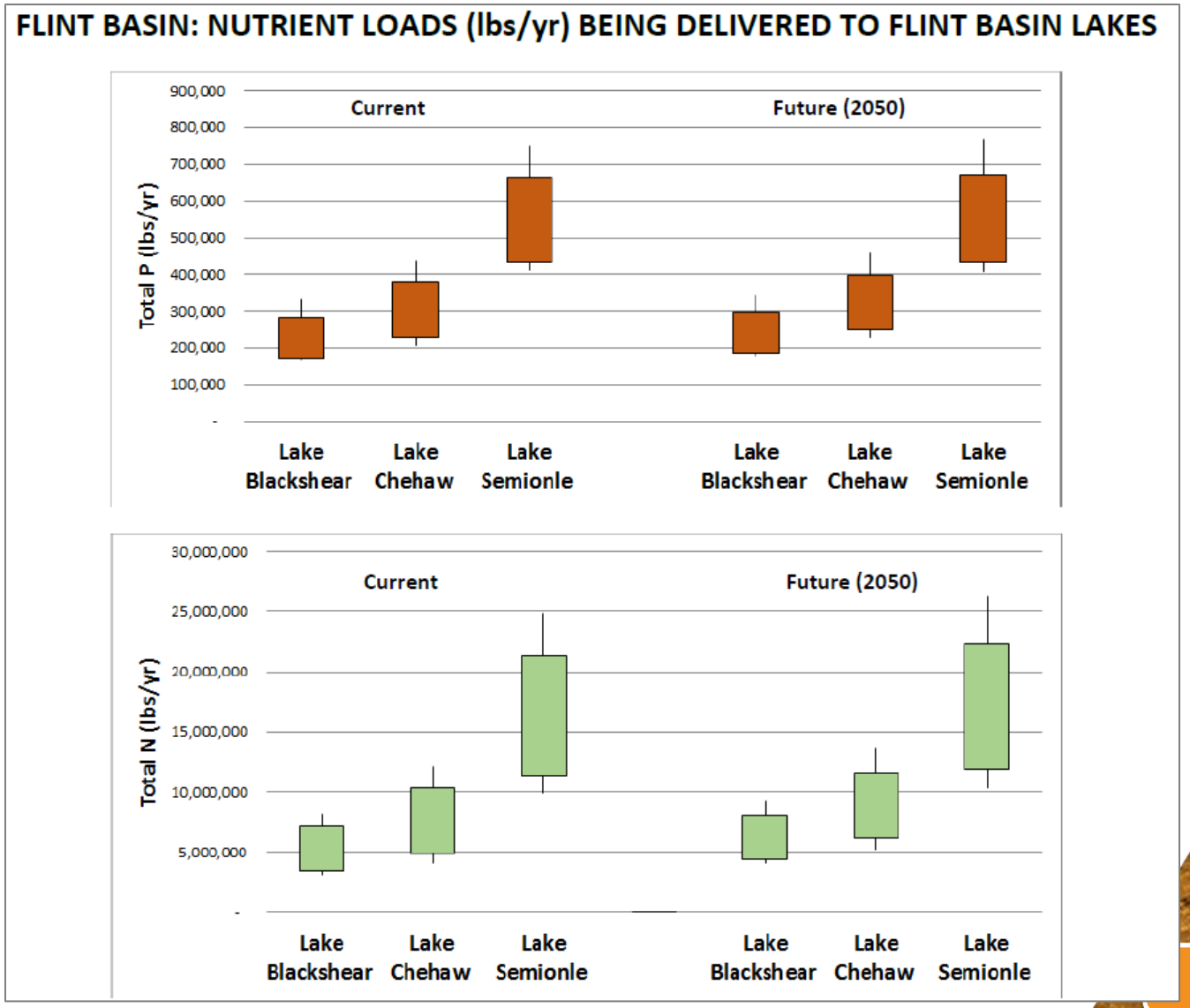
COMPARISON OF CURRENT AND FUTURE WATERSHED MODEL HEAT LOADS





Lake Modeling: Chlorophyll a

- **Plan Sections 3.2.3 and 5.3**
- **Lake models predict the algal response (chlorophyll a) to nutrient loads from the watershed models**
- **There are currently no applicable chlorophyll a lake standards**



COMPARISON OF CURRENT AND FUTURE LAKE GROWING SEASON AVERAGE NUTRIENT LEVELS

	Scenario	Lake Chehaw/Worth	Lake Seminole
Total N (mg/L)	**Current NPS**	1.08	0.82
	Current PS + NPS	2.05	1.42
	2050 NPS	1.10	0.89
	2050 PS +NPS	2.20	2.21
Total P (mg/L)	**Current NPS**	0.058	0.046
	Current PS + NPS	0.173	0.079
	2050 NPS	0.060	0.048
	2050 PS + NPS	0.195	0.088

- No numeric nutrient criteria for Lakes Blackshear, Chehaw/Worth, and Seminole, but lake standards will be developed in the future
- Lake Blackshear Max Total N (under Current and Future Permit conditions) did not exceed 4 mg/L
- Lake Chehaw/Worth Max Total N (under Current Permit conditions) 4.6 mg/L
- Florida Lake Seminole Criteria - 1.27-2.23 mg/L Total N and 0.05-0.16 mg/L Total P
  - Max Total N at Dam Pool current conditions 1.06 mg/L , future conditions 2.80 mg/L
  - Max Total P at Dam Pool current conditions 0.126 mg/L, future conditions 0.111 mg/L

Watershed Modeling: Nutrients

- **Current Conditions addressed in Plan Section 3.2.3**

Nutrients

"Watershed and lake models were run assuming current levels of water use and wastewater disposal and current land use profiles as inputs. These inputs accounted for nutrient loading from the contributing watershed over twelve years of recently observed hydrology. The model results indicated that in the Flint River Basin, nonpoint sources currently contribute, in general, more total nitrogen than point sources, whereas point sources contribute more total phosphorus than nonpoint sources.

. . .

One lake in the Upper Flint Water Planning Region was modeled: Lake Blackshear. The results indicated that in Lake Blackshear, current total phosphorus loading is primarily from point sources. At this time, nutrient standards have not been established for Lake Blackshear, and therefore, these results cannot be compared against nutrient standards. However, the results indicate how nutrient control efforts should be directed to manage current and future nutrient loading."

Watershed Modeling: Nutrients

- **Future Conditions addressed in Plan Section 5.3**

  "Watershed and lake models were also run at future (2050) conditions. The model results indicated that in the Flint River Basin, while nonpoint sources currently contribute more total nitrogen than point sources, future increases in total nitrogen loading will come more from point sources than nonpoint sources. The lake model results indicated that in Lake Blackshear, total phosphorus loading in the future will be primarily from point sources, as it is under current conditions.

  . . .

  As noted in Section 3.3, these lakes do not have established nutrient standards, and so, the lake model results cannot be compared against standards for these lakes. However, the model results are an indication of where management practices should be directed in order to control nutrient loading."

Water Quality Committee Report

Presented by Barry Blount

Water Quality Committee: October Meeting

- Meeting on October 17, 2022
- Review and discuss Section 3 – Current Conditions
- Review and discuss Section 5 – 2060 Projected, time permitting
- Select representative to present at today's council meeting

Members: Barry Blount, Beth English, Lamar Perlis, Butch Turner, Joel Wood, Brandon Lewis

Key Changes to Water Quality

Section 3 Current Conditions

1. River Model (Dissolved Oxygen Modeling)
    a. AKA Assimilative Capacity. Assimilative capacity evaluates how DO levels compare to water quality standard of 5.0 mg/L (or natural conditions).
    b. Dr. Liz Booth (EPD) presented these in May
    c. Updated municipal and industrial wastewater facilities operating at their full permitted discharge levels (flow and effluent discharge limits with 2019 values

2. Lake and Watershed Models (Nutrient Modeling)
    a. This data has not been updated, and we will not get an update prior to the RWP report update. Only the language was updated.

3. 303(d) list
    a. Streams not supporting designated uses, and Total Maximum Daily Load (TMDL) which addresses these pollutants
    b. Updated with 2022 data. Revised from stream quality number to simpler (Impaired, none, pending)

Key Changes to Water Quality

Section 5 Future Conditions

1. River Model (Dissolved Oxygen Modeling)
   a. Dr. Liz Booth (EPD) presented these in May
   b. Updated to 2060 (from 2050). Improved language for clarity
   c. Assumptions in permitting show the DO improving from current because of planned changes to wastewater discharge permits becoming more stringent as permittees update permits

2. Lake and Watershed Models (Nutrient Modeling)
   a. This data has not been updated, and we will not get an update prior to the RWP report update. Only the language was updated.

Water Quality

Discussion

1. River Model (Dissolved Oxygen Modeling)
   a. Request for Point source discharge location in the Assimilative Capacity Figure
   b. Add discussion on why Assimilative capacity will improve
2. 303(d)
   a. Request percentage of impaired streams add by info added as to impaired stream miles, by impairment type (like 2017 version)
3. Additional Discussion
   1. Request discharge limits from EPD
   2. Non-point and stormwater affects on stream quality (bioto/sediment) versus direct discharge. Team discussed that section 6 includes discussion on management practices and recommendations to the state

Surface Water Quantity Assessment Results Update

Kristin Rowles & Wei Zeng

Water Quantity Committee Report

Presented by Adam Graft

Water Quantity Committee Meeting Overview

- Meeting on October 11, 2022
- Review and discussed Section 3 – Current Conditions
  - Members present: Adam Graft, Gordon Rogers, Michael Bowen
- Meeting on November 7, 2022
- Reviewed and discussed Griffin-Cowetta water contract and related topics with City of Griffin and Spalding County (IN-12)
  - Members present: Gordon Rogers, Jack Holbrook, Raines Jordan, Michael Bowens, Brandon Lewis (new)
- Meeting on November 16, 2022
- Review and discuss Section 5 – 2060 Projected
  - Members present: Adam Graft, Jack Holbrook, Raines Jordan, Michael Bowens, Brandon Lewis

Discussion: IN-12 Revision from Nov. 7 meeting

Previous Recommendation

IN-12: Evaluate the cost to buy out the City of Griffin's water supply contract with Coweta County to improve understanding of the cost-benefit, in terms of dollars and flow impacts, of eliminating the ongoing inter-basin transfer in that supply arrangement. Evaluations should include contextual, seasonal flow improvement in terms of drought flows at affected Upper Flint River Basin gauges, and cost-per-cfs calculations relative to other planned and completed flow-improvement projects throughout the Flint River Basin (Upper and Lower). The Council is not recommending removing the supply pipeline. It should remain in place and be periodically maintained to help assure flexibility and resilience among the connected water providers.

New Recommendation

IN-12: Conduct a feasibility assessment of interventions that would improve flows in the Upper Flint River Basin. Evaluate each option with respect to costs, expected flow benefits, implementation barriers, and other factors that would affect the likelihood of success. The following potential interventions should be included in the feasibility assessment:

- Convert LAS in the upper basin to sewer
- Establish greater storage capacity in the upper basin
- Reverse inter-basin transfers
- Convert existing septic systems to sewer
- Guide future development to sewer instead of septic
- Changes in reservoir management by upper basin utilities

The Council notes that these are not recommended interventions at this time but rather a set of potential options. Additional information on these options may support policy and planning that can effectively address flow restoration in the upper part of the Flint River Basin.

Key Changes to Water Quantity

Section 3 Current Conditions

Surface Water Availability

1. Added discussion about BEAM assessment and results
2. Discussed assumptions about 100% consumptive use
3. Removed Buena Vista WPCP from Table 3-4 because of overall low volume

Groundwater Availability

1. Consolidated figures & tables
2. Added new assessment results
3. Refined discussion about how EPD estimates sustainable yield

Key Changes to Water Quantity

Section 5 Future Conditions (2060)

Surface Water Availability

1. Integrated BEAM assessment results with 2060 forecasts

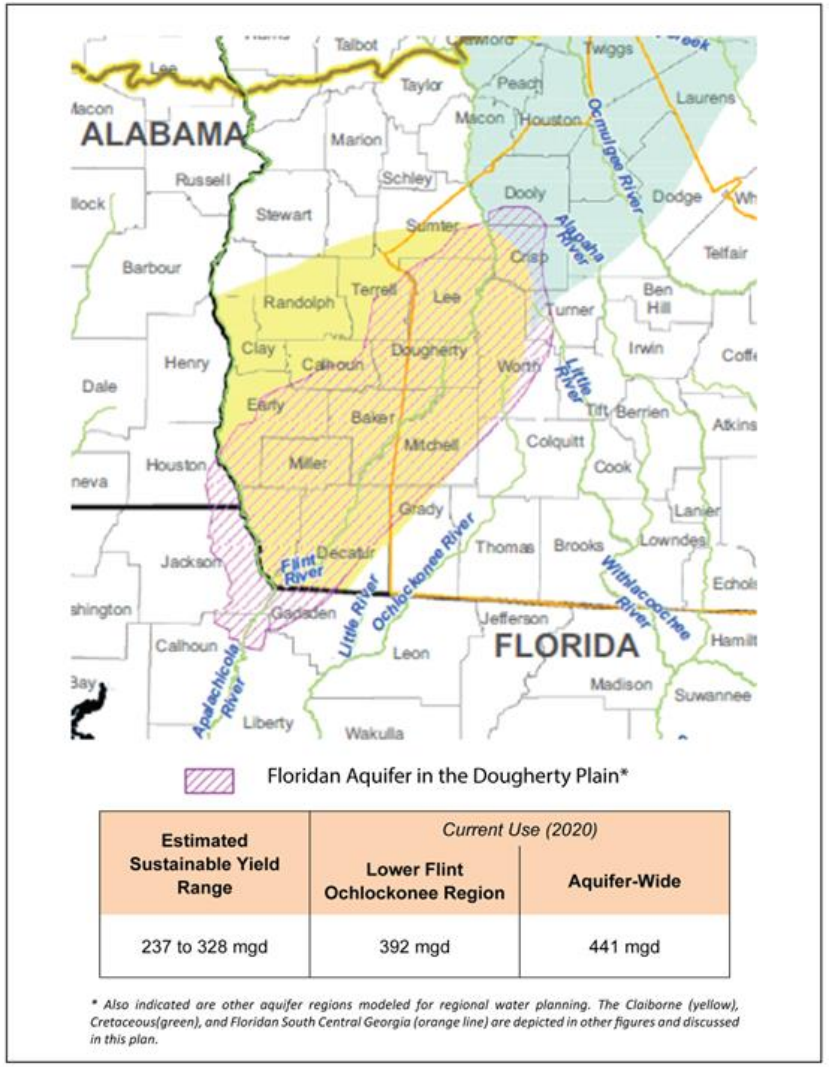
Groundwater Availability

1. Added discussion about the GA-FIT program and how the new work relates to the plan
2. Revised text on Claiborne results based on committee discussion

Today's Small Group Discussion

1. Revised figures for USGS estimates (Section 3.1)
2. Section 5 Claiborne results – review revisions
3. Follow-up on today's Spalding presentation
4. Review edits to Recommendation WP-5 (voluntary irrigation suspension)
5. Review all storage related MP's and recommendations

Discussion: Example of new groundwater assessment figure



Estimated Sustainable Yield Range	Current Use (2020)	
	Lower Flint Ochlockonee Region	Aquifer-Wide
237 to 328 mgd	392 mgd	441 mgd

** Also indicated are other aquifer regions modeled for regional water planning. The Claiborne (yellow), Cretaceous(green), and Floridan South Central Georgia (orange line) are depicted in other figures and discussed in this plan.*

Break for Group Photo and Lunch

Spalding County Sewer Feasibility Study

Joseph Johnson, Spalding County Water & Sewerage Facilities Authority

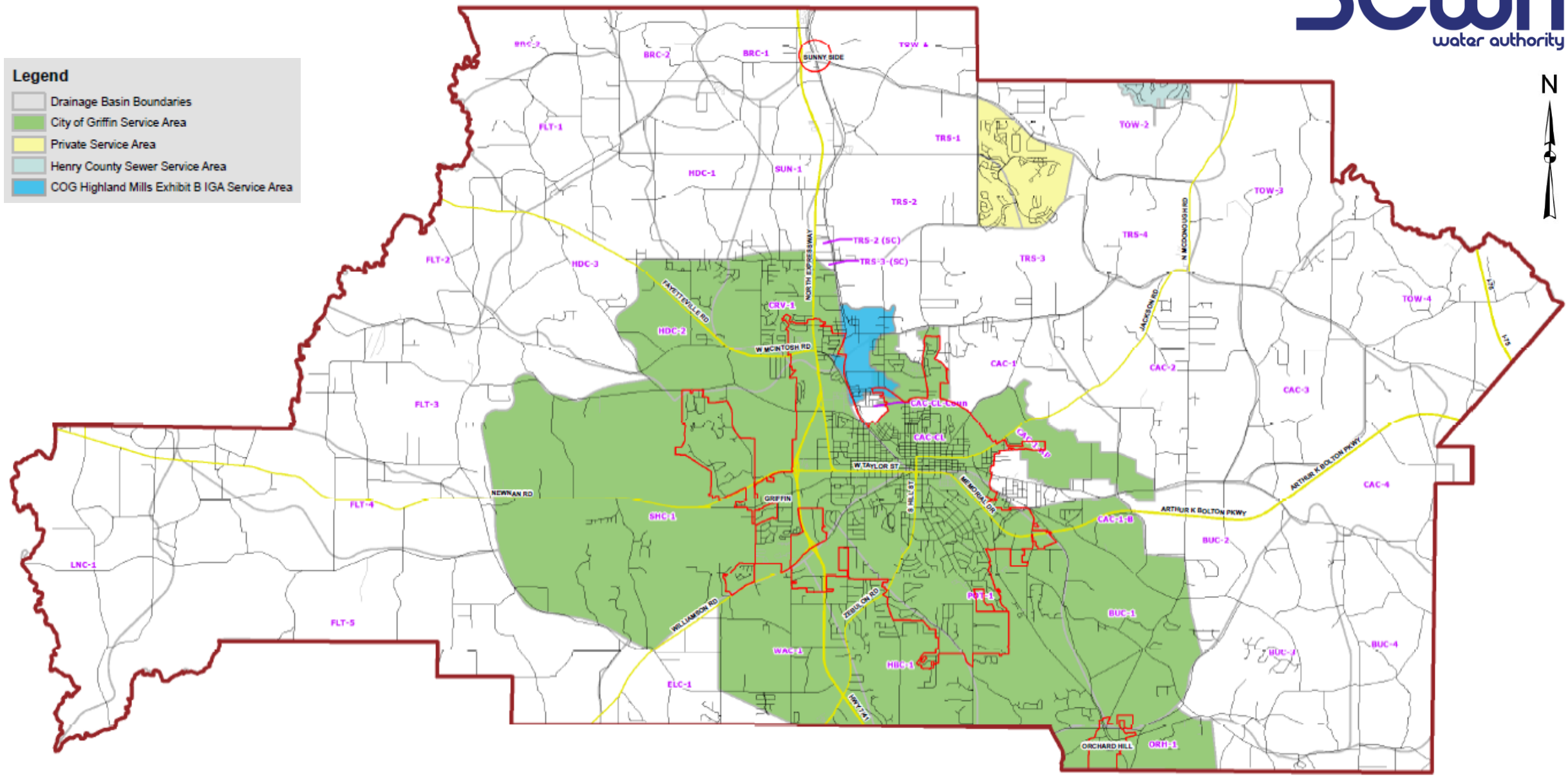
SEWER FEASIBILITY STUDY

spalding county

SCWA

water authority

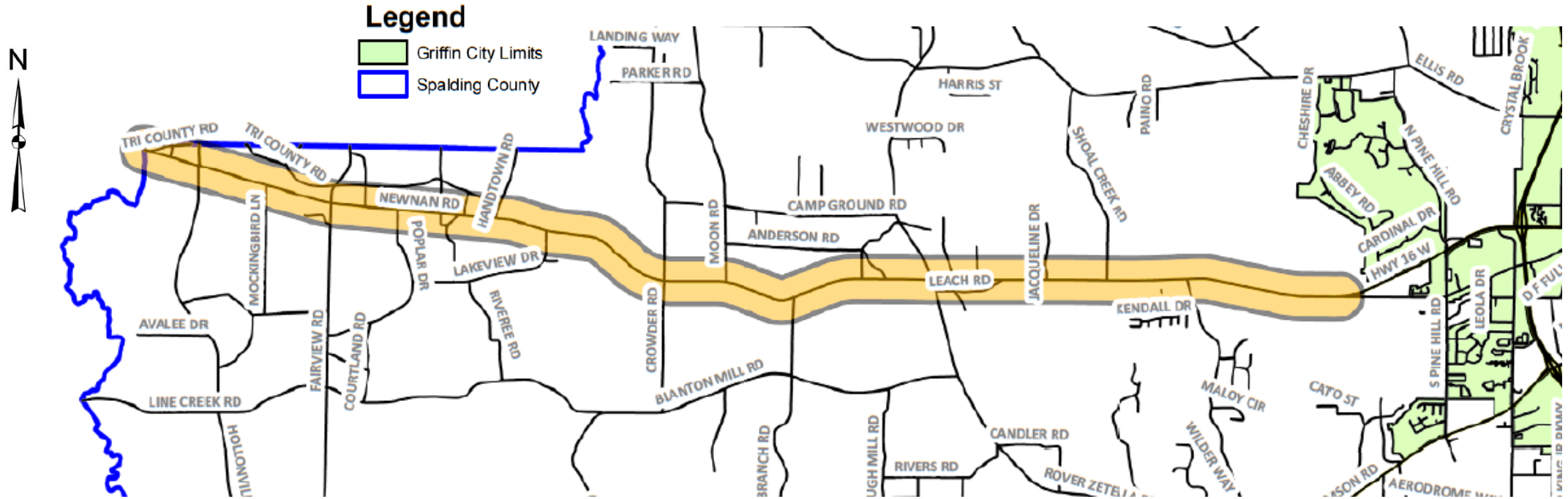
SDS Sewer Service Area



Target Area #1 – *Newnan West Corridor*

- **Limits** – West of City of Griffin City Limits from West Poplar Avenue to Spalding/Coweta County line

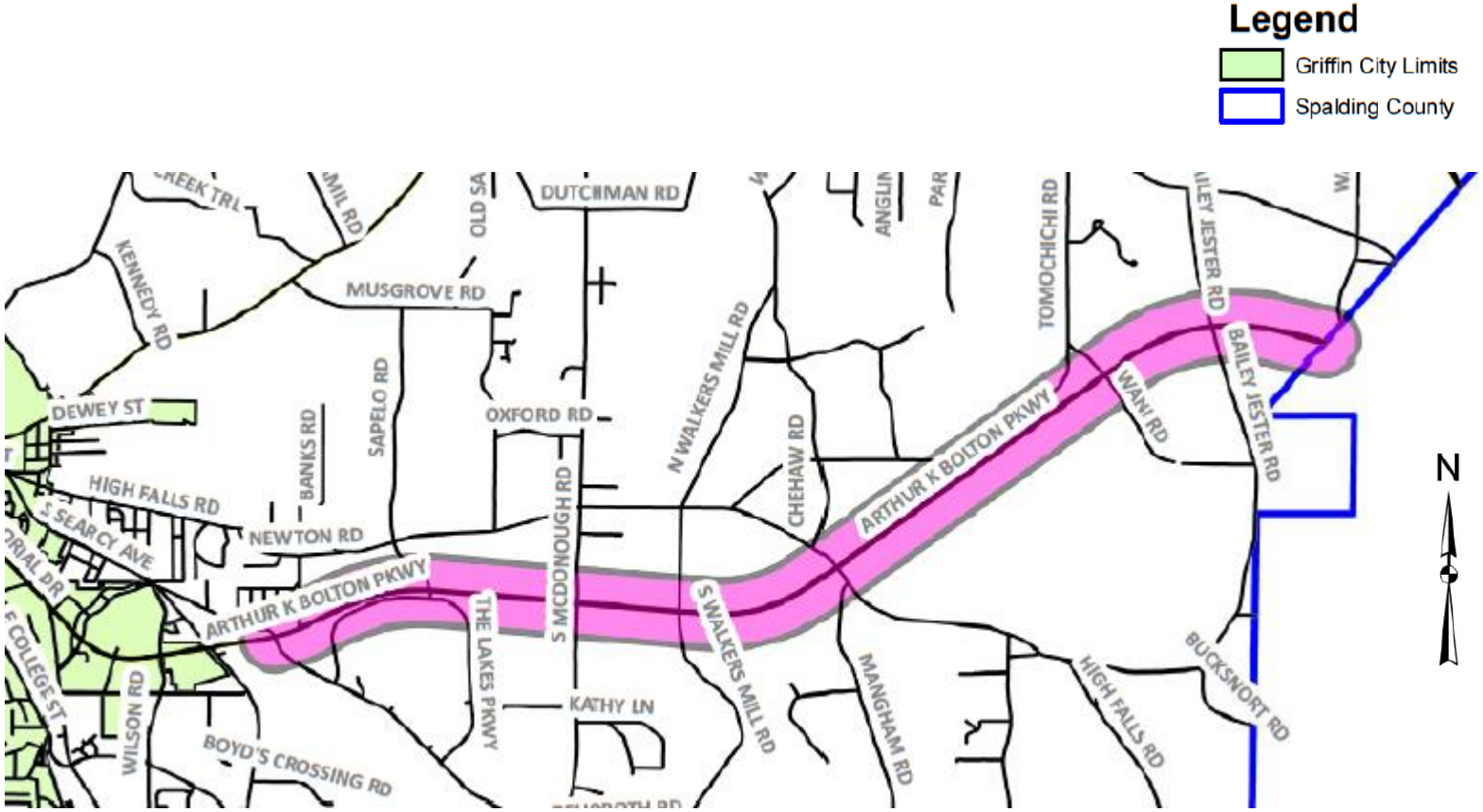
- **Justification** – Address residential housing pressure migrating East from Coweta County



Target Area #2 – *Arthur K Bolton (AKB) East Corridor*

- **Limits** – East of City of Griffin City Limits along AKB from Barrow Road to Spalding/Butts County line

- **Justification** – Address Industrial and Commercial growth

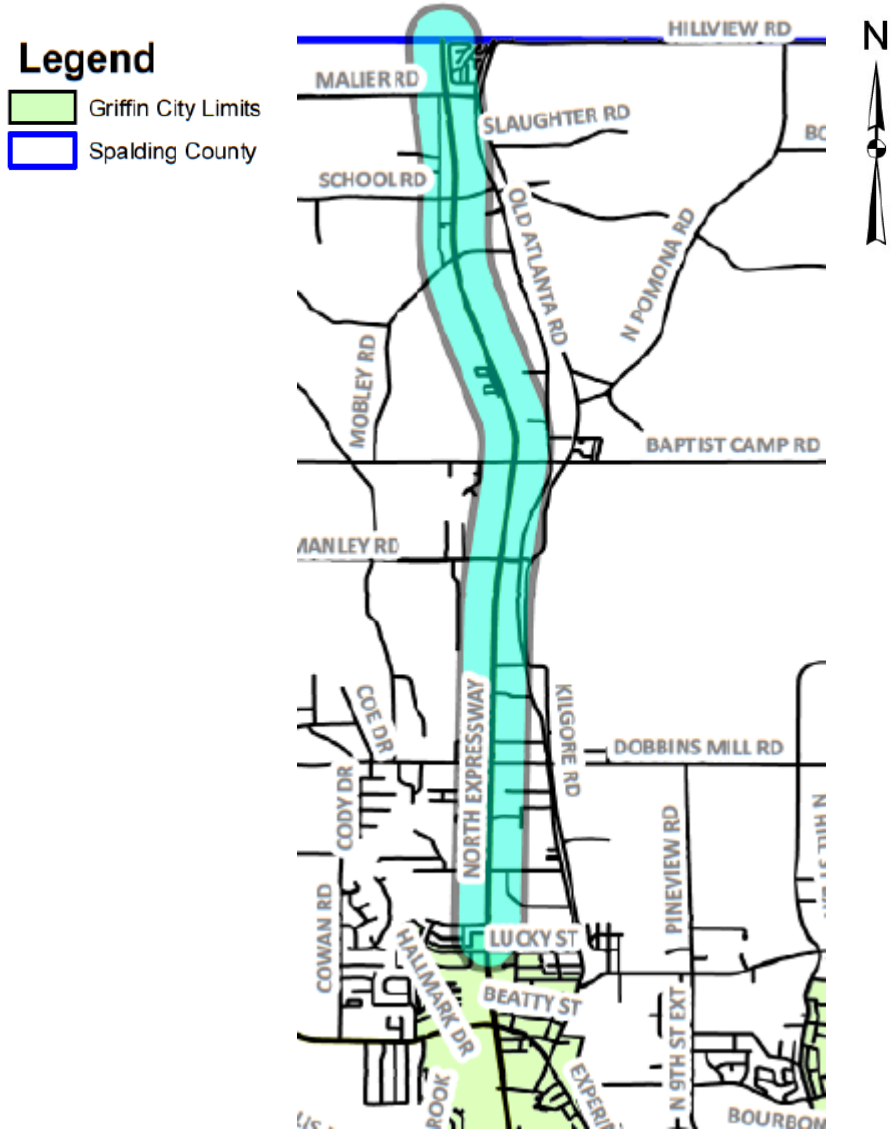


spalding county SCWA water authority

Target Area #3 – *North Expressway North Corridor*

- **Limits** – North of City of Griffin City Limits along North Expressway Spalding/Henry County line

- **Justification** – Address Commercial growth and known septic tank issues



spalding county SCWA water authority

Target Area #4 – *Tri-County Corridor*

- **Limits** – South of City of Griffin City Limits along Martin Luther K Jr. Pkwy from Airport Road to Spalding/Lamar County line

- **Justification** – Address Commercial growth stalled due to the City of Griffin's Sewer Moratorium

spalding county SCWA water authority

Project Timeline

Sewer Feasibility Study Task Order Services			
TASK	TENTATIVE DATE	SCHEDULED DATE	PROJECTED DATE
NTP:	August 31, 2022		
Kick-off Teleconference:	September 7, 2022		
First two (2) Target Area Workshops: (target area still to be determined)	October 4, 2022	December 7, 2022	
Second two (2) Target Area Workshops: (target area still to be determined)	October 12, 2022	December 15, 2022	
Draft Sewer Flow Projections Technical Memo:	November 15, 2022		January 18, 2023
Four (4) Separate IJA Meetings:	December-22		February-23
Decentralized Treatment Alternative Workshop:	February 28, 2023		May 3, 2023
Option Screening and Ranking Assessment Teleconference:	March 15, 2023		May 18, 2023
Submit Draft Sewer Feasibility Study:	April 28, 2023		July 1, 2023
Final Review Workshop:	May 16, 2023		July 19, 2023
BOC/Stakeholder Summary Meeting:	June-23		August-23

spalding county SCWA water authority

Questions

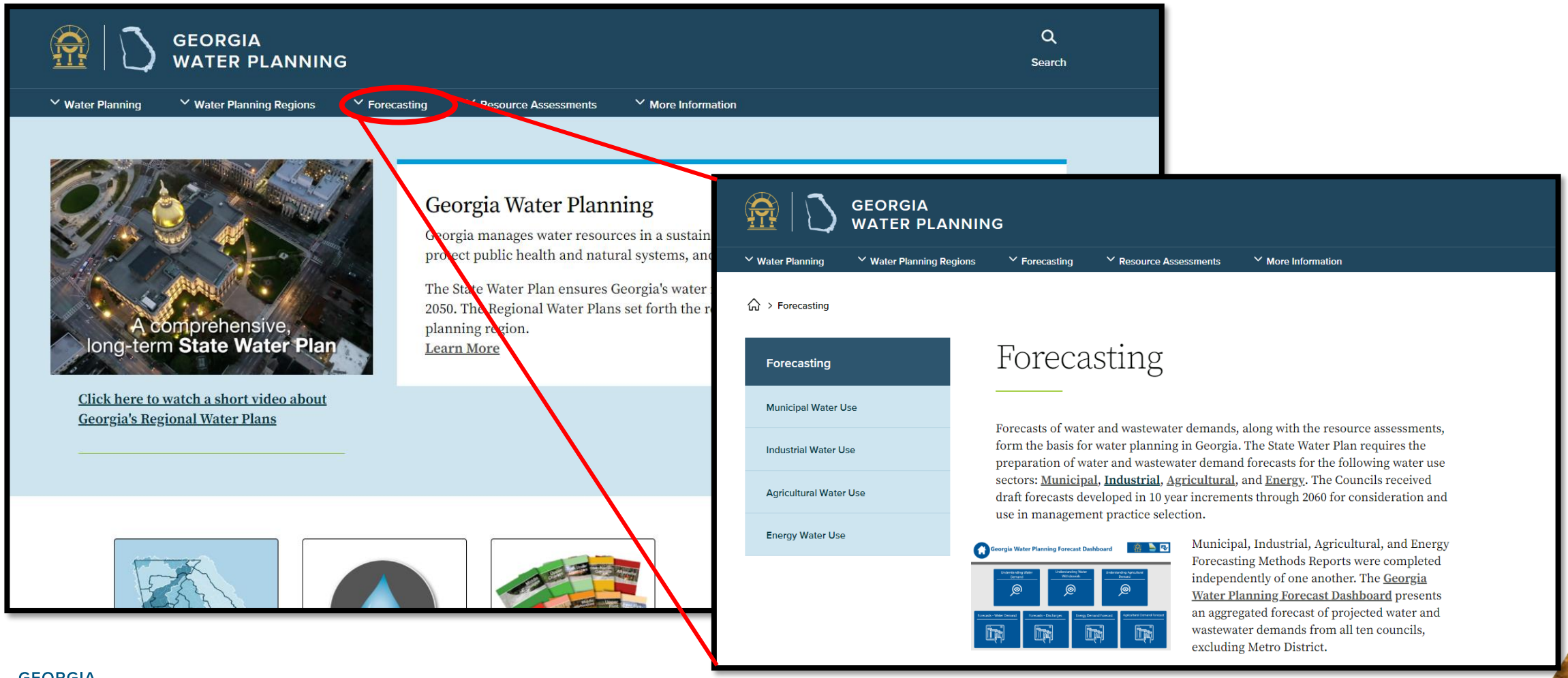
Contact information:
Joseph Johnson, PE
General Manager
josephjohnson@spaldingcounty.com
O: 770-467-4777
C: 678-544-4170

Forecast Dashboard Update

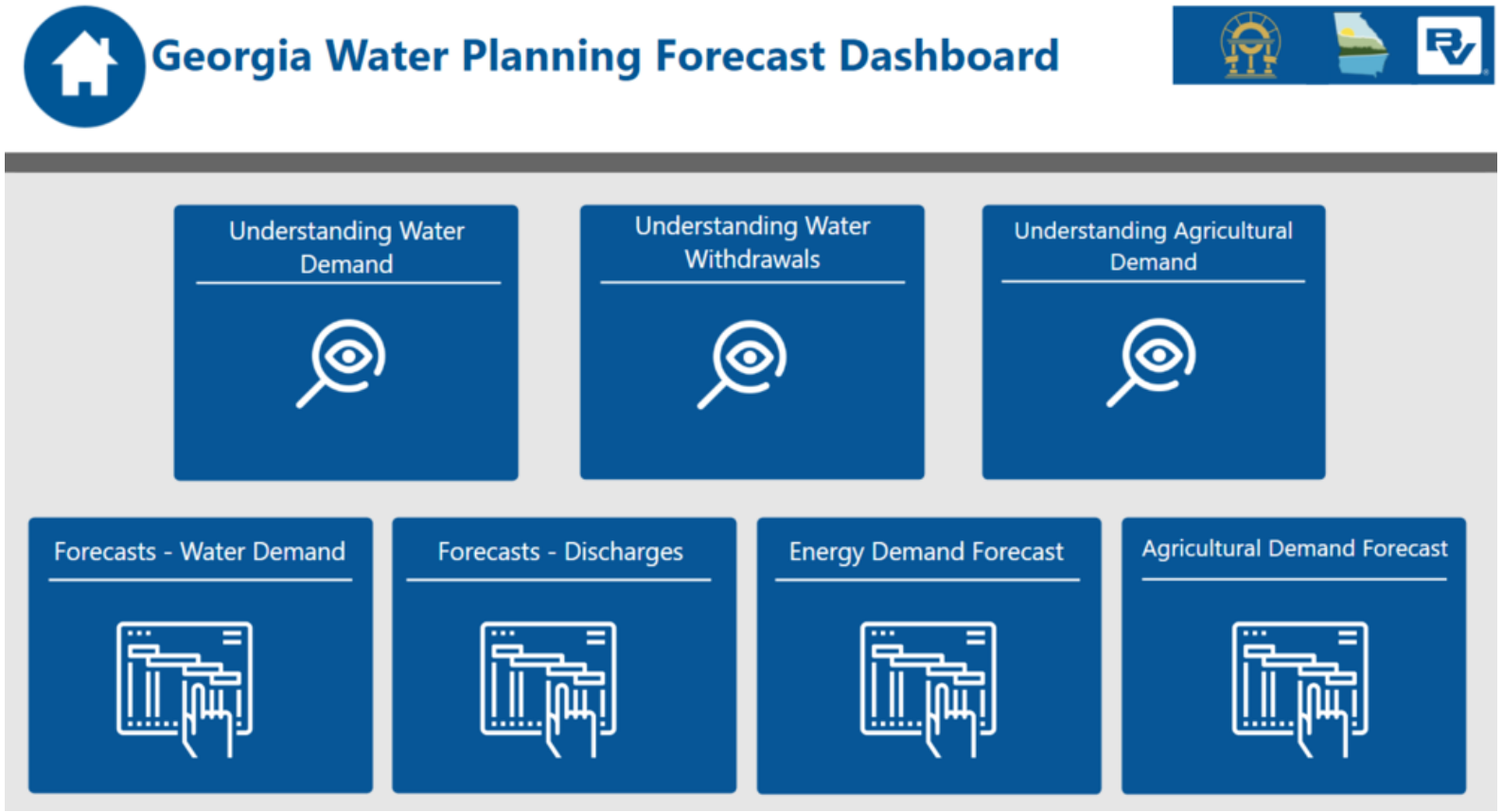
Black & Veatch

Forecast Dashboard

Available NOW on the Georgia Water Planning Website



Forecast Dashboard



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EPD Updates

Johanna Smith

Inter-Council Coordination Committee Report

Presented by Beth English

Inter-Council Coordination Committee October 12, 2022

Upper Flint	Lower Flint - Ochlockonee	Middle Chattahoochee
• Beth English	• Hugh Dollar • Jay Smith • Jimmy Webb	• Steve Davis • Patrick Bowie • Harry Lange • Ken Van Horn

Inter-Council Coordination Committee Report

Meeting on October 12, 2022

1. Reviewed and Discussed JT-3
    1. Reviewed existing language
    2. Reviewed optional alternative language
    3. Discussed collaborated agreed removal
2. Select representative to present at August council meeting

Inter-Council Coordination Committee Report

JT-3: Original Text from 2017 Plan

- Consider the creation of a new coordinated, interstate planning organization for the ACF System. Membership in this organization to represent Georgia shall include, but not be limited to, members of the regional water planning councils with water planning regions that include parts of the ACF. Consider the recommendation of the ACF Stakeholders in its Sustainable Water Management Plan regarding an ACF transboundary water management institution as this organization is developed.

Inter-Council Coordination Committee Report

JT-3: Alternative 1

- Consider the creation of a new coordinated, interstate planning organization for the ACF System. Membership in this organization to represent Georgia shall include, but not be limited to, members of the regional water planning councils with water planning regions that include parts of the ACF.

JT-3: Alternative 2 (revised during discussion)

- The Councils recommend the proactive development of and/or engagement with a (an existing) tristate framework designed to address interstate water issues in the future and the inclusion of the regional water planning councils within this framework. Consider providing a framework to update the previous ACF Compact.

Inter-Council Coordination Committee Report

Recommendation to Council

- Ultimately, it was determined that all three councils did not view JT-3 as a priority recommendation to the State; therefore, the Joint Recommendation JT-3 will not be included in the updated plans.
- Each council can discuss the inclusion of this recommendation in separate recommendation to the state.
- Recommended Text:
  - The Council recommends the proactive development of and/or engagement with a (or an existing) tristate framework designed to address interstate water issues in the future and the inclusion of the regional water planning councils within this framework. Consider providing a framework to update the previous ACF Compact.

Break-Out Sessions

Water Quality / Water Quantity

Sections 3 & 5 Edits to Review

Section 3.1

- Revisions – USGS data, discussion of use estimates, ag meter data (pp. 3-2 & 3-4)

Section 3.2.1

- Added detail regarding reservoir operations in BEAM model (p. 3-6, highlighted)

Section 3.2.2

- Added to discussion of Floridan Aquifer results: Figures 3-10 and 3-11 – Maps of moratorium area and red/yellow/green management areas (pp. 3-24, 3-27, 3-28)

Section 5.2

- Floridan results – See revisions on p. 5-10 similar to those in Section 3.2.2
- Claiborne Aquifer county results: See added text based on committee input. (p. 5-11 to 5-12, highlighted)

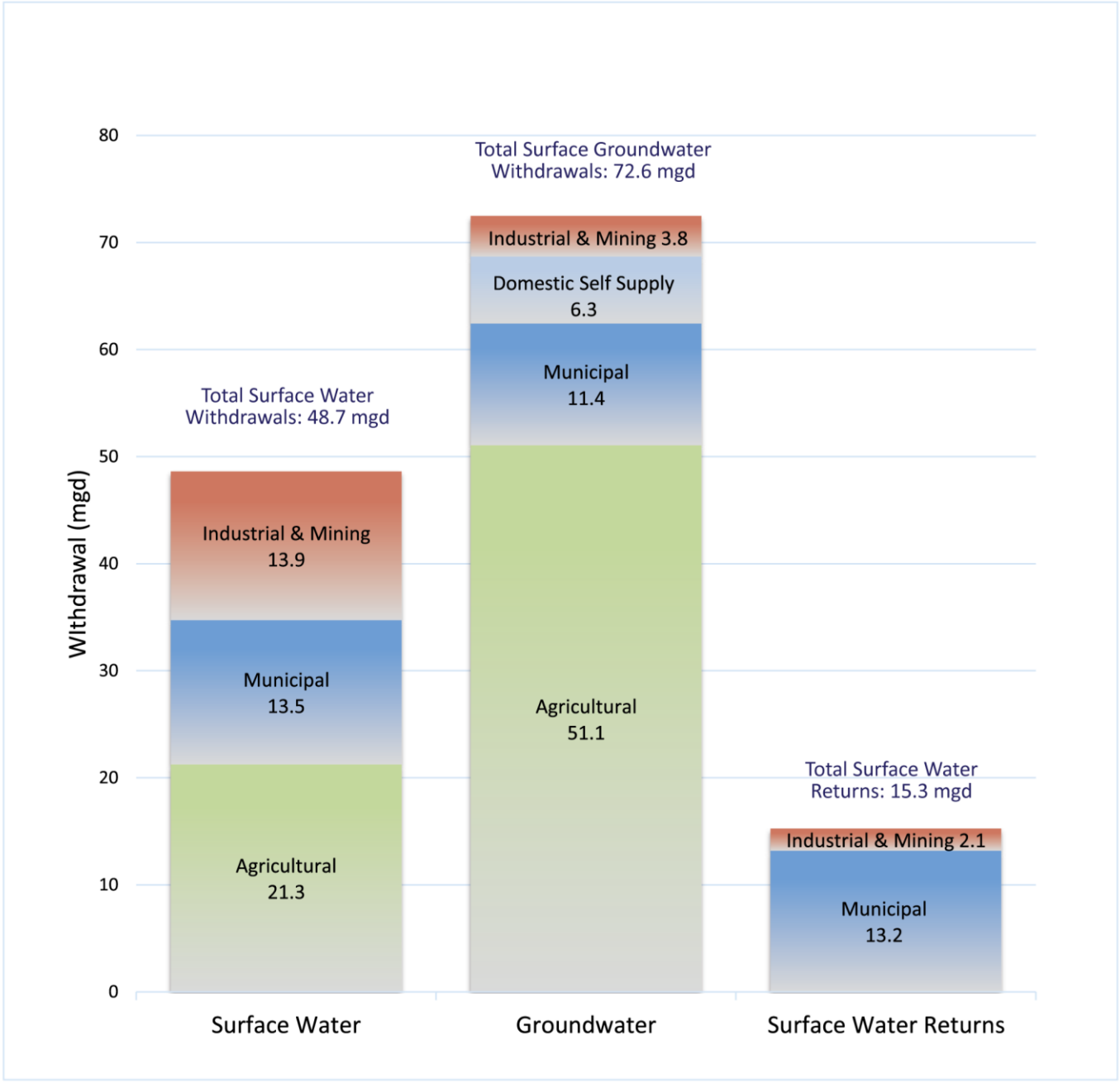
Section 5.4

- Added text re: Floridan Aquifer results (p. 5-19)

Water Quantity Committee

Section 3.1

- New graph with USGS 2015 data
- New text (p. 3-2) on water use data, ag meters



Section 3.2.1 Added detail about reservoir operations in BEAM (p. 3-6)

Reservoir operations data used in the model were from the current Water Control Manual operations for the federal reservoirs. For other reservoirs, the resource assessment incorporates data from reservoir owners if they provided storage and operational data to GAEPD for this purpose. Storage and operational data were not available for Georgia Power reservoirs in the region, and these reservoirs were modeled as run-of-river projects.

Section 3.2.2: New figures in Floridan Aquifer discussion

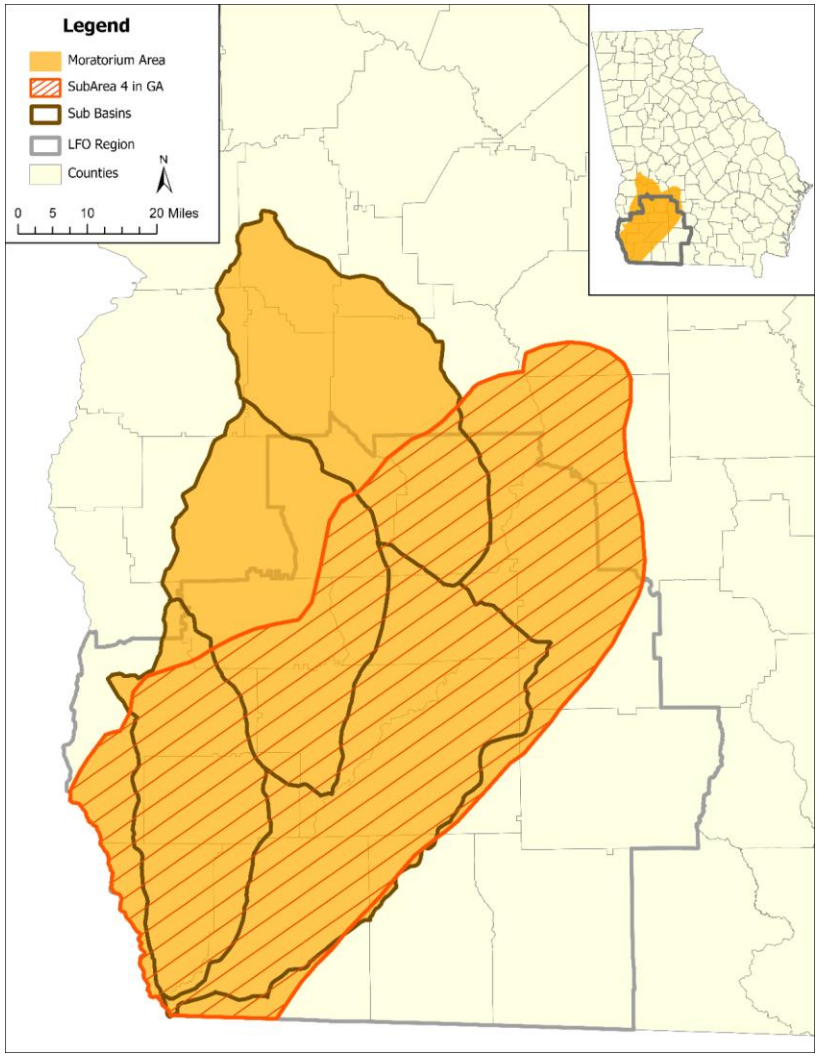


Figure 3-10: Moratorium on New and Expanded Agricultural Water Withdrawal Permits

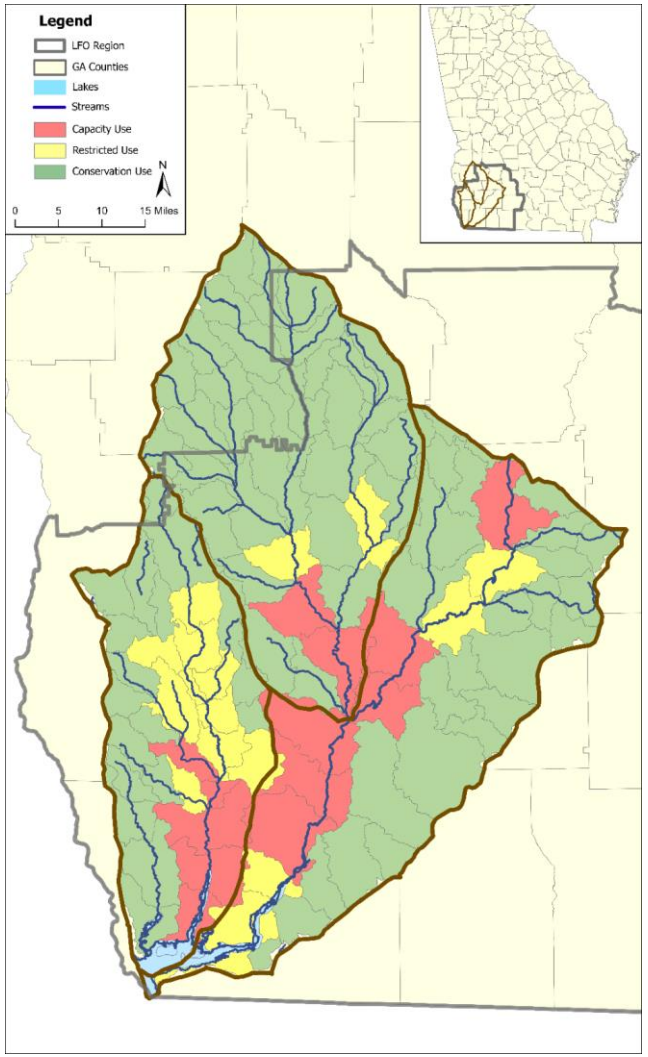


Figure 3-11: Agricultural Water Withdrawal Permit Management Zones based on 2006 Flint Plan

Section 5.2 Claiborne Aquifer Results Discussion

(pp. 5-11 to 5-12)

Table 5-9 includes county level estimates of sustainable yield and forecasted 2060 demands from the Claiborne Aquifer. These results indicate available sustainable yield across the region for this aquifer. However, as with any aquifer the potential for adverse impacts will be dependent on the location and concentration of withdrawals. Some areas may support increased use sustainably, while other parts may be more likely to experience potential adverse impacts of increased use. The next section describes an analysis of increased use of the Claiborne Aquifer that considers transient demands which vary over the course of the year with the agricultural growing season.

Text about Floridan results from Section 3.2.2 (p. 3-23)

In the resource assessment model runs for this aquifer, localized thresholds for groundwater contributions to stream baseflows were reached when impacts on the aquifer itself were minimal. Because there is a significant degree of connection between the Floridan aquifer and the rivers, drawdown in the aquifer is not a major concern because the rivers would recharge the aquifer under any increased withdrawal scenarios. The impacts of use of this portion of the aquifer are through the impacts to streamflow.

Therefore, the Council considered the results of the groundwater assessment for this aquifer together with those for the surface water availability assessment and in the context of existing policy that affects groundwater and surface water use in this area. Since 2012, there has been a moratorium on new and expanded withdrawals from the Floridan Aquifer in the Dougherty Plain. Figure 3-10 provides a map of the moratorium area. Prior to the moratorium, and if the moratorium is lifted, withdrawals from the aquifer are managed per the 2006 Flint River Basin Plan, which sets geographic zones (restricted use, capacity use, and conservation use) with increasing levels of restrictions on aquifer withdrawals based on potential impacts on streamflow. Figure 3-11 is a map of these management zones. No new agricultural withdrawals from the Floridan aquifer are permitted at this time in areas that are modeled to have the greatest impact on streamflow.

Text about Floridan results from Section 5.2 (p. 5-10)

At a broad scale, the results for the Dougherty Plain point to concern over use of this aquifer, but the Council notes the importance of existing policy in managing use of this aquifer. Since 2012, there has been a moratorium on new withdrawals from the Floridan Aquifer in the Dougherty Plain (see Figure 3-10 in Section 3.2.2.). Prior to the moratorium, and if the moratorium is lifted, withdrawals from the aquifer are managed per the 2006 Flint River Basin Plan, which sets geographic zones (restricted use, capacity use, and conservation use) that manage aquifer withdrawals based on potential impacts on streamflow (see Figure 3-11 in Section 3.2.2). Therefore, these results were considered in the context of existing policy and together with those observed in the surface water availability resource assessment as the Council developed its Management Practices and Recommendations to the State.[5] Specifically, no new agricultural withdrawals from the Floridan aquifer are permitted at this time in areas that are modeled to have the greatest impact on streamflow.

The Council also notes that the sustainable yield metric exceeded as part of the groundwater resource assessment, potential impact to baseflow, is not indicative of overall aquifer health and resiliency. Because of the interconnected nature of the Floridan aquifer and the surface water sources in this area, drawdowns in the aquifer in areas that interact a stream will generally result in streamflows replenishing the aquifer. When aquifer drawdown occurs in this part of the Floridan Aquifer, the aquifer will draw from its storage and once the aquifer level drops below the bottom level of the nearest surface water body (under current use or increased withdrawals), the aquifer will be replenished by that surface water body.

Section 5.4 Summary of Future Resource Assessment Results (p. 5-19)

- *Groundwater availability*: Increased use of the Claiborne and Cretaceous Aquifers should be further evaluated in order to develop appropriate management strategies that address geographic and time-based variations in capacity and demands. This information will be particularly relevant in guiding implementation of Management Practice SF-3 through the new GA-FIT project in this region. The new project will also improve our understanding of these aquifers through increased monitoring. In the Upper Floridan Aquifer in the Dougherty Plain, the impact of groundwater withdrawals on surface water flows in the Flint River Basin should continue to be a determining factor in guiding the location and amount of groundwater use from this aquifer. Existing policy is currently focused on limiting impacts to streamflow, and a moratorium currently restricts increased use of this part of the Floridan Aquifer. In general, better and more geographically specific information on groundwater resource capacity will improve our ability to evaluate aquifer use and management practices.

Water Quantity Committee

Section 6.3: Recommendation WP-5 (p. 6-24)

WP-5: ~~The Council recommends that irrigation suspension be used only through implementation of the Flint River Drought Protection Act, only by voluntary means, with notification to farmers before March 1 when possible, and only as a last resort when other options are not available to address severe flow depletions.~~ The Council supports ~~voluntary~~ implementation of the voluntary irrigation suspension auction provided for by ~~of~~ the Flint River Drought Protection Act (OCGA §12-5-40) ~~by EPD through an irrigation suspension auction~~, when absolutely necessary in abnormally dry periods and when other options are not available to address severe flow depletions during the growing season. When possible, GAEPD should provide notification of use of the Flint River Drought Protection Act before the March 1 drought declaration deadline. Earlier notification to farmers would inform planting decisions and help reduce the cost to farmers and to the state for irrigation suspension. Voluntary irrigation suspension is a temporary intervention to be targeted to the period of a growing season (or less, if possible). The Council acknowledges efforts to improve drought prediction tools to support earlier notification and supports GAEPD efforts to develop better predictive tools. The Flint River Drought Protection Act has not had a predictable source of funding in recent years, and a clear and reliable source of funding is needed. The Council also supports efforts by GA-FIT to develop and test new incentives for voluntary irrigation suspension in the Flint River Basin as a tool for drought response.

Storage Related Management Practices

SF1: *Evaluate storage options in the Upper Flint River Basin that can provide for supply and flow augmentation in dry periods*	The Council recommends creation of a study commission to evaluate storage options within the Upper Flint River Basin. A full range of storage and reservoir options should be evaluated, including farm ponds (see SF4) and inactive quarry sites, which have been used elsewhere to provide water storage capacity. The study commission's evaluation should assess potential locations, viability, cost, and implementation. Costs should be evaluated in terms of potential in-stream water resource benefits, as well as other benefits. Locations should be evaluated in terms of providing smaller, but more frequent, possibilities for storage options throughout the region and State. The Council recognizes that new storage options are a long-term goal and encourage the development of water storage for the benefit of current and future generations.
SF4: *Encourage greater utilization of new or Existing farm farm ponds in the Upper Flint Water Planning Region*	• On-farm water storage filled in periods of high flow can replace direct pumping for irrigation from surface streams or wells during drought periods. • Future permits to fill farm pond withdrawals should include low flow protection requirements similar to those required in the Flint River Basin Water Development and Conservation Plan of 2006. Future surface water withdrawal permits for farm ponds should be conditioned such that the withdrawals do not contribute to the frequency or severity of low flow conditions in their local drainage areas. • See Recommendation IN-7 in Section 6.3.

Storage Related Recommendations

IN-7: Evaluate the full water cycle impacts of irrigation and the impacts of small and medium impoundments on stream flows through intercepted drainage, evaporative loss, and water quality. GAEPD has advanced the understanding of how farm ponds are used in Georgia. However, better understanding of farm pond operation and impacts is needed to support more thorough evaluation. In particular, a better understanding of the impact of evaporative loss is needed.

IN-8: Conduct a dynamic analysis (under varied management, development, and climatic conditions in the region) to assess how conservation can optimize use of reservoir storage. Consider the results of this analysis when implementing Management Practice SF1 regarding the evaluation of water storage options in the Upper Flint Basin.

JT-1: Recognize the critical need for better use of existing storage and for more storage in the Apalachicola-Chattahoochee-Flint System and recommend that a plan for additional storage be developed and implemented and that it consider the following: better utilization of existing storage in the Chattahoochee River Basin, new storage in the Flint River Basin, and enhancement of existing storage capacity.

Storage Related Recommendations (cont.)

IN-12: Conduct a feasibility assessment of interventions that would improve flows in the Upper Flint River Basin. Evaluate each option with respect to costs, expected flow benefits, implementation barriers, and other factors that would affect the likelihood of success. The following potential interventions should be included in the feasibility assessment:

- Convert LAS in the upper basin to sewer
- Establish greater storage capacity in the upper basin
- Reverse inter-basin transfers
- Convert existing septic systems to sewer
- Guide future development to sewer instead of septic
- Changes in reservoir management by upper basin utilities

The Council notes that these are not recommended interventions at this time but rather a set of potential options. Additional information on these options may support policy and planning that can effectively address flow restoration in the upper part of the Flint River Basin.

Break

Report from Small Groups & Plenary Discussion of Plan Revisions

Section 6.3: Recommendation WP-7 (p. 6-25)

WP-7: The Council recommends that the Georgia General Assembly legislate authority to the regional water planning councils, including the Upper Flint Water Planning Council, to manage, plan and provide oversight of water resources within each region around the State. Funding should be provided to the councils from State appropriations. Funding should be used to provide for coordination and implementation of regional and state water plans and for studies, assessments and future plan updates within the respective water planning regions.

Section 6.3: Recommendation WP-8 & deleted Joint Recommendation 3 (pp. 6-25 & 6-26)

WP-8: ~~The Council urges the State to seek a timely resolution of current interstate water issues that directly affect the Apalachicola-Chattahoochee-Flint Basin.~~ The Council recommends the development of a tristate framework designed to address interstate water issues in the future and the inclusion of the regional water planning councils within this framework. ~~The Council requests that it be supported in making any updates to this Regional Water Plan as needed to address changes in ACF Basin management as a result of the settlement, resolution, or decision in on-going inter-state litigation or similar events that have the potential to substantially change how the Basin is managed.~~

Deleted – JT-3: Consider the creation of a new coordinated, interstate planning organization for the ACF System. Membership in this organization to represent Georgia shall include, but not be limited to, members of the regional water planning councils with water planning regions that include parts of the ACF. Consider the recommendation of the ACF Stakeholders in its Sustainable Water Management Plan regarding an ACF transboundary water management institution as this organization is developed.

Next Steps in Plan Review and Revision

Meagan Szydzik

Next Steps

- Next Meeting: March 21st, 2023
  - Discuss High Priority Management Practices
  - Reviewing Section 7: Implementation Schedule & Fiscal Implications of Management Practices
  - Last review of the Plan before Public Review Period *(Council will receive the full Plan to read over and suggest any final comments before the next meeting)*
  - After today's meeting → Clean versions of the Plan to review without markup
  - Committee Meetings?

Public Comment