Georgia's
State Water Plan

Regional Water Development and Conservation Plan Review and Revision
Upper Oconee Regional Water Planning Council
June 22, 2017

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Upper Oconee Council Meeting 5 Agenda

Georgia's State Water Plan

Upper Oconee Regional Water Council Meeting 5
Draft Agenda – June 22, 2017

Objectives:

1) Review Comments Received During Public Comment Period
2) Review Final Updated Regional Water Plan
3) Council Vote to Adopt Regional Water Plan

9:30 – 10:00 am	Registration
10:00 – 10:15	Welcome, Introductions, and Overview • Approve Meeting Minutes from March 2, 2017 Individual Council Meeting • Approve Meeting Agenda
10:15 - 10:30	Review of Public Comments and Overview of Final Regional Water Plan
10:30 - 10:45	Public Comments/Local Elected Official Comments
10:45 - 11:00	Council Vote for Adoption of Regional Water Plan
11:00 - 11:15	319(h) Grant Update
11:15 - 11:45	Discuss Next Steps/Wrap Up
11:45	Adjourn
11:45 - 12:30 pm	Lunch

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Council Business

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- Welcome and Introductions
- Approve meeting summary from March 2, 2017 Council Meeting
- Approve meeting agenda

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Review of Public Comment and Overview of Final Regional Water Plan

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RWP Review and Revision Process Overview

- Council Meeting 1 – March 2016
- Council Meeting 2 (Joint) – June 2016
- Council Meeting 3 (Joint) – November 2016
- Council Meeting 4 – March 2017
- Council Meeting 5 – June 2017
- Office Hours Session as follow-ups Council Meetings

- Shared Resources (Groundwater and Surface Water) Sub-committee Meetings – January 2017

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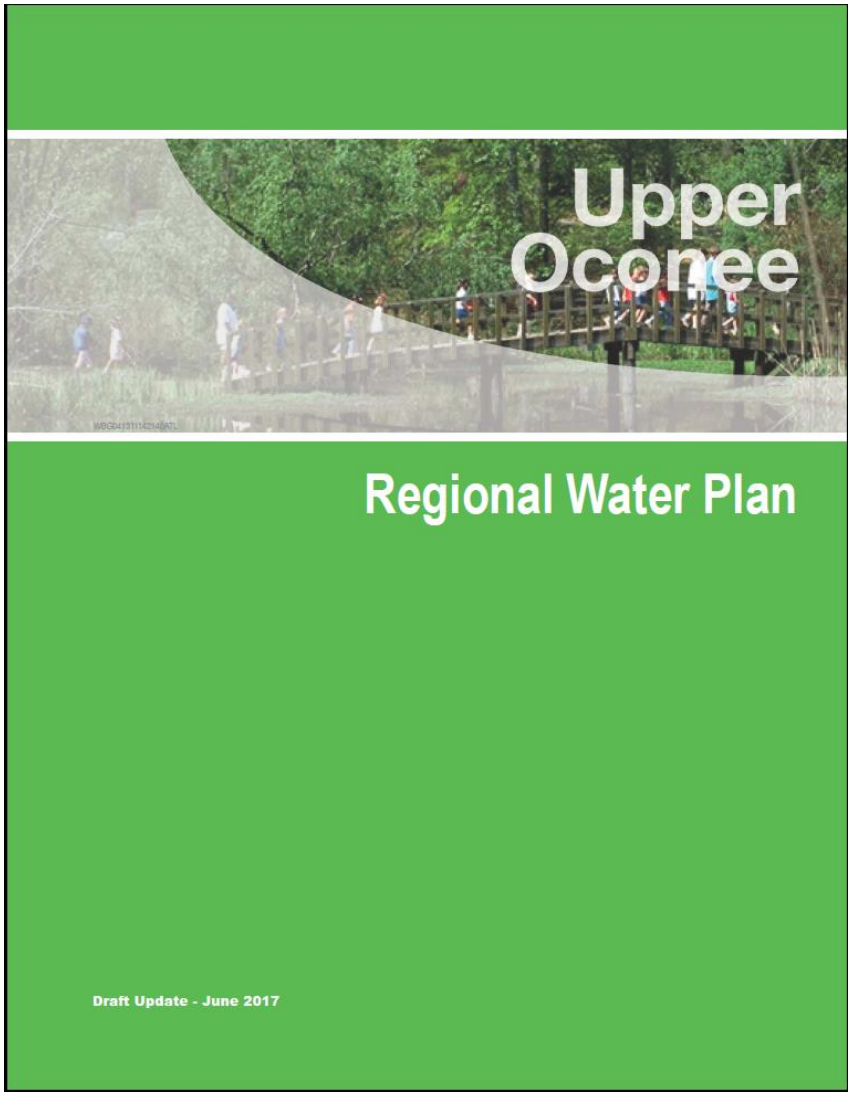
45-day Public Comment – ended on May 19, 2017

- MNGWPD submitted letter thanking Council for opportunity to review
- Nutter and Associates Comments re:
  - rates of returns from LAS and septic systems
  - Middle Oconee River stream gage analysis
- DCA Comment re: possible grammar corrections



Georgia

Metropolitan North Georgia Water Planning District
40 Courtland Street NE | Atlanta, Georgia 30303

May 19, 2017

Georgia Environmental Protection Division
Watershed Protection Branch
2 Martin Luther King, Jr. Drive SW
Suite 1152
Atlanta, GA 30334
Attn: Jennifer Welte

Subject: Review of the Draft Upper Oconee Regional Water Plan

Dear Ms. Welte,

The Metropolitan North Georgia Water Planning District congratulates the Upper Oconee Regional Water Council on the update of its Regional Water Plan. We appreciate the opportunity to review and provide input and we also wish to express our gratitude to the Council for their coordination on the District's Water Resource Management Plan.

We recognize that our watersheds are connected. We hope to continue our dialogue and coordination on planning and implementation strategies in the future.

Sincerely,

Katherine Zitsch, PE, BCEE
Director

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- Nutter and Associates Comments re:
  - rates of returns from LAS and septic systems
  - Middle Oconee River stream gage analysis

I am responding to the draft updated Regional Water Plans. I am concerned that the hydrologic understanding of the plan authors regarding onsite wastewater (i.e., septic) systems (OWS) and land application systems (LAS), as they relate to return flows, are superficial and include scientific flaws. The wastewater management practices promoted by the plans are geared towards discouraging OWS and LAS systems in favor of large centralized sewer systems and associated wastewater treatment plants. This strategy is largely predicated on the expectation that centralized wastewater systems will provide rapid returns of water to surface water sources, compared to OWSs and LASs, and that consumptive water losses from LAS systems are as much as 34% of the irrigated water. I seek to provide greater hydrologic perspective with respect to these issues and discuss data from a USGS gauging station on the Middle Oconee River near Arcade, Georgia, where a large LAS was converted to a direct discharge wastewater system in September 2013.

The Georgia Environmental Protection Division's (EPD) February 2012 document entitled *Return Flows Guidance from Wastewater Disposal Systems* (Return Flow Guidance) defines "lag time" as "the time required for water discharged from a Wastewater Disposal System to reach the Receiving Water". However, evaluating lag time in this way (i.e., as the time it takes for a water molecule, applied to a LAS or OWS, to travel to a stream) is erroneous. It is more appropriate to assess the time that it takes applied wastewater to induce a response to a receiving water. It is critical to consider the effects of hydraulic pressure propagation and how a change in hydraulic head upgradient of a receiving water, due to wastewater application, induces a rapid hydraulic effect. For example, if a garden hose is charged with water but the spigot is off, turning the spigot on induces an immediate effect at the outfall end of the hose; although, the time it takes a molecule of water to travel the length of the hose will be a longer amount of time. The flow components within the soil and surficial aquifer system associated with an OWS or LAS act similarly and produce rapid responses to receiving waters. Hence, the lag times presented in EPD's Return Flow Guidance, which are measured on a scale of years, while perhaps meaningful for estimating pollutant or water particle migration rates, are of little relevance in assessing the relatively short time frame in which the benefits of increased hydraulic head (from LAS irrigated or OWS applied wastewater) effects receiving water flows.

Another misconception with the Regional Water Plans push toward centralized direct discharge sewer systems is that increases to the groundwater storage component of a groundwater system, produced by LAS's and OWS's, are considered to be complete losses (EPD, 2012). However, increases in groundwater storage generate more hydraulic head, which generate greater discharge to receiving waters. In addition, infiltrating flows from LAS's and OWS's create a new dynamic equilibrium with respect to soil hydrology and the surficial aquifer system within the area affected by wastewater applications. Once a new dynamic equilibrium is established, inflows will again balance with outflows. This new equilibrium provides the groundwater system with the capacity to sustain long term increases in return flows throughout long periods of drought.

A standard hydrologic generalization used to characterize Georgia's annual water cycle balance (water inputs versus outputs) is that there are 50 inches of precipitation (input) which is balanced by outputs of 35 inches of evapotranspiration (ET), 15 inches of runoff, and 6 inches of recharge (Carter, et al., 1983; Arora, et al, 1984). In this hydrologic scenario ET accounts

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Review corrections to Regional Water Plan

Section	Change/Correction
Table of Contents	• Corrected Sections, Figures, Tables to reflect table titles in document
Acronyms and Abbreviations	• Added several acronyms used in document
Executive Summary	• Corrected minor typos, punctuation and spacing errors • Reviewed entity and reference names for consistency
Introduction	• Corrected minor typos, punctuation and spacing errors • Reviewed entity and reference names for consistency
Section 2: The Upper Oconee Water Planning Region	• Corrected minor typos, punctuation and spacing errors • Reviewed entity and reference names for consistency

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Review corrections to Regional Water Plan

Section	Change/Correction
Section 3: Water Resources of the Upper Oconee Water Planning Region	• Corrected minor typos, punctuation and spacing errors • Reviewed entity and reference names for consistency • Verified and corrected website url
Section 4: Forecasting Future Water Resource Needs	• Corrected minor typos, punctuation and spacing errors • Reviewed entity and reference names for consistency
Section 5: Comparison of Water Resource Capacitates and Future Needs	• Corrected minor typos, punctuation and spacing errors • Reviewed entity and reference names for consistency • Updated references to Resource Assessments
Section 6: Addressing Water Needs and Regional Goals	• Corrected minor typos, punctuation and spacing errors • Reviewed entity and reference names for consistency • Fixed table formatting

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Review corrections, continued

Section	Change/Correction
Section 7: Implementing Water Management Practices	• Corrected minor typos, punctuation and spacing errors • Reviewed entity and reference names for consistency • Fixed table formatting
Section 8: Monitoring and Reporting Progress	• Corrected minor typos, punctuation and spacing errors • Reviewed entity and reference names for consistency • Fixed table formatting
Appendix A: Summary of Edits and Updates 2016-2017 Review and Revision	• Corrected minor typos, punctuation and spacing errors • Reviewed entity and reference names for consistency • Updated references • Fixed table formatting
Changes made throughout the document	• Updated date to June 2017

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Public Comment Period

- Please limit comments to 3 minutes total
- Council encourages written submission of comments as well

Suggested new language in Section 4.1

- Since the completion of the updated population projections in 2015, a very robust rebound in development has occurred within the Council's Region. While recognizing that the population projections will be updated before the next Plan update process, the Council also notes that in some areas, the future population projections are probably understated.

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Council Vote for Adoption of Regional Water Plan

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Section 319(h) Georgia's Nonpoint Source Implementation Grant Funding

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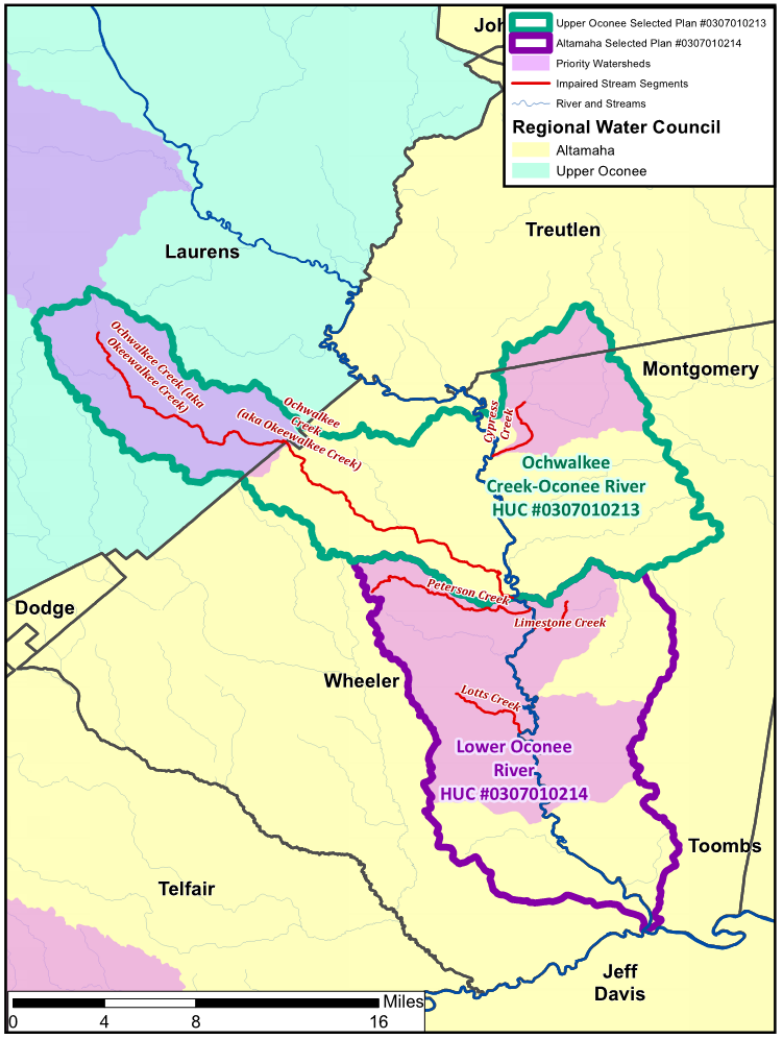
319(h) Grant Funding

- Council selected the priority water area in Montgomery and Wheeler Counties (Peterson Creek, Limestone Creek and Lotts Creek)
- Altamaha Council selected priority watershed Ochwalkee Creek that borders the Altamaha region (includes areas in Montgomery, Wheeler and a small part of Treutlen Counties)



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Next Steps:

- Continued support to Councils by EPD and Planning Contractor
- Development of "promotional" materials and PowerPoint presentation
  - Update fact sheets
  - Other?
- Facilitate sharing/learning opportunities for Council members
- Identify opportunities in Region to support implementation

Thank You!

Questions? Comments? Need More Information?

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Zakiya.Seymour@jacobs.com

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