Lower Flint-Ochlockonee Council Meeting

May 12, 2022

GEORGIA WATER PLANNING

waterplanning.georgia.gov

Agenda

Objectives:

1. Review and discuss additional water resource assessment results
2. Review and discuss management practices and recommendations
3. Consider recommendations from Plan Review & Inter-Council Coordination Committees
4. Learn about recent studies on water system interconnectivity and biosolids management

10:00	Welcome, Agenda Review, Check-In with New Members
10:05	Chair's Report
10:10	Resource Assessment Results
11:15	Management Practices Review
12:00	Lunch
1:15	Plan Review Committee Report
1:35	Inter-Council Coordination Committee Report
1:55	Recommendations Review
2:35	Break
2:45	Next Steps in Plan Review and Revision
3:00	EPD Report
3:10	Information Items: GEFA Study and Biosolids Report
3:40	Public Comment
3:50	Next Steps
4:00	Adjourn

Regional Water Plan Update

Regional Water Plan Review and Revision Schedule

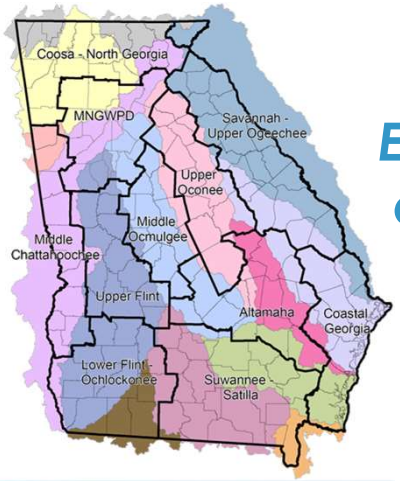
Meeting One
4th Quarter 2021

Meeting Two
1st Quarter 2022

★
Meeting Three
2nd Quarter 2022

Meeting Four
3rd Quarter 2022
Draft Plan

Meeting Five (Final)
4th Quarter 2022
Incorporate Comments



EPD targeted date of adoption of revised Regional Water Plan by December 2022

Introductions

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Lower Flint-Ochlockonee Council Members

Name	City	County
Chris Addleton	Cairo	Grady
J. Steve Bailey	Donalsonville	Seminole
C. LaDon Calhoun	Colquitt	Miller
Murray Campbell	Camilla	Mitchell
Casey M. Cox	Camilla	Mitchell
Marc E. DeMott	Moultrie	Colquitt
Frederick Dent	Sylvester	Worth
David Dixon	Leesburg	Lee
Hugh Dollar	Bainbridge	Decatur
Vincent Falcione	Albany	Lee
John A. Heath	Dawson	Terrell
Jack Henderson	Newton	Baker
Connie C. Hobbs	Newton	Baker
Sen. Dean Burke		

Name	City	County
Greg Hobbs	Thomasville	Thomas
Phil Long	Bainbridge	Decatur
Michael A. McCoy		Dougherty
George C. McIntosh	Dawson	Terrell
Mike Newberry III	Arlington	Early
Calvin D. Perry	Moultrie	Colquitt
Walt Pierce	Edison	Calhoun
A. Richard Royal	Camilla	Mitchell
J. Stephen Singletary	Blakely	Early
Jay Smith	Albany	Dougherty
Mark Spooner	Donalsonville	Seminole
Steve Sykes	Camilla	Mitchell
Cory Thomas	Colquitt	Miller
James L. Webb	Leary	Calhoun
Rep. Gerald Greene		

Chair's Report

Presented by Chairman Royal

Resource Assessment Results

[presenter]

Regional Water Planning Models

Water Planning Model Recap

1. Groundwater Availability
2. Surface Water Availability
3. Surface Water Quality

Regional Water Planning Models

Groundwater Availability

- Results presented at last meeting, April 14, 2022

Surface Water Availability

- Previously we focused on how the model works and how we measure results (***metrics***)
- *Results will be shared today*

Surface Water Quality

- Results presented at last meeting, April 14, 2022

Regional Water Planning Model Results

***Metrics** are used to evaluate the results relative to outcomes of interest.*

Surface Water Availability

Do we have enough water to…

- meet demands?
- assimilate wastewater?
- support recreation?

Groundwater Availability

How does groundwater use affect our aquifers?

Does groundwater use cause adverse impacts?
(to users, aquifers, instream flows)

Sustainable Yield

Surface Water Quality

Is water quality adequate to support uses?
(drinking water, recreation, fishing)

How do wastewater discharges affect water quality (dissolved oxygen)?

Resource Assessment Results: Water Quality and Surface Water Availability

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Draft Resource Assessment by ACF BEAM for Lower Flint-Ochlockonee Water Planning Region

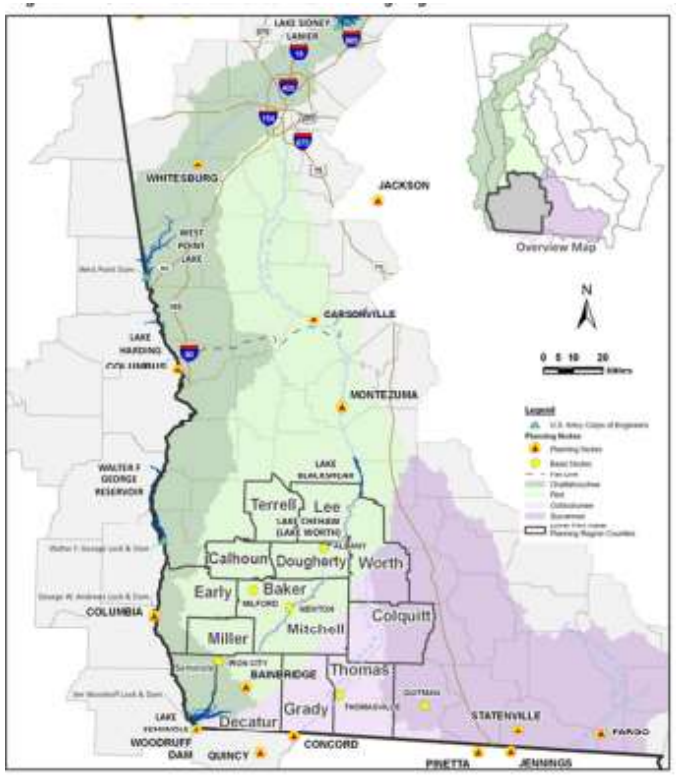
Georgia EPD

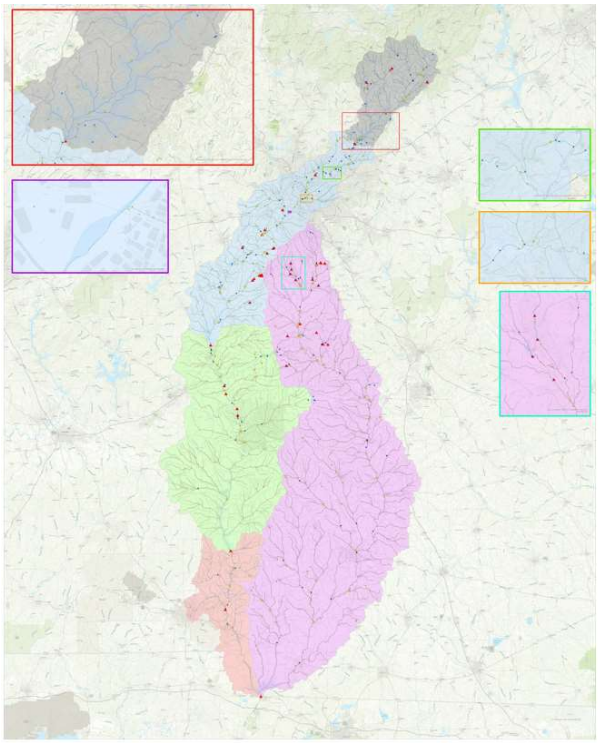
May 2022

Presentation Outline

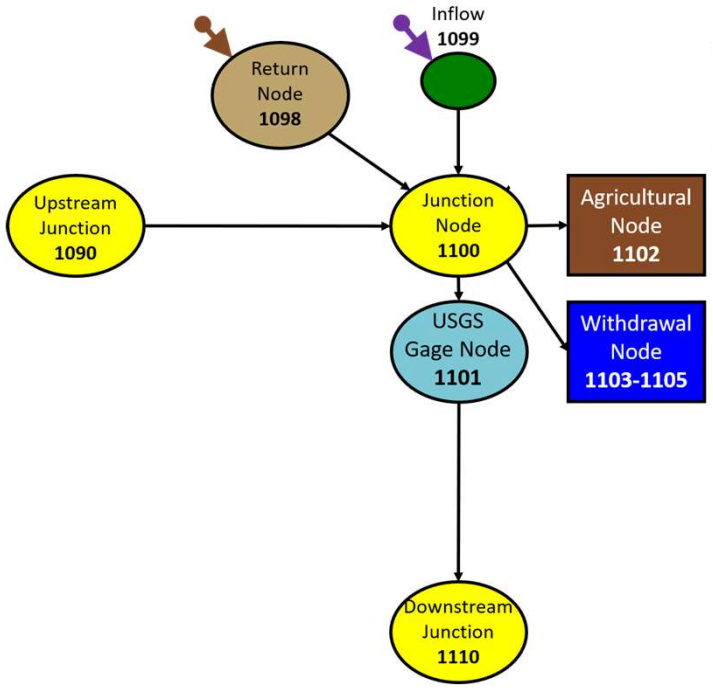
- Introduction and Model Settings
- Model Results Baseline Scenario
  - Water Supply Challenges, Examples (water supply PMs)
    - Georgia Pacific Cedar Springs, LLC
  - Wastewater assimilation Challenges, Example (wastewater assimilation PMs)
  - Bainbridge Flow Results
  - Iron City Flow Results
  - Milford Flow Results
- Additional Performance Measures to consider?

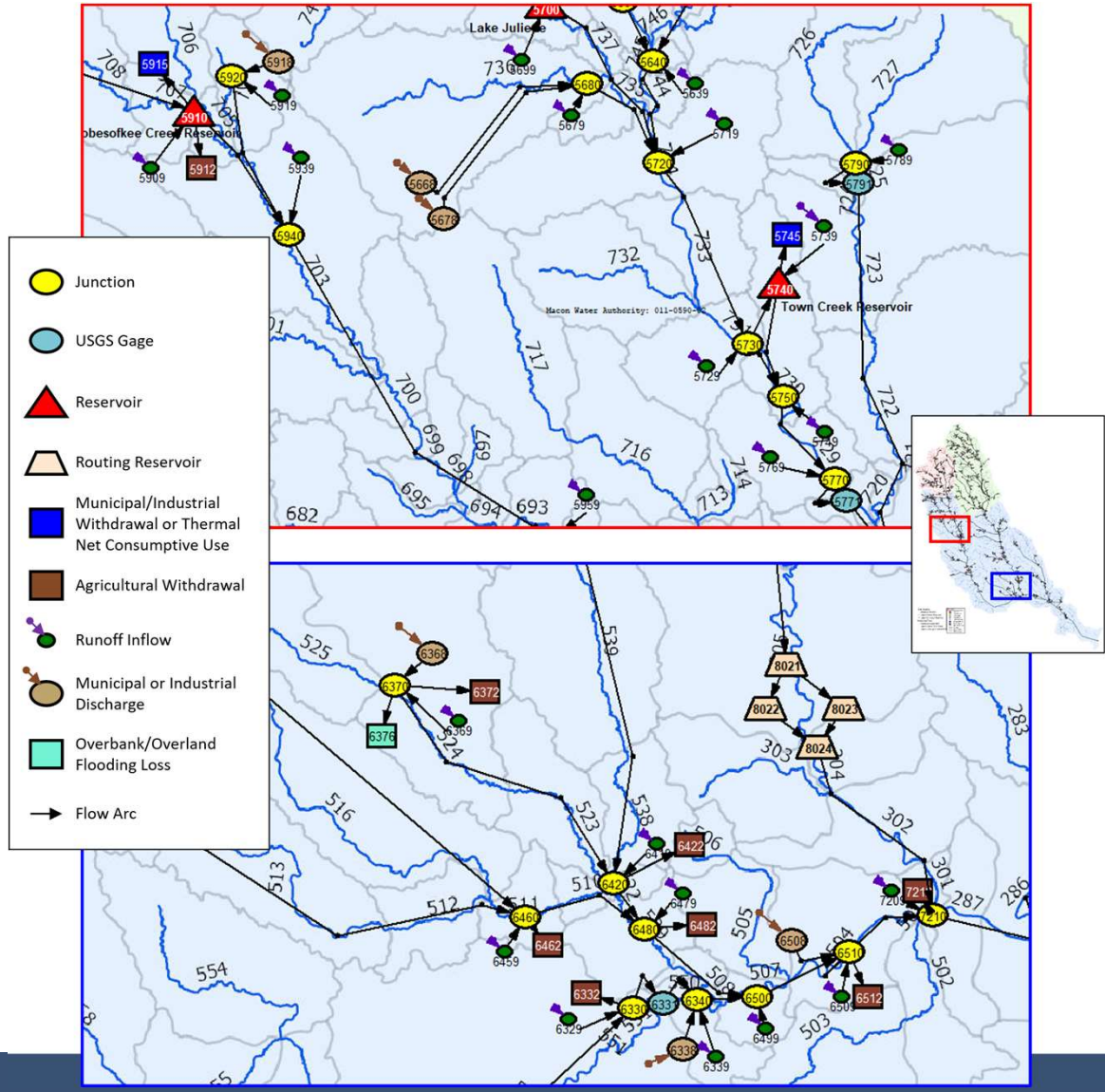
Lower Flint- Ochlockonee Region and ACF Model Domain





BEAM Node Types





ACF BEAM Model Baseline and Future Scenarios Settings

- Simulation Period (various hydrologic conditions): 1939-2018
- Withdrawal and Discharge amount: baseline: average of period 2010-2018 (i.e. marginally dry conditions);
- Instream Flow Protection Thresholds: per permit conditions
- Reservoir physical and operational data: from reservoir owner or EPD

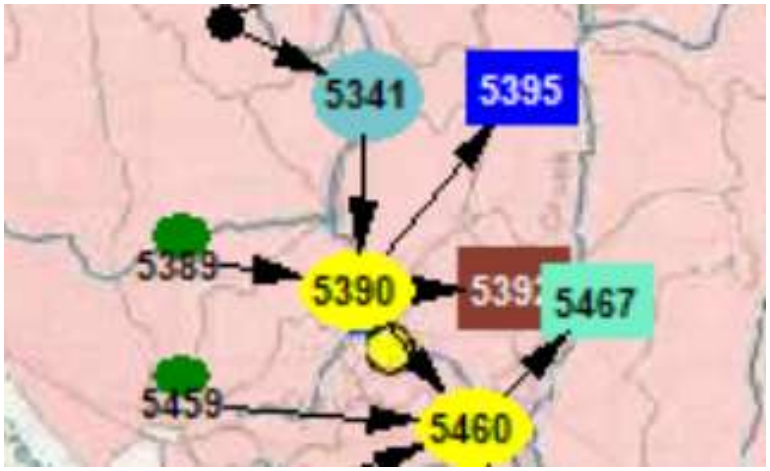
Water Supply Settings: Facilities Analyzed in BEAM Model for Lower Flint-Ochlockonee Region

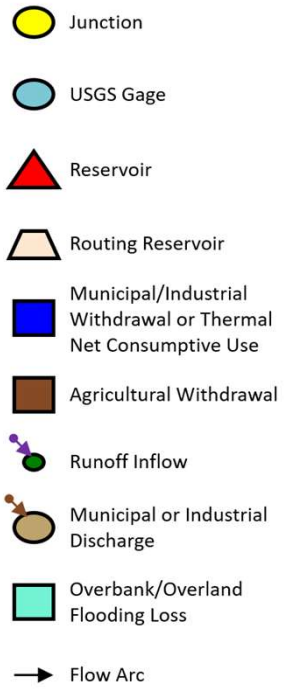
Facility	Total number
Municipal Withdrawal	0
Municipal Discharge	17
Industrial Withdrawal	1
Industrial Discharge	3
Energy Withdrawal	1

Note: Energy withdrawals are expressed as consumptive uses in modeling.

Example 1: Permit 049-1295-01 (BEAM Node 5395)

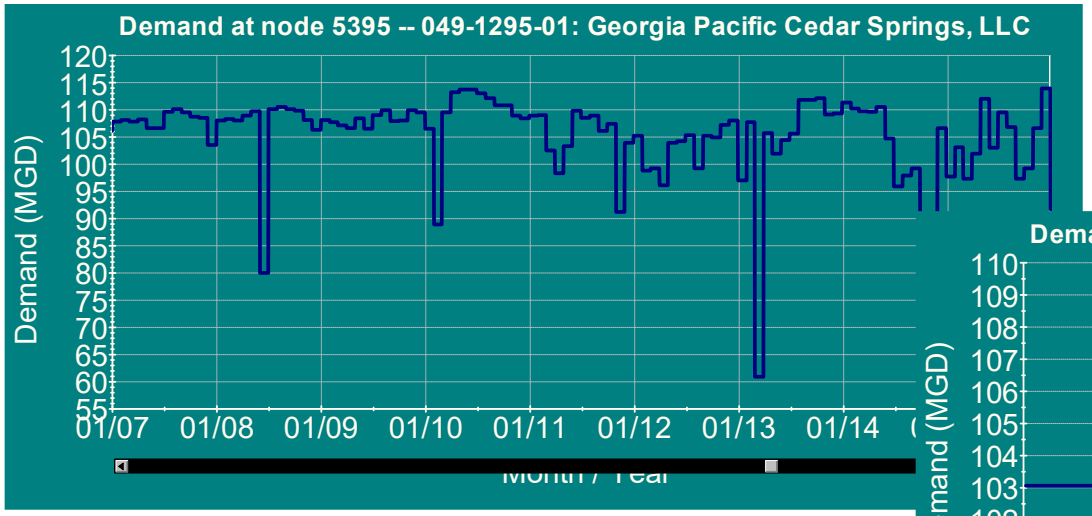
- Permit holder: Georgia Pacific Cedar Springs, LLC
- Withdrawal limits: 144 mgd (daily)/115 mgd(monthly)



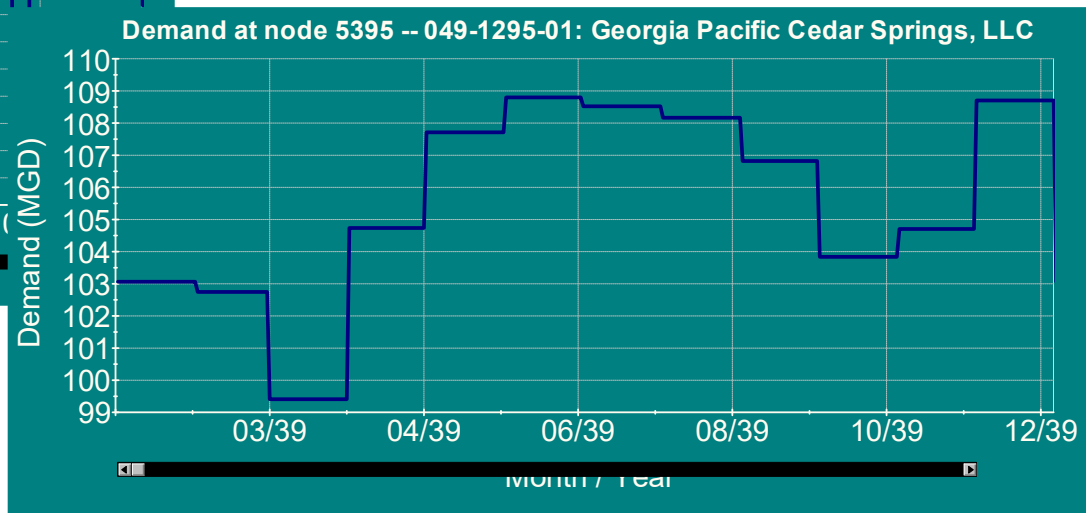


Permit 099-1106-07 Withdrawal Amount Setting- average of 2010-2018 and 2060 projection

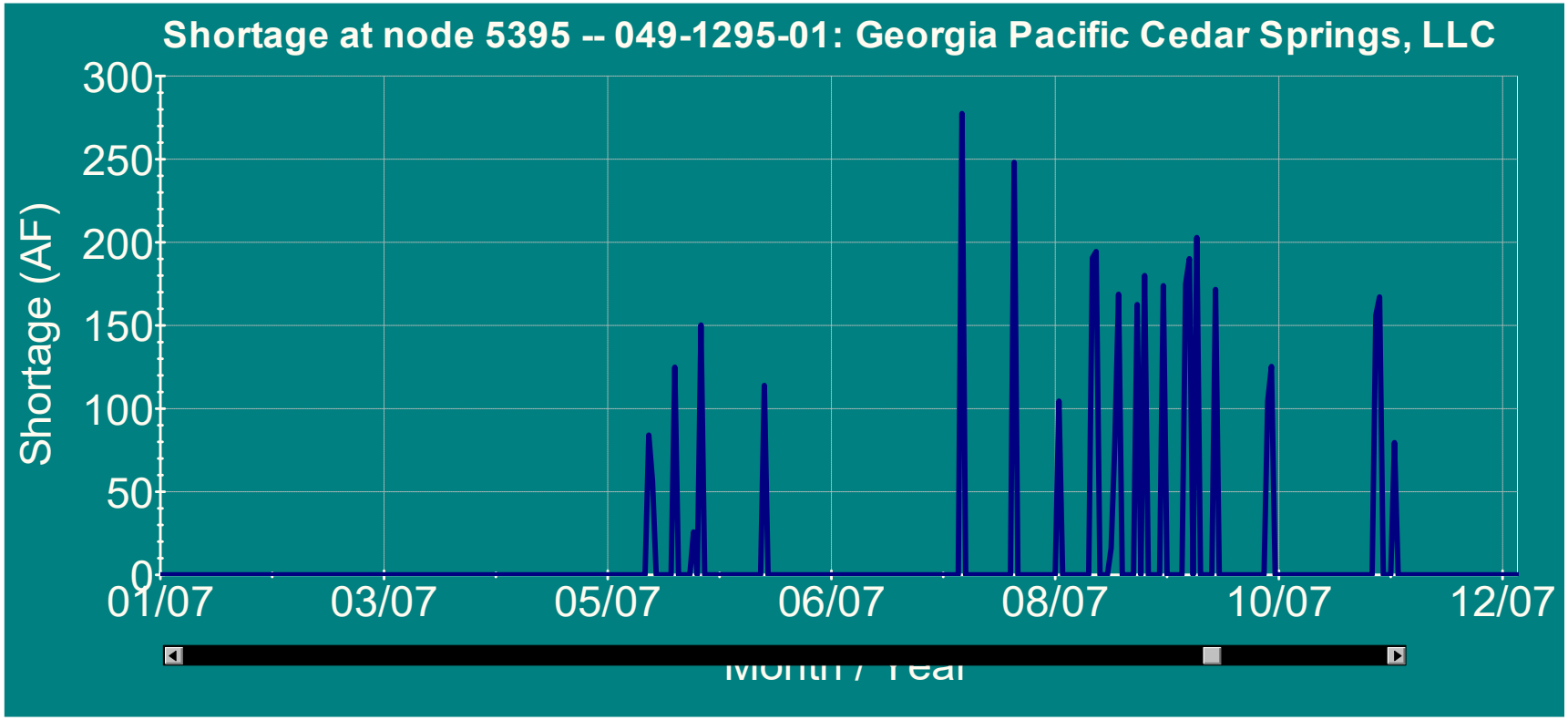
2010 - 2018



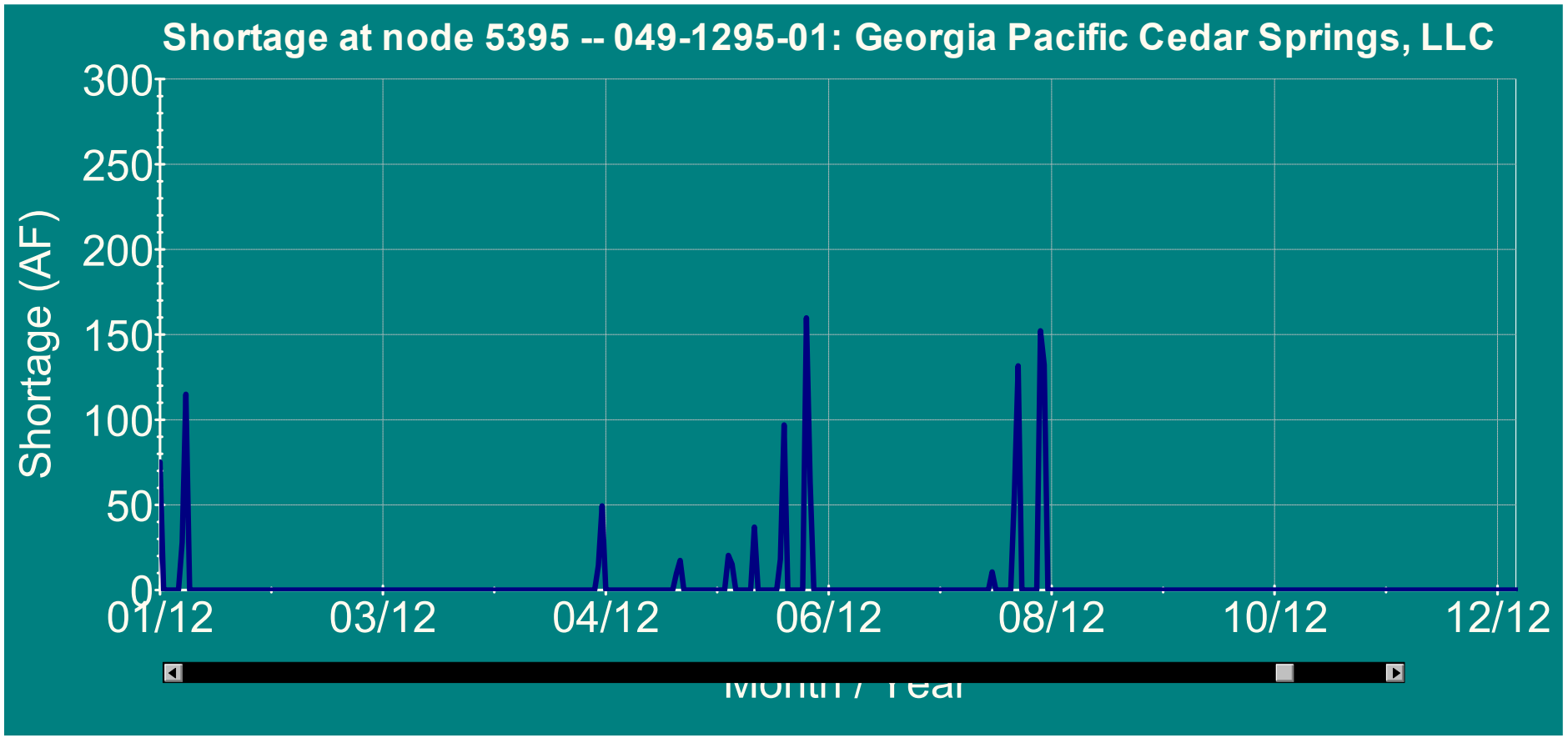
Baseline



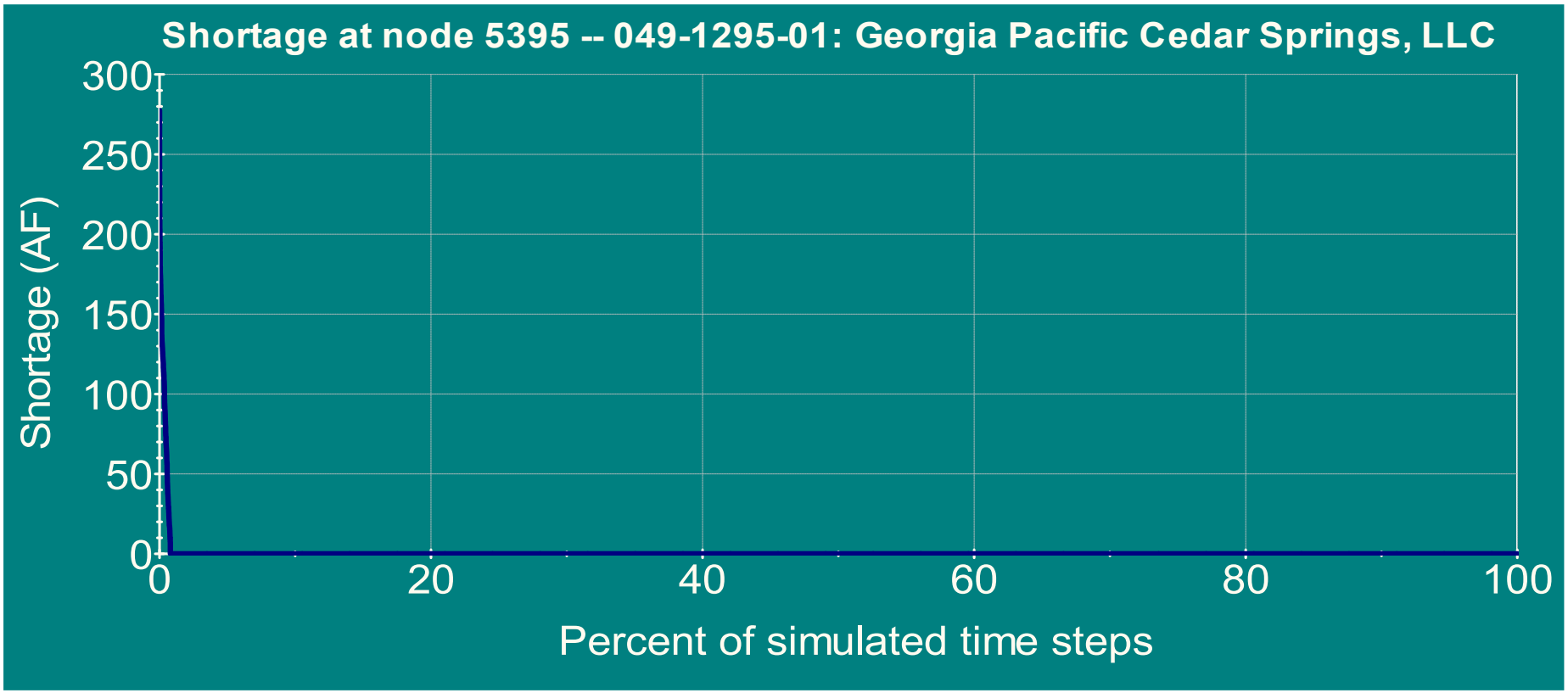
Water Supply Challenge in 2007



Water Supply Challenge in 2012



Water Supply Shortage Frequency in 1939-2018

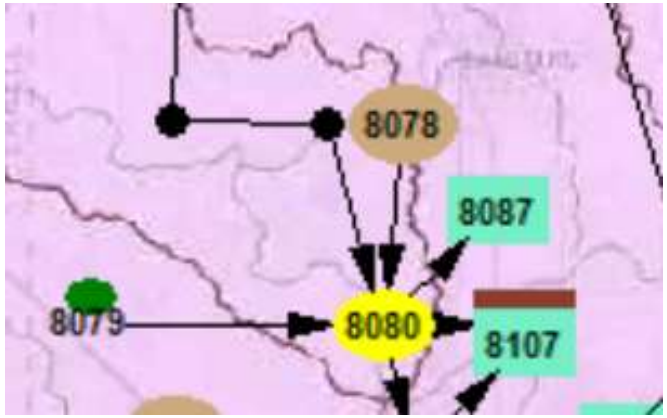


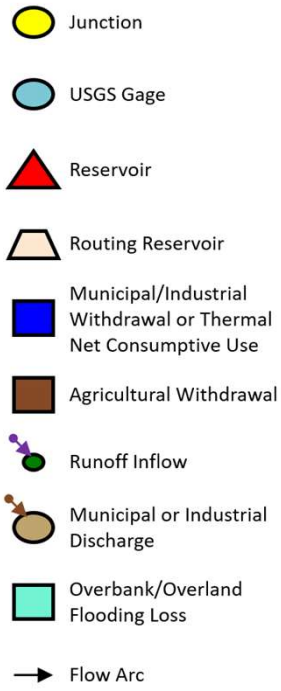
Wastewater Assimilation Challenge

- Wastewater increases with population growth, which may also bring challenge to water resource management.
- Effluent limitation is determined by two factors:
  - Available technology – technology based effluent limitations
  - Water quality standards – upholding water quality standards in the receiving water body - 7Q10 flow is usually used as low flow threshold for determining wastewater assimilation and NPDES permit limitations

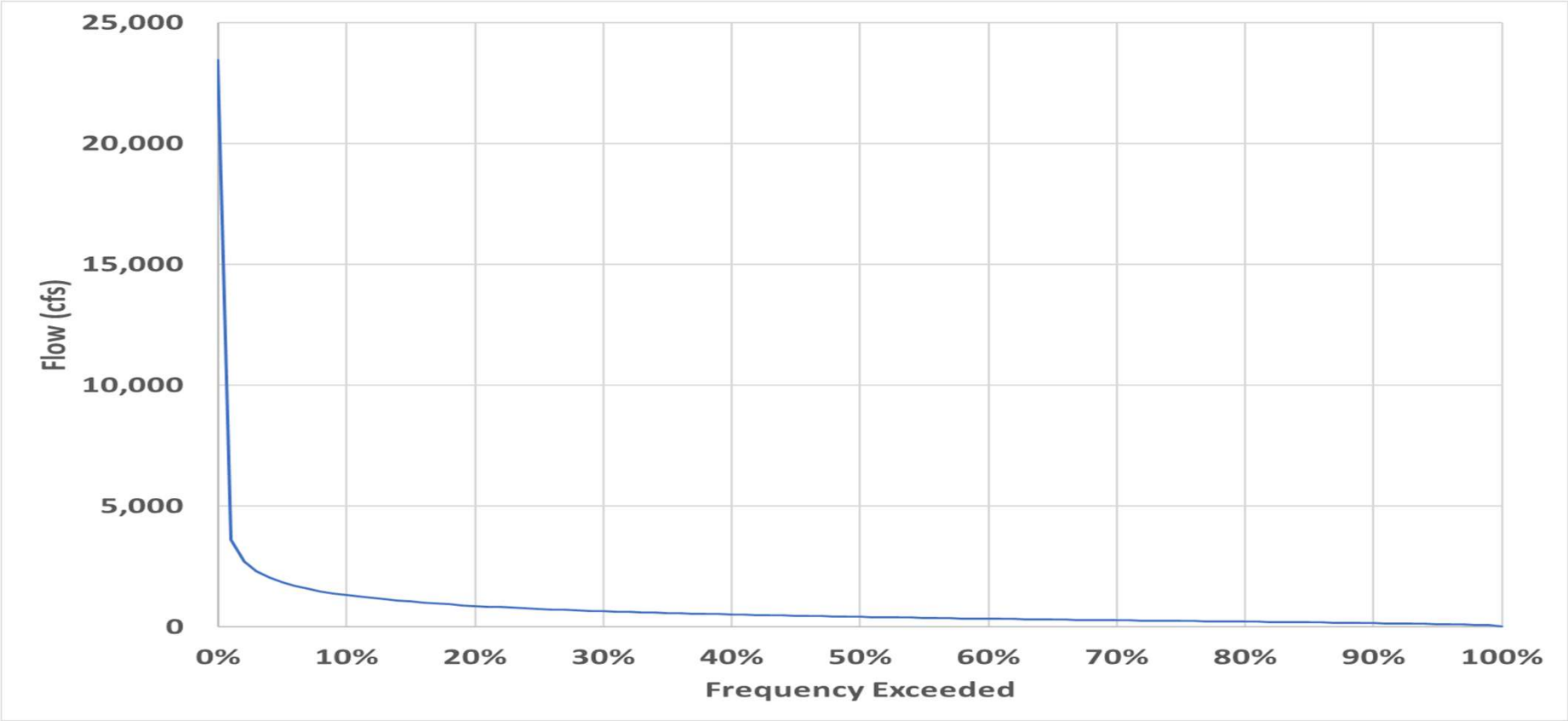
Wastewater Assimilation Challenge Example 1: Permit GA 0026638 (BEAM Node 8078)

- Permit holder: City of Leesburg (Leesburg Pond WPCP)
- Permitted monthly discharge flow: 1.2 mgd
- 7Q10 Flow at discharge location: 54.99 cfs (29.6 mgd)

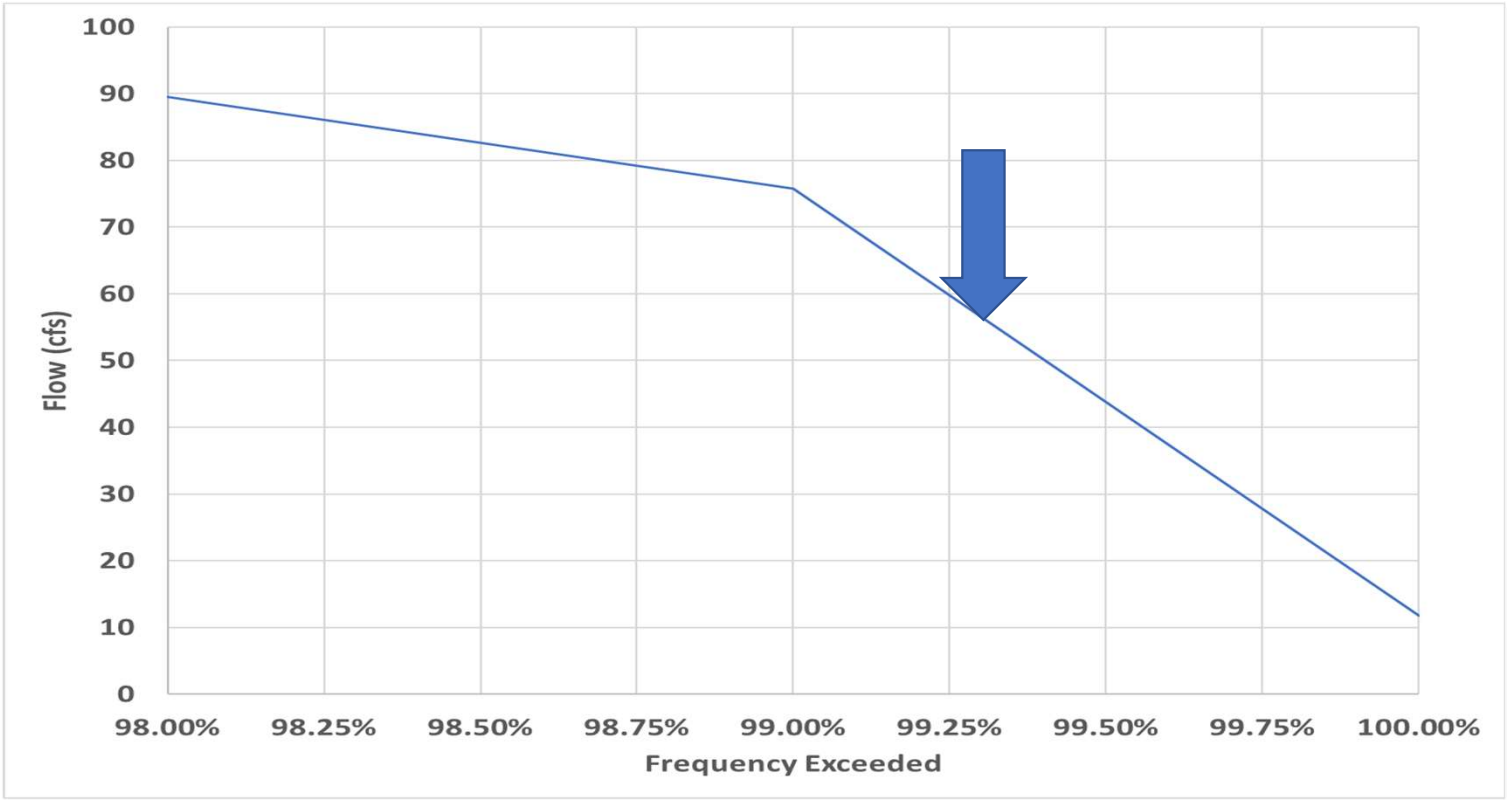




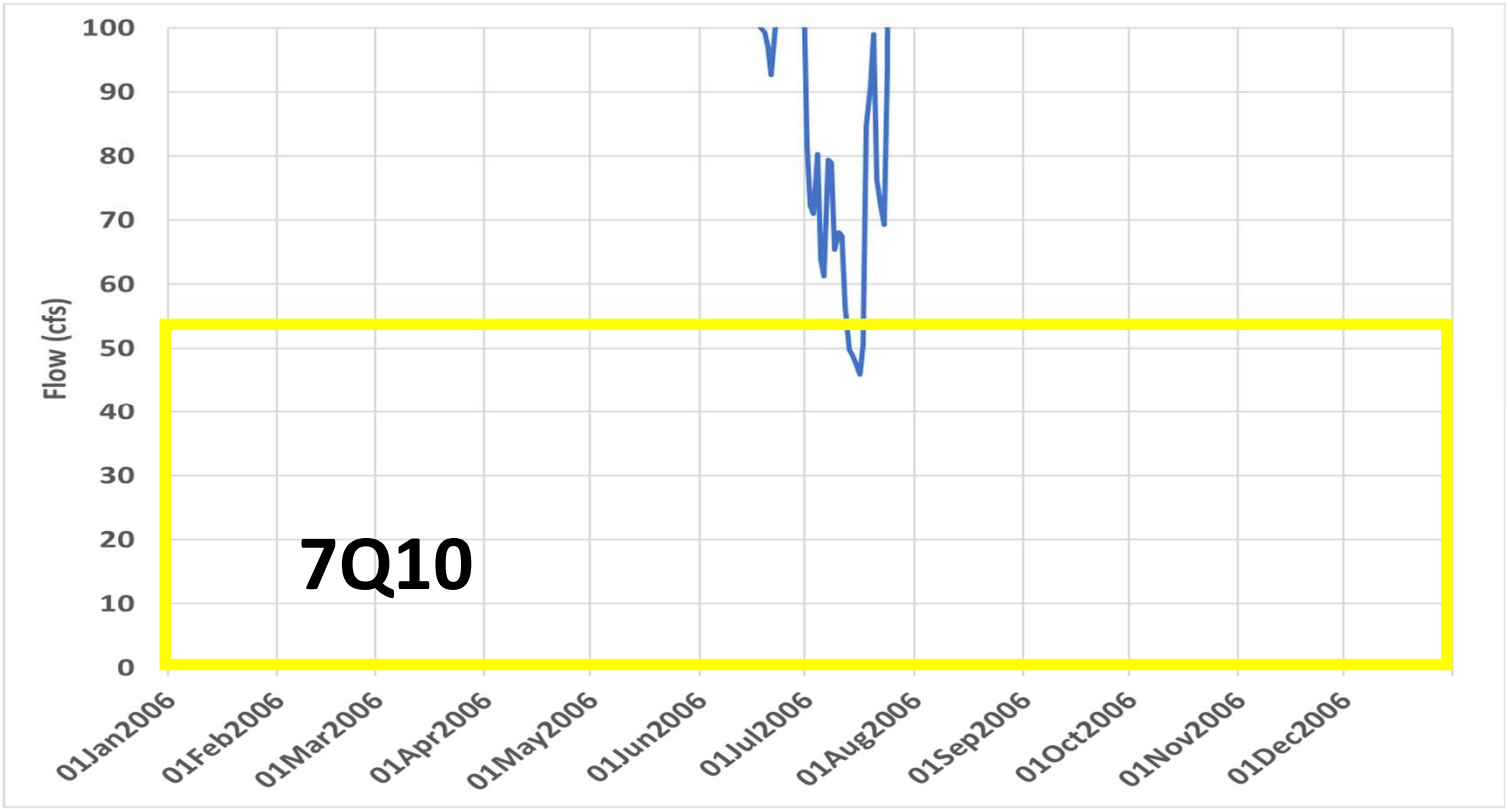
Simulation Results at GA 0026638 Location Flow Frequency



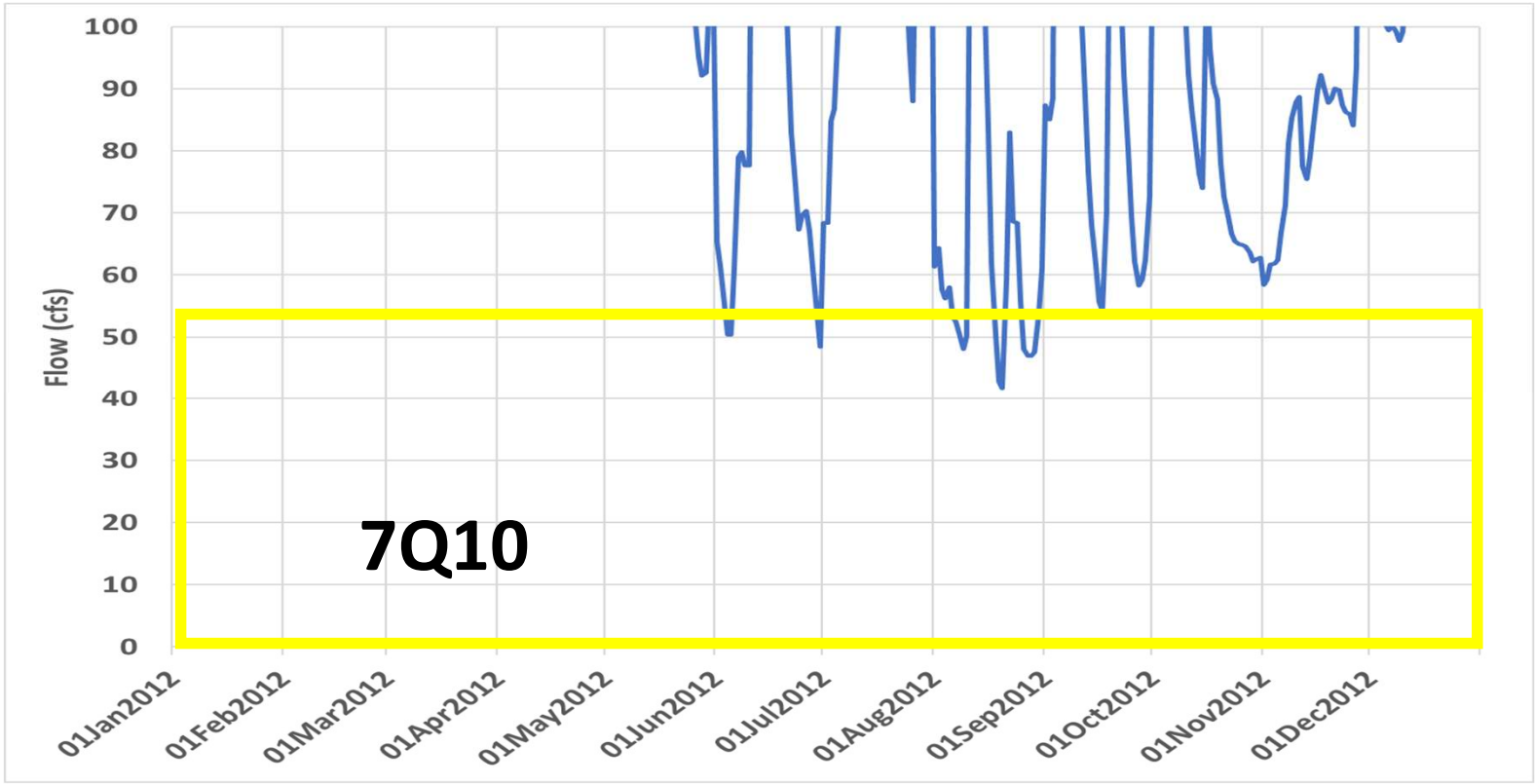
Simulation Results at GA 0026638 Location Flow Frequency (low end) (7Q10 = 54.99 cfs)



Simulation Results at GA 0026638 Location Flow in 2006



Simulation Results at GA 0026638 Location Flow in 2012



Bainbridge Flow Condition (BEAM Node 8651)

Junction

USGS Gage

Reservoir

Routing Reservoir

Municipal/Industrial Withdrawal or Thermal Net Consumptive Use

Agricultural Withdrawal

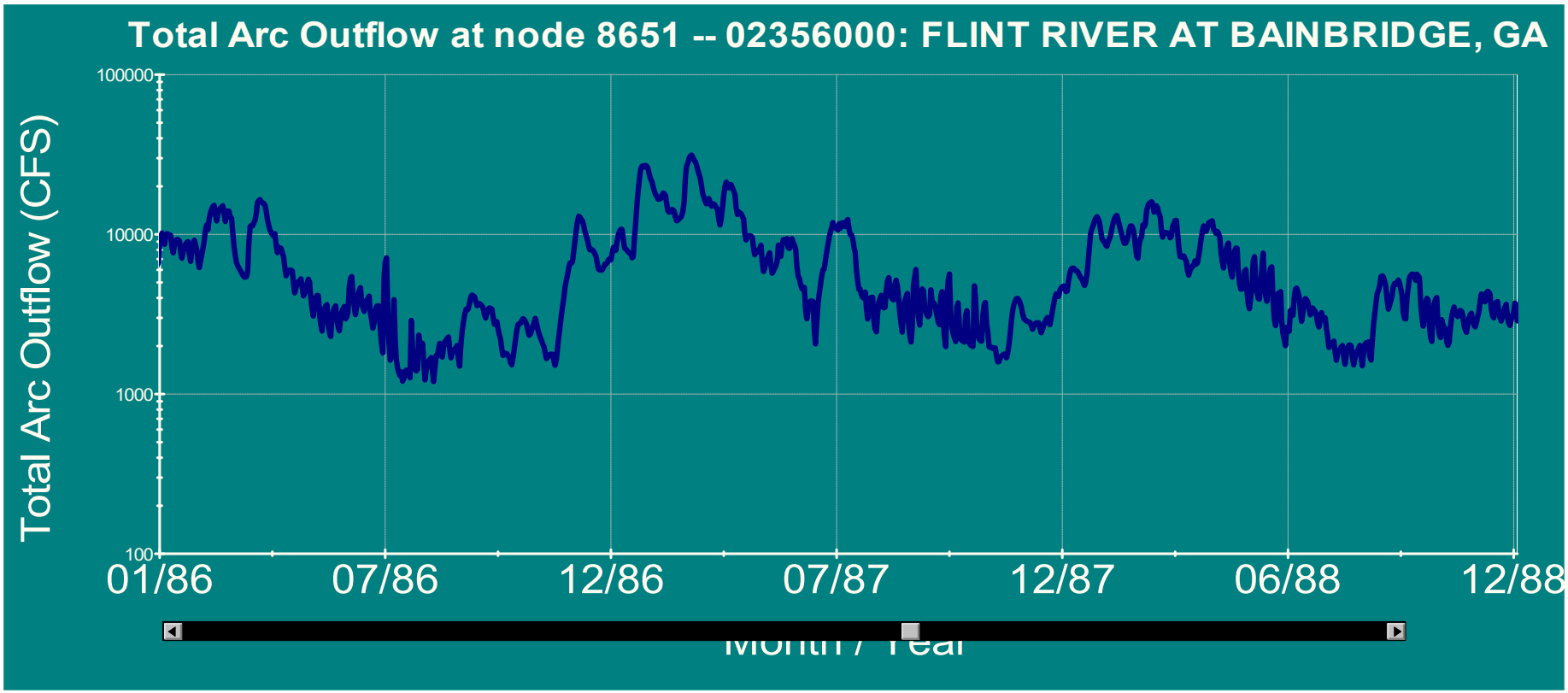
Runoff Inflow

Municipal or Industrial Discharge

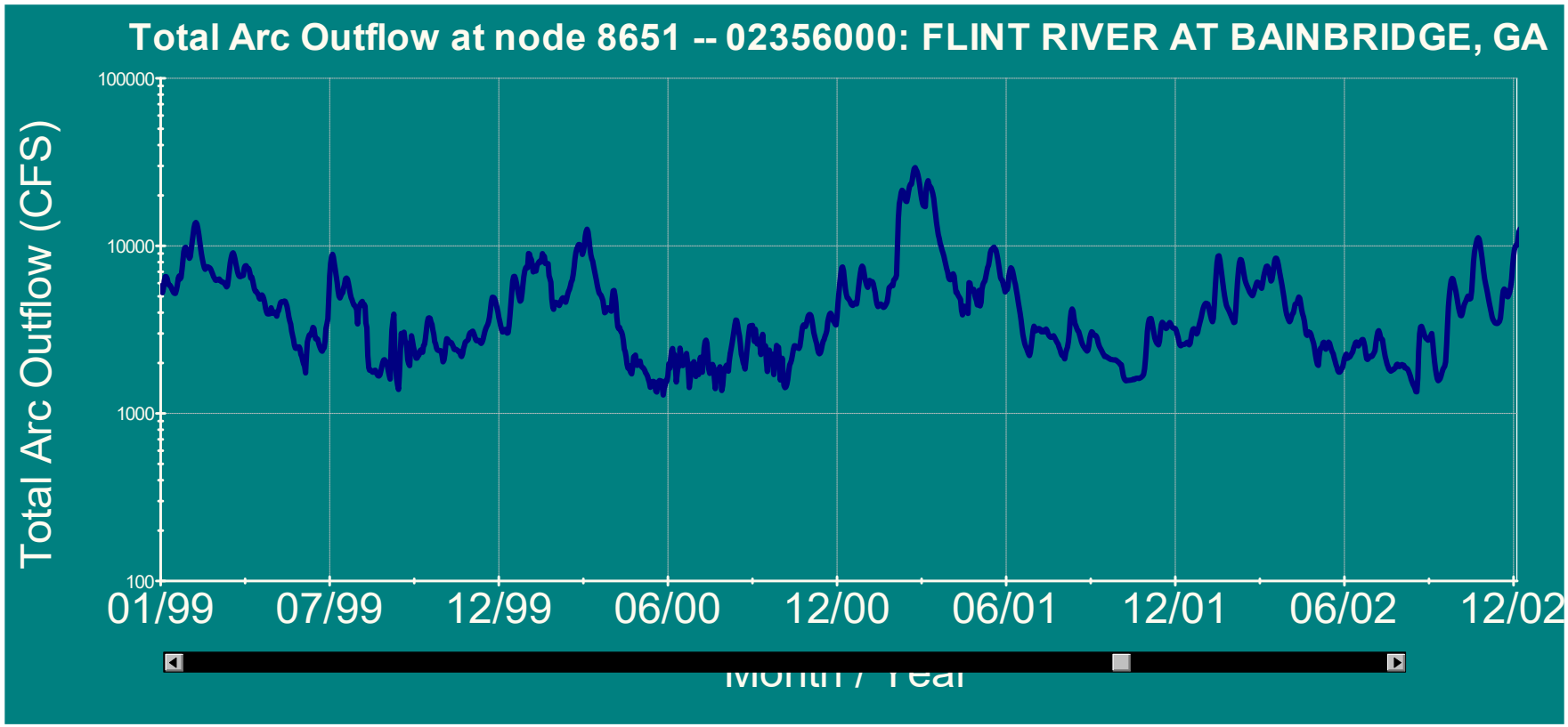
Overbank/Overland Flooding Loss

Flow Arc

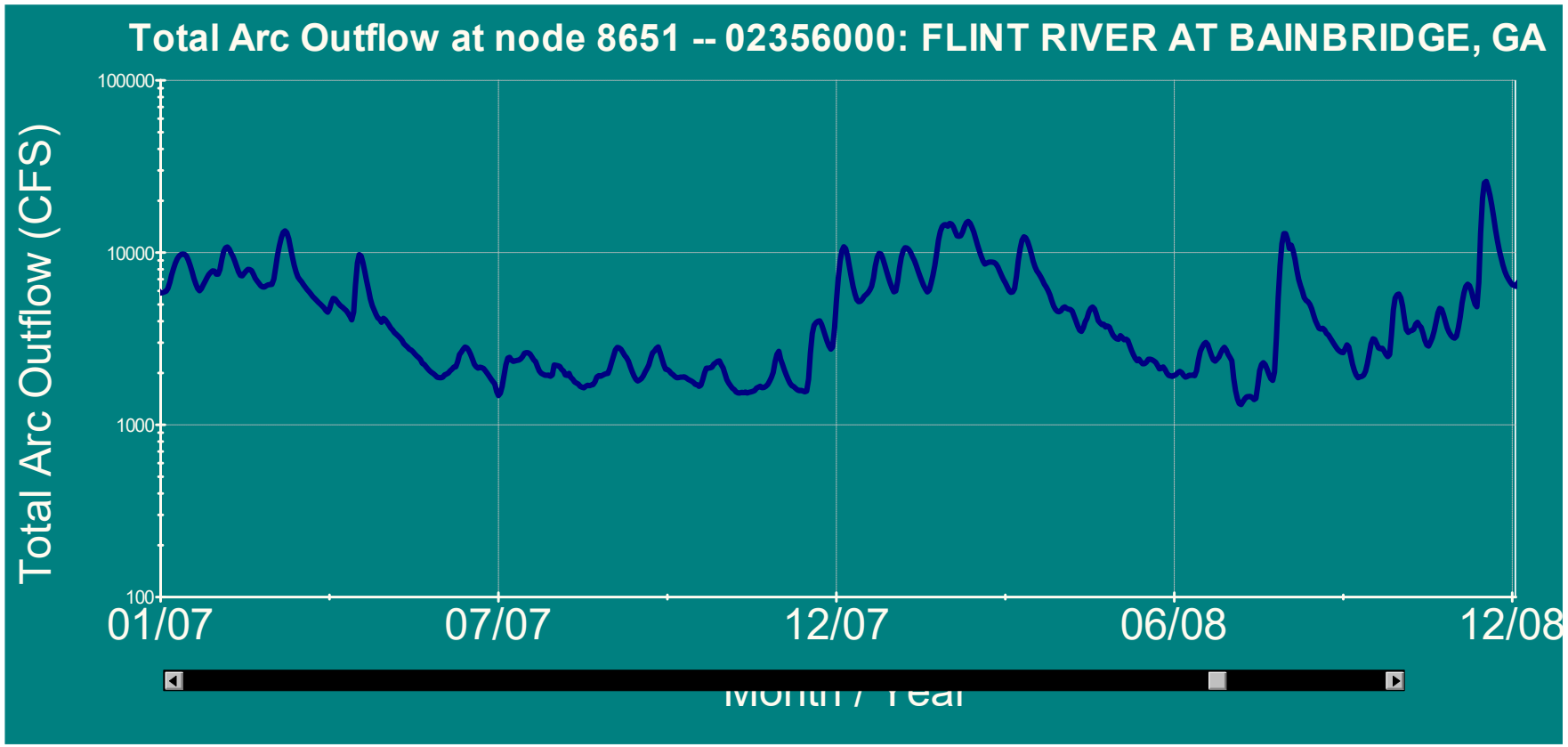
Simulation Results at USGS 02356000 Location Flow in 1986-1988



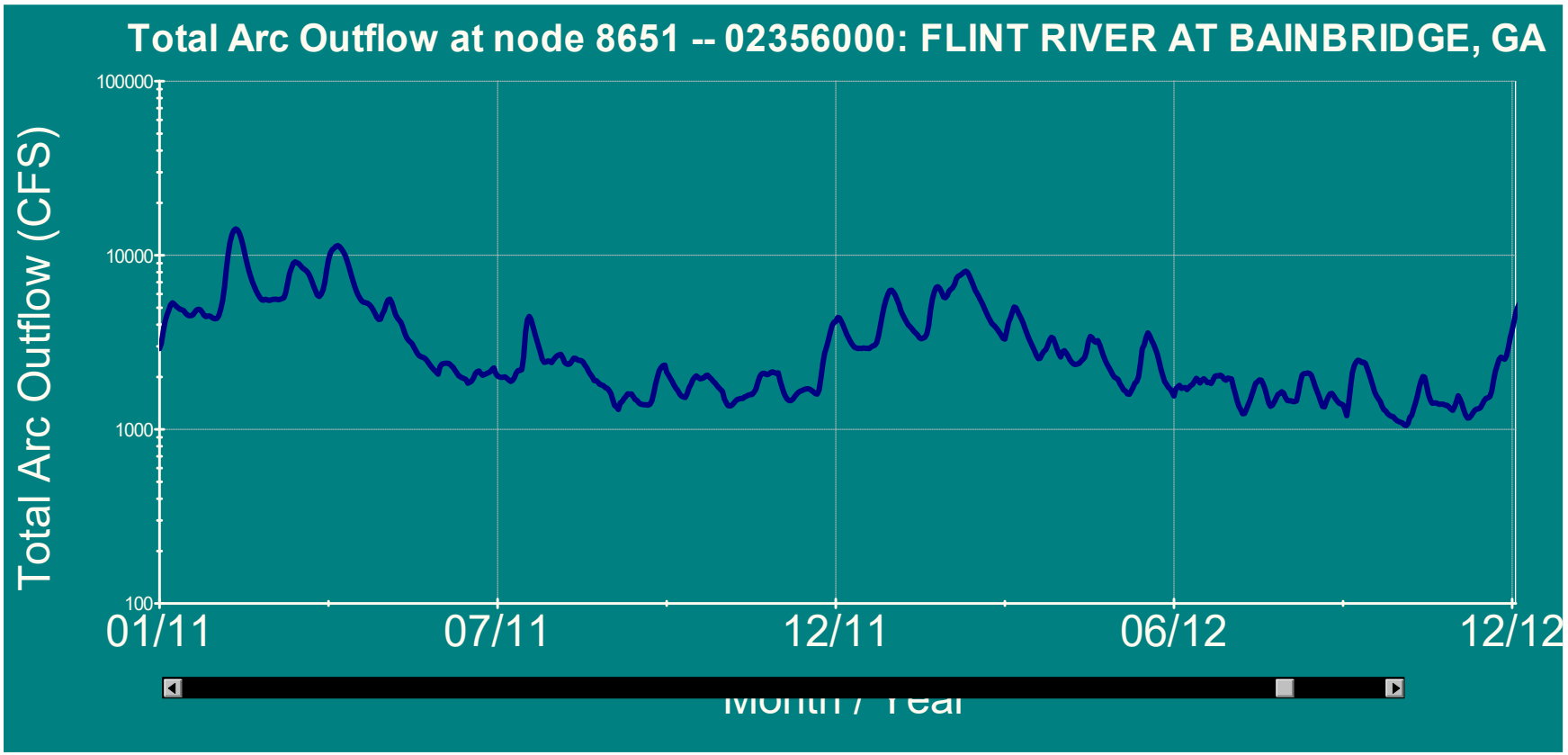
Simulation Results at USGS 02356000 Location Flow in 1999-2002



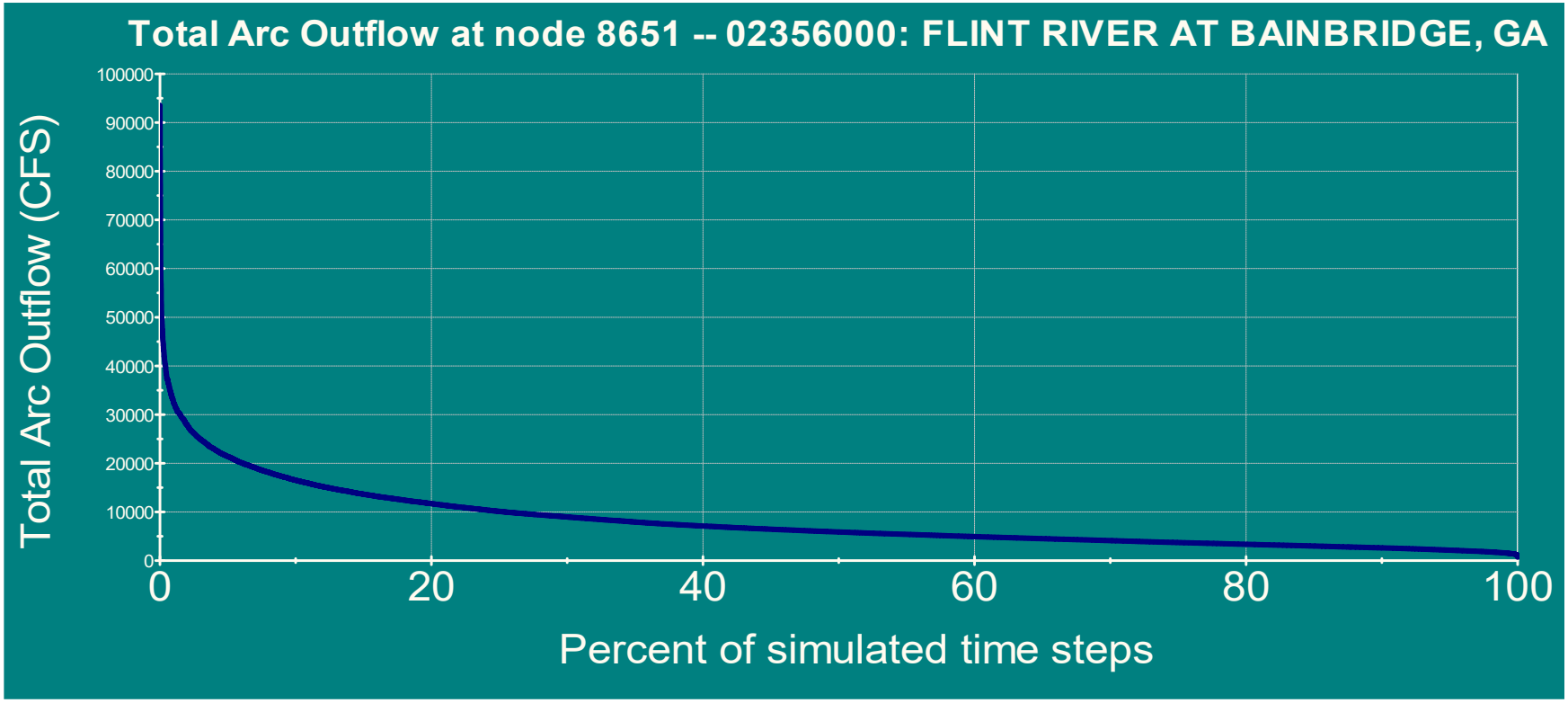
Simulation Results at USGS 02356000 Location Flow in 2007-2008



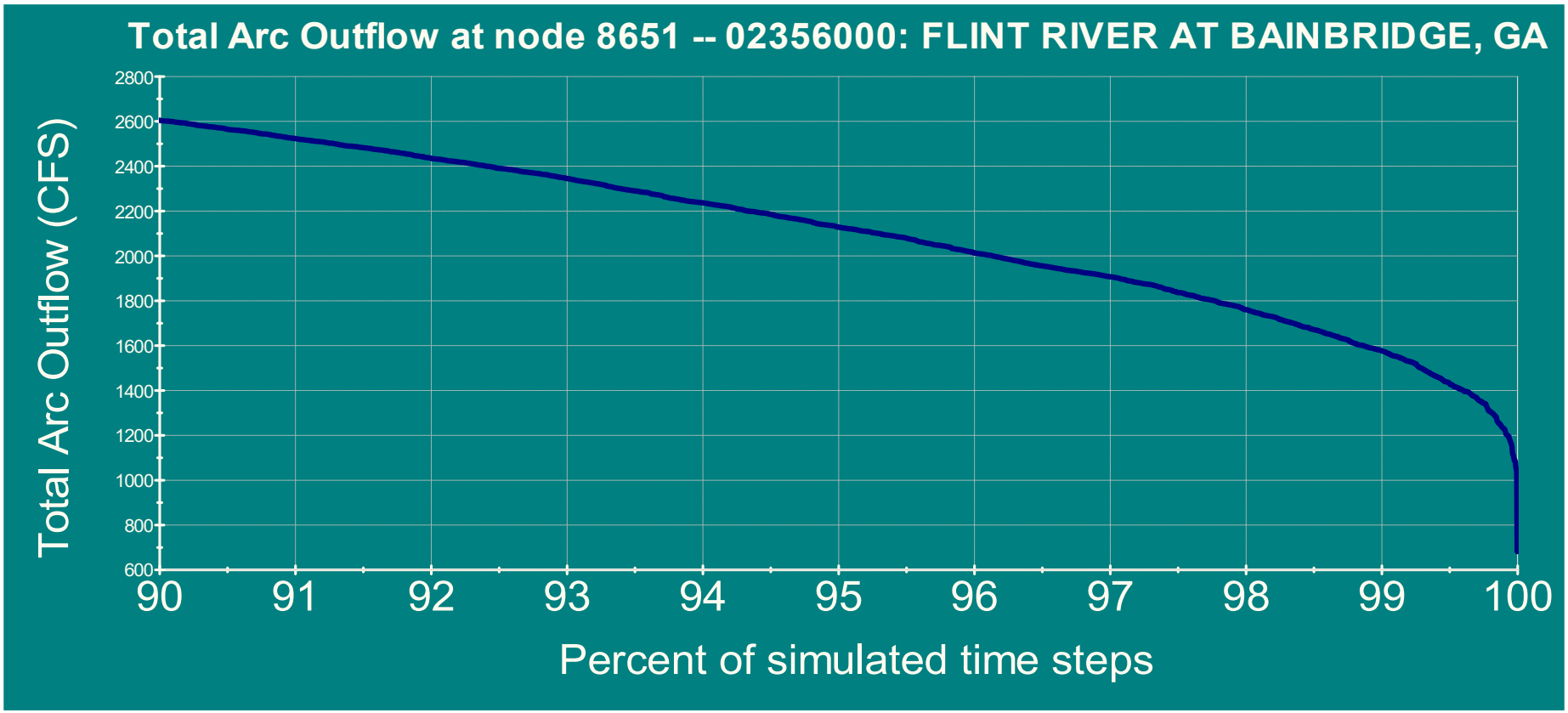
Simulation Results at USGS 02356000 Location Flow in 2011-2012



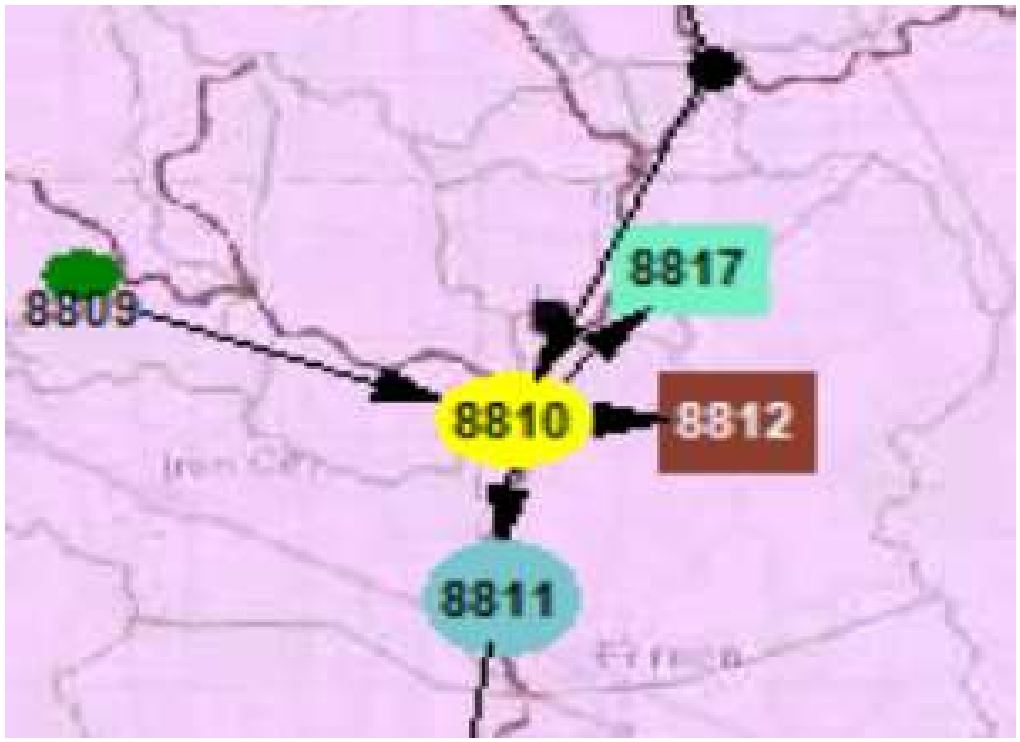
Simulation Results at USGS 02356000 Location Flow Frequency



Simulation Results at USGS 02356000 Location Flow Frequency (low end)



Iron City Flow Condition (BEAM Node 8811)



Junction

USGS Gage

Reservoir

Routing Reservoir

Municipal/Industrial Withdrawal or Thermal Net Consumptive Use

Agricultural Withdrawal

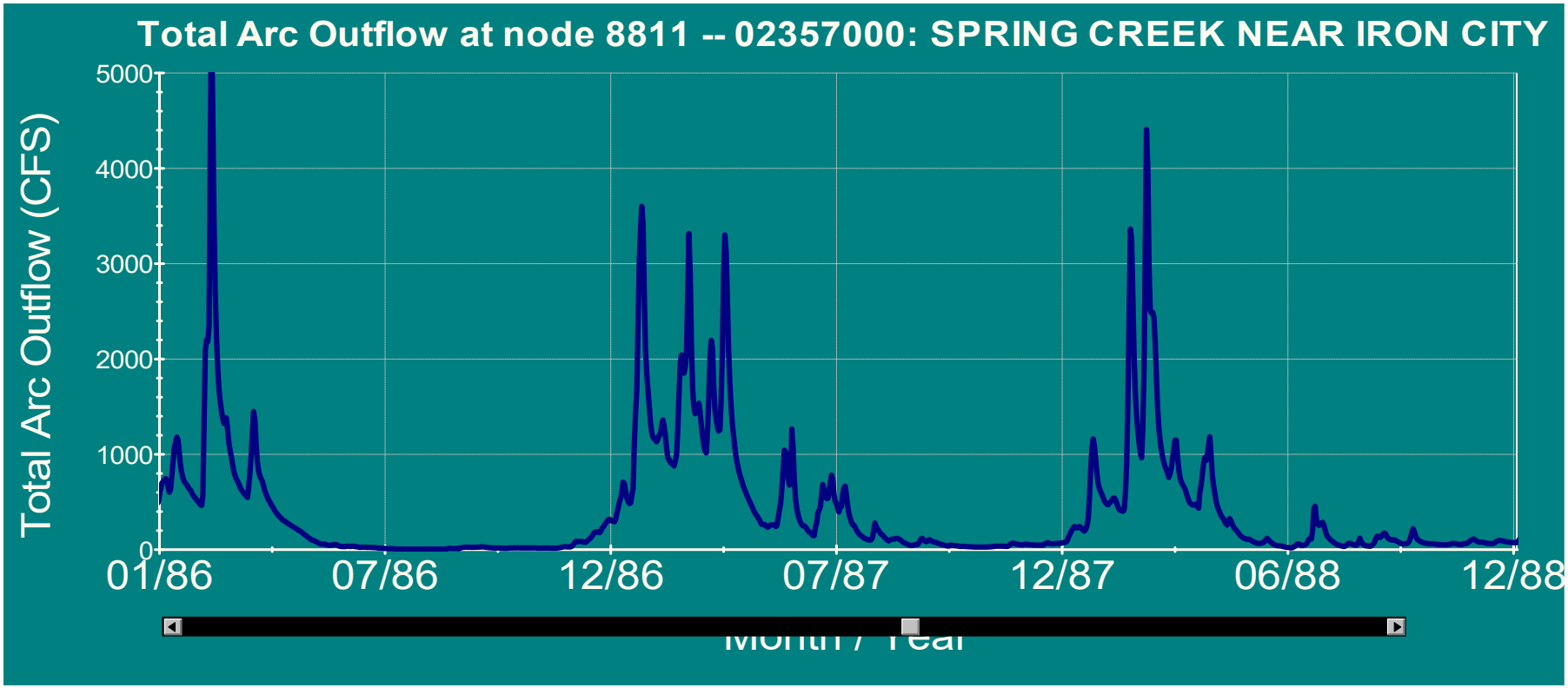
Runoff Inflow

Municipal or Industrial Discharge

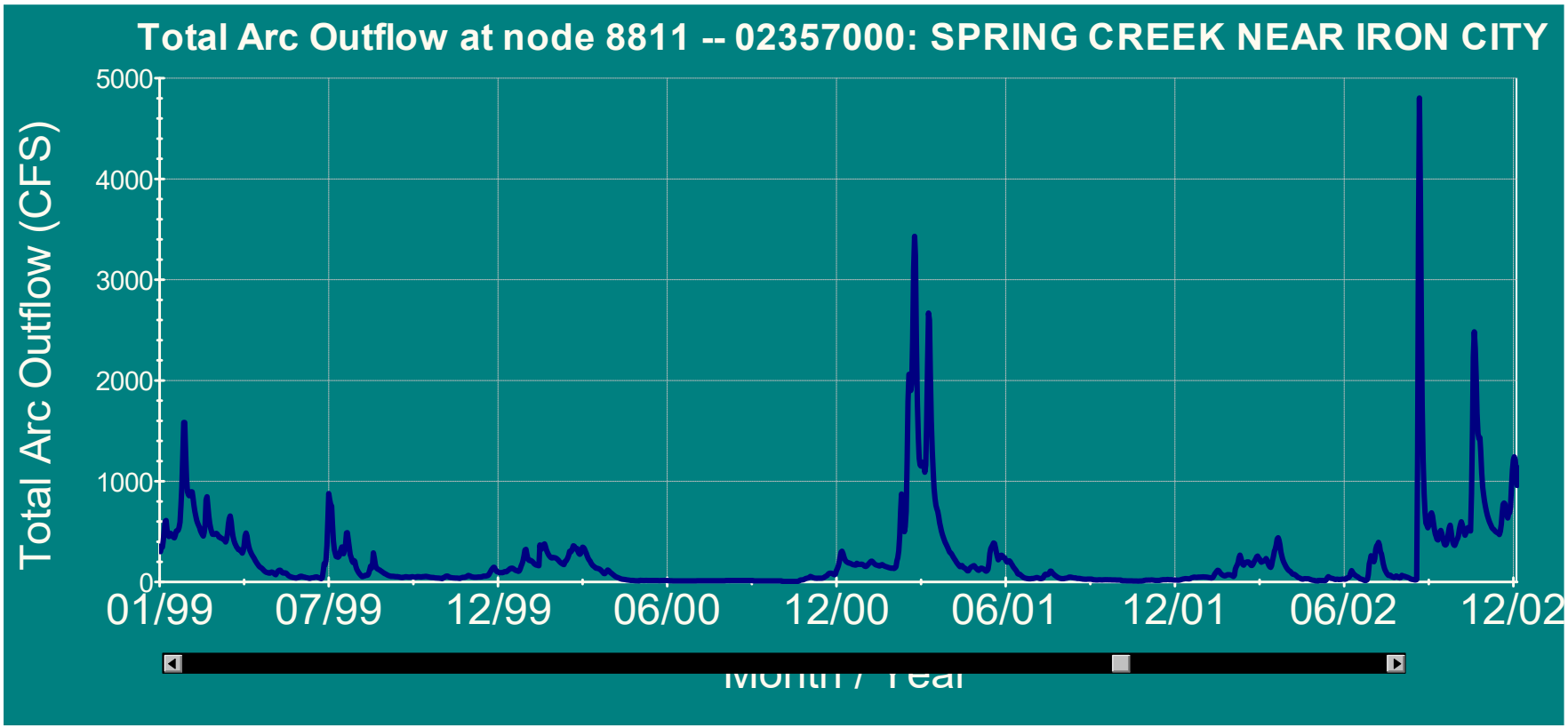
Overbank/Overland Flooding Loss

Flow Arc

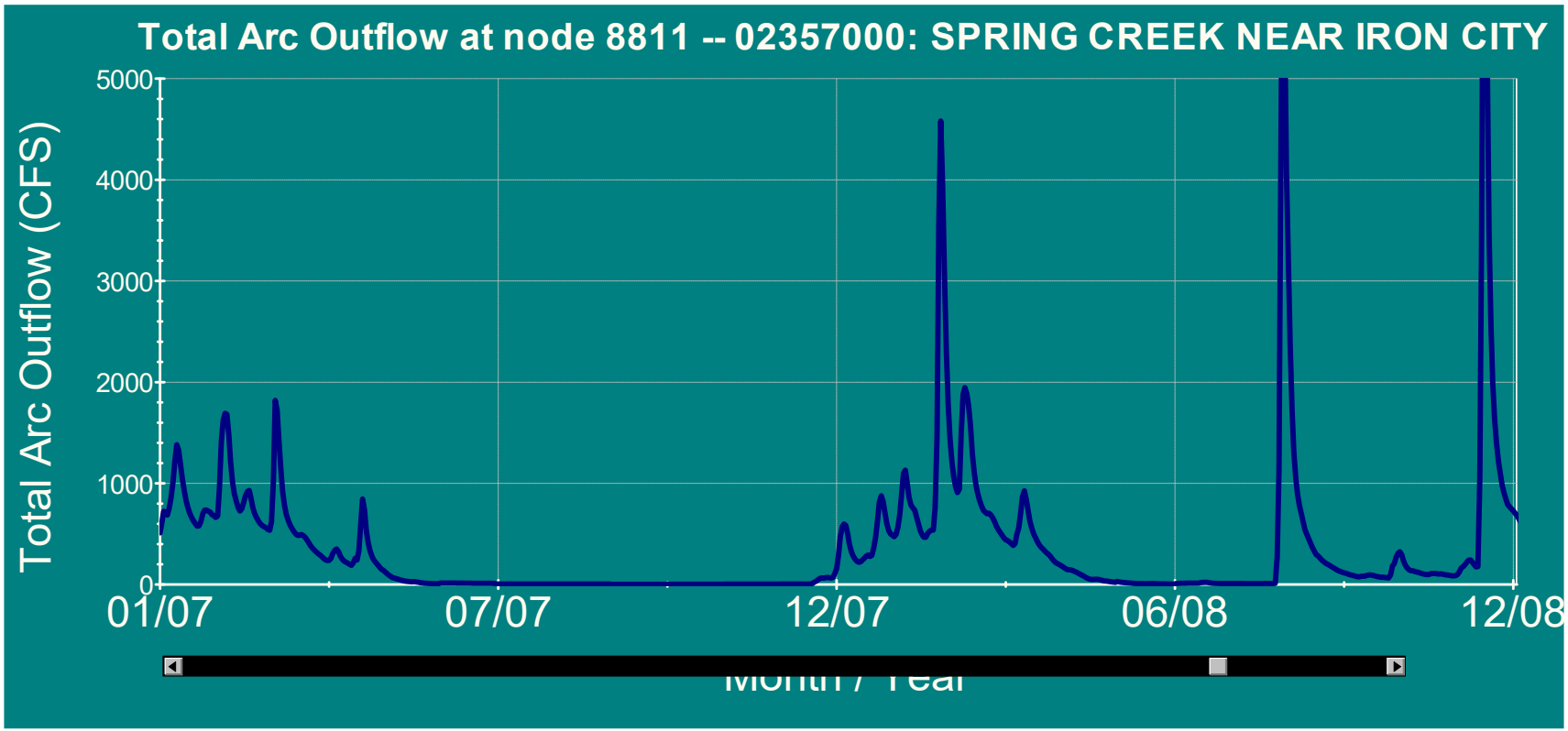
Simulation Results at USGS 02357000 Location Flow in 1986-1988



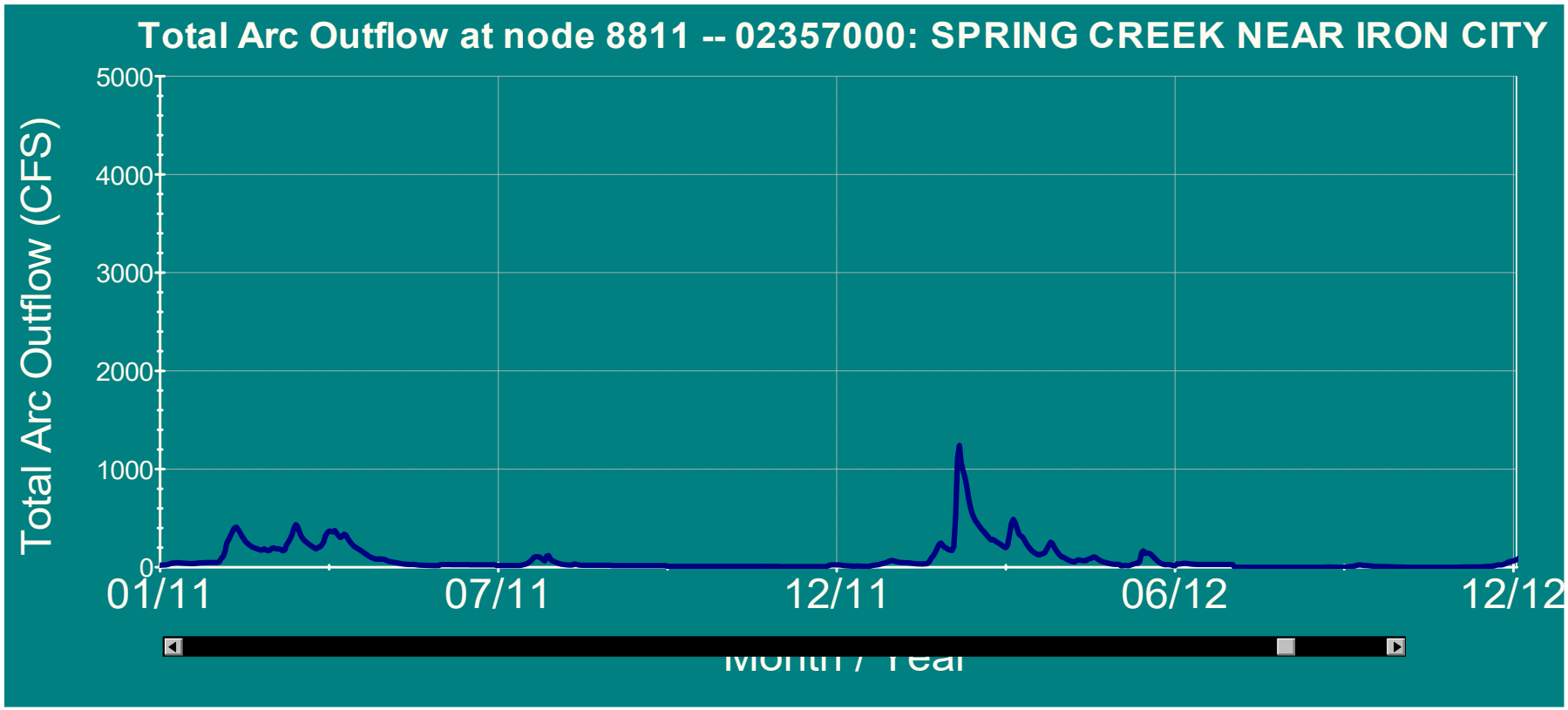
Simulation Results at USGS 02357000 Location Flow in 1999-2002



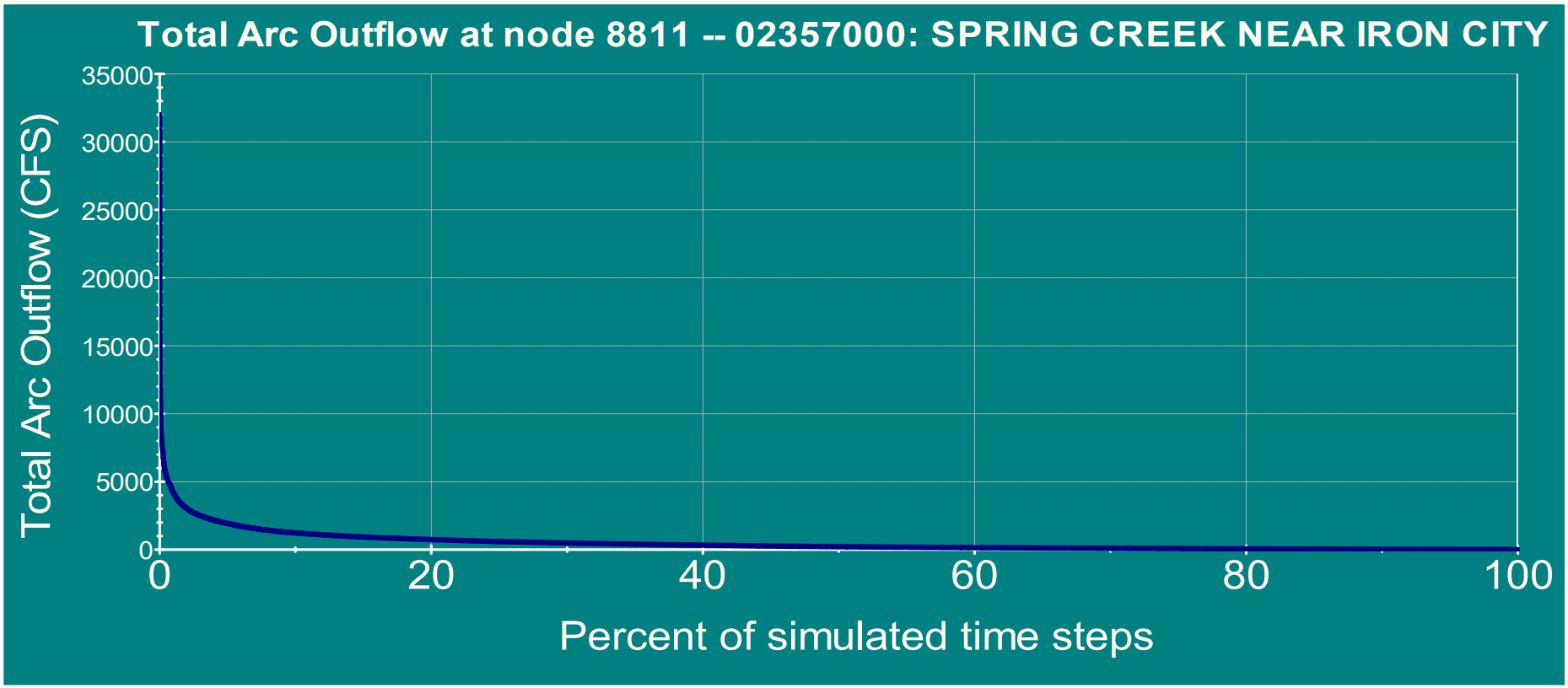
Simulation Results at USGS 02357000 Location Flow in 2007-2008



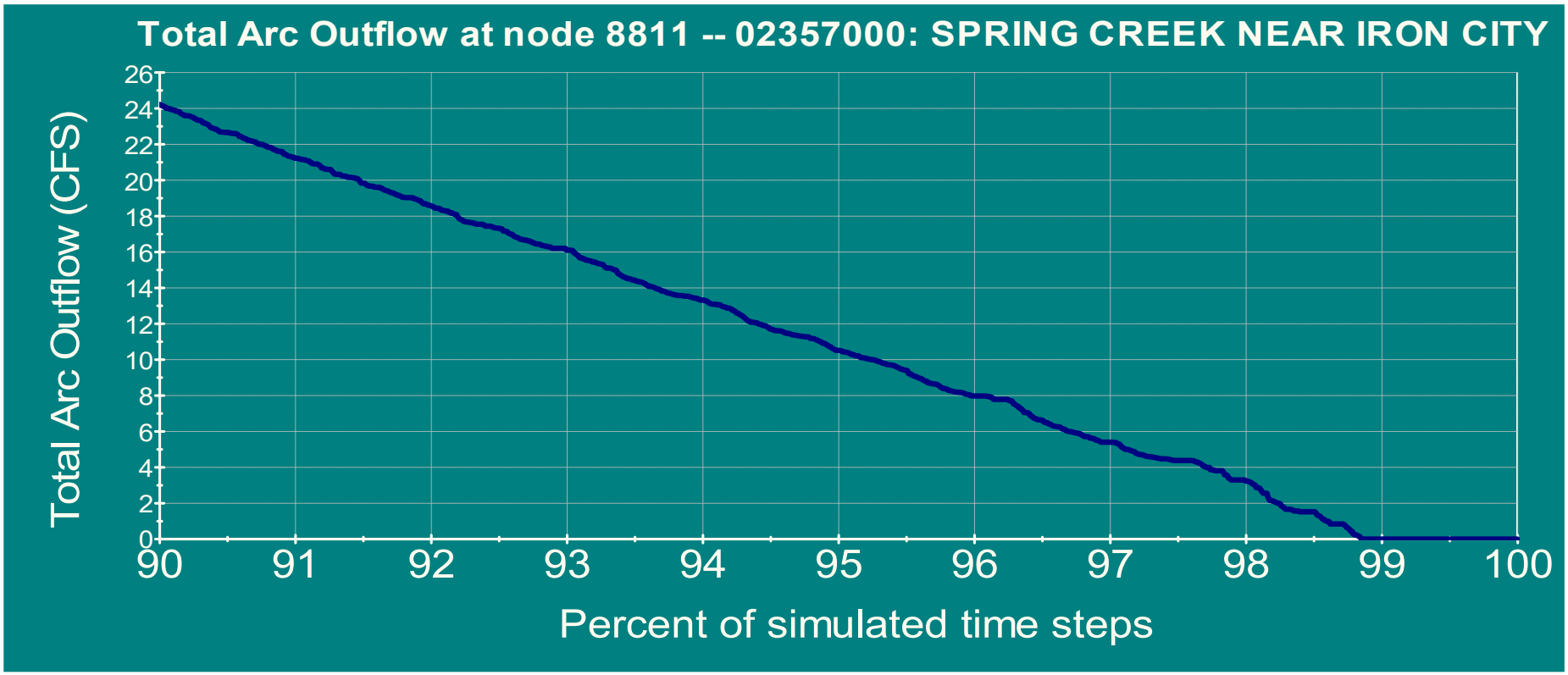
Simulation Results at USGS 02357000 Location Flow in 2011-2012



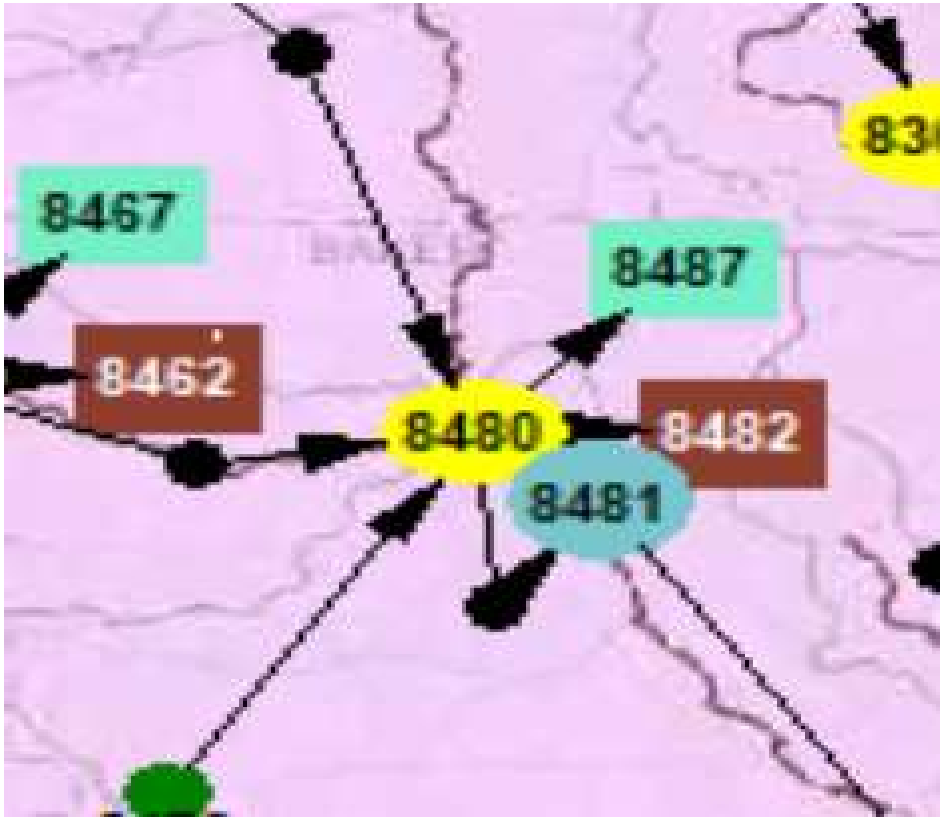
Simulation Results at USGS 02357000 Location Flow Frequency



Simulation Results at USGS 02357000 Location Flow Frequency (low end)



Milford Flow Condition (BEAM Node 8481)



Junction

USGS Gage

Reservoir

Routing Reservoir

Municipal/Industrial Withdrawal or Thermal Net Consumptive Use

Agricultural Withdrawal

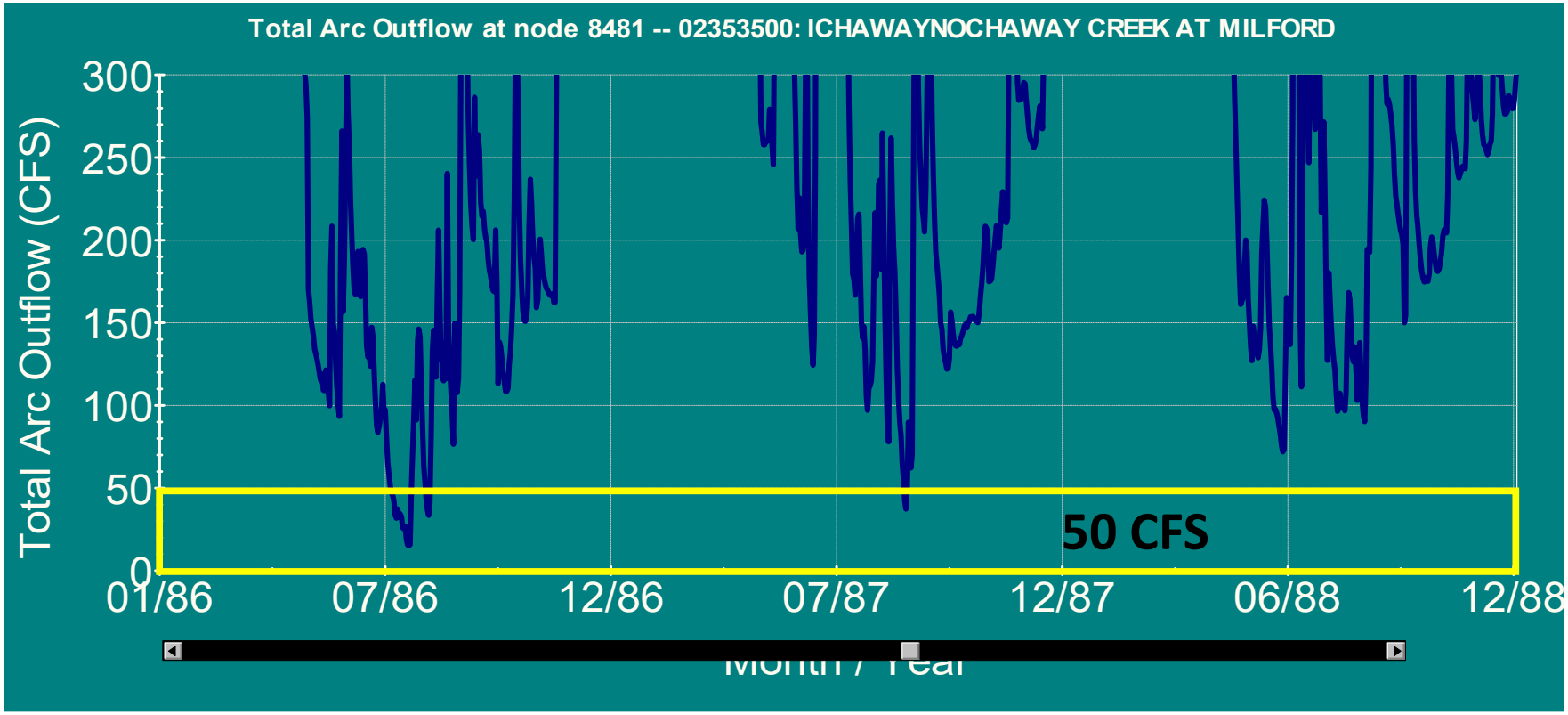
Runoff Inflow

Municipal or Industrial Discharge

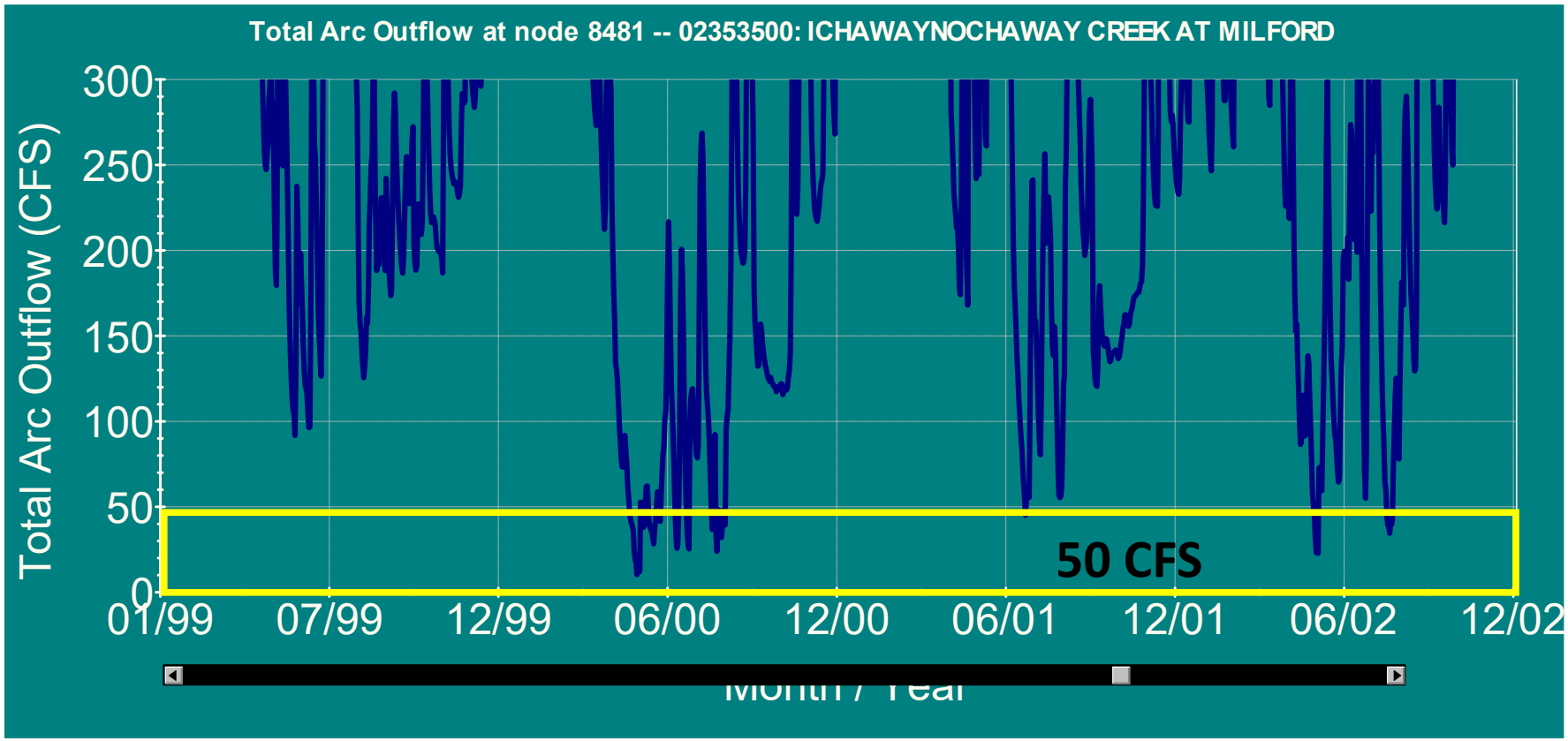
Overbank/Overland Flooding Loss

Flow Arc

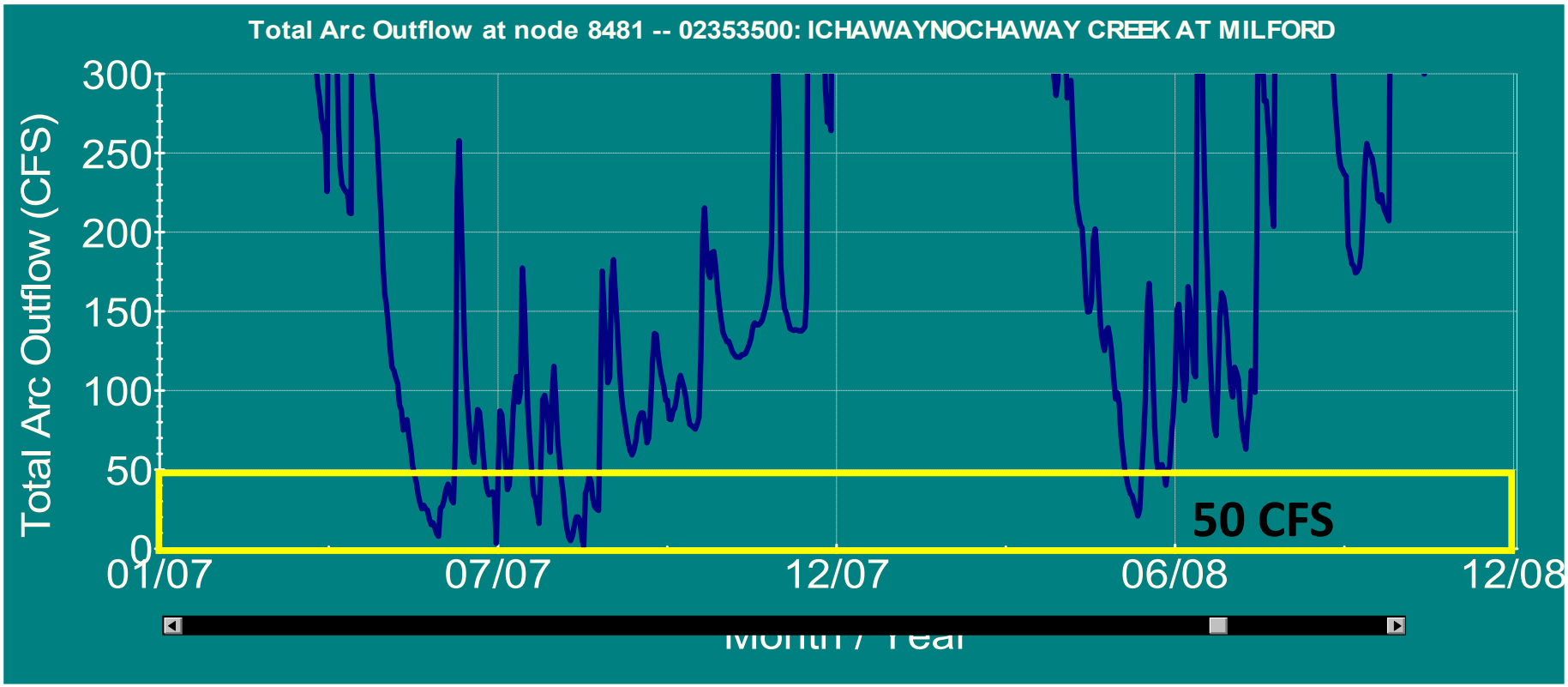
Simulation Results at USGS 02353500 Location Flow in 1986-1988



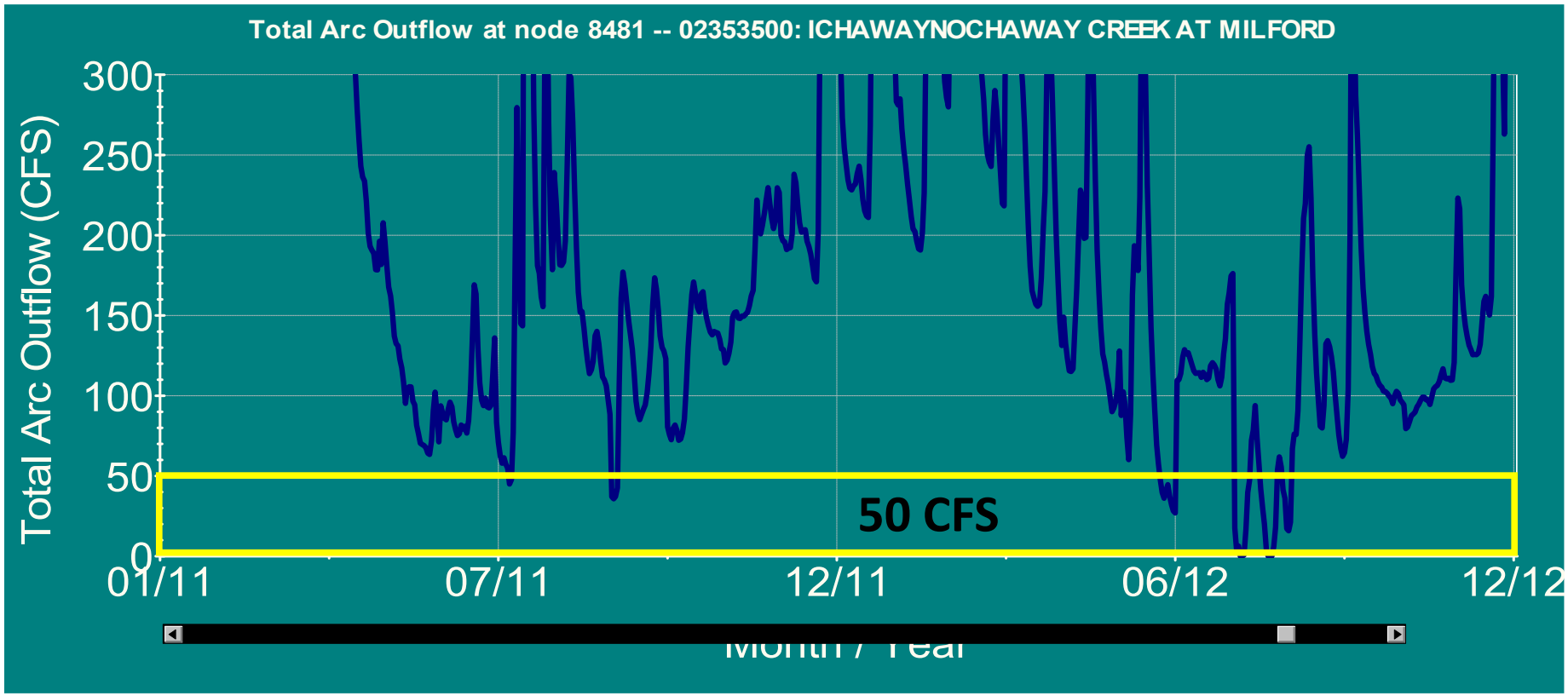
Simulation Results at USGS 02353500 Location Flow in 1999-2002



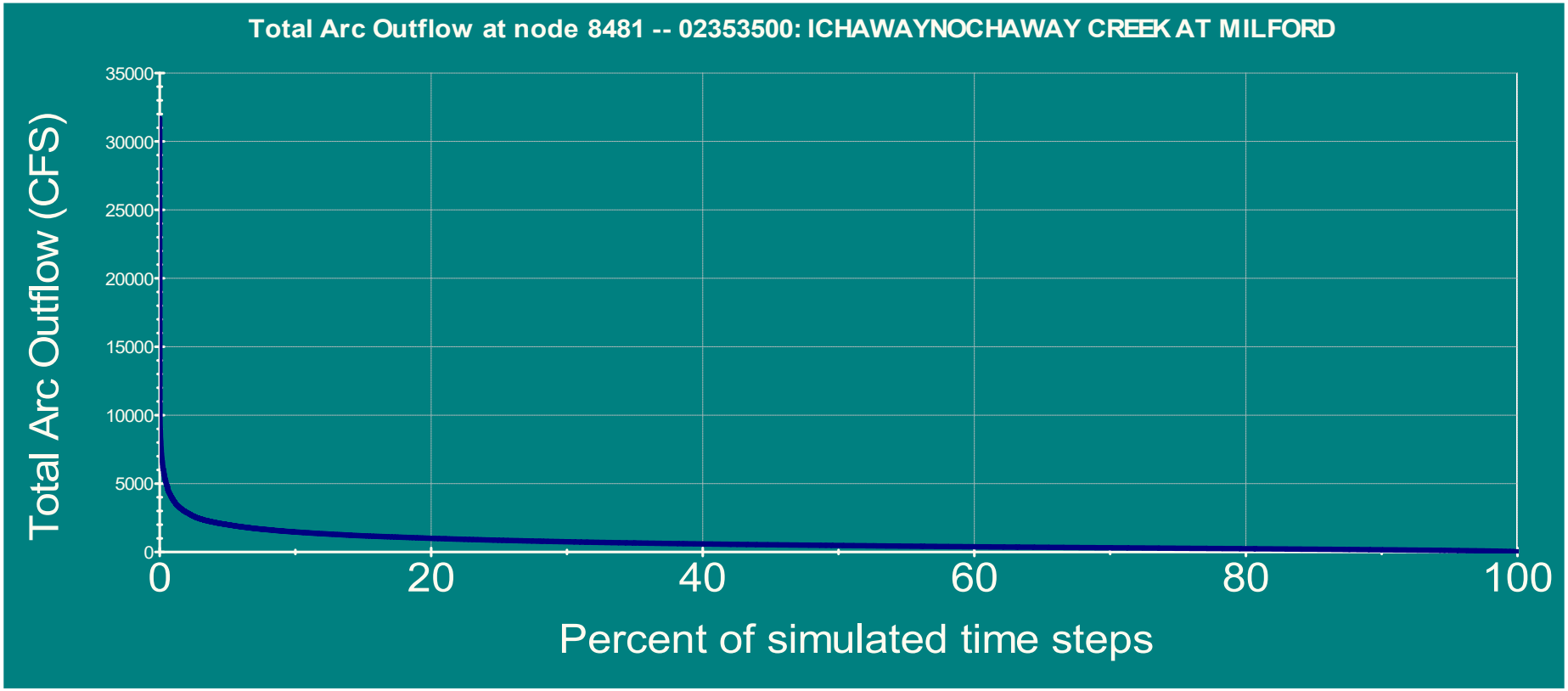
Simulation Results at USGS 02353500 Location Flow in 2007-2008



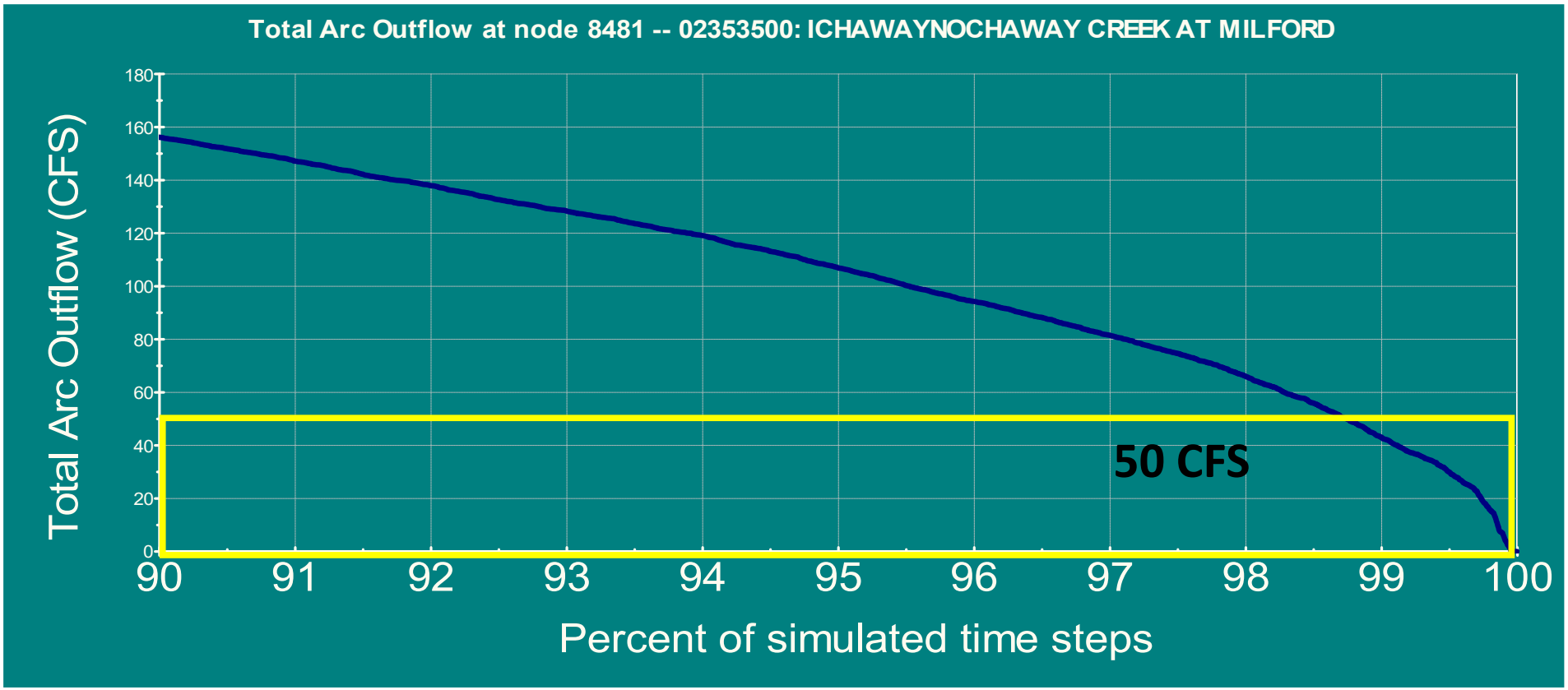
Simulation Results at USGS 02341500 Location Flow in 2011-2012



Simulation Results at USGS USGS 02353500 Location Flow Frequency



Simulation Results at USGS 02353500 Location Flow Frequency (low end)



Summary

- Moderate water supply challenges under baseline water use conditions
- Moderate wastewater assimilation challenges under baseline water use conditions
- Flow at Bainbridge under baseline water use conditions
- Flow at Iron City under baseline water use conditions
- Flow at Milford under baseline water use conditions
- Additional evaluation can be added according to stakeholders' inputs
- RA team will provide updates in Tech Memo and presentation as additional results become available

Questions?

Contact Information:

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Watershed Protection Branch, Georgia EPD
470-251-4897 (Zoom Phone) New!
470-898-3891 (Cell)

Wei.Zeng@dnr.ga.gov

Management Practices Review

Small Group Discussions: Management Practices Review

1. Demand and Returns Management Practices
2. Supply and Flow Augmentation Management Practices
3. Water Quality Management Practices

- Which Management Practices are most important to you? (And why?)
- Are there any that should be added/removed?
- Which Management Practices need to be updated? (Committee work)

Plan Review Committee Report

Murray Campbell

Plan Review Committee Members

- Murray Campbell
- Vince Falcione
- George McIntosh

Plan Review Committee Activity

- Meeting: May 3, 2022
- Reviewed Draft Sections 1, 2, & 4
- Committee meeting notes and edited plan sections in pre-meeting packet
- Committee recommendation: Approve these sections (as edited by committee)
- Note: Further edits to these sections are expected. Substantial edits will be reviewed by committee/Council.

Inter-Council Coordination Committee Report

Jimmy Webb

Inter-Council Coordination Committee

Members

- Hugh Dollar
- Jay Smith
- Jimmy Webb

Inter-Council Coordination Committee

April 19, 2022

Metro Water District Presentation

- Attended and Reviewed Plan

May 3, 2022

Inter-Council Coordination Meeting

- Discussed the Metro Water District Plan Update and reviewed previous letter to District
- Reviewed Coordinated Recommendations with Neighboring Councils

June 2022

Inter-Council Coordination Meeting

- Include Councils of:
  - Lower Flint – Ochlocknee
  - Middle Chattahoochee
  - Upper Flint
- Currently Scheduling

Inter-Council Coordination Committee Report

Meeting on May 3, 2022

1. Discussed the Metro Water District Plan Update
   - Big difference between rural and urban water uses and therefore management practice focus.
     - In LFO, agriculture is the priority.
     - Metro plan has a high focus on water conservation and minimizing water use
   - Group reviewed previous comment letter – wastewater returns and Corps reservoir operation are addressed in the Metro plan.
   - Biggest LFO concern is what happens when we reach the sustainable yield of resources? This is a shared concern among councils. From a water use perspective, the Metro District uses primarily surface water and supplements with water from different groundwater aquifers than used by the LFO council for agricultural use, which is primarily groundwater supplied.
2. Recommendations to Metro Water District Plan Update
   - ICC decided not to send a letter to Metro Water District
3. Reviewed “Coordinated Recommendations with Neighboring Councils”
   - Recommendation topics still valid.
   - Mark Masters provided input on the ACF Stakeholders that the recommendation for an inter-basin planning agency would likely take quite some time to implement. Some rewording of this recommendation may be appropriate.

Inter-Council Coordination Committee

Next meeting will be coordinated with Middle Chattahoochee and Upper Flint in June 2022

Discussion Topics:

1. Review 2017 Plans - Section 7.4 Recommendations to the State: Coordinated Recommendations with Neighboring Councils
2. Develop Updated Coordinated Recommendations with Neighboring Councils
3. Present to Council at August Meeting

Recommendations Review

Kristin Rowles

Recommendations to the State
Section 7.4 of 2017 Plan

- Information Needs
- Water Policy Recommendations
- Coordinated Recommendations with Neighboring Councils

Information Needs

1) Evaluate impacts of ***low flow conditions*** in model results for Bainbridge
   - Determine low flow thresholds below which adverse ecosystem impacts are predicted
2) Improve ***agricultural water meter*** program
   - Comprehensive installation of meters
   - Maintenance inspections
   - More data: monthly use, crops, inputs
   - Continue to report aggregate results
   - Continue to prepare data for use in resource assessments
3) Conduct comprehensive assessment of baseline water conservation and water quality ***Best Management Practices*** by agricultural producers
   - Expand survey of water efficiency equipment adoption in Lower Flint River Basin to Flint and Chattahoochee Basins and assess more practices

Information Needs

4) Evaluate ***water conservation*** practices – implementation and effectiveness
   - Conservation = priority focus of this plan
   - Difficult to measure progress/impact
   - Need more information to assess implementation and benefits
5) Evaluate impacts of ***farm ponds*** on stream flows (intercepted drainage, evaporative loss) to assess their impacts and improve how ***farm pond withdrawals*** are incorporated into resource assessments
6) Evaluate costs & benefits of reducing minimum threshold for ***water withdrawal permits*** (surface and groundwater)
7) Promote additional studies of ***drought***, drought triggers, drought response in the Flint River Basin

Information Needs

8) Evaluate alternative ***metrics*** for use as thresholds for ***potential gaps*** for the surface water availability assessments
   - Council should provide input to EPD on metrics related to desired flows
9) Evaluate updated ***Water Control Manual*** for U.S. Army Corps of Engineers for the Chattahoochee River Basin
   - Does it enhance the capacity of the system to support all uses, including greater storage for water supply and flow augmentation?
10) Verify ***water quality model*** assumptions to reflect actual conditions
   - Check assumptions about wastewater volumes and treatment methods: Allocation between land application and discharging facilities may change given in-stream flow concerns.
   - Address this concen through coordination between Council and EPD

Information Needs

11) Evaluate ***effectiveness*** of water quality management and pollution prevention tools, including nonpoint BMPs

12) Continue to develop data on ***nutrient loading*** to support effective nutrient management (esp. in Ochlockonee Basin)

13) Conduct periodic ***peer review of the resource assessment models*** used in regional water planning

Water Policy Recommendations

1) General Assembly should seek ***input from regional water councils*** in managing, planning, and providing oversight of water resources
2) General Assembly should provide ***funding for Regional Water Planning*** to:
   - Continue regional water planning
   - Monitor plan implementation
   - Collect resource assessment data
   - Refine resource assessments
3) General Assembly and implementing agencies should explore all possible sources of ***funding for Regional Water Plan implementation***
   - Especially possible federal sources
   - Financial incentives and reimbursement for plan implementation will expedite progress toward the Plan's goals

Water Policy Recommendations

4) **Inter-basin Transfer** (IBT)
   - State policy should ***not preclude*** IBT as an option for future water management, as needed and following thorough scientific and economic evaluation
   - Recommend ***against new IBTs*** from any basin in this region where the surface water availability resource assessment model indicated a potential gap
   - ***Reverse*** IBTs where appropriate and reasonable
5) Any changes in water ***withdrawal permitting*** practices should consider the updated surface water availability and groundwater availability resource assessment model results. (See also: Section 5.4 for discussion of the Council's concerns with modeling approaches and results)
6) Develop improved tools for ***drought management*** and adopt legislation needed for implementation
   - Need more than the Flint River Drought Protection Act provides
   - Need funding for implementation of drought management

Water Policy Recommendations

7) General Assembly should provide funding and authority for Council to work with USFWS to resolve potential conflicts between agricultural water use and ***imperiled species*** in the region
   - State agencies should join in the process, including EPD
   - Continue efforts to consider/develop a ***Habitat Conservation Plan*** to provide habitat protection and water security
8) Council urges timely resolution of ***interstate conflict in ACF***
   - Develop a tristate framework to address interstate management and include the regional water councils in this framework
9) Continue ***coordination and cooperation among water planning regions*** (Middle Chattahoochee, Upper Flint, Metro District)

Coordinated Recommendations with Neighboring Councils

1) More water ***storage*** capacity in the ACF (e.g., better use of existing, additional new storage)
2) Use of **actual/current data** in resource assessments
3) ***Interstate planning organization*** for ACF (consider transboundary institution recommendation of the ACF Stakeholders)

Next Steps in Plan Review and Revision

[presenter]

Regional Water Plan Update

Regional Water Plan Review and Revision Schedule

Meeting One
4th Quarter 2021

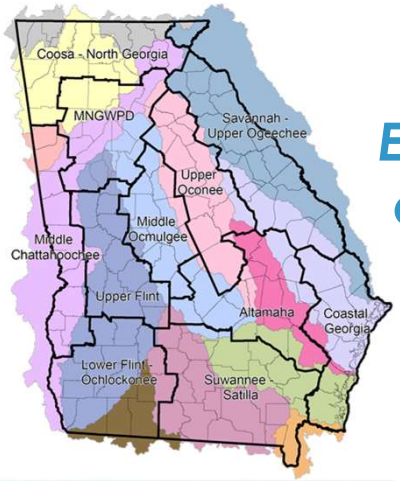
Meeting Two
1st Quarter 2022

Meeting Three ★
2nd Quarter 2022

Meeting Four
3rd Quarter 2022
Draft Plan Review

Meeting 4.5
3rd Quarter 2022
If needed to approve Draft Plan (virtual)

Meeting Five (Final)
4th Quarter 2022
Incorporate Comments



EPD targeted date of adoption of revised Regional Water Plan by December 2022

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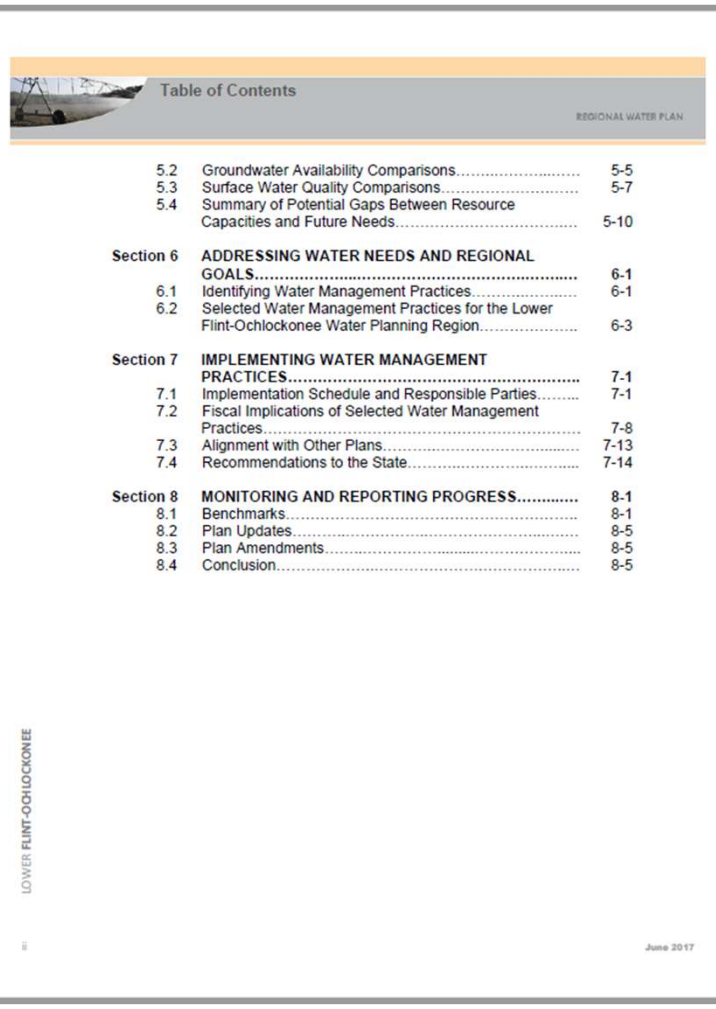
REGIONAL WATER PLAN



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REGIONAL WATER PLAN

Regional Water Plan Update – Before Today

Regional Water Plan Review and Re

Meeting One
4th Quarter 2021

Meeting Two
1st Quarter 2022

Meeting Three
2nd Quarter 202

(Final)
2022
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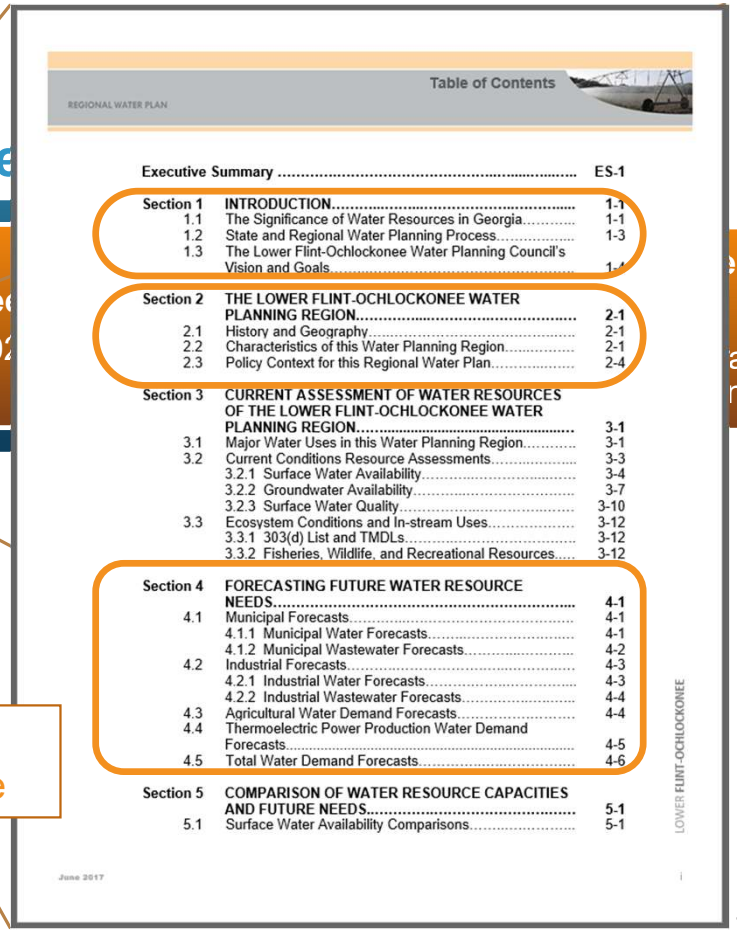
Plan Review Sub-Committee



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REGIONAL WATER PLAN

LOWER FLINT-OCHLOCKONEE

June 2017

i

GEORGIA WATER PLANNING

Regional Water Plan Update – Today's Discussion

Regional Water Plan Review and Revision

Meeting One
4th Quarter 2021

Meeting Two
1st Quarter 2022

Meeting Three
2nd Quarter 2022

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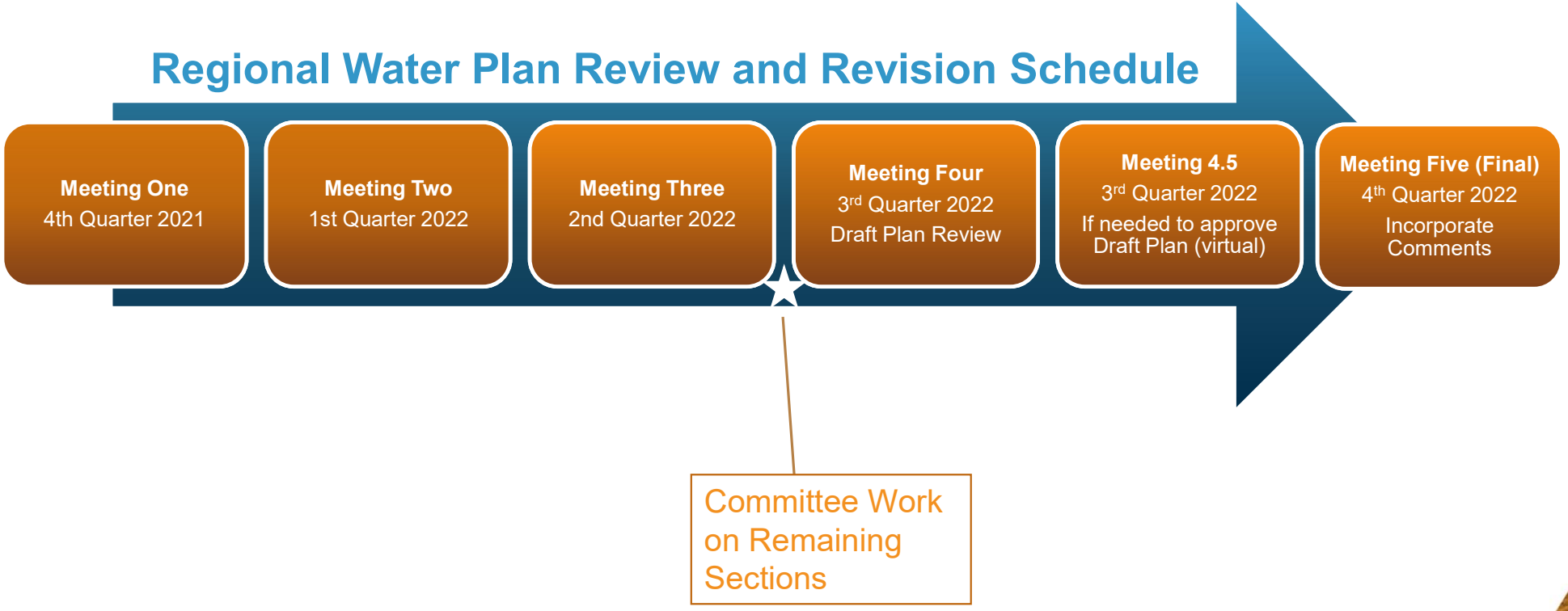
REGIONAL WATER PLAN

GEORGIA WATER PLANNING

Regional Water Plan Update – Next Steps



Committee Work – Next Steps

Inter-Council Coordination	Recommendations to the State – Coordinated Recommendations with Neighboring Councils
Plan Review	
…	
…	

EPD Report

Jennifer Welte, GA EPD

Information Items: GEFA Georgia Water Supply and Redundancy Study and GEFA Biosolids Report

Amanda Carroll, Georgia Environmental Finance Authority

Steve Simpson, Black & Veatch

Georgia Water Supply Redundancy Study

Lower Flint-Ochlockonee Water Planning Region

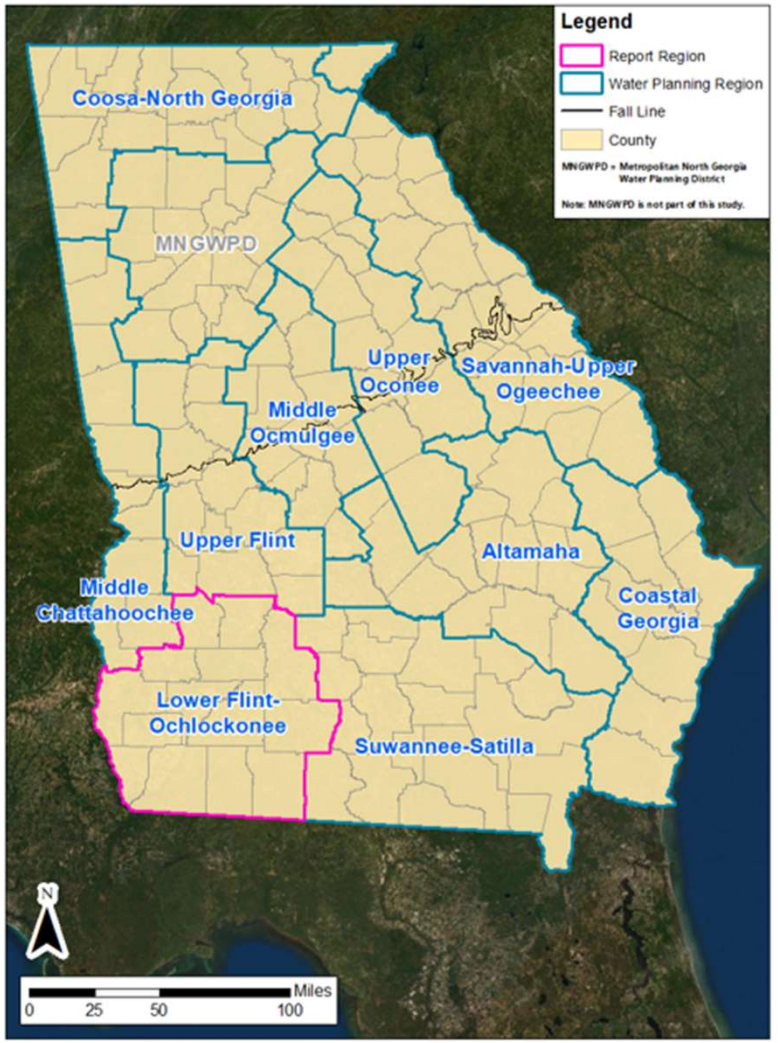
Georgia Environmental Finance Authority

See full report for details: Wood, March 11, 2022

May 2022

Study Objectives

- For qualified water systems (i.e., public system usually serving over 3,300 people):
  - Evaluate drinking water supply, demand, treatment, storage, distribution, and interconnectivity
  - Identify redundant water supply sources
  - Emergency supply and deficit under existing (2015) and future (2050) conditions
  - Evaluate potential projects
  - Recommend projects using decision-based prioritization tool



wood.

Water Withdrawals by Type

- Groundwater (GW)
  - 66% of region's 2010 water supply

Withdrawal Category	Withdrawal (MGD)	Percentage (%)
Agriculture	370	86%
Municipal	41	9%
Industrial	11.3	3%
Domestic/self-supply	9.2	2%

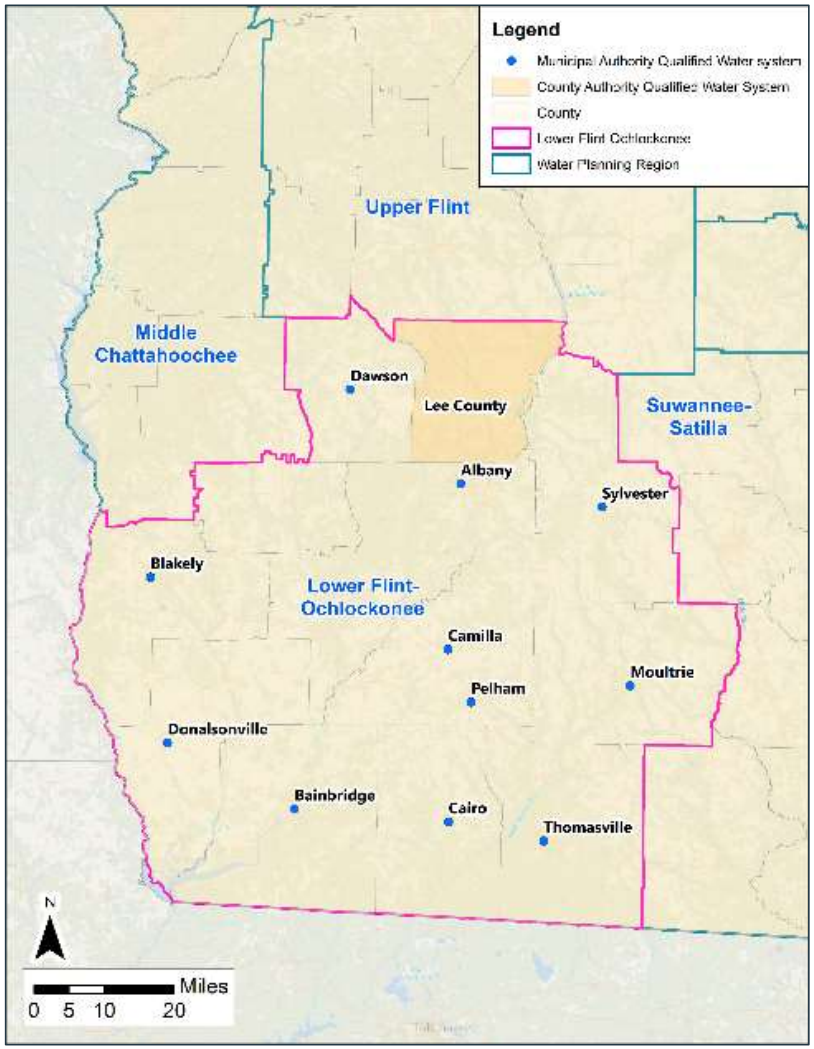
- Surface Water (SW):
  - 34% of region's 2010 water supply

Withdrawal Category	Withdrawal (MGD)	Percentage (%)
Industrial	110	48%
Agriculture	68	30%
Energy	50	22%

Values from:
Lower Flint-Ochlockonee Regional Water Plan. June 2017.

Region Qualified Water Systems

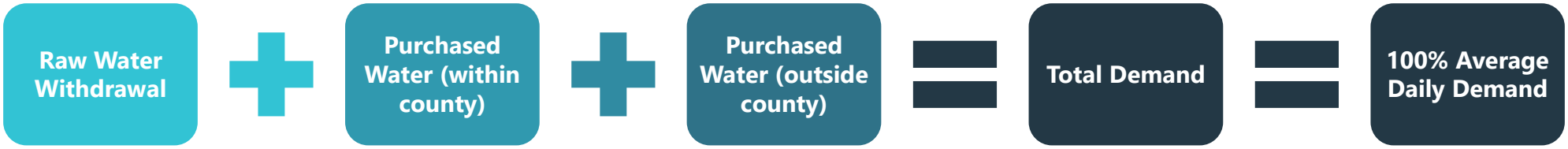
County	Qualified Water System	Raw Water Sources
Dougherty	Albany	Groundwater Wells (28)
Decatur	Bainbridge	Groundwater Wells (4)
Early	Blakely	Groundwater Wells (3)
Grady	Cairo	Groundwater Wells (5)
Mitchell	Camilla	Groundwater Wells (5)
Terrell	Dawson	Groundwater Wells (3)
Seminole	Donalsonville	Groundwater Wells (2)
Lee	Lee County	Groundwater Wells (10)
Colquitt	Moultrie	Groundwater Wells (6)
Mitchell	Pelham	Groundwater Wells (3)
Worth	Sylvester	Groundwater Wells (4)
Thomas	Thomasville	Groundwater Wells (7)



Identify Redundant Water Supply Sources

- Redundancy is valuable in this context
  - Excess capacity or duplicate parts that perform if other parts fail
- Three sources of redundancy considered:
  1. Excess capacity
     - Sufficient excess capacity for 2015 and 2050 demands for the 12 systems
  2. Raw and potable water sources
     - EPD's groundwater and surface water resource availability models indicate varying levels of sufficiency or insufficiently for aquifers and surface water nodes
     - Potential surface water sources and storage options were not identified
  3. Interconnections
     - Few in this region, and some systems have the potential to interconnect

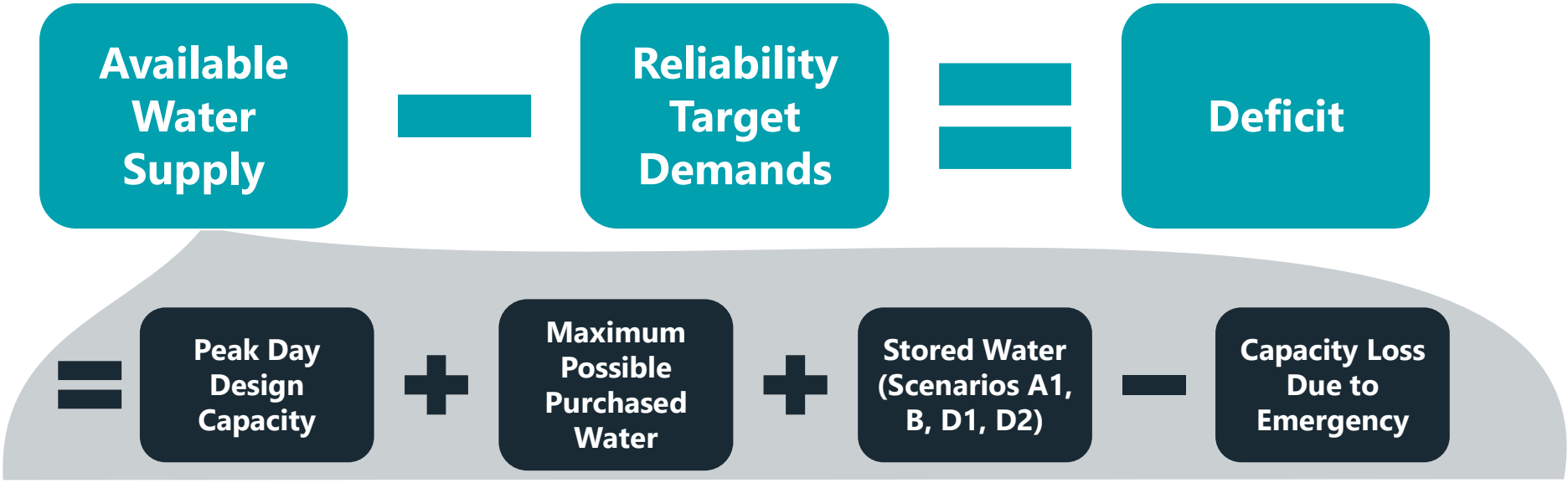
Emergency Planning Benchmarks



- QWS in this region do not regularly purchase water
- Reliability targets: 100%, 65%, and 35% of average daily demand
- Each reliability target applied to 2015 and 2050 total demand to give an overview of water availability

Water Supply Risk Evaluations

Evaluate system capability to supply sufficient water to customers during a given emergency

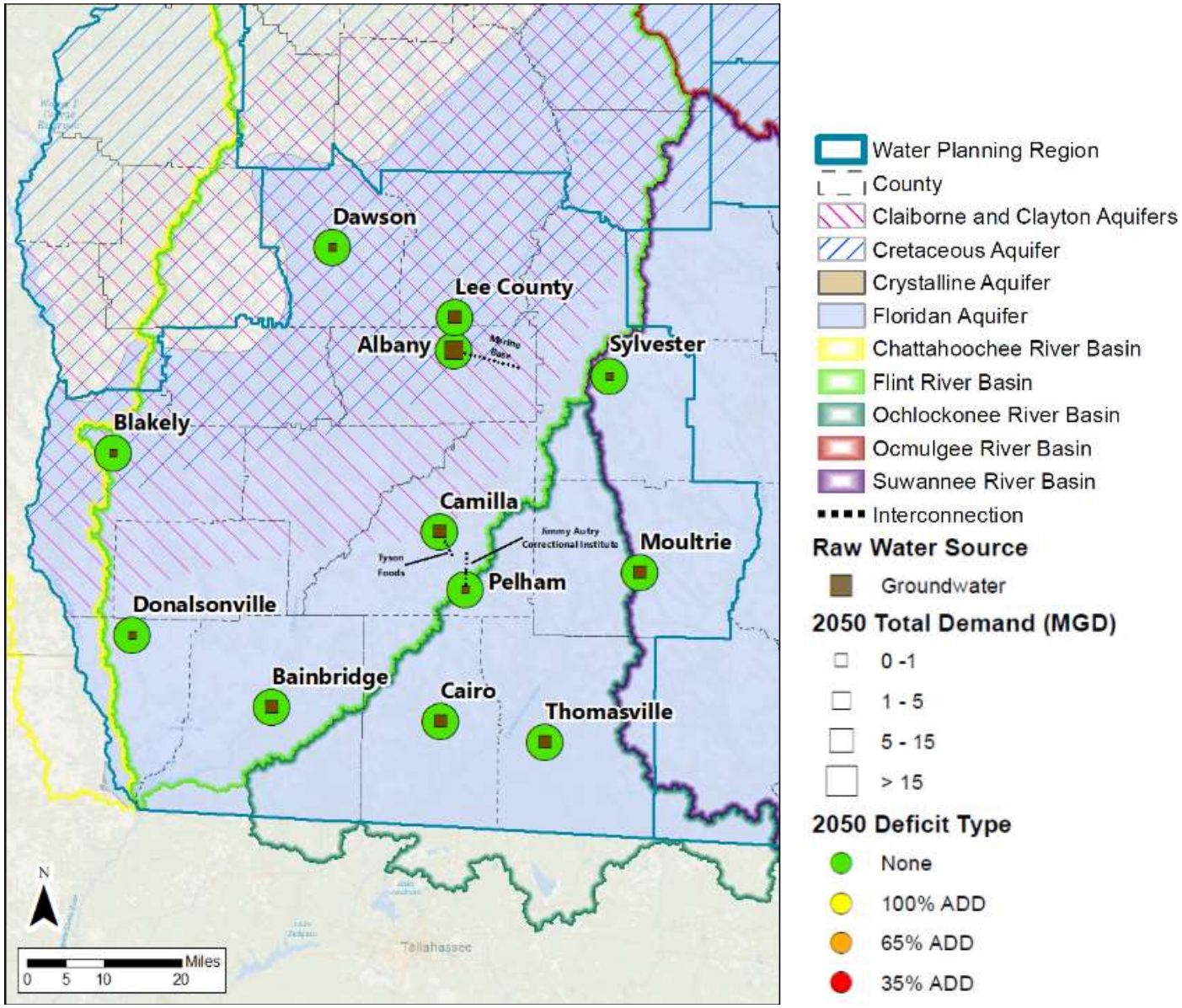


Water Supply Risks and Emergency Scenarios

	Water Supply Risk	Emergency Scenario	Type	Duration (Days)
A.	Failure of largest water treatment plant (WTP)	A1. Power supply failure of largest WTP	Short-term	1
		A2. Critical asset failure at largest WTP (e.g., loss of clearwell, loss of chemical treatment)	Short-term	30
B.	Short-term catastrophic failure of a water distribution system	Critical transmission main failure from largest WTP or interconnection	Short-term	1
C.	Short-term contamination of a water supply within distribution system	Contamination of distribution system triggers a boil water notice	Short-term	3
D.	Short-term contamination of a raw water source	D1. Biological contamination of largest raw water source	Short-term	1
		D2. Chemical contamination of largest raw water source	Short-term	1
E.	Full unavailability of major raw water sources due to federal or state government actions	--	Long-term	>365
F.	Reduced availability of major raw water sources due to federal or state government actions	--	Long-term	>365
G.	Failure of an existing dam that impounds a raw water source	Dam failure for largest impoundment	Short-term	30
H.	Water supply reduction due to drought	Raw water supply available is 40% of ADD due to drought	Short-term	120

Schematic of Key System Data

No deficits



Potential Project Development

- Despite no deficits, projects were recommended because system-specific assessments can provide valuable information for scenarios not considered
- Scenario(s) rendering systems with less water supply were further evaluated
  - Logical, implementable projects retained for systems with less available supply
    - Not all systems have projects
- Potential conceptual-level redundancy projects developed
- For this region, two project types:
  1. New interconnection
  2. Backup generator (internal project)

Potential Projects

Project Number	Qualified Water System(s) Benefitted	Potential Project Description
1	Albany Lee County	Low Range: Interconnection: Albany-Lee County Multiple options near Ledo Road
2	Albany Lee County	High Range: Interconnection: Albany-Lee County Multiple options near Ledo Road
3	Albany Sylvester	Interconnection: Albany-Sylvester 8.5 miles along Red Rock Road
4	Bainbridge	New generator: WTP/Well 306 or WTP/Well 307
5	Dawson	New generator: WTP/Well 302
6	Lee County	New generator: WTP/Well 101 or WTP/Well 103 or WTP/Well 108
7	Moultrie	Interconnection: Moultrie-Moultrie Spence Field 2.8 miles along GA-133 South
8	Moultrie	New generator: WTP/Well 105
9	Pelham	New generator: WTP/Well 101 or WTP/Well 103
10	Sylvester	New generator: WTP/Well 104

Prioritization Criteria and Weighting

- Potential projects prioritized based on performance under weighted quantitative and qualitative criteria
  - 8 criteria
    - E.g., population benefitted; cost; potential environmental, system, and community impacts
  - 4 scores (1 through 4)
  - 3 weights (1 through 3)

Potential Projects Sorted by Final Rank Order

Project Number	Systems Benefitted	Potential Project Description	Cost ($)	Final Rank
1	Albany Lee County	Low Range: Interconnection: Albany-Lee County Multiple options near Ledo Road	$ 47,600	1
6	Lee County	New generator: WTP/Well 101 or WTP/Well 103 or WTP/Well 108	$ 61,500	2
8	Moultrie	New generator: WTP/Well 105	$ 137,000	3
4	Bainbridge	New generator: WTP/Well 306 or WTP/Well 307	$ 137,000	4
10	Sylvester	New generator: WTP/Well 104	$ 137,000	5
2	Albany Lee County	High Range: Interconnection: Albany-Lee County Multiple options near Ledo Road	$ 141,100	6
9	Pelham	New generator: WTP/Well 101 or WTP/Well 103	$ 61,500	7
5	Dawson	New generator: WTP/Well 302	$ 93,500	8
3	Albany Sylvester	Interconnection: Albany-Sylvester 8.5 miles along Red Rock Road	$ 12,163,300	9
7	Moultrie	Interconnection: Moultrie-Moultrie Spence Field 2.8 miles along GA-133 South	$ 3,623,300	10

Conclusion

- Lower Flint-Ochlockonee Region has no deficits
- Potential projects identified can assist Councils and systems in understanding the types of upgrades that could benefit the Water Planning Region
- Interconnection redundancy projects highlight the potential for systems to interconnect
- Internal infrastructure redundancy projects highlight the potential for a future management practice: encourage public water systems to enhance their water supply redundancy and treatment/unit process redundancy

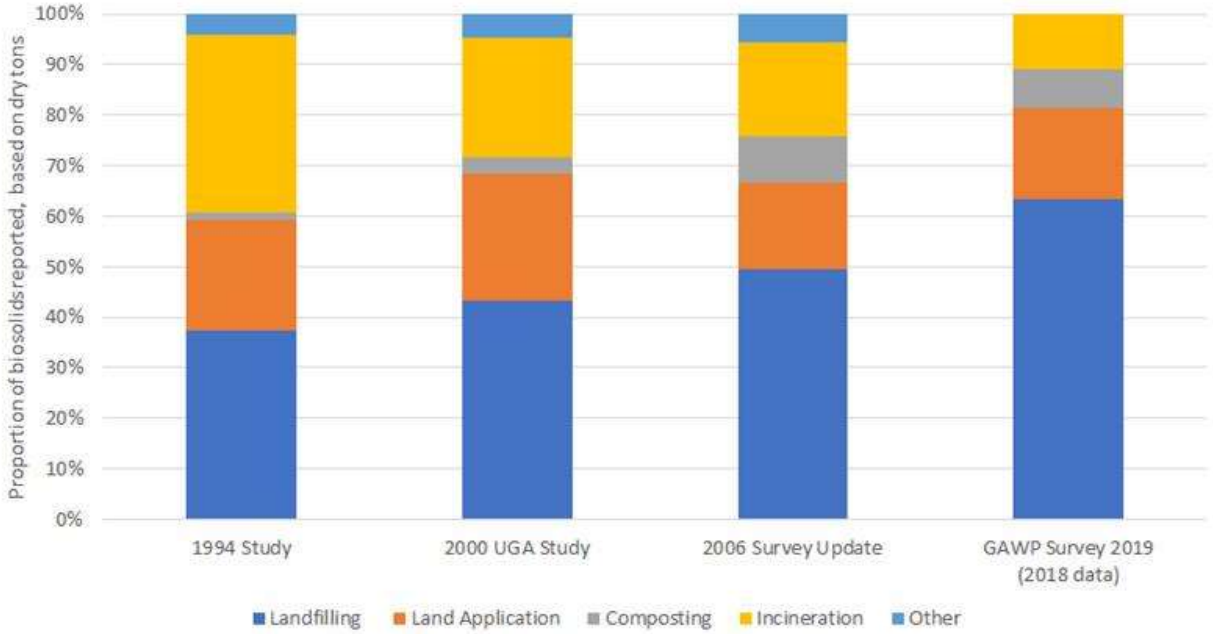
Questions?


wood.

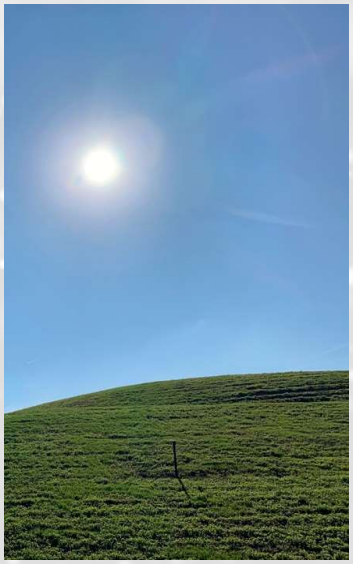
GEFA Biosolids Assessment and Prepared Study

May 2022

Biosolids Management: Drivers and Trends



Photos courtesy of GA EPD, Presentation to MNGWPD WW TCC Meeting, January 24, 2019



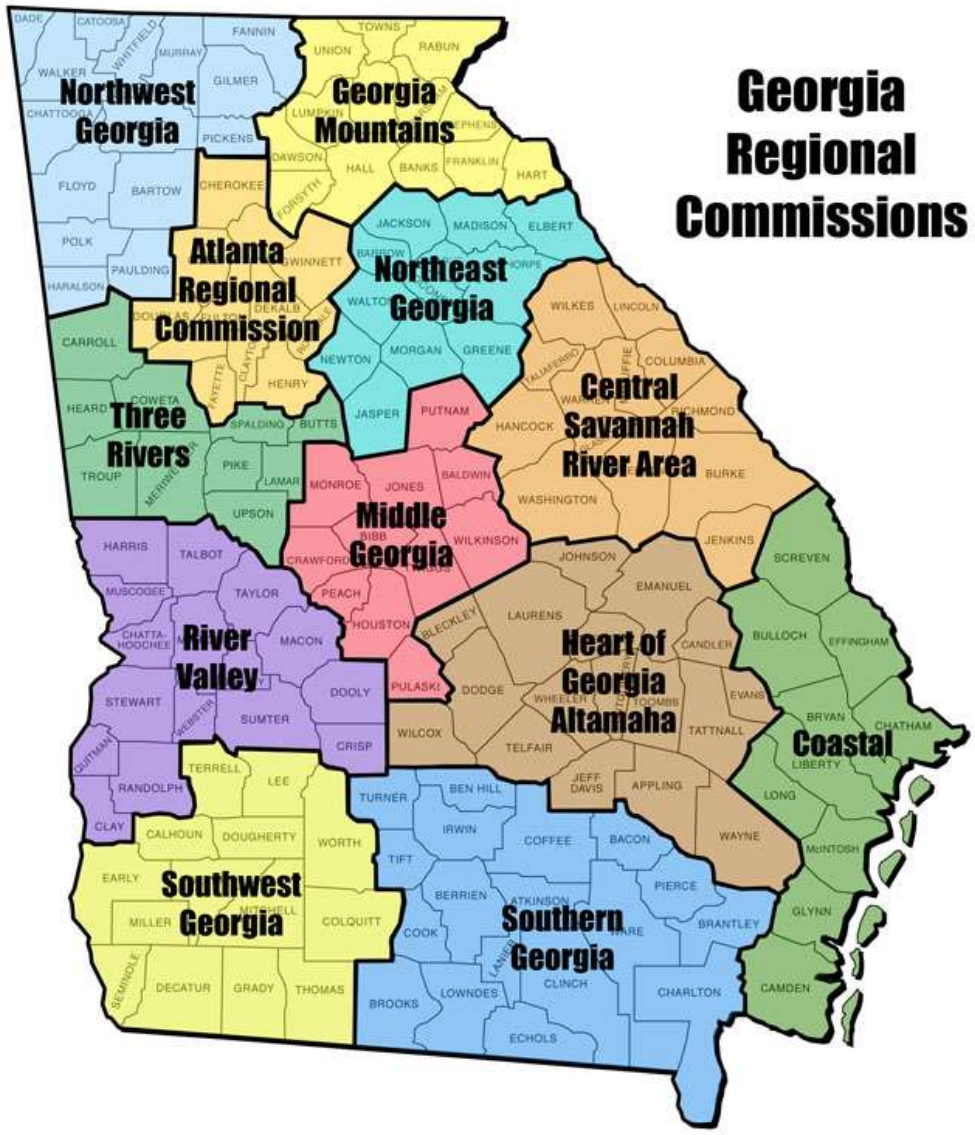
Landfilling

Land Application

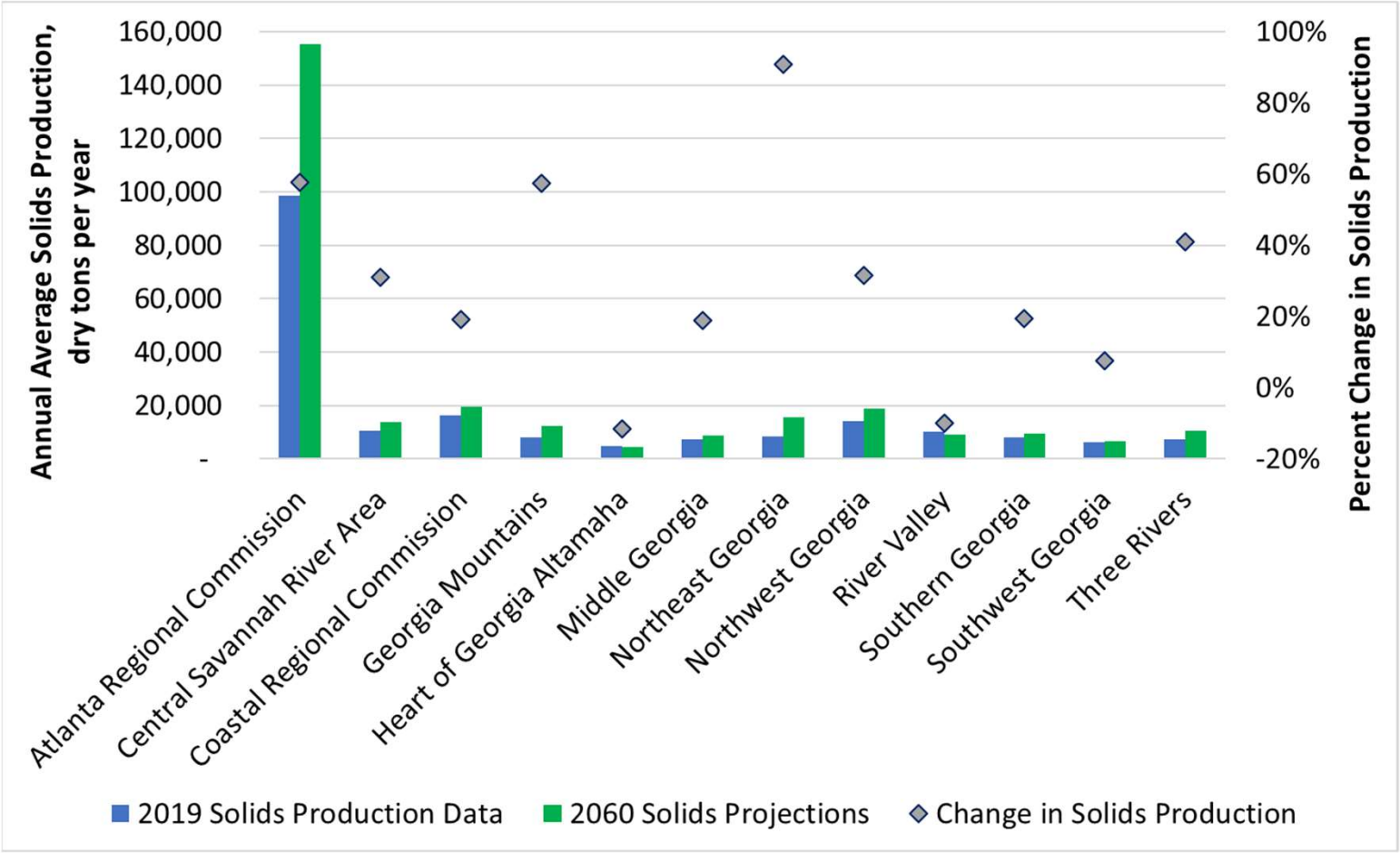
Incineration

Key Trends for Solids Management

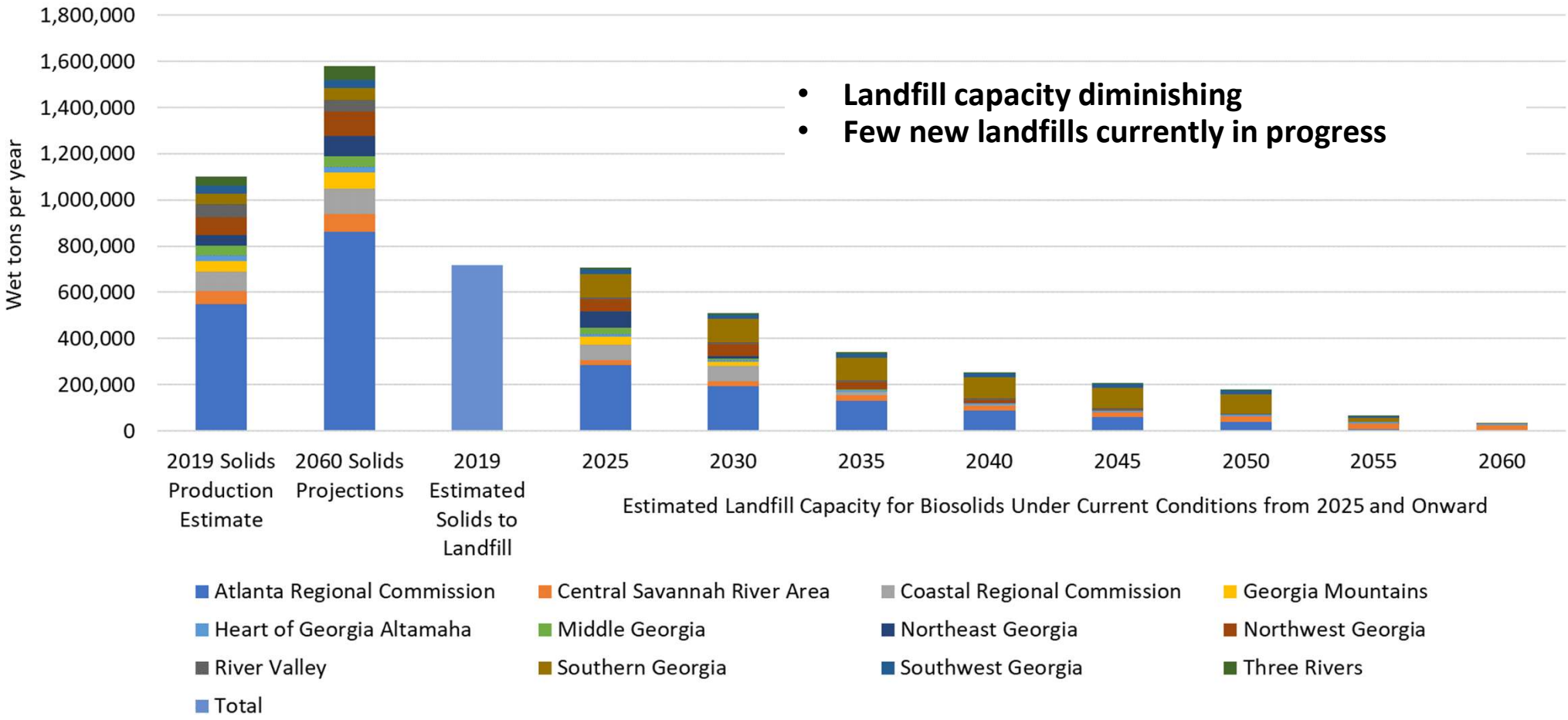
- Landfilling
  - HMCW concerns dominate
  - Tip fees likely to remain high
  - Potential limited biosolids acceptance
- Land application
  - Class B field storage logistics
  - Local jurisdiction resistance
  - PFAS-based restrictions
- Incineration
  - Permitting, cost may limit potential use


Georgia
Regional
Commissions
Northwest
Georgia
Georgia
Mountains
Atlanta
Regional
Commission
Northeast
Georgia
Central
Savannah
River Area
Three
Rivers
Middle
Georgia
River
Valley
Heart of
Georgia
Altamaha
Coastal
Southwest
Georgia
Southern
Georgia
DADE
CATOOSA
WHITFIELD
FANNIN
TOWNS
UNION
RABUN
WALKER
MURRAY
GILMER
CHATTOOGA
PICKENS
LUMPKIN
STEPHENS
DAWSON
HALL
BANKS
FRANKLIN
HART
FLOYD
BARTOW
CHEROKEE
FORSYTH
JACKSON
MADISON
ELBERT
POLK
PAULDING
GWINNETT
BARROW
OGLETHORPE
HARALSON
DEKALB
WALTON
WILKES
LINCOLN
COBB
FULTON
CARROLL
NEWTON
MORGAN
GREENE
COLUMBIA
FAYETTE
CLAYTON
HENRY
HEARD
COWETA
JASPER
PUTNAM
HANCOCK
RICHMOND
SPALDING
BUTTS
TROUP
PIKE
LAMAR
MERIWETHER
MONROE
JONES
BALDWIN
WASHINGTON
BURKE
UPSON
CRAWFORD
MIDDLE
WILKINSON
JOHNSON
JENKINS
SCREVEN
HARRIS
TALBOT
EMANUEL
MUSCOGEE
TAYLOR
PEACH
LAURENS
BULLOCH
EFFINGHAM
CHATTAHOOCHEE
MACON
HOUSTON
BLECKLEY
CANDLER
STEWART
DOOLY
PULASKI
DODGE
WHEELER
TOOMBS
EVANS
BRYAN
CHATHAM
SUMTER
WILCOX
TATTNALL
TELFAIR
LIBERTY
QUITMAN
CRISP
TERRELL
LEE
JEFF
DAVIS
APPLING
LONG
RANDOLPH
TURNER
BEN HILL
CLAY
CALHOUN
DOUGHERTY
WORTH
IRWIN
COFFEE
BACON
WAYNE
TIFT
EARLY
MITCHELL
BERRIEN
ATKINSON
PIERCE
MCINTOSH
MILLER
COLQUITT
COOK
BRANTLEY
GLYNN
SEMINOLE
DECATUR
GRADY
THOMAS
BROOKS
LOWNDES
CLINCH
CHARLTON
CAMDEN
ECHOLS

Current and Projected Solids Production Estimates

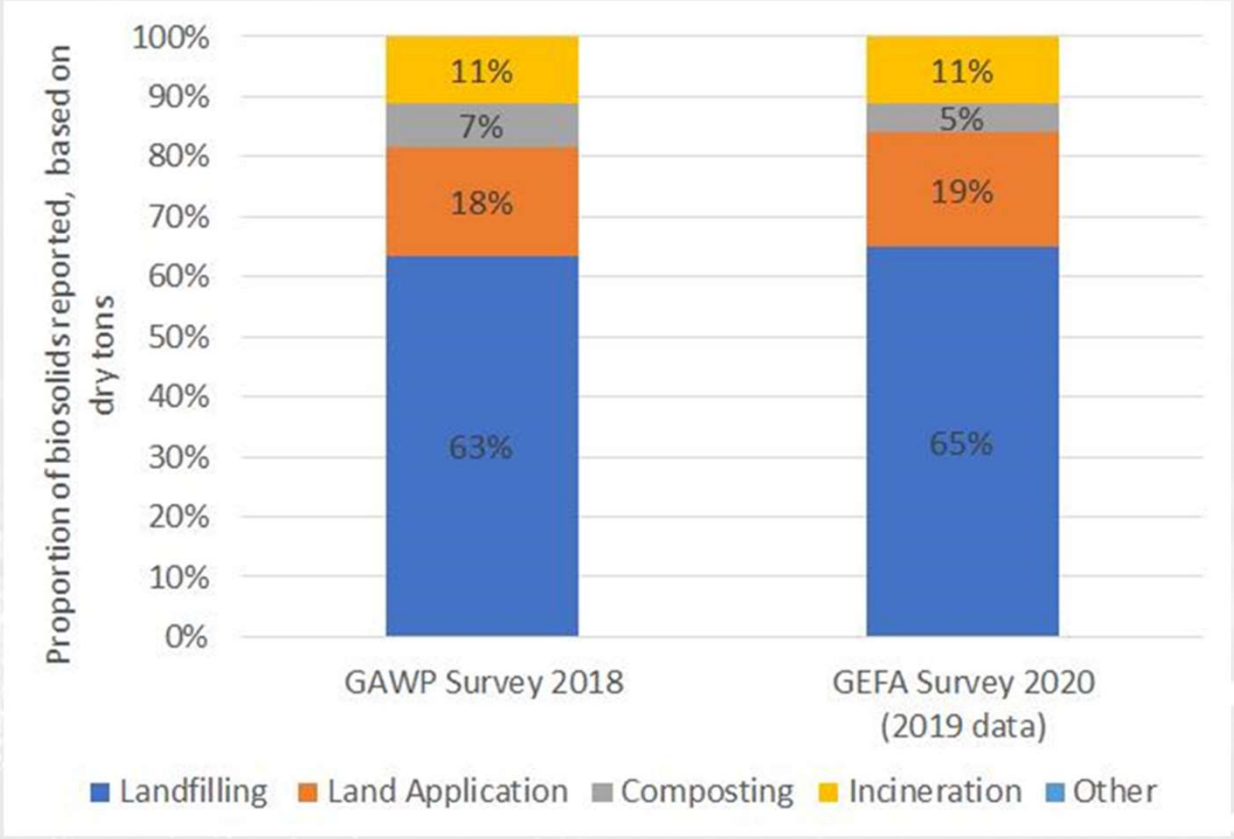


Comparison of Solids Production and Landfill Capacity* for Biosolids

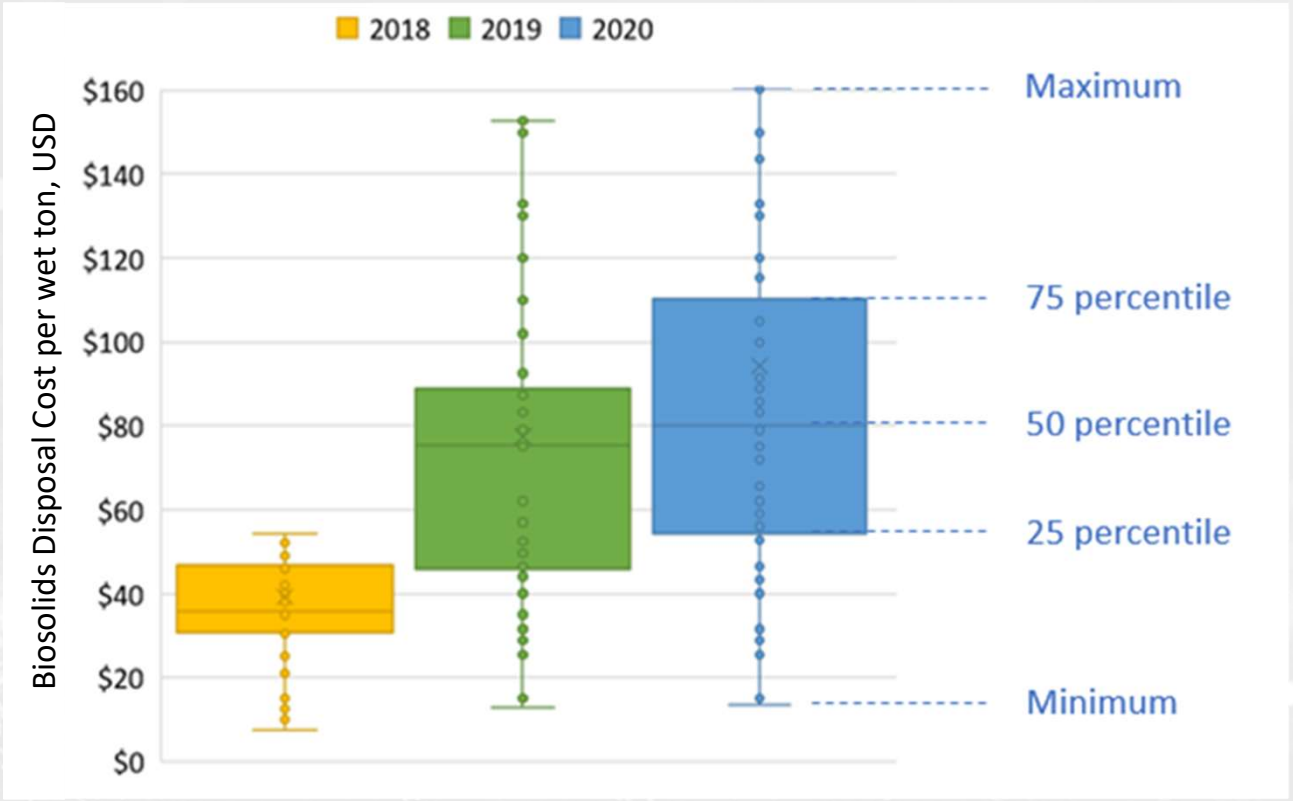


* Based on estimated closure dates from EPD, and assumes biosolids acceptance ratios remain constant

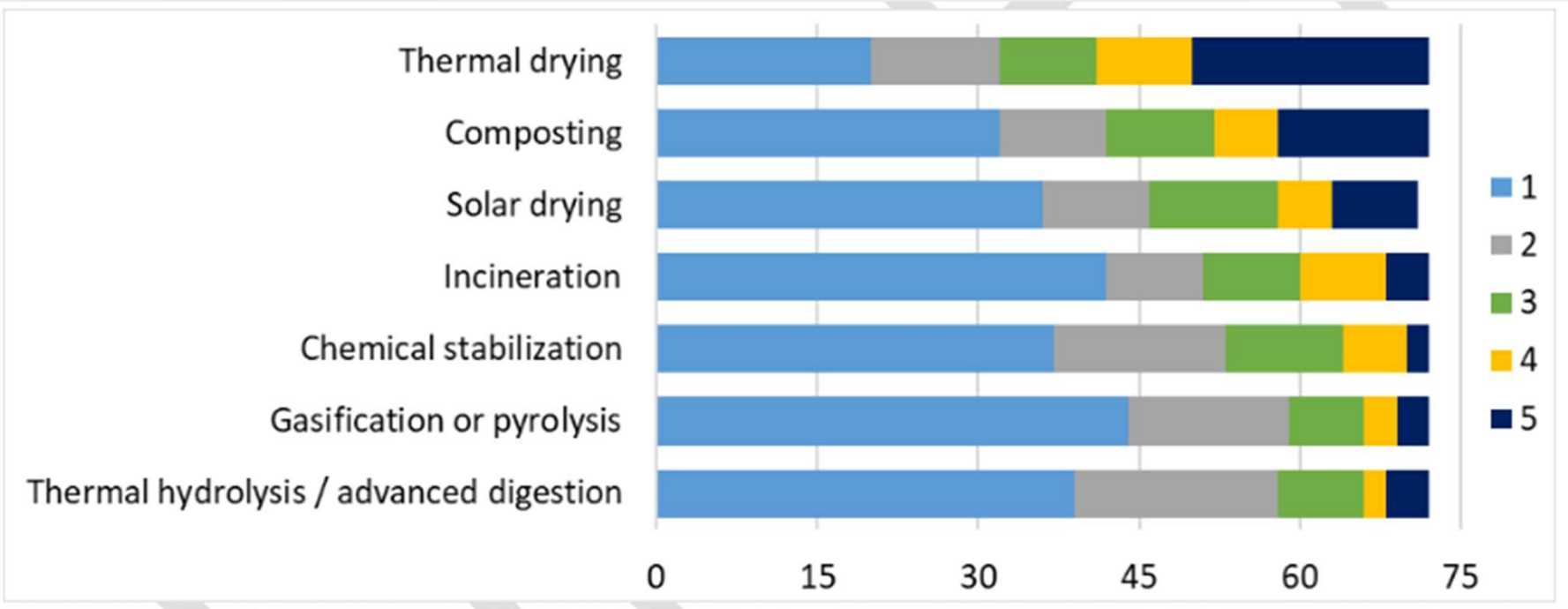
Survey Update: Biosolids End Use in Georgia



Survey Update: Biosolids End Use or Disposal Cost

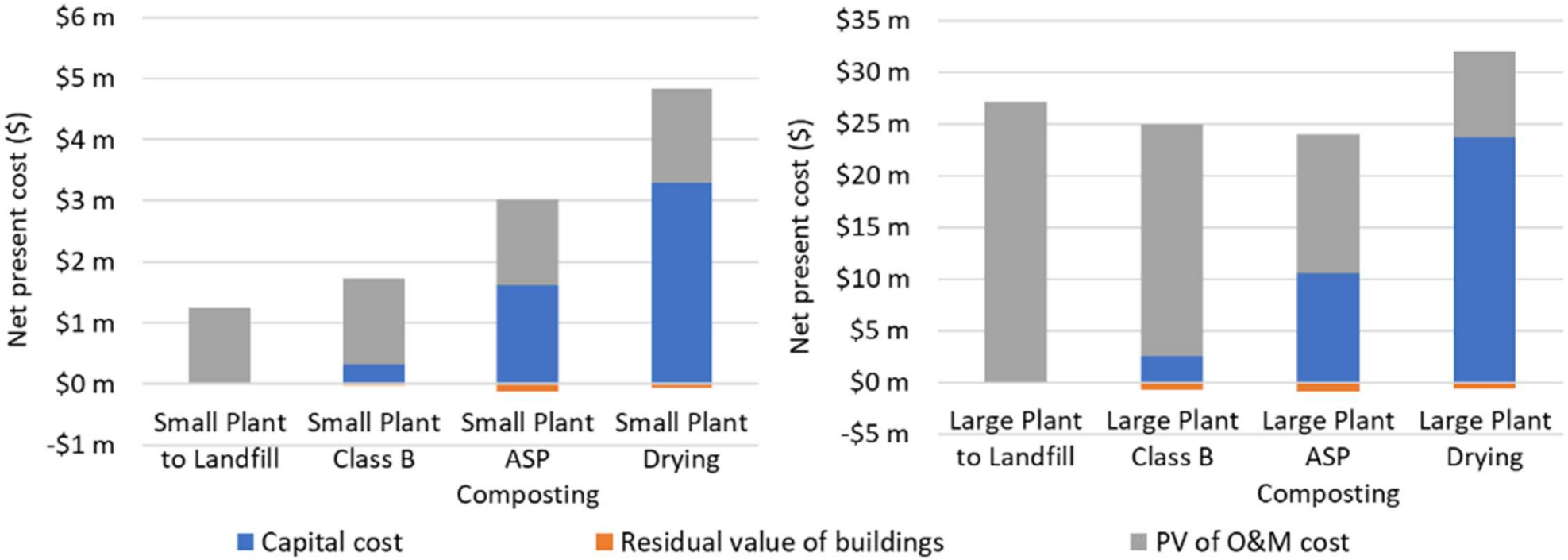


Utility Interest in Implementing Alternative Solids Treatment Processes



Ranked in order of highest interest (1=little to 5=high)

Technology Cost Evaluation



Regionalization for smaller plants could result in scale efficiencies

Market Assessment

1 Rotary Drum Heat Dried Biosolids
- Uniform hard pellet or grain
- 0.5-4 mm diameter
- Density 40-45 lb/cf

2 Granular Belt Heat Dried Biosolids
- Somewhat uniform and hard granule
- 0.5-4 mm diameter
- Density 40-45 lb/cf

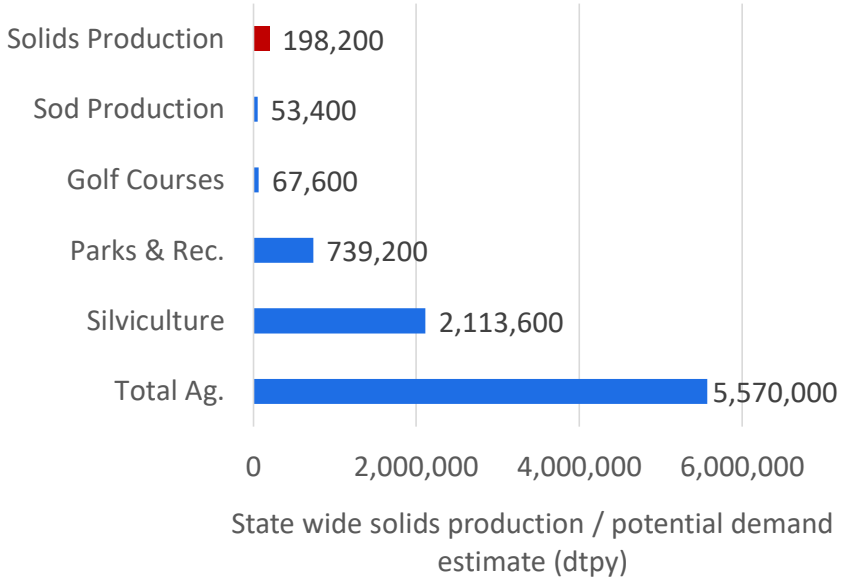
3 Extruded Belt Heat Dried Biosolids
- Irregular shape, somewhat friable
- 2-8 mm diameter
- Density 20-25 lb/cf

4 Paddle Heat Dried Biosolids
- Somewhat uniform and hard granule
- 0.5-4 mm diameter
- Density 40-45 lb/cf

5 Biosolids Compost
- Mulch-like appearance
- Size varies (bulking agents used and screening)
- Density 25-35 lb/cf

6 Lime Stabilized Biosolids (Class A)
- High pH product
- Consistency of wet dirt, but can be dried
- Density 70-100 lb/cf

Market Assessment



2% market penetration required to make use of all biosolids in GA

Agriculture
Large volume market, familiarity with biosolids, cost/ease of use matter

Silviculture
Potentially large market, potential impacted by market forces, demos/education needed

Sod Farms
Small market, mixed reception, positive lime-stabilized biosolids experience

Golf Courses
Familiarity with biosolids, dried pellets/compost of greatest interest, cost/uniformity/size matter

Parks & Recreation
Potential for dried pellets and compost, cost critical

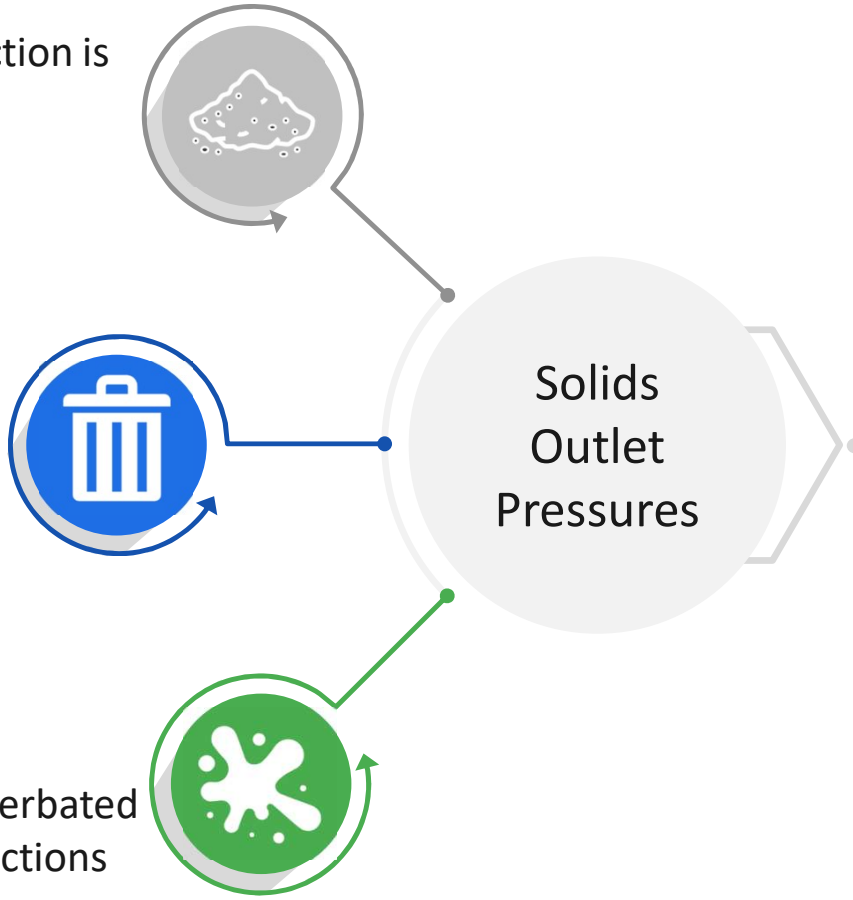
General Urban Uses
Some familiarity (pellets/compost), compost market not expanding, education needed.

Gap Analysis Summary

- GA solids production is increasing

- More than half of existing GA MSW landfills may fill within next 30 years

- Capacity issues potentially exacerbated by HMCW restrictions



Concerns

- Landfilling dominant practice in GA
- Solids production will exceed available landfill capacity

Addressing the Gap

- Consider new processes/ alternative outlets for up to 77,000 dt/yr solids
  - Class B land application
  - Class A product for agricultural or urban uses

GEFA Funding Available for Biosolids Projects

Georgia Fund	Clean Water SRF
State funded	Federally funded
Water, wastewater, and solid waste infrastructure projects	Wastewater infrastructure and pollution prevention projects
$3 million per year maximum loan amount	$25 million per year maximum loan amount
Interest rate of 1.63% for a 20-year loan	Interest rate of 1.13% for a 20-year loan
	Scoring criteria not well aligned to biosolids drivers

Notes and Recommendations to GEFA

- Consider potential biosolids specific funding initiative
- Provide additional guidance for utilities seeking biosolids funding
- The Water Infrastructure Finance and Innovation Act of 2014 (WIFIA) can also provide funding for biosolids projects (EPA administered)

Questions?

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Public Comment

Next Steps

Next Steps

- Next Meeting: August 22 – Draft Plan Review
- Committees to work on plan revisions
  - Inter-Council Coordination – Joint meeting with neighboring Councils
  - Plan Review
  - Others…

Thank You

Lower Flint-Ochlockonee