

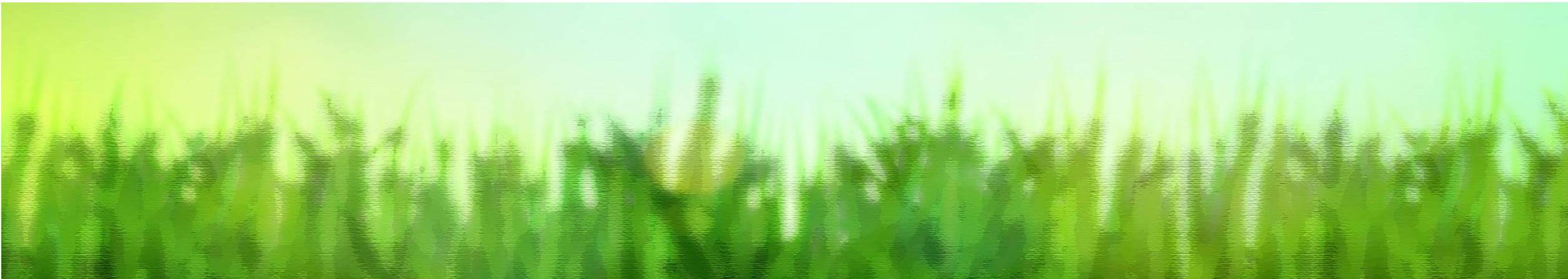


GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

WATERSHED PROTECTION BRANCH UPDATE

GIEC – November 9, 2022
Anna Truszczynski





OUTLINE

- Organization update
- Water Quality Standards – 2019 and 2022 Triennial Review
- Draft Nutrient Permitting Strategy Roadmap
- PFAS update
- EPA priorities
- State Water Planning
- 2023 – potential legislative actions, regulatory actions, and initiatives



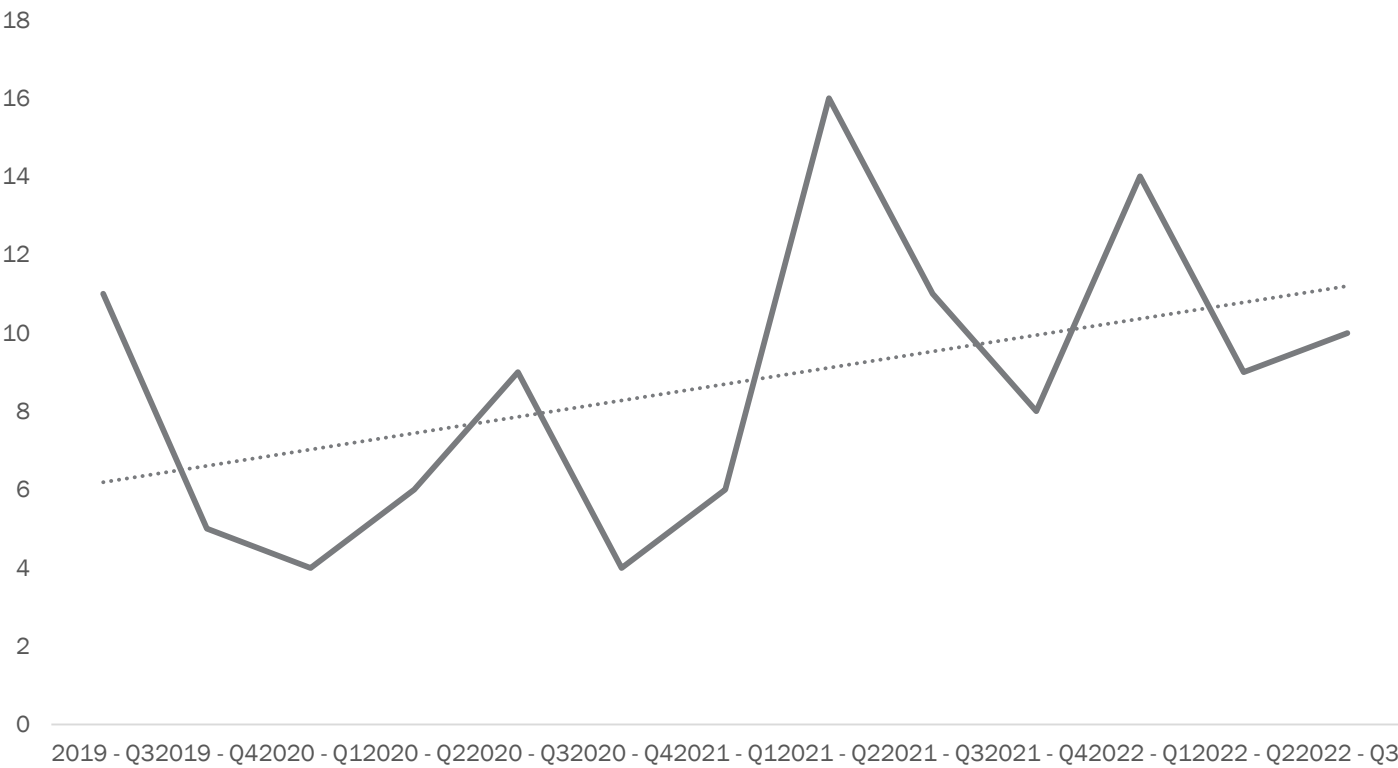
WPB ORGANIZATION UPDATE

- **James A. Capp** – Branch Chief, retired January 2022
- **Jennifer Welte** – promoted from Regulatory Support Program Manager to Assistant Branch Chief April 2022
- **Clete Barton** – promoted from North Monitoring Unit Manager to Regulatory Support Program Manager November 2022
- **Audra Dickson** – Wastewater Regulatory Program Manager last day November 30, 2022
- Stormwater Unit split into Industrial Stormwater Unit and Municipal Stormwater Team



WPB ORGANIZATION UPDATE

Departures by Quarter





WPB ORGANIZATION UPDATE

| Program | Unit | # Turned Over FY2022 | # in Unit | % of Unit FY2022 |
|---|------------------------------|----------------------|-----------|------------------|
| Nonpoint Source | Erosion & Sedimentation | 4 | 6 | 67% |
| Nonpoint Source | Stormwater | 5 | 8 | 63% |
| Nonpoint Source | Outreach | 2 | 5 | 40% |
| Drinking Water | Permitting | 3 | 9 | 33% |
| Drinking Water | Inspection Team | 1 | 3 | 33% |
| Watershed Planning & Monitoring Program | North Monitoring | 2 | 8 | 25% |
| Water Supply | Wetlands | 1 | 4 | 25% |
| Watershed Planning & Monitoring Program | South Monitoring | 2 | 9 | 22% |
| Nonpoint Source | Grants | 1 | 5 | 20% |
| Watershed Compliance | Industrial Compliance | 1 | 5 | 20% |
| Drinking Water | Compliance | 2 | 11 | 18% |
| Regulatory Support | Safe Dams | 2 | 11 | 18% |
| Water Supply | Hydrology | 1 | 6 | 17% |
| Water Supply | Surface Water | 1 | 6 | 17% |
| Watershed Planning & Monitoring Program | Water Quality Modeling | 1 | 6 | 17% |
| Wastewater Regulatory | Municipal Permitting | 1 | 9 | 11% |
| Wastewater Regulatory | Industrial Permitting | 1 | 10 | 10% |
| Water Supply | Agricultural Permitting | 1 | 12 | 8% |

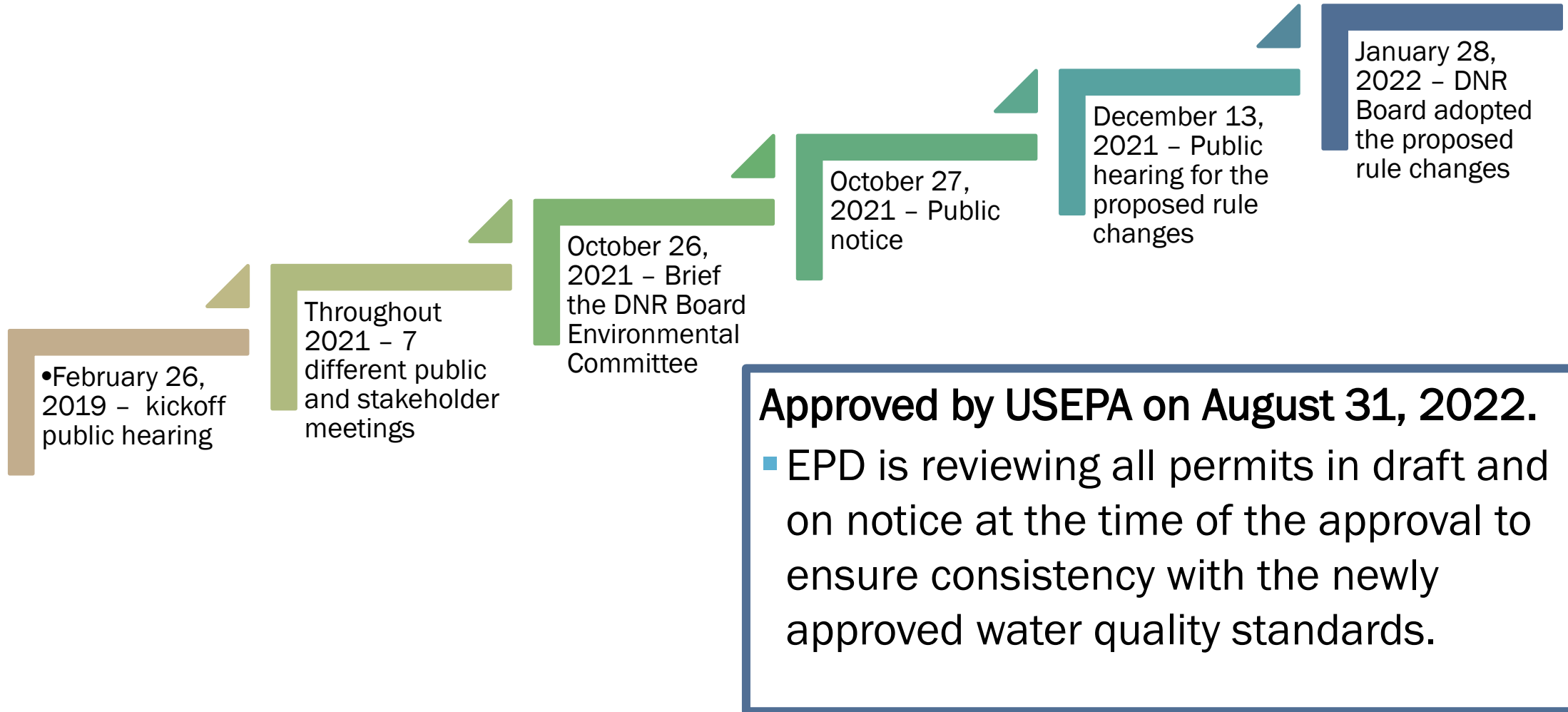


WPB ORGANIZATION UPDATE

- Staffing:
 - Industrial permitting, fully staffed, but:
 - Average years of experience in industrial permitting at EPD: 2.5
 - Most years of experience in industrial permitting at EPD: 5.7
 - Industrial compliance, fully staffed, but:
 - Average years of experience in industrial compliance at EPD: 2.8
 - Most years of experience in industrial compliance at EPD: 5.9
 - Industrial stormwater, fully staffed, but only until 11/16 and:
 - Average years of experience in industrial stormwater at EPD: 0.6
 - Most years of experience in industrial stormwater at EPD: 1
- Stressors – retention and vacancies



2019 TRIENNIAL REVIEW





2019 TRIENNIAL REVIEW

- New standards for acrolein and carbaryl (pesticides).
- Replace “Use Classifications” with “Designated Uses.”
- Add definitions for primary contact recreation and secondary contact recreation.
- Add Water Effect Ratio (WER) to the metals equations.
- Add site-specific metal criteria based on the biotic ligand model (BLM) and WER.
- Add criteria for Lakes Oconee and Sinclair.
- Change bacteria indicator from fecal coliform to *E. coli* (fresh water) or enterococci (salt water).





2019 TRIENNIAL REVIEW

- During the 2019 Triennial Review, Georgia re-proposed adopting *E. coli* and enterococci as pathogen indicators for fishing, coastal fishing, and drinking water. The *E. coli* and enterococci winter criteria were updated to better reflect that the water ingestion rate for secondary contact recreators is 2.1 times less than for primary contact recreators.
- The new criteria removed higher bacteria criteria for fecal coliform in the case where water quality and sanitary studies showed that fecal coliform from non-human sources exceeded the instream water quality standard.

| Designated Use | #/100 mL | | |
|-----------------------|------------|--------------------------|--------------------------|
| | Recreation | Drinking Water*/ Fishing | Drinking Water*/ Fishing |
| Bacteria Indicator | Year Round | May-October | November-April |
| Fecal Coliform | | | |
| 30-day Geomean | 200 | 200* | 1000* |
| Single Sample Maximum | | | 4000* |
| <i>E. coli</i> | | | |
| 30-day Geomean | 126 | 126* | 265* |
| STV | 410 | 410* | 861* |
| Enterococci | | | |
| 30-day Geomean | 35 | 35 | 74 |
| STV | 130 | 130 | 273 |

* Criteria that apply to waterbodies designated as drinking water.



2019 TRIENNIAL REVIEW

- **Bacteria Equivalency Strategy for Using the Optimal Indicator Organisms for WQS and NPDES Permitting (Bacteria Strategy)**
 - Implementation of the bacteria criteria is described in the Bacteria Strategy. A stakeholder meeting was held on December 14, 2021.
 - A copy of the document is available on EPD's website, along with the powerpoint from the stakeholder meeting:
 - <https://epd.georgia.gov/forms-permits/watershed-protection-branch-forms-permits/wastewater-permitting/permitting-strategies>



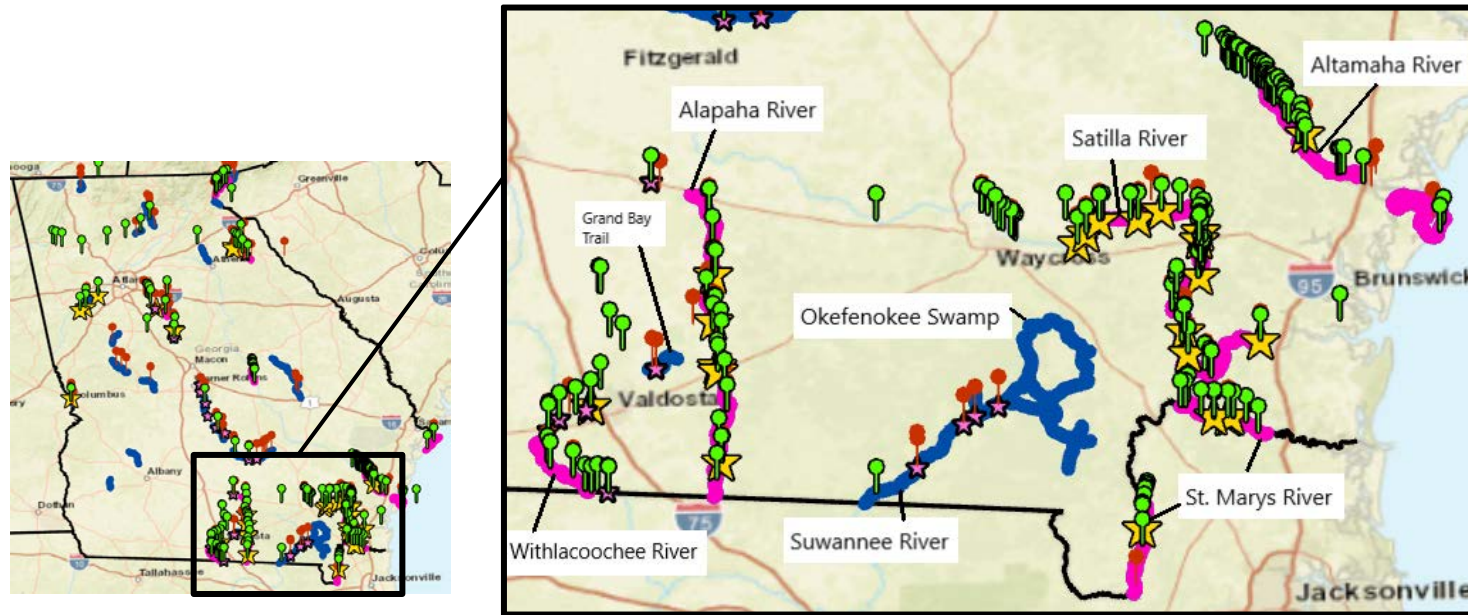
Bacteria Equivalency Strategy for Using the Optimal Indicator
Organisms for WQS and NPDES Permitting

Watershed Protection Branch
Environmental Protection Division
November 2021



2019 TRIENNIAL REVIEW – DESIGNATED USE CHANGES

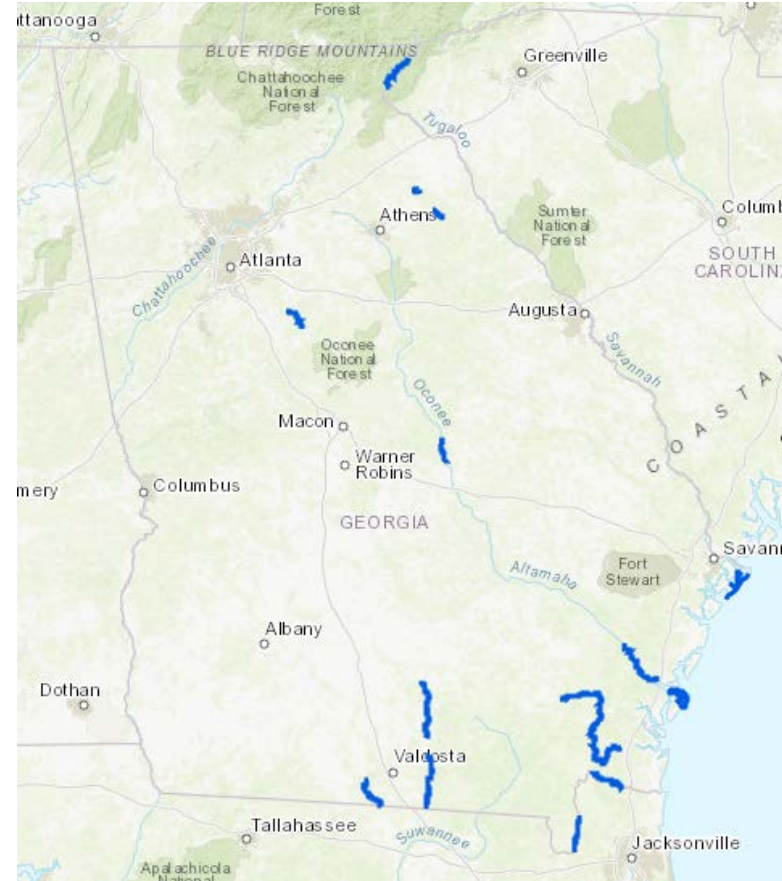
- Under the 2019 Triennial Review, the public could nominate waterbodies for changes to their designated use to include recreation. Designated uses were changed where:
 - The current use is primary contact recreation.
 - There is broad community support with no significant stakeholder opposition.
 - The community has made or plans to make financial investments to promote recreation.





2019 TRIENNIAL REVIEW – DESIGNATED USE CHANGES

The public nominated 2662 river miles, far more than EPD was expecting. EPD recommending 14 waterbody segments (407 miles) based on evaluation of nomination packages received.





2022 TRIENNIAL REVIEW

- The kick-off public hearing for the 2022 Triennial Review was held on March 22, 2022.
- Topics covered included:
 - Human Health Criteria – development of a Georgia-specific probabilistic model; continue effort to develop appropriate criteria.
 - Selenium – EPA updated selenium criteria in 2016; EPD did not propose that the Board adopt updated selenium criteria under the 2019 Triennial Review; however, EPD is looking at this again in the 2022 Triennial Review.
 - Selenium workgroup is being organized.
 - Aluminum – EPA recommended Aluminum Aquatic Life Criteria in 2018; Georgia has a lot of naturally-occurring aluminum and concerns that EPA does not have an approved bioavailable analytical method. EPD did not propose that the Board adopt aluminum aquatic life criteria under the 2019 Triennial Review; however, EPD will again review aluminum in the 2022 Triennial Review.
 - Criteria for Blue Ridge lakes.



DRAFT NUTRIENT PERMITTING ROADMAP

| Lake | TN | TP | Chlorophyll-a |
|------------------|----------|--|--|
| West Point | 4.0 mg/L | 2.4 lbs per acre-ft of lake volume per year | 22 µg/L (upstream from the dam in the forebay) 24 µg/L (LaGrange Water Intake) |
| Walter F. George | 3.0 mg/L | 2.4 lbs per acre-ft of lake volume per year | 18 µg/L (mid-river at US HWY 82) 15 µg/L (mid-river in the dam forebay) |
| Jackson | 4.0 mg/L | 5.5 lbs per acre-ft of lake volume per year | 20 µg/L (~2 miles downstream of the confluence of South and Yellow Rivers) |
| Allatoona | 4.0 mg/L | 1.3 lbs per acre-ft of lake volume per year | 10 µg/L (upstream from the dam) 12 µg/L (Allatoona Creek upstream from I-75) 10 µg/L (mid-lake downstream from Kellogg Creek) 15 µg/L (Little River upstream from HWY 205) 14 µg/L (Etowah River upstream from Sweetwater Creek) |
| Sidney Lanier | 4.0 mg/L | 0.25 lbs per acre-ft of lake volume per year | 5 µg/L (upstream from the Buford dam forebay) 6 µg/L (upstream from the Flowery Branch confluence) 7 µg/L (at Browns Bridge Road) 10 µg/L (at Bolling Bridge on Chestatee River) 10 µg/L (at Lanier Bridge on Chattahoochee River) |
| Carters | 4.0 mg/L | 172,500 pounds or 0.46 lbs per acre-ft of lake volume per year | 10 µg/L (Carters Lake upstream from Woodring Branch) 10 µg/L (Carters Lake at Coosawattee River embayment mouth) |
| Oconee | | | 26 µg/L (Oconee Arm at HWY 44) 15 µg/L (Richland Creek Arm) 18 µg/L (Upstream from the Wallace Dam forebay) |
| Sinclair | | | 14 µg/L (Oconee River Arm mid-lake) 14 µg/L (Little River and Murder Creek Arm upstream from HWY 441) 10 µg/L (Upstream from the Sinclair Dam forebay) |



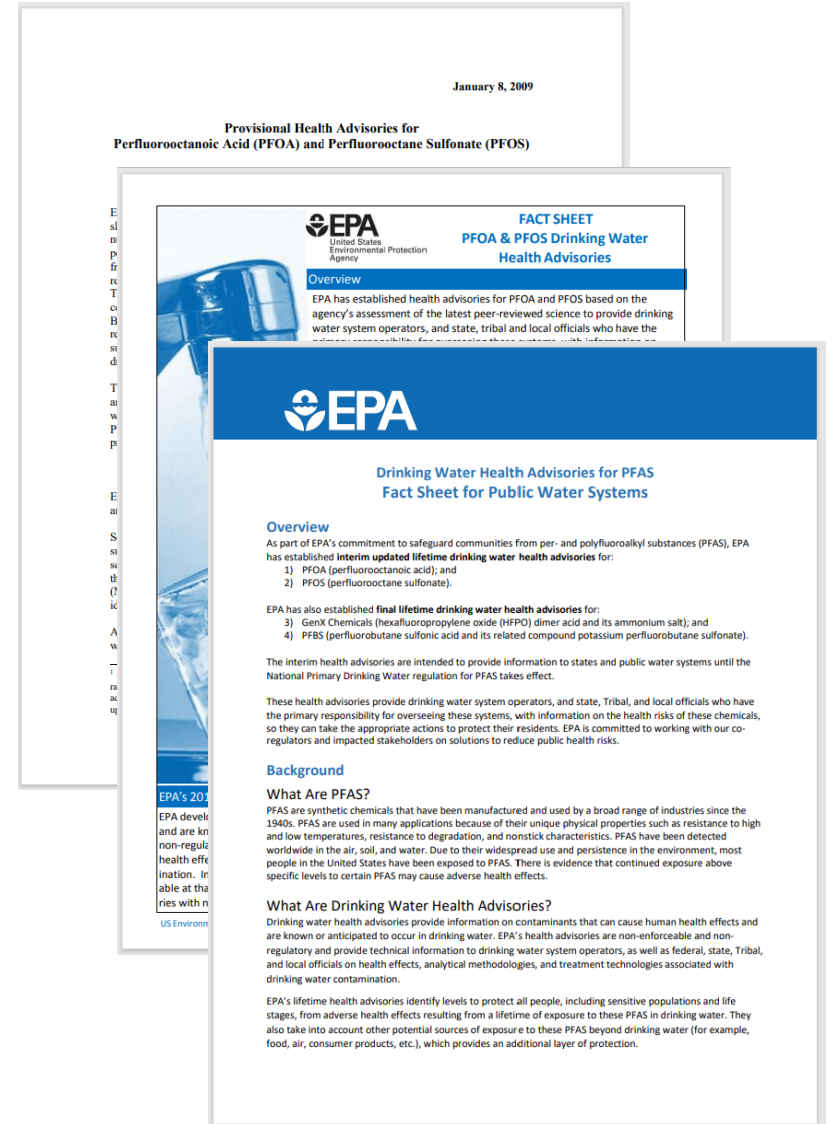
DRAFT NUTRIENT PERMITTING ROADMAP

- What specific issues does this roadmap seek to address?
 - Lack of a reasonable potential analysis and cohesive permitting strategy for TN where water quality based effluent limits would apply.
 - Necessary updates to the 2013 “Georgia’s Plan for the Adoption of Water Quality Standards for Nutrients,” which the document itself references.
 - Transparency: stakeholder feedback from previous strategy development indicated that stakeholders felt that they were brought into the process too late to provide meaningful feedback. By engaging stakeholders in the discussion of the steps necessary to fully develop a comprehensive and appropriate strategy, we hope to increase transparency and work collaboratively.
- Everything in the roadmap is open to feedback.
- Next steps: additional stakeholder discussions and a second draft of the roadmap incorporating stakeholder feedback. No strategy will be developed until the roadmap is finalized.



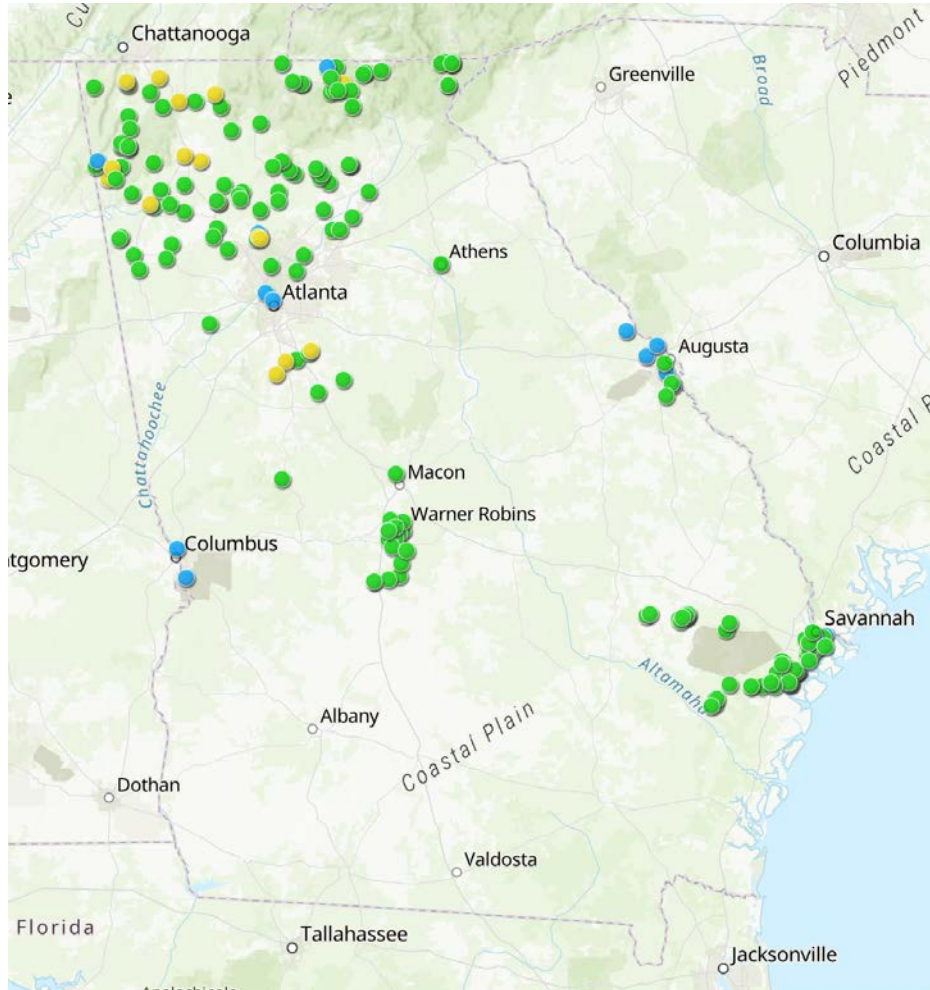
PFAS – HEALTH ADVISORIES UPDATE

- On June 15, 2022, EPA published lifetime health advisories for:
 - GenX of 10 ppt.
 - PFBS of 2,000 ppt.
- EPA also updated the lifetime health advisories for PFOA and PFOS with interim health advisories.
 - PFOA to 0.004 parts per trillion.
 - PFOS to 0.02 parts per trillion.
- Analytical methods can detect PFOA and PFOS down to 4 ppt.





PFAS – AFFECTED PWS & NEXT STEPS



- The next steps for these systems varies depending on the level of PFOA and PFOS, but generally follow EPA's recommendations:
 - Assess PFAS levels – confirmation samples for PWS with levels less than 50% of previous HAL
 - Inform the public – web postings
 - Reduce exposure – those PWS not awaiting confirmation samples have taken immediate action



PFAS UPDATE – FEDERAL ACTIONS

- EPA published the fifth Unregulated Contaminant Monitoring Rule (UCMR) on December 27, 2021. Between 2023 and 2025, PWSs will collect samples for analysis of 30 chemical contaminants – 29 species of PFAS and lithium. None of these contaminants have MCLs associated with them.

- UCMR 5 includes:

| System Size (# of people served) | System Participation in Monitoring for 30 Contaminants |
|-------------------------------------|--|
| Small Systems (fewer than 3,000) | 800 randomly selected surface water (SW), ground water under the direct influence of surface water (GWUDI), mixed sources (MX) and ground water (GW) systems |
| Small Systems (3,300 – 10,000) | All SW, GWUDI, MX, and GW systems |
| Large Systems (10,001 and over) | All SW, GWUDI, MX, and GW systems |



PFAS UPDATE – FEDERAL ACTIONS

- April 28, 2022 – EPA published a memo titled, “Addressing PFAS Discharges in EPA-Issued NPDES Permits and Expectations Where EPA is the Pretreatment Control Authority”
- EPA indicates that this memo supports the PFAS Strategic Roadmap, specifically, the goal to “leverage NPDES permitting to reduce PFAS discharges to waterways.”
- Includes recommended permit conditions, including:
 - Industries: effluent monitoring and BMPs
 - POTWs: effluent, influent, and biosolids monitoring, various pretreatment program requirements for IU discharging to POTWs, including BMPs and local limits.
- Also includes recommendations for public noticing draft permits with PFAS-specific conditions, including sending a copy of the permit to the downstream PWS.



PFAS UPDATE – FEDERAL ACTIONS

- April/May 2022 – EPA published, “Draft Recommended Aquatic Life Ambient Water Quality Criteria for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonic Acid (PFOS)”

TABLE 1—DRAFT RECOMMENDED FRESHWATER AQUATIC LIFE WATER QUALITY CRITERIA FOR PFOA AND PFOS

| Criteria component | Acute water column (CMC) ¹ | Chronic water column (CCC) ² | Invertebrate whole-body (mg/kg ww ³) | Fish whole-body (mg/kg ww) | Fish muscle (mg/kg ww) |
|----------------------|--|--|--|----------------------------------|---------------------------|
| PFOA Magnitude | 49 mg/L | 0.094 mg/L | 1.11 | 6.10 | 0.125 |
| PFOS Magnitude | 3.0 mg/L | 0.0084 mg/L | 0.937 | 6.75 | 2.91 |
| Duration | 1-hour average | 4-day average | Instantaneous. ⁴ | | |
| Frequency | Not to be exceeded more than once in three years, on average. | Not to be exceeded more than once in three years, on average. | Not to be exceeded more than once in ten years, on average. | | |

¹ Criterion Maximum Concentration.

² Criterion Continuous Concentration.

³ Wet Weight.

⁴ Tissue data provide instantaneous point measurements that reflect integrative accumulation of PFOA or PFOS over time and space in aquatic life population(s) at a given site.



PFAS UPDATE – FEDERAL ACTIONS

- **MCLs:** EPA plans to propose MCLs and MCLG by the end of the year.
- **ELGs:**
 - PFAS Strategic Roadmap indicates EPA plans to undertake rulemaking to restrict PFAS discharges from industrial categories where EPA believes they have sufficient data to do so, including organic chemicals, plastics and synthetic fibers, metal finishing, and electroplating. Proposed rules expected in summer 2023 (organic chemicals, plastics and synthetic fibers, metal finishing, and electroplating) and summer 2024 (metal finishing, electroplating)
 - EPA has launched a study into PFAS discharges from electrical and electronic components facilities, textile mills, and landfills. EPA plans to complete the studies this fall and make a decision about future rulemaking by the end of 2022.
 - EPA will conduct additional data gathering and review to inform potential rulemaking for leather tanning and finishing, plastics moulding and forming, and paint formulating. EPA will track the phaseout of PFAS from pulp, paper, paperboard, and airports (anticipated by 2024) to determine whether future regulatory action is needed.

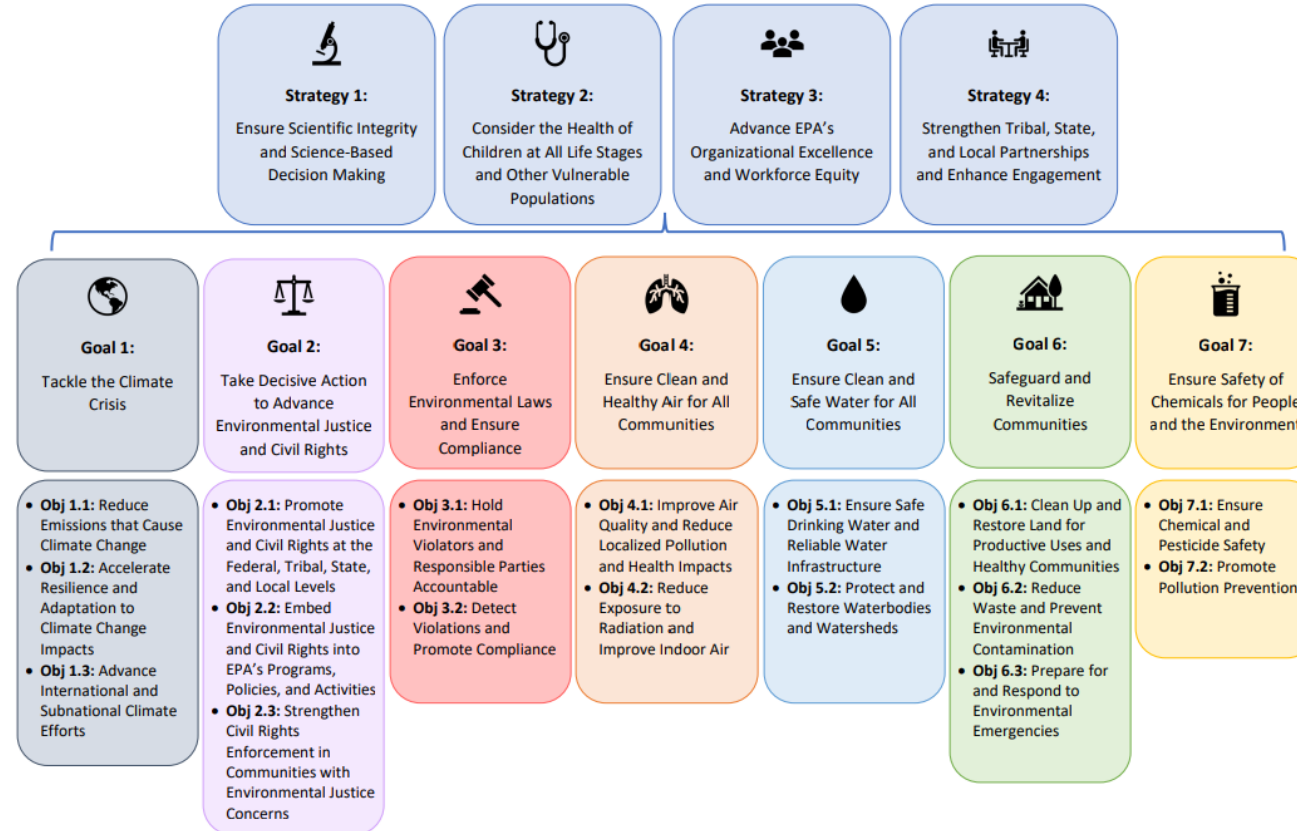


EPA PRIORITIES AND INITIATIVES

FY 2022-2026 EPA Strategic Plan Framework

Mission: To Protect Human Health and the Environment

Principles: Follow the Science, Follow the Law, Be Transparent, Advance Justice and Equity

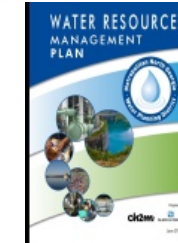
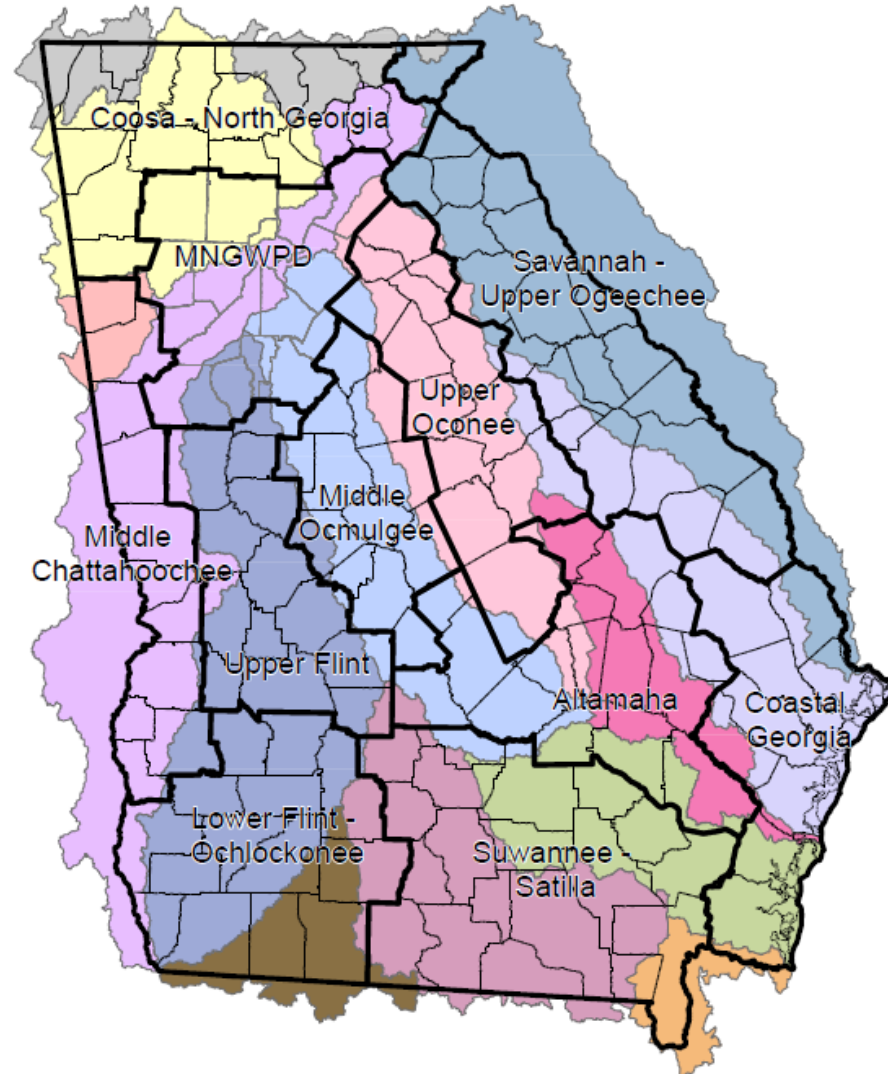
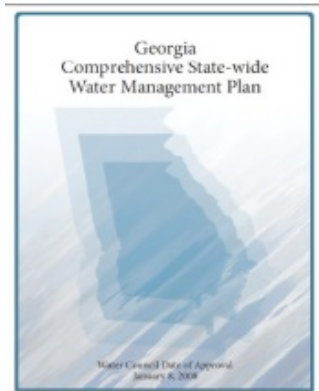




EPA PRIORITIES AND INITIATIVES

- Environmental Justice – Objective 2.1: Promote Environmental Justice and Civil Rights at the Federal, Tribe, State, and Local Levels
 - By September 30, 2026, include commitments to address disproportionate impacts in all written agreements between EPA and Tribes and states (e.g., grant work plans) implementing delegated authorities.
- Clean Water – Objective 5.1: Ensure Safe Drinking Water and Reliable Water Infrastructure
 - Significant emphasis on SDWA noncompliance, effective use of CWSRF, DWSRF, and WIFIA dollars, and providing technical, managerial, or financial assistance to PWSs and POTWs.
- Clean Water – Objective 5.2: Protect and Restore Waterbodies and Watersheds
 - Improve tools for early and rapid detection of HABs and pathogens in recreational waters
 - Review and update ELGs, including steam electric power generators for toxics and other pollutants and meat and poultry products for nutrients
 - Prevent or reduce nonpoint source pollution, specifically nutrients and plastics

Georgia's Regional Water Plans



Metro Water District
Plans in 2003 & 2009
Integrated Plan in 2017

Updated Plan by Dec. 2022



Water Planning Regions
Adopted in 2011
Updated in 2017

Updated Plans by June 2023

Forecasts of Water Demands & Returns

- 4 Sectors for Forecasting

- Municipal

- Industrial

- Energy

- Agricultural



Expert & Stakeholder Groups Provided Input

Albany State/UGA, with expert review

- Water Demand & Return Forecasts extend out to 2060

Industrial Sector Forecast

Participating Industrial Stakeholders:

- Industry Trade Groups:
 - Georgia Poultry Federation
 - Georgia Mining Association
 - Georgia Paper and Forest Products Association
 - Georgia Association of Manufacturers
 - Georgia Chemistry Council
- Governor's Office of Planning and Budget
- Georgia Department of Economic Development
- Georgia Tech Research Institute
- Representatives from a cross-section of industries, including:
 - International Paper
 - Mohawk Industries
 - Gulfstream
 - BASF
 - KIA Motors
 - Rayonier Performance Fibers
 - Packaging Corp. of America

Industrial Sector Forecast

- Industrial Forecasting Stakeholder Group
 - Provided input on methodology used
 - Move away from using employment projections as driver for water demands
 - Developed subgroups by major sectors to further inform data and methodology:
 - Poultry & Food Processing
 - Mining
 - Paper and Forest Products
 - Manufacturing
 - No or modest growth in demands



Industrial Water Demand Forecasting

Survey Questions:

- Average Water Use
- Water Sources
- Municipal Customer
- Average Discharge
- Receiving Bodies
- Municipal WW Customer
- Anticipated changes in next 5 – 10 years

Three of the sub-sector groups conducted surveys to inform the best approach to estimating future water demand:

- Georgia Poultry Federation survey of membership with assistance from Georgia Tech Research Institute
 - Projected modest growth in water demands
- Georgia Mining Association survey of membership
- Georgia Association of Manufacturers survey of membership

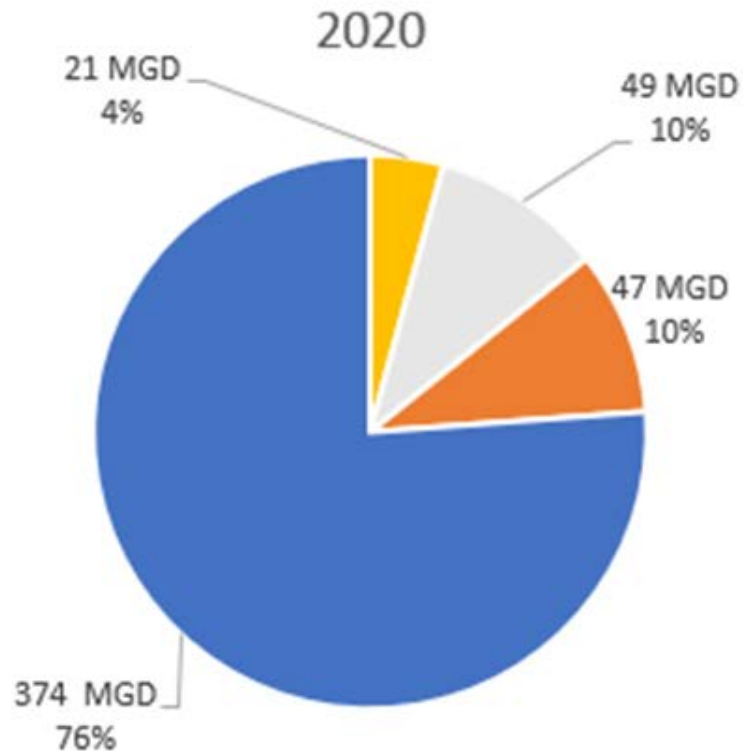
The Paper and Forest Products group developed recommendations for estimating future water demand for their sub-sector.

Water demands should stay constant (on an annual avg. basis) due to conservation/efficiency efforts

Industrial Sector Forecast

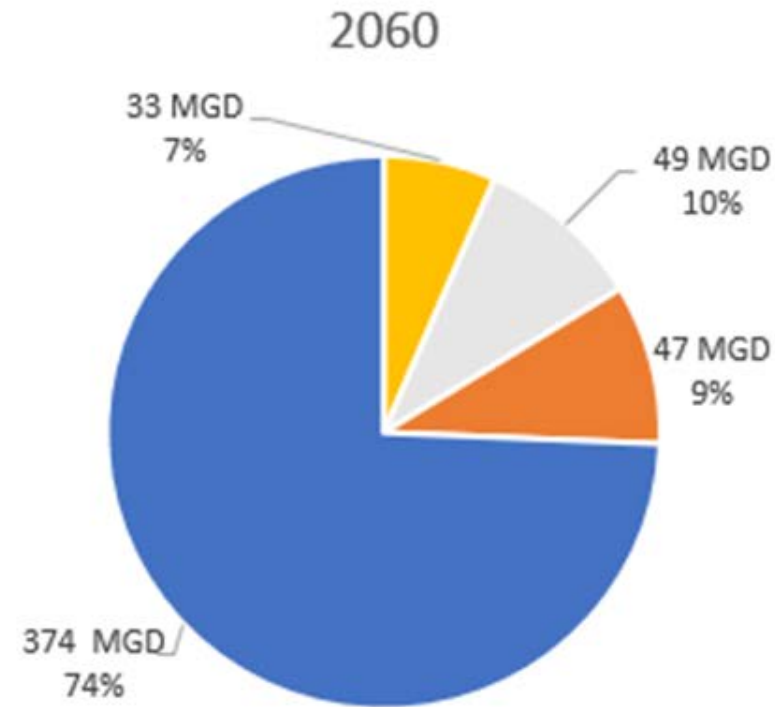
- Current Conditions (2020)

- 491 MGD (32 MGD served by Municipal systems)



- Future Conditions (2060)

- 504 MGD (41 MGD served by Municipal systems)



Food

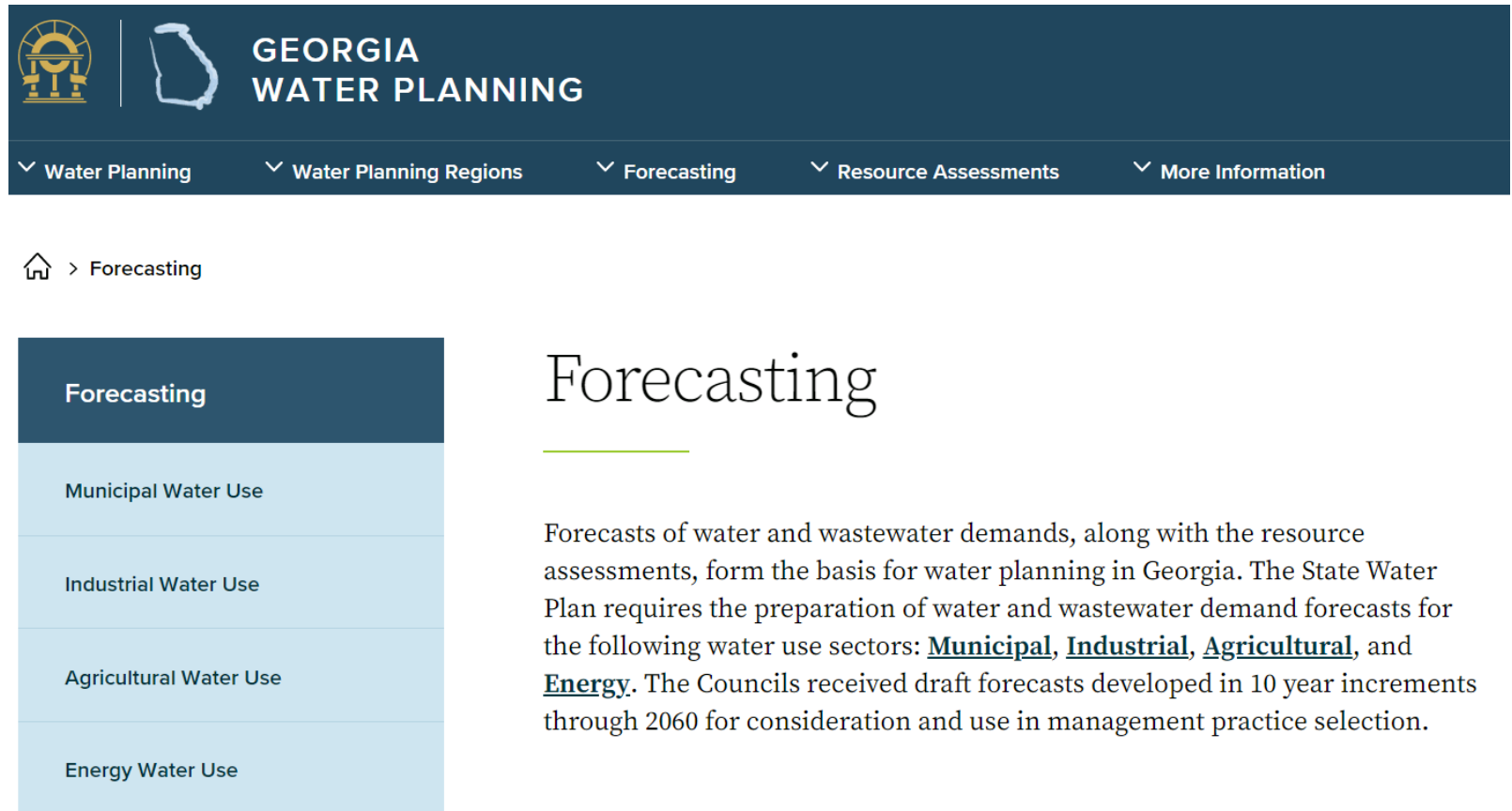
Manufacturing

Mining

Paper & Forest Products

Water and Wastewater Demand Forecasts

- Updates to Water and Wastewater Demand Forecasts for various sectors are available on the website
- **Georgia Water Planning Forecast Dashboard** presents an aggregated forecast of projected water and wastewater demands from all ten councils, *excluding Metro District*.



The screenshot shows the Georgia Water Planning website's Forecasting dashboard. The header includes the Georgia Water Planning logo and navigation links: Water Planning, Water Planning Regions, Forecasting, Resource Assessments, and More Information. Below the header, a breadcrumb trail shows 'Forecasting'. A sidebar menu on the left lists four categories: Forecasting (selected), Municipal Water Use, Industrial Water Use, Agricultural Water Use, and Energy Water Use. The main content area is titled 'Forecasting' and contains a paragraph explaining that forecasts of water and wastewater demands, along with resource assessments, form the basis for water planning in Georgia. It mentions the State Water Plan's requirement for forecasts for Municipal, Industrial, Agricultural, and Energy sectors, and notes that draft forecasts were developed in 10-year increments through 2060 for management practice selection.

GEORGIA
WATER PLANNING

Water Planning Water Planning Regions Forecasting Resource Assessments More Information

Forecasting

Forecasting

Municipal Water Use

Industrial Water Use

Agricultural Water Use



Energy Water Use


Forecasting


Forecasts of water and wastewater demands, along with the resource assessments, form the basis for water planning in Georgia. The State Water Plan requires the preparation of water and wastewater demand forecasts for the following water use sectors: Municipal, Industrial, Agricultural, and Energy. The Councils received draft forecasts developed in 10 year increments through 2060 for consideration and use in management practice selection.

<https://waterplanning.georgia.gov/forecasting>


Councils' Plans and More Information

**GEORGIA
WATER PLANNING**

waterplanning.georgia.gov


Search

[Water Planning](#) [Water Planning Regions](#) [Forecasting](#) [Resource Assessments](#) [More Information](#)



A comprehensive,
long-term **State Water Plan**

[Click here to watch a short video about Georgia's Regional Water Plans](#)

Georgia Water

Georgia manages water resources in a sustainable manner to support the state's economy, to protect public health and natural systems, and to enhance the quality of life for all citizens.


The State Water Plan ensures Georgia's water resources are sustainably managed through at least 2050. The Regional Water Plans set forth the recommended management practices for each water planning region.

[Learn More](#)

Funding Opportunities

Partnering Agencies

Latest News




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Quick Links

[State Water Plan](#)

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Upcoming Meetings





A LOOK AHEAD TO 2023

- Potential legislative: none from WPB
- Regulatory: Asset Management (SDWA, AWIA); biosolids; well casings and minimum standards
- Initiatives:
 - Make regular progress on draft Nutrient Permitting Strategy Roadmap
 - Provide updates as EPA makes progress on their PFAS Strategic Roadmap



QUESTIONS/CONTACT

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