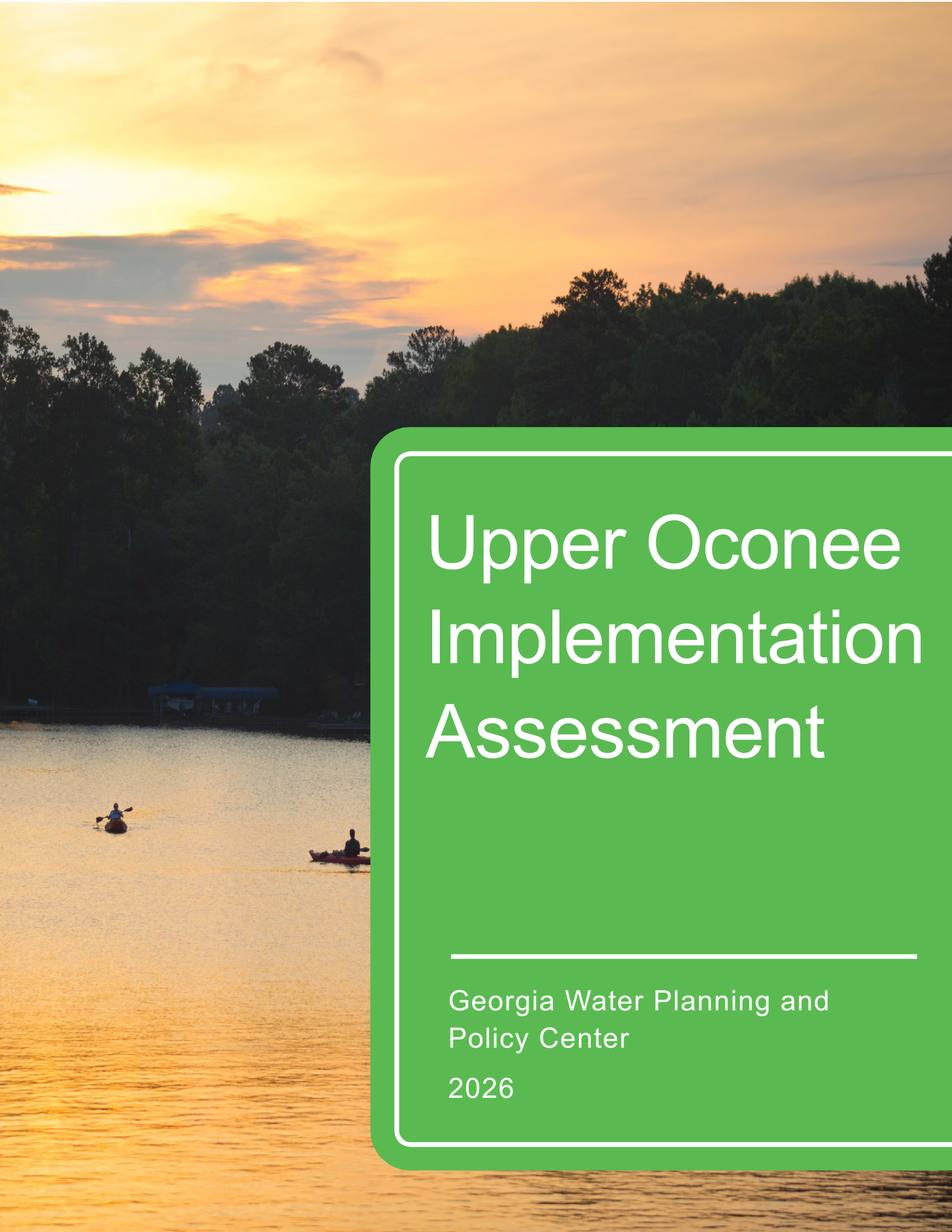




Upper Oconee Implementation Assessment

Georgia Water Planning and
Policy Center

2026

Regional water planning is administered by the Georgia Environmental Protection Division. The Georgia Water Planning and Policy Center serves as the planning support contractor for the Regional Water Planning Councils.

This report was prepared by the Georgia Water Planning and Policy Center for the Upper Oconee Regional Water Planning Council.

Date: May 2026



Introduction

Of all Georgia's natural resources, none is more important to the future of our state than water. As recognized in Georgia's Comprehensive State-wide Water Management Planning Act, the wise use and management of water is critical to support the state's economy, to protect public health and natural systems, and to enhance the quality of life for all citizens.

Regional water plans in Georgia are developed in accordance with the Georgia Comprehensive State-wide Water Management Plan (State Water Plan), which was adopted by the General Assembly in January 2008. The State Water Plan establishes ten water planning regions across the state, each guided by a regional water planning council. These regions do not include the Metropolitan North Georgia Water Planning District, which has a separate water planning process created by the Metropolitan North Georgia Water Planning District Act of 2001, but the Councils coordinate with the District in their planning.

The State Water Plan calls for the preparation of regional water plans designed to manage water resources in a sustainable manner. The plans are prepared by the regional water planning councils and approved by the Director of the Georgia Environmental Protection Division (GAEPD). The plans are reviewed and revised every five years. The 2028 update of Regional Water Plans in Georgia will mark the fourth iteration of the plans. To support the plan update, this report compiles information related to implementation of the Upper Oconee Regional Water Plan over the past five years (2020-2025). The objectives for this implementation assessment are to provide the councils, GAEPD, and stakeholders with information on:

- Water-related projects in their regions that support implementation of their management practices
- Progress in implementing and supporting the regional water planning process
- Implementation highlights
- Council priorities for the next plan update

Water Planning in the Upper Oconee Region

The Upper Oconee region includes thirteen counties, illustrated in Figure 1, and includes five major river basins: a majority of Oconee, upper portions of Altamaha and Ogeechee, and small portions of Ocmulgee and Savannah. The Upper Oconee Water Council includes members from across this region who represent different backgrounds and perspectives on water use and management in the region. The Council was established in 2008, and the first regional water plan was adopted in 2011 and subsequently, updated plans were adopted in 2017 and 2023. The review and revision process for the next plan update began in 2026, and the revised plan will be submitted to GAEPD for review in June 2028.

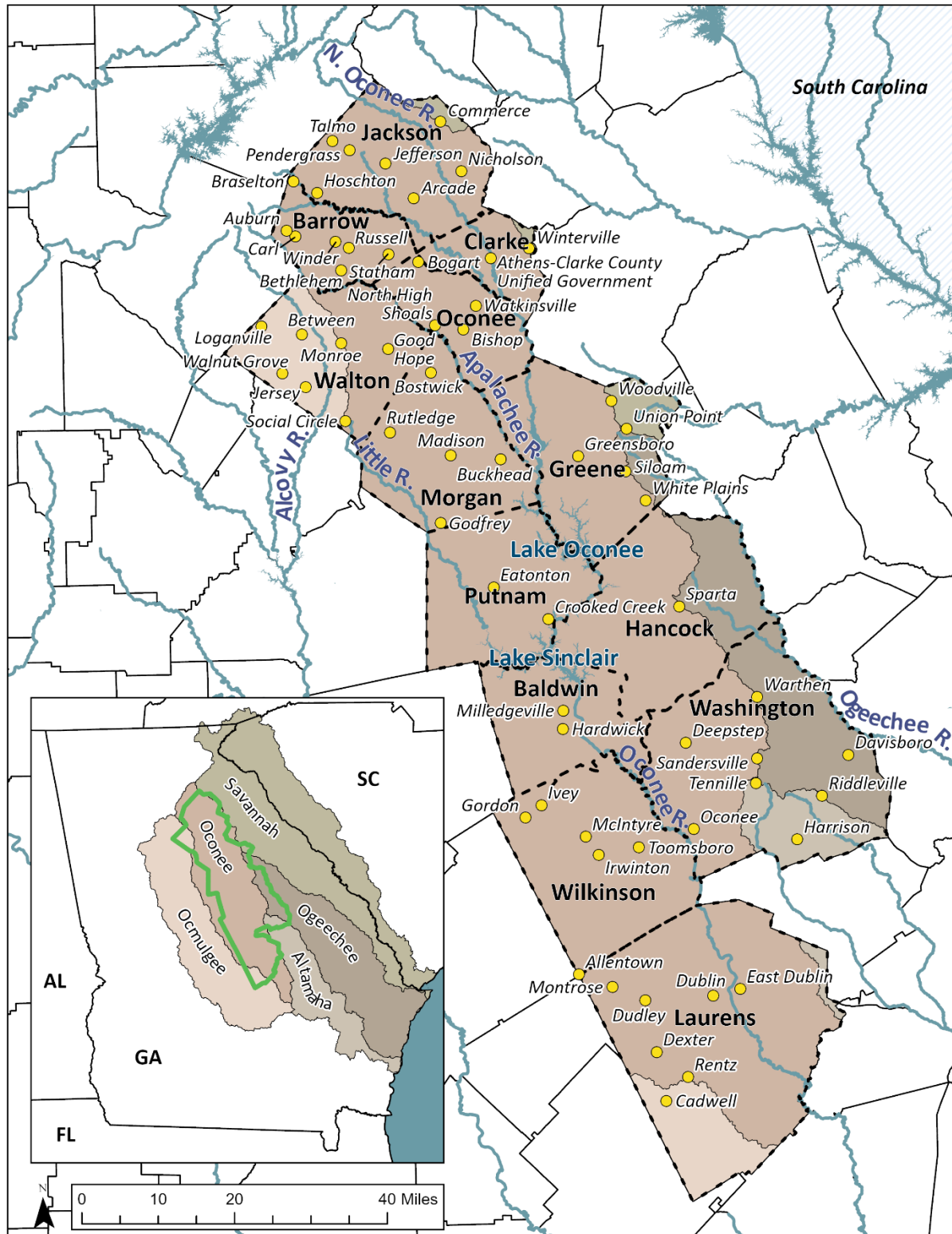


Figure 1. Map of the Upper Oconee Water Planning region. Counties are outlined by the black dashed line, and towns, and cities are noted with yellow circles. The five river basins in the region are highlighted in shades of tan.

The process of regional water planning is illustrated in Figure 2. It is guided by the Council's vision and goals (see inset boxes) and informed by technical products that forecast water and wastewater needs and assess water availability (surface water and groundwater) and quality (surface water). The Council selects management practices and makes recommendations for its regional water plan that seek to balance water needs and capacity in alignment with the Council's goals.

Vision: *Create a regional plan that focuses on managing water as a critical resource vital to our health, economic, social and environmental wellbeing. Build trusting partnerships with neighboring regions and develop an educated and engaged citizenry that embraces sound water management.*

Upper Oconee Regional Water Plan -- Goals

1. Promote alternatives and technologies that conserve, reuse, return, and recycle water within the Upper Oconee region.
2. Ensure that management practices balance economic development, recreation, and environmental interests.
3. Educate stakeholders in the region on the importance of water quality and managing water as a resource including practices such as water conservation and increased water efficiency.
4. Encourage the development of and accessibility to data and information to guide management decisions.
5. Identify programs, projects, and educational messages to reduce non-point source pollution to protect water quality in lakes and streams.
6. Recommend innovative strategies (water, sewer, and/or stormwater) that provide sufficient revenues to maintain a high level of service while promoting water conservation and efficiency.
7. Identify and plan measures to ensure sustainable, adequate water supply to meet current and predicted long-term population, environmental, and economic needs.

Regional water plans do not sit on a shelf. They are used by GAEPD in making decisions about water and wastewater permits and in guiding GAEPD water resources management decisions in the region. They are also used by the Georgia Environmental Finance Authority (GEFA) in prioritizing applications for grants and loans for water infrastructure and conservation projects. For local communities, participation in regional water planning and support for plan implementation are evaluation criteria for WaterFirst designation, which represents the commitment to responsible management of water supply, stormwater, and wastewater above and beyond what is required by the State of Georgia. WaterFirst designees are eligible for a one-percent interest rate reduction for GEFA loans and priority status for 319(h) grants. The regional water plans are also used by others across the region and the state to understand the region's water resources, to inform local water-related management and investments, and to identify water-related research and data priorities.

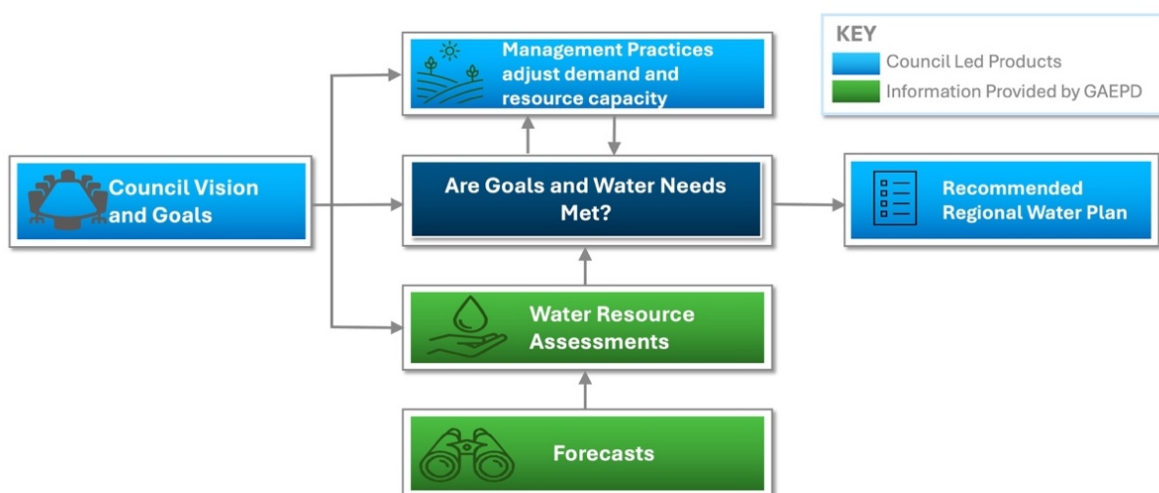


Figure 2. Graphic of the Regional Water Planning Process. The Vision and Goals guide the Council as they identify regional needs and evaluate technical information which is used to update management practices and the regional water plan on a 5-year cycle.

Water Related Projects

There is significant local investment in water and wastewater systems and in the management of surface water and groundwater resources. This report is not a complete inventory of water related projects in each region. Rather, it focuses on projects that have leveraged state and federal funding sources to implement water projects in the region. This focus includes local investment through loans from GEFA, primarily through the Clean Water and Drinking Water Revolving Funds. It does not include projects that are primarily funded through local sources, including bond revenue, but the Council fully recognizes the critical role that locally funded investments play in effective water management and regional water plan implementation. It would be challenging to accurately reflect all water project investments comprehensively. The projects described in this section illustrate a sampling of projects related to regional water plan implementation.

Several state and federal funding sources were used to identify projects from the period of 2020-2025 in the Upper Oconee region that are relevant for water conservation, water supply, wastewater, and water quality and support implementation of the regional water plan:

State or Federal Entity	Programs
Georgia Environmental Finance Authority	Clean Water State Revolving Fund, Drinking Water State Revolving Fund, Georgia Fund, Lead Service Line Replacement Program, Sewer Overflow and Stormwater Reuse Municipal Grants Program, Emerging Contaminants, Additional Supplemental Appropriations for Disaster Relief Act
Georgia Environmental Protection Division	Section 319(h) Nonpoint Source grants, Regional Water Plan seed grants
Governor's Office of Planning and Budget	American Rescue Plan Act awards
Department of Community Affairs	Community Development Block Grants
Georgia Department of Natural Resources	Georgia Outdoor Stewardship Program
Natural Resources Conservation Service (USDA)	Conservation Stewardship Program, Environmental Quality Incentive Program

The projects are described in Tables 1 through 15. Their connection to the regional water plan and impacts on water conservation, water supply, wastewater, and water quality are discussed below. Where possible, the projects are tied to specific management practices from Section 6 of the regional water plan; these are indicated with the management practice abbreviation from the plan (e.g., WC-1, WS-3, WW-5, etc.). To see full descriptions of each management practice, see the [Upper Oconee Regional Water Plan](#). The geographic distribution of the projects is illustrated in the map in Figure 3.

Water Conservation

Water conservation practices, including conservation pricing, metering technologies, water audits, and education and outreach, help to meet water needs through efficient water use. There are 22 water providers (of 46 in the region) that have implemented conservation rate structures in the Upper Oconee region as of 2025 (Table 1; WC-1). In the agricultural sector, incentive programs through Natural Resources Conservation Service supported implementation of irrigation technologies to improve water efficiency (Table 2; related to WC-4). Conservation in the region is not limited to these activities; other water conservation initiatives are implemented at the local level throughout the Upper Oconee region, as demonstrated by the WaterFirst designations (see inset box below).



WaterFirst Designees in the Upper Oconee Region

City of Auburn*	Athens-Clarke County
Town of Braselton	City of Jefferson
City of Loganville	Oconee County
City of Winder	

For more information on the program visit the [WaterFirst website](#).

*The City of Auburn also lies in the Metropolitan North Georgia Water Planning District, and the City's water management is directed by the plans adopted by the District.

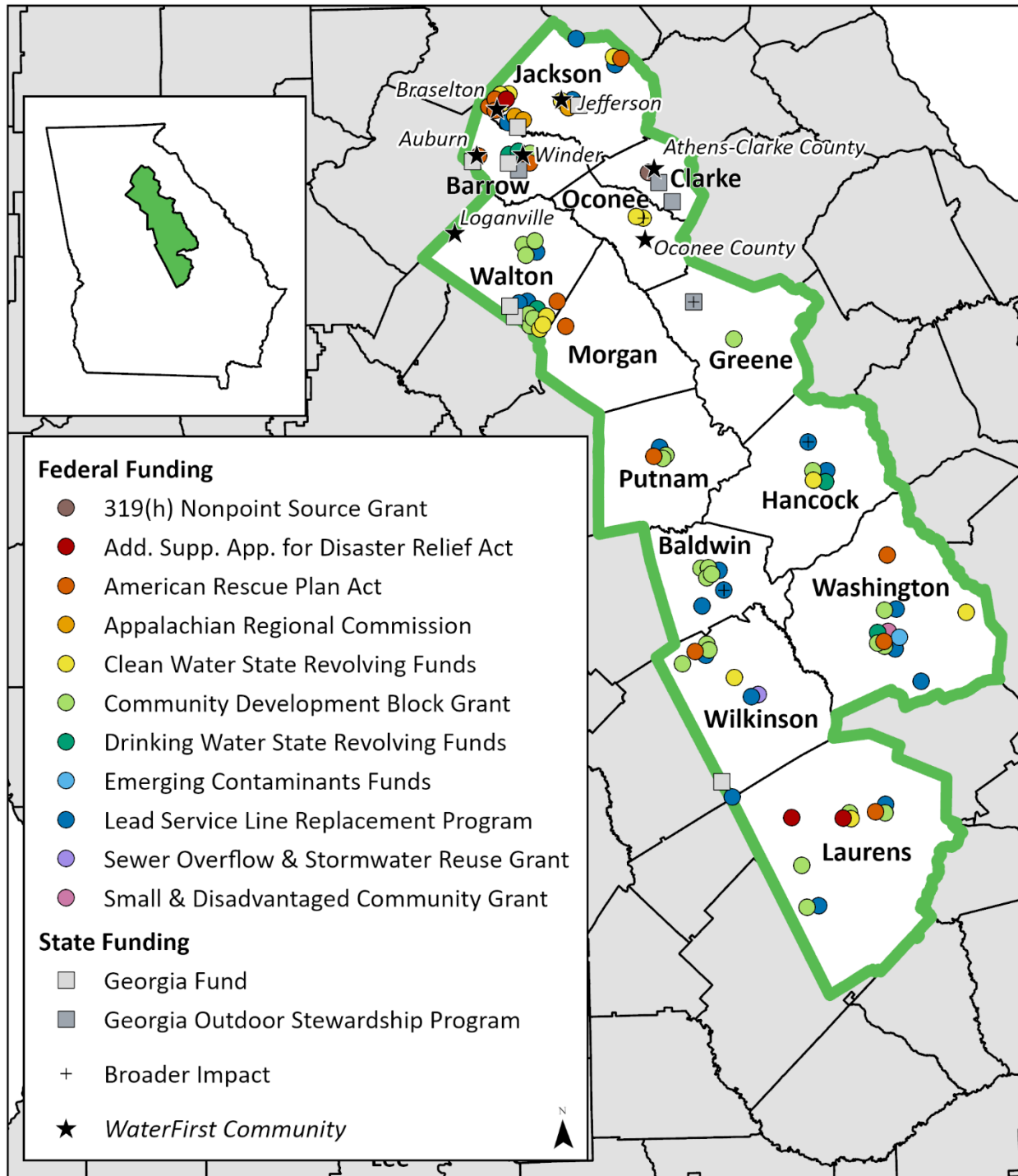


Figure 3. Map of project locations by funding source and WaterFirst Communities in the Upper Oconee Region. Most dots represent specific project locations, but some represent broader geographic implementation in a county. There were three region-wide Seed grants and one region-wide 319(h) grant not shown on the map but are described in the text below.

Water Supply

Most of the water withdrawn for water supply in the Upper Oconee region comes from surface water resources (e.g., rivers and reservoirs) but groundwater use becomes more common in southern portion of the region that overlay the Cretaceous and Floridan aquifer systems. Recent projects supported improvements or expansion of drinking water systems in Baldwin, Barrow, Greene, Hancock, Jackson, Laurens, Morgan, Putnam, Walton, Washington, and Wilkinson Counties (Tables 3, 4, 5, 6, & 7 and WS-7). One of these projects specifically addressed emerging contaminants in the City of Tennille (Table 8). Cities in Washington, Jackson, and Barrow expanded supply through new wells or increased storage (Tables 3 & 4, WS-2 and WS-3). Nine counties – Baldwin, Hancock, Jackson, Laurens, Putnam, Walton, Washington, Wilcox, Wilkinson – used funding through GEFA to inventory for lead service lines in their drinking water systems (Table 9). Maintenance and updates to water supply infrastructure help to improve the safety, efficiency, and reliability of water services and new infrastructure or expansions of treatment plants helps to support growing demand and expected development in the region.

Two seed grants in the region focused on water supply management practices and surface water resources. The 2020 seed grant, *Flow-dependent benefits and values of water resources in the Upper Oconee Region: Expanding the information base for water planning and management*, developed metrics for recreation and instream flow metrics that could be used in regional water planning (Table 10, WS-4). A 2025 seed grant, *Water Resources Development and Planning*, is focusing on a well installation to add a groundwater source that will help offset the demand on Bear Creek Reservoir (Table 10, WS-3, also see the inset box on page 22).

Projects that protect or promote natural ground cover improve infiltration into groundwater resources which also support water supply for the region. Water that infiltrates into groundwater supports streamflows during dry periods, so this type of project is important even in areas where little ground water is directly withdrawn. The Georgia Department of Natural Resources was awarded a grant from the Georgia Outdoor Stewardship Program to protect land in Clarke County adjacent to Rock and Shoals Outcrop Natural Area (Table 11). The City of Watkinsville purchased Thomas Family Farm for permanent conservation using the Clean Water State Revolving Fund (Table 12). These projects combine benefits of outdoor recreation and land conservation from landscapes that naturally infiltrate water.

Wastewater and Water Quality

Proper management and treatment of wastewater help to maintain water quality for surface and groundwater sources. During the past five years, projects in ten counties expanded, upgraded, or rehabilitated wastewater infrastructure: Baldwin, Barrow, Greene, Hancock, Jackson, Laurens, Oconee, Walton, Washington, and Wilkinson (Tables 4, 5, 6, & 12). The cities of Commerce and Tennille and Jackson and Walton Counties constructed new wastewater treatment facilities using American Rescue Plan Act funds and the Clean Water State Revolving Fund (Tables 4 & 12, WW-2). The City of McIntyre used funding through the Clean Water State Revolving Fund and the Sewer Overflow and Stormwater Reuse Municipal Grants Program to build a new sewer collection system (Tables 12 & 13, WW-1 & WW-5). A 2020 seed grant, *An ArcGIS toolbox for Automating Digitization of Septic Systems to support activities outlined in the Upper Oconee Regional Water Plan*, developed a tool for septic location identification using Jackson County as a pilot area (Table 10). This tool directly supports septic system planning and management (WW-4). Overall, these projects upgraded and expanded important wastewater infrastructure in the region and implemented management practices for sewer infrastructure (WW-1, WW-2, WW-5).

There were multiple stormwater management and land acquisition initiatives in the region that supported water quality in rivers and streams. Six counties – Putnam, Walton, Washington, Barrow, Laurens, and Baldwin – implemented drainage improvements through Community Development Block Grant projects (Table 5). The Town of Braselton implemented stormwater management practices through a Clean Water State Revolving Fund project (Table 12, WQ-7). Georgia Outdoor Stewardship Program and Clean Water State Revolving Fund funding was used for purchases that preserved landscapes near the Middle Oconee River and Cedar Creek in Athens, GA and Calls Creek, in Watkinsville, GA (Table 11& 12, WQ-1). All of these projects protect water quality through stormwater and run-off management or protection of riparian areas.

Natural Resources Conservation Service funds continue to support implementation of agricultural best management practices that protect water quality in the Upper Oconee region. In the past five years, practices implemented through NRCS programs included crop cover, tillage management, stream shading, fencing, and nutrient management, and watering facilities to reduce erosion and nutrient pollution to surface waters (Table 14, WQ-3, WQ-9).

The City of Dudley, City of Dublin, and Town of Braselton were impacted by Hurricane Michael in 2018 and received water infrastructure or water quality funding (Table 15) in the time period covered by this report.

Table 1. Summary of water rate structures in the Upper Oconee Region. Data from the water and wastewater rates dashboard, which was developed through a collaboration between the University of Georgia Carl Vinson Institute of Government and GEFA.

Rate Structure	Definition	Number of Water Providers
Conservation Pricing: - Increasing Block - Uniform at One Block's Rate	- Unit price of each succeeding block of usage is charged at a higher unit rate than the previous blocks (21) - Consumer pays one rate per unit, but that rate is determined by their total usage (1)	22
Uniform Rate	Constant per unit cost	22
Decreasing Block Rate	Unit price of each succeeding block of usage is charged at a lower unit rate than the previous blocks	1
Tiered Flat Fee	One price based on water consumption with different tiers of service (1)	1

Data and definitions from <https://georgiawaterrates.org/>

Table 2. Natural Resources Conservation Service grants in the Upper Oconee region: 2020-2025. Natural Resources Conservation Service administers cost-share incentive programs and technical assistance to support landowners in addressing conservation and natural resource concerns through the Conservation Stewardship Program and the Environmental Quality Incentives Program.

NRCS Program	# of Contracts	Funds for Water Quality	Funds for Water Quantity	Total Funds
Conservation Stewardship Program	190	\$1,442,808	\$70,510	\$1,513,318
Environmental Quality Incentives Program	523	\$2,427,773	\$304,036	\$2,731,809

Table 3. Drinking Water State Revolving Fund in the Upper Oconee region: 2020-2025. The Drinking Water State Revolving Fund is a federally funded loan program for drinking water infrastructure administered by GEFA. The program primarily finances upgrades, maintenance, and expansion of water infrastructure.

Fiscal Year	Community	County	Action	Plan Element	Total Assistance Agreements
2022	City of Tennille	Washington	Installing valves and well filtration system	Water Supply	\$377,600
2024	City of Winder	Barrow	Expanding and improving Highway 53 Water Treatment Plant and related appurtenances	Water Supply WS – 7	\$14,000,000

2024	City of Sparta	Hancock	Upgrading the water treatment plant, constructing a new elevated storage tank, and related appurtenances	Water Supply WS – 7	\$4,200,000
2025	City of Winder	Barrow	Transforming a former quarry into a raw water storage pond, which includes installing new raw water intakes, pump stations, tunnels, shafts, raw water mains, pipelines, and a hydro-turbine renewable energy system.	Water Supply WS-2	\$10,000,000
2025	City of Social Circle	Walton	Installing SCADA equipment and improving the water distribution system and water treatment plant	Water Supply	\$2,100,000

Table 4. Water-related American Rescue Plan funding in the Upper Oconee region: 2020-2025. American Rescue Plan Act is a federal COVID-19 relief bill passed in 2021 with funds distributed by the State.

Community/Applicant	County	Proposed Action	Plan Element	Total Funds
Ivey	Wilkinson	Critical repairs at Lake Tchukolako including the movement of water and wastewater infrastructure to be above the spillway	Water Supply Wastewater Water Quality WS-7	\$600,600
Town of Braselton	Jackson, Barrow, Gwinnett*, Hall*	Develop two groundwater wells for additional water supply	Water Supply WS-3	\$458,150
Auburn	Barrow, Gwinnett*	Implement a regional water supply program to improve drinking water quality and supply	Water Supply	\$6,045,848
Warthen/Center for Rural Prosperity and Innovation	Washington	Install a second well for the city of Warthen as recommended by GAEPD	Water Supply WS-3	\$243,691
Hoschton	Jackson	Install a water booster pumping station to maintain water supply for a growing population	Water Supply	\$440,000

Hoschton	Jackson	Upgrade the wastewater treatment facility to increase treatment capacity	Wastewater Water Quality	\$2,200,000
Commerce	Jackson	Construct a new wastewater treatment facility and a new pump station	Wastewater Water Quality WW-2	\$35,501,100
East Dublin	Laurens	Replace failing septic tanks and sewer infrastructure	Wastewater Water Quality WW-5	\$1,132,533
Eatonton-Putnam Water & Sewer Authority	Putnam	Replace old water mains to improve capacity and prevent leaks; add additional storage and water lines	Water Supply WS-7	\$3,369,850
Rutledge	Morgan	Improvements to the water system including replacing a mechanically controlled pressure reducing valve, investigating the location of a buried isolation valve, and extending the distribution system	Water Supply	\$809,305
Tennille	Washington	Implement a new water filtration system, build a new wastewater treatment plant, expand sanitary sewer and stormwater drainage collection system, and drill new well	Water Supply Wastewater Water Quality WS-3 WW-2	\$16,180,087
Walton County	Walton	Construct a water treatment facility	Water Supply	\$46,200,000
Winder	Barrow	Improve the existing water treatment plant, create two new raw water intakes, and convert an abandoned rock quarry into a raw water storage pond	Water Supply WS-2	\$11,000,000

* Spans multiple planning regions

Table 5. Water-related Community Development Block Grant projects in the Upper Oconee region: 2020-2025. Community Development Block Grant is a federally funded program through the U.S. Department of Housing and Urban Development and administered by the Georgia Department of Community Affairs to support economic and infrastructure projects to benefit low-to moderate-income residents.

Fiscal Year	Community	County	Action	Plan Element	Amount
2020	City of Dexter	Laurens	Water improvements	Water Supply	\$497,151
2020	City of Eatonton	Putnam	Street and drainage improvements	Water Quality	\$750,000

2020	City of Ivey	Wilkinson	Water and sewer improvements	Water Supply Wastewater Water Quality	\$750,000
2020	City of Monroe	Walton	Street and drainage improvements	Water Quality	\$750,000
2020	City of Social Circle	Walton	Sewer improvements	Wastewater Water Quality	\$750,000
2020	City of Tennille	Washington	Water facility improvements	Water Supply	\$750,000
2021	City of Cadwell	Laurens	Sewer improvements	Wastewater Water Quality	\$422,417
2021	City of Gordon	Wilkinson	Water system improvements	Water Supply	\$750,000
2021	City of Sandersville	Washington	Street and drainage improvements	Water Quality	\$750,000
2022	Baldwin County	Baldwin	Sanitary sewer improvements	Wastewater Water Quality	\$1,000,000
2022	City of Greensboro	Greene	New municipal water and sewer	Water Supply Wastewater Water Quality	\$1,000,000
2022	City of Monroe	Walton	Sewer infrastructure improvements	Wastewater Water Quality	\$1,000,000
2022	City of Social Circle	Walton	Sewer improvements	Wastewater Water Quality	\$1,000,000
2022	City of Tennille	Washington	Sewer improvements	Wastewater Water Quality	\$1,000,000
2022	City of Winder	Barrow	Sewer and drainage improvements	Wastewater Water Quality	\$1,000,000
2023	City of Ivey	Wilkinson	Water system improvements	Water Supply	\$511,142
2023	City of Milledgeville	Baldwin	Water system improvements	Water Supply	\$1,000.00
2023	City of Sparta	Hancock	Sewer improvements	Wastewater Water Quality	\$1,000,000
2024	Baldwin County	Baldwin	Sewer improvements	Wastewater Water Quality	\$1,250,000
2024	City of Dublin	Laurens	Street, flood, and drainage improvements	Water Quality	\$939,537
2025	Baldwin County	Baldwin	Sewer, streets, flood, and drainage improvements	Wastewater Water Quality	\$1,250,000
2025	City of East Dublin	Laurens	Sewer improvements	Wastewater Water Quality	\$1,000,000
2025	City of Eatonton	Putnam	Street and drainage improvements	Water Quality	\$1,000,000
2025	City of Monroe	Walton	Street, drainage, and sewer improvements	Wastewater Water Quality	\$1,000,000
2025	City of Social Circle	Walton	Sewer improvements	Wastewater Water Quality	\$1,000,000

Table 6. Appalachian Regional Commission water and sewer infrastructure grants, managed by GEFA, in the Upper Oconee region: 2020-2025. The Appalachian Regional Commission is a partnership between 13 states that span Appalachia and the federal government, with 37 counties in Georgia.

Fiscal Year	Community	County	Action	Plan Element	Total Assistance Agreement
2021	City of Hoschton	Jackson	Construct new 500,000-gallon elevated water storage tank	Water Supply	\$600,000
2023	City of Hoschton	Jackson	Support construction of a new 1,000,000-gallon water storage tank	Water Supply	\$1,000,000
2024	City of Jefferson	Jackson	Sewer extension for Jackson County Airport	Wastewater Water Quality WW-5	\$624,291

Table 7. Small, Underserved, and Disadvantaged Communities Grant Program funds in the Upper Oconee region. Federal funds to assist public water systems in meeting Safe Drinking Water Act requirements were authorized by the Water Infrastructure Improvements for the Nation Act and are administered by GEFA.

Fiscal Year	Community	County	Action	Plan Element	Total Assistance Agreement
2022	City of Tennille	Washington	Filtration system	Water Supply	\$1,100,000

Table 8. Drinking Water Emerging Contaminants funds in the Upper Oconee region. Federal funds for emerging contaminants, such as PFAS, were authorized by the Infrastructure Investment and Jobs Act and are administered by GEFA.

Fiscal Year	Community	County	Action	Plan Element	Total Assistance Agreement
2024	City of Tennille	Washington	Improve filtration system in response to emerging contaminants	Water Supply	\$2,500,000

Table 9. The Lead Service Line Replacement Program funds in the Upper Oconee Region: 2020-2025. The Lead Service Line Replacement Program funds are administered by GEFA as grants or loans and only finance lead service line inventory and replacement projects.

Fiscal Year	Community	County	Action	Plan Element	Total Assistance Agreement
2023	City of East Dublin	Laurens	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$74,400
2023	Eatonton-Putnam Water Sewer Authority	Putnam	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$188,350
2024	Town of Cadwell	Laurens	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$20,400
2024	City of Monroe	Walton	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$150,000
2024	City of Tennille	Washington	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$66,100
2024	City of Jefferson	Jackson	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$100,000
2024	City of Sparta	Hancock	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$61,000
2024	City of Hoschton	Jackson	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$105,000
2024	City of Ivey	Wilkinson	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$33,500
2024	City of Abbeville	Wilcox	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$86,500
2024	Town of Harrison	Washington	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$72,035
2024	City of Irwinton	Wilkinson	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$251,000
2024	City of Maysville*	Jackson, Banks*	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$30,500

2024	Baldwin County	Baldwin	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$150,000
2024	City of Allentown	Laurens, Wilkinson, Bleckley*, Twiggs*	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$50,000
2024	City of Commerce	Jackson	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$97,920
2024	City of Milledgeville	Baldwin	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$426,750
2024	City of Sandersville	Washington	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$174,400
2024	City of Social Circle	Walton	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$49,740
2024	City of Social Circle	Walton	Finance replacement for lead service lines in its drinking water system	Water Supply	\$580,902
2024	Hancock County	Hancock	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$56,250
2025	Baldwin County	Baldwin	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$700,000
2025	City of Winder	Barrow	Finance inventory to identify existing lead service lines in its drinking water system	Water Supply	\$900,000

* Spans multiple planning regions

Table 10. Seed grants in the Upper Oconee region: 2020-2025. Regional Water Planning seed grants, which are administered by GAEPD, support activities that help to implement regional water plans.

Start Year	End Year	Grantee	Project	Plan Element	Total Funds
2020	2022	Albany State University	Flow-dependent benefits and values of water resources in the Upper Oconee Region: Expanding the information base for water planning and management	Water Supply WS-4	\$115,881

2020	2022	University of Georgia	An ArcGIS toolbox for Automating Digitization of Septic Systems to support activities outlined in the Upper Oconee Regional Water Plan	Wastewater WW-4	\$105,054
2025	Ongoing	Jackson County	Water Resources Development and Planning (Well Installation)	Water Supply WS-3	--

Table 11. The Georgia Outdoor Stewardship Program funds in the Upper Oconee region: 2020-2025. Georgia Outdoor Stewardship Program is state funded and administered by the Georgia Department of Natural Resources to support parks, trails, and protect and acquire lands for wildlife, clean water, and outdoor recreation.

Fiscal Year	Community	County	Action	Plan Element	Total Assistance Agreement
2020	Unified Government of Athens-Clarke County	Clarke	Re-establish high quality wildlife habitat, enhance ecosystem services, and provide enhanced recreation opportunities along the North Oconee River	Water Quality WQ-1	\$550,000
2023	Georgia Department of Natural Resources	Clarke	Protect area adjacent to Rock and Shoals Outcrop Natural Area	Water Quality WQ-1	\$570,000

Table 12. Clean Water State Revolving Fund in the Upper Oconee region: 2020-2025. The Clean Water State Revolving Fund is a federally funded loan program for wastewater infrastructure and pollution prevention administered by GEFA. The program primarily finances infrastructure upgrades, maintenance, and expansion; some projects also support land conservation as a non-point source pollution control.

Fiscal Year	Community	County	Action	Plan Element	Total Assistance Agreement
2021	Town of Braselton	Jackson, Barrow, Gwinnett*, Hall*	Stormwater and road improvements Increase to an existing loan	Water Quality WQ-7	\$100,000
2021	City of Social Circle	Walton	Rehabilitating and upgrading the sewer system; performing an inflow and infiltration study	Wastewater, Water Quality WW – 5	\$3,320,000
2021	City of Davisboro	Washington	Expanding the Davisboro Land Application System Increase to an existing loan	Wastewater, Water Quality	\$1,169,000
2023	City of Jefferson	Jackson	Constructing a new water pollution control plant	Wastewater, Water Quality	\$23,730,000

				WW-2	
2023	Oconee County Board of Commissioners	Oconee	Upgrading the Calls Creek Water Reclamation Facility	Wastewater, Water Quality,	\$25,000,000
2023	City of McIntyre	Wilkinson	Constructing a new sewer collection system	Wastewater, Water Quality WW – 1	\$3,128,000
2024	City of Sparta	Hancock	Rehabilitating the sewer system to address inflow and infiltration	Wastewater Water Quality WW – 5	\$2,800,000
2024	Town of Braselton	Jackson, Barrow, Gwinnett*, Hall*	Expanding the water reclamation facility	Wastewater, Water Quality	\$5,600,000
2024	City of Watkinsville	Oconee	Purchasing the Thomas Family Farm for permanent conservation	Water Quality Water Supply WQ – 1	\$3,550,000
2024	City of Social Circle	Walton	Improvements to the sewer system and installation of force main	Wastewater, Water Quality WW – 5	\$1,835,000
2024	City of Social Circle	Walton	Permitting, engineering, and design of a new water pollution control plant	Wastewater, Water Quality, Water Supply WW – 2	\$5,573,700
2025	City of Commerce	Jackson	Constructing a new wastewater treatment plant	Wastewater Water Quality WW-2	\$12,000,000
2025	City of Dublin	Laurens	Rehabilitating the sanitary sewer and extending the sewer line	Wastewater Water Quality	\$600,000
2025	City of Hoschton	Jackson	Expanding the Hoschton Wastewater Treatment Facility, installing a force main, and relocating the discharge	Wastewater Water Quality	\$12,000,000

* Spans multiple counties and planning regions

Table 13. Sewer Overflow and Stormwater Reuse Municipal Grants Program funds in the Upper Oconee region. Federal funds for projects to plan, design, and construct infrastructure

addressing combined sewer overflows, sanitary sewer overflows, or stormwater reuse/management were authorized under the Clean Water Act and are administered by GEFA.

Fiscal Year	Community	County	Action	Plan Element	Total Assistance Agreement
2022	Town of McIntyre	Wilkinson	Construct new sewer system	Wastewater Water Quality WW-5	\$5,000,000

Table 14. Georgia Section 319(h) Nonpoint Source Implementation Grants in the Upper Oconee region: 2020-2025. 319(h) grants support nonpoint source pollution control projects, including green infrastructure and watershed management plans. Projects include up to 60% federal funds, with the remainder as local match.

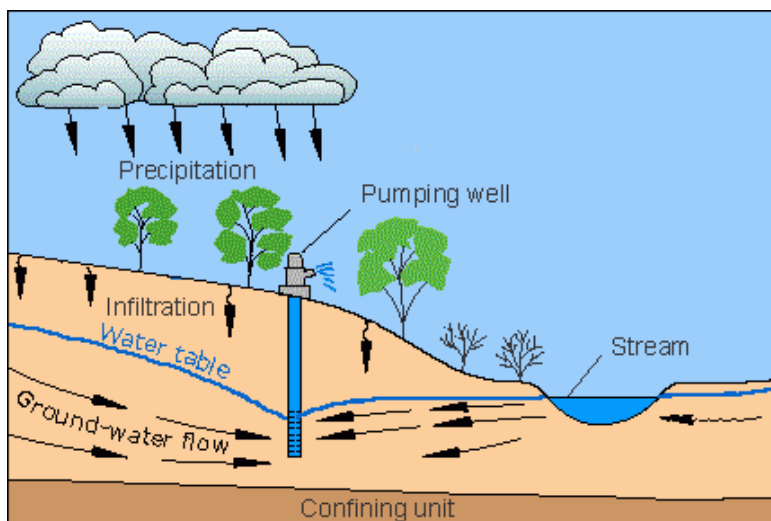
Fiscal Year	Primary Subgrantee	County	Project Title	Plan Element	Total Budget
2020	Georgia Soil and Water Conservation Commission	Morgan	Implementing the Agricultural Section of the State Nonpoint Source Program Plan - PART 2	Water Quality WQ – 3 WQ – 9	\$474,091
2022	University of Georgia	Oconee	UGA/CAES Water Resources Research and Education Facility	Wastewater Water Quality WW-4 WQ-7	\$196,412

Table 15. Additional Supplemental Appropriations for Disaster Relief Act funds in the Upper Oconee region: 2020-2025. These federal funds can be used for water infrastructure and water quality projects and are administered by GEFA for communities impacted by Hurricane Michael. Funds can be disbursed until 2027.

Year	Community	County	Total Assistance Agreement
2022	City of Dudley	Laurens	\$475,000 Increase to existing loan
2023	City of Dublin	Laurens	\$2,805,000 Increase to existing loan
2021	Town of Braselton	Jackson, Barrow, Gwinnett*, Hall*	\$1,900,000

* Spans multiple counties and planning regions

Implementation Highlight: Expanding groundwater resource use in the Upper Oconee Region

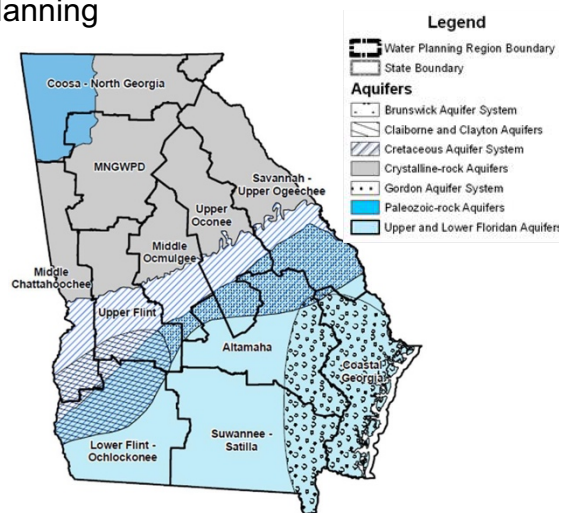


Groundwater well. Image modified from USGS Water Science School.¹

Most water demand in the Upper Oconee region is met through surface water sources, with groundwater providing about 20% of the total water use. The regional water plan recommends that local water providers evaluate groundwater sources where it is practicable to do so (management practice WS-3). The Jackson County Water & Sewerage Authority (JCWSA) is leveraging state funds to develop a new groundwater

well. This project will result in a new well that supplies water to Jackson County residents while decreasing the demand placed on Bear Creek Reservoir, which JCWSA has relied on exclusively until now. Bear Creek reservoir also provides water to rapidly growing communities in Barrow, Clarke, and Oconee counties. JCWSA's project implements the WS-3 management practice and supports the Plan's water supply, revenue strategies, and balanced priorities goals.

JCWSA identified potential well sites in its service area to secure additional water supplies. State funding through the Regional Water Planning Implementation Seed Grant Program is being combined with local funding to complete a well at site which preliminary tests indicate may yield over 300 gallons per minute. Development of new groundwater supplies was undertaken to decrease the peak demand strain on Bear Creek Reservoir and enhance drought resilience as the region faces more frequent and severe droughts. In addition to these benefits, the well will benefit JCWSA and its customers by improving overall water quality, strengthening system resilience, and lowering operational costs by reducing the need to pump water to outlying areas of Jackson County.



Georgia Water Planning Regions and Aquifers, GAEPD 2009

1. <https://www.usgs.gov/media/images/well-pumping-can-draw-down-local-water-table>

Updates to Water Resource Assessments

Regional water planning relies on several models of water availability and quality that inform council members about water resource conditions. GAEPD has developed and improved surface and groundwater resources models for the state over the past three planning cycles and continues to make further updates to support the work of the councils.

Surface Water Availability Model

The Basin Environmental Assessment Model (BEAM) supports the councils in understanding the quantity of water available across their regions to support water users and address instream needs. The development of BEAM for the 2023 Plan update greatly refined spatial resolution for surface water availability modeling. BEAM shows council members which water users might face a challenge in meeting current and forecasted water needs. Councils can also track water availability relative to in-stream flow and reservoir level metrics.

Several updates to BEAM are currently underway to support the councils in the next planning cycle that will:

- Use paleohydrology to examine extreme conditions before the period of record for the stream gages used in developing BEAM
- Expand the range of future scenario conditions that can be modeled to capture uncertainties

Additional updates to BEAM fill knowledge gaps for specific regions, including:

- Improve simulation of complex water supply systems by incorporating more detailed operations
- Quantify water supply reservoir storage capacities for systems with missing information

Surface Water Quality Models

GAEPD uses several surface water quality models to support regional water planning, including river, lake, estuary, and watershed models. Some of these models are steady-state with a constant critical flow and temperature, such as GA DOSAG and GA ESTUARY; whereas, others are hydrodynamic with varying flow, water quality and metrological conditions, such as RIV-1, LSPC, EFDC, and WASP. The river models are used to assess assimilative capacity by modeling the effect of organic matter and ammonia on dissolved oxygen (DO) in rivers and streams. The watershed models are used to simulate the delivery of nutrients and organic loads to modelled rivers, lakes, and estuaries. The lake and estuary models are used to evaluate chlorophyll-a and DO responses to nutrient and organic loadings in these receiving waterbodies.

These models are continuously updated by GAEPD to reflect changes in weather patterns, land use, water quality criteria and designated uses. The inputs for these water quality models align with BEAM to reflect a high spatial and temporal resolution regarding flows and water quality in the state's waters. The water quality models and water quality monitoring support the councils in understanding how the waterbodies in their regions support water supply, recreation, fishing uses, and wastewater assimilation.

GAEPD is developing nutrient criteria for major public lakes (>500 acres) in the state by using these models to better understand nutrient dynamics and water quality concerns. Lake chlorophyll and/or nutrient criteria have been adopted for eleven major lakes, including Lake Oconee and Lake Sinclair in the Upper Oconee region, and will be developed for seventeen additional lakes. The water quality models will also be used to develop nutrient criteria for the state's estuaries.

Groundwater Availability Models

The geology is complex in the northern half of Georgia in the Valley and Ridge and Piedmont geologic provinces of Georgia, where the northern half of the Upper Oconee region is located. Groundwater is found in the Paleozoic aquifer or Crystalline-rock aquifer and exists predominantly in fractures in the rocks and in the overlying saprolite. The yield from these sources is typically limited and groundwater tends to be a supplemental source, with a few exceptions. Because of the nature of the geology and the lower groundwater yields, the Paleozoic aquifer and Crystalline-rock aquifer are not modeled.

The southern portion of the Upper Oconee Region is in the Coastal Plain geologic province. GAEPD uses several models to assess groundwater availability in the Coastal Plain of Georgia, including the Regional Coastal Plain Model, the Coastal Sound Science Initiative Model, and the USGS Jones-Torak Floridan Aquifer Model. The Regional Coastal Plain model covers the southern half of the Upper Oconee region and is the predominant groundwater model used to assess sustainable yield of the prioritized aquifers in the Coastal Plain of Georgia. The other groundwater models have smaller model domains and serve specific areas in assessing the groundwater resources for the Regional Councils contained within those model smaller model domains. Several improvements are underway to improve the capabilities of these models for the next cycle of water planning. The Regional Coastal Plain Model will be updated to better reflect aquifer pumping by:

- All current well locations and associated pumping from permitted Georgia systems (agricultural and non-farm withdrawals) will be reviewed and updated in the model

- Updating current groundwater pumping to reflect time-varying withdrawals (e.g., transient pumping to reflect agricultural use) where applicable within the model
- Updating groundwater pumping estimates in prioritized aquifers from neighboring states within the model domain
- Converting the surficial aquifer to an active model layer with assigned recharge rates and with improved stream-aquifer interactions over the entire model domain.

These updates will support the councils with better capabilities to understand the impacts of current use of the state's aquifers and evaluate scenarios of future use.

Looking Ahead for Upper Oconee Regional Water Planning

The projects described in the previous sections illustrate the work and investments through state and federal funds that have implemented elements of the regional water plan over the last five years. As noted above, local investment also plays a critical role in supporting water management that helps to implement the regional water plan. Looking ahead to the 2028 regional water plan update, the Council and stakeholders have identified initial priorities for the next revision of the Upper Oconee Regional Water Plan. These priorities reflect emerging issues, shared interests, and opportunities to strengthen understanding of water resource management in the region:

Communication and coordination. The clearest priority expressed by the Council at recent meetings is greater communication and coordination with water and wastewater providers and stakeholders.

Council members identified opportunities to increase engagement of local water managers and water users in regional water planning through Georgia Rural Water Association, Georgia Association of Water Professionals, Georgia Municipal Association, Association County Commissioners of Georgia, regional commissions, and local utilities in the region. The council expressed a need for support to better communicate with those who implement the regional water plan and discussed ways to streamline management practices to make them more accessible for end-users.

Specific suggestions include getting input from water and wastewater providers and other stakeholders as the plan is developed and asking water professionals in affected areas to review and comment on the plan. The Plan's Executive Summary should be used as a communication tool. More communications with water and wastewater providers can improve the data used to develop the plan and it would increase awareness, thus promoting implementation and compliance. Members also noted a need for more education of the general public and greater communication between regions.

Water quality. Water quality, particularly in the northern end of the basin and in lakes Oconee and Sinclair, was identified as an important topic for the next plan revision. In addition, the council identified emerging contaminants as an issue to consider during plan revision.

Water conservation and supply. Council members identified planning for water supply, including water storage and drought management, as an area to focus on in the next plan update. They also discussed the effect of new technologies on water use (e.g., smart meters). Changes in technology that can address water conservation and water supply needs should be considered during the next plan revision.

These priorities provide starting points for analysis, discussion, coordination, and potentially for water plan revision. By engaging with these issues in its assessment and planning activities, the Council continues to support the regional economy, public health and natural systems, and the quality of life of the region's residents.