Welcome and Introductions
Approve Meeting Summary from last meeting
Approve Draft Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
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</thead>
<tbody>
<tr>
<td>9:45 – 10:00</td>
<td>Check-in (on Teams)</td>
<td>Michelle Vincent, Jacobs</td>
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<tr>
<td>10:00 – 10:10</td>
<td>Welcome and Council Business</td>
<td>Chairman Richardson</td>
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<tr>
<td>10:10 – 10:25</td>
<td>EPD Updates</td>
<td>Veronica Craw, EPD</td>
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<tr>
<td>10:25 – 10:55</td>
<td>Regional Plan Components Review and Approval</td>
<td>Michelle Vincent, Jacobs</td>
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<td>10:55 – 11:00</td>
<td>Break</td>
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<tr>
<td>11:00 – 11:15</td>
<td>Metro District Update</td>
<td>Danny Johnson, ARC</td>
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<td>11:15 – 11:55</td>
<td>Surface Water Availability</td>
<td>Wei Zeng, EPD</td>
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<td>11:55 – 12:00</td>
<td>Break</td>
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<td>12:00 – 12:30</td>
<td>Surface Water Quality</td>
<td>Liz Booth, EPD</td>
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<td>12:30 – 12:50</td>
<td>Trash Trap Installation on South River (DeKalb County)</td>
<td>Jacqueline Echols, South River Watershed Alliance</td>
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<td>12:50 – 12:55</td>
<td>Wrap Up and Next Steps</td>
<td>Brent Zern, DeKalb County</td>
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<td>12:55 – 1:00</td>
<td>Public Comments/Local Elected Official Comments</td>
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<td>1:00</td>
<td>Adjourn</td>
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Planning Updates from Georgia EPD

Veronica Craw, Georgia EPD
Regional Water Plan Update Process

• Coordinated with the Metro Water District
• Process began in 2020 with Forecasting work
• Target for updated Plans by end of 2022
  – Draft Plans on public notice by Sept. 30, 2022
  – Updated Plans completed by Dec. 2022
• Technical work completed/ongoing that underlies the Regional Water Plans
• Quarterly Council Meetings
Plan Updates Schedule

Regional Water Plan Review and Revision Schedule

Council Meeting 4th Quarter 2021
Council Meeting 1st Quarter 2022
Council Meeting 2nd Quarter 2022
Council Meeting 3rd Quarter 2022 Draft Plan
Council Meeting 4th Quarter 2022 Final Plan

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

Today’s meeting
Late March meeting
The 5-Year Review Process will focus on:

- Updated water demand and wastewater return forecasts
- Updated Surface Water and Ground Water Availability Resource Assessments (Quantity)
- Updated Surface Water Quality (Assimilative Capacity) Resource Assessment
- Refine Management Practices, if needed, to address water resource conditions or Council vision/goals
• Updates to Surface Water Quality (Assimilative Capacity) Resource Assessment
  • Updated information & model recalibration
• Parameters being analyzed include instream dissolved oxygen, nutrients (total N, total P) and chlorophyll a response in lakes
• Updates to Surface Water Availability Resource Assessment
  • New modeling tool: Basin Environmental Assessment Model (“BEAM”)
  • Provides analysis at more nodes
  • More measures (aka “metrics”) can be analyzed
Groundwater Resources in Georgia

- Updates to Groundwater Availability Resource Assessment
  - Refined groundwater model with smaller grid spacing and transient pumping in the Coastal Plain (multiple aquifer layers)
  - Will compare updated forecasts to existing sustainable yield estimates in northern Georgia
Veronica Craw
Georgia Environmental Protection Division

(470) 938-3384
veronica.craw@dnr.ga.gov
Middle Ocmulgee Water Planning Council: Review and Approve Vision and Goals Plan 2022
Adopted Vision
as adopted by the Council 9.10.09, and reviewed and affirmed during the 2016 plan update.

The Middle Ocmulgee Water Council will work so that our water resource, both surface and subsurface, is of exceptional quality and quantity for the well being and prosperity of all that will follow. Our plan will consider the resource’s natural integrity, wise conservation and prudent management for continuing economic development and enhanced quality of life for all the region’s citizens.

• Revisions or Suggestions?
MOC GOALS

Adopted Goals
as adopted by the Council 9.22.10, and reviewed and affirmed during the 2016 plan update.

1. Maximize existing water supply sources to the extent practicable.

2. Support the protection of natural stream integrity and the recreation it provides.

3. Promote sufficient water supply for the region.

4. Promote efficient use of water.

• Revisions or Suggestions?
5. Promote properly managed wastewater discharges and beneficial reuse.

6. Support the reduction of non-point source pollution by advocating better land management practices.

7. Support planning and management of water resources to maintain a healthy economy and ensure a high quality of life and to protect our natural resources.

• Revisions or Suggestions?
Middle Ocmulgee Region Council Meeting

Five Minute Break

Paddle Georgia – Ocmulgee River
Metro North Georgia Water Planning District Update

Danny Johnson, Atlanta Regional Commission
# 2022 Plan Update Schedule

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<td><strong>Action Items Review and Update</strong></td>
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<td><strong>Appendix A - River Basin Profiles</strong></td>
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<td><strong>Appendix B - Facility Planning</strong></td>
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<td><strong>Stormwater Forecasting</strong></td>
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<td><strong>Localized Demands</strong></td>
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<td><strong>Drought Response Options Menu</strong></td>
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<td><strong>Watershed Resilience</strong></td>
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<td><strong>Full Draft Plan for Review</strong></td>
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Summary of Proposed Action Item Changes
For the 2022 District Plan

For the integrated, wastewater, and watershed sections, no major new or expanded action items are proposed.

Five new and expanded water conservation (WSWC) action items, which replace action items from 2017.

Changes are being proposed in all action item sections to address things that are out-of-date, have been completed, or that are duplicative of state requirements.
Proposal for 5 New / Updated WSWC Action Items

1. New Residential Customer Leak Reduction Programs (WSWC-5)
2. New Plumbing Code Efficiency Requirements (WSWC-8)
3. Updated Landscape Irrigation System Efficiency Requirements (WSWC-10)
4. Updated Drought Response Ordinance Requirement (WSWC-13)
5. Updated Water Loss Control Program (WSWC-15)
Stormwater Forecast Update

- Planning-level estimate of the total potential runoff management volume from development
- Calculated at a Basin Scale
- Using three Post-Construction SW Management Standards
  - Water Quality Volume
  - Channel Protection Volume
  - Overbank Flood Volume
- Four Planning Scenarios
  - predevelopment, 2019, 2030, & 2040
Next Steps

First Quarter 2022 – Additional changes to be presented and reviewed by BACs, TCC, and Board for another round of comments

Second Quarter 2022 – Further revisions and Regional Water Council coordination

Third Quarter 2022 – Final proposals to be included in public comment version of plan

Fourth Quarter 2022 – Board to vote on final plan, including any new and expanded action items
Draft Resource Assessment by OOA BEAM for Middle Ocmulgee Water Planning Region

Georgia EPD
January 2022
Presentation Outline

• Introduction and Model Settings
• Model Results Baseline Scenario
  • Water Supply Challenges, Examples (water supply PMs)
    • Macon Water Authority
    • City of Forsyth
    • City of Monticello
  • Lake Jackson Conditions
• Macon Flow Results
  • Performance Metric at Macon for Boating (recreational PMs)
  • Performance Metrics for Fish Habitat (aquatic biology PMs)
• Additional Performance Measures to consider?
Middle Ocmulgee Region and OOA Model Domain
BEAM Node Types
OOA BEAM Model Baseline Settings

• Simulation Period (Hydrologic Conditions): 1939-2018
• Withdrawal and Discharge amount: 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 Middle Ocmulgee Region

<table>
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<tr>
<th>Facility</th>
<th>Total number</th>
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<tr>
<td>Municipal Withdrawal</td>
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<tr>
<td>Municipal Discharge</td>
<td>18</td>
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<td>Industrial Withdrawal</td>
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<tr>
<td>Industrial Discharge</td>
<td>8</td>
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<tr>
<td>Energy Withdrawal</td>
<td>3</td>
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Note: Energy withdrawals are expressed as consumptive uses in modeling.
Draft Resource Assessment Results

• Water Supply Challenges, Examples
  • Macon Water Authority
  • City of Forsyth
  • City of Monticello
• Lake Jackson Conditions
• Macon Flow Results
• Performance Metric at Macon for Boating
• Performance Metrics for Fish Habitat
Example 1: Permit 084-0504-01 BEAM (Node 5745)

- Permit holder: Macon Water Authority
- Withdrawal limit: 63 mgd (daily/monthly)
- Min flow requirement: 0.35 cfs below Town Creek Reservoir Dam
- Withdrawal limit: 110 mgd (daily/monthly) from Ocmulgee River (permit 011-0590-02)
Permit 084-0504-01 Withdrawal Amount Setting- average of 2010-2018

2010 - 2018

Baseline

Demand at node 5745 -- Macon Water Authority: 084-0504-01
Simulated Reservoir Storage Frequency and Water Supply Challenge Frequency

Storage at all times remaining at full pool indicates adequate supply and no/low challenges.

Shortage at all times remaining at zero indicates no challenges encountered.
Example 2: Permit 102-0501-07 (BEAM Node 5915)

• Permit holder: City of Forsyth
• Withdrawal limits: 4 mgd (daily/monthly)
Permit 102-0501-07 Withdrawal Amount Setting-average of 2010-2018

2010 - 2018 Baseline

Demand at node 5915 -- Forsyth City Of - To: 102-0501-07

Demand (MGD)

Demand at node 5915 -- Forsyth City Of - To: 102-0501-07

Demand (MGD)
Water Supply Challenge in 2006-2007

Shortage at node 5915 -- Forsyth City Of - To: 102-0501-07

Month / Year

Shortage (AF)
Simulated Useable Storage in 2006-2007

Storage at node 5910 -- Tobesofkee Creek Reservoir
Water Supply Challenge in 2011-2012
Simulated Useable Storage in 2011-2012

Storage at node 5910 -- Tobesofkee Creek Reservoir
Water Supply Shortage Frequency in 1939-2018

Shortage at node 5915 -- Forsyth City Of - To: 102-0501-07

Percent of simulated time steps
Simulated Useable Storage Frequency

Storage at node 5910 -- Tobesofkee Creek Reservoir

Percent of simulated time steps

Storage (AF)
## Water Supply Challenge in 2006 & 2007

<table>
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<th>Year</th>
<th>Total days of challenge</th>
<th>Total volume of shortage (acre-feet)</th>
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<tr>
<td>2006</td>
<td>32</td>
<td>155</td>
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<tr>
<td>2007</td>
<td>30</td>
<td>145</td>
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Water Supply Challenge in 2011 & 2012

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<tr>
<th>Year</th>
<th>Total days of challenge</th>
<th>Total volume of shortage (acre-feet)</th>
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<tr>
<td>2011</td>
<td>65</td>
<td>317</td>
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<tr>
<td>2012</td>
<td>66</td>
<td>328</td>
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Example 3: Permit 079-0311-01 (BEAM Node 4555)

• Permit Holder: City of Monticello
• Permit limits: 0.75 mgd (daily)/0.50 mgd (monthly)
Permit 079-0311-01 Withdrawal Amount Setting-average of 2010-2018
Note

• EPD and Hazen and Sawyer (EPD contractor) reached out to water supply providers asking for their water supply reservoirs’ physical and operational data.

• Many water supply providers responded with available information, enabling BEAM to utilize this information in simulating potential scenarios.

• Some either do not have such information or simply did not respond to this inquiry. As a result, EPD modeling team has to make assumptions
  • In this case, an assumption of no storage in the water supply reservoir is made.
Simulated Shortage in 2006-2007
Simulated Shortage in 2011-2012
Simulated Stream flow at Withdrawal Location in 2006-2007

Note: The source stream is a headwater stream with a substantial fraction of time with its simulated flow being close to zero.
We Noticed Additional Information...

• City of Monticello has groundwater withdrawal permit of 0.375 mgd (monthly/annually)
Discussion

• The other water supply entities did not have water supply challenges under the baseline levels of water use.
• Do you want to adopt this performance metric as part of your plan?
• Future conditions will be included in the next update in Resource Assessment for comparison with the baseline.
• What additional performance measure would you like to see in assessing water supply?
Lake Jackson Condition (BEAM Node 2300)
Available Simulation Results at Lake Jackson

• Direct Results
  • Elevation
  • Inflow
  • Release

• May facilitate the following
  • Lake recreational assessment
  • Downstream recreational assessment
  • Downstream flow evaluation (including for water quality assessment)
  • Downstream habitat quantification
Simulated Flow at USGS Macon Gage (BEAM Node 5771)
Simulation Results at USGS Macon Gage

• Flow time series from January 1, 1939 through December 31, 2018 – an eighty-year period

• May facilitate the following:
  • Recreational assessment
  • Flow evaluation, including for water quality
  • Habitat quantification
Using Flow to Create Boating/Paddling Performance Metric

For Informational Purposes Only

• Convert stream flow to stage

<table>
<thead>
<tr>
<th>River Service</th>
<th>Metric</th>
<th>Source</th>
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<tbody>
<tr>
<td>Kayaking/canoeing</td>
<td>Amount of time that kayaking or canoeing is not ideal (i.e., gage height ≤ 6.0 feet) due to low water conditions</td>
<td>Personal communication with Kathleen O’Neal (Ocmulgee Outdoor Expeditions)</td>
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<tr>
<td>Boating</td>
<td>Amount of time that boating is not ideal (i.e., gage height ≤ 7.5 feet) due to low water conditions</td>
<td>Viable stage for kayaking/canoeing + 1.5 feet (average shaft length of short- and long-shaft small engines); (boats, 2009)</td>
</tr>
</tbody>
</table>
Locations of Recreational Interests – Stakeholder Input
Performance Metric at Macon, GA for Boating

Number of Days with River Stage above 6 ft at Macon

Better
Discussion

• Do you want to adopt this performance metric as part of your plan?
• Future conditions will be included in the next update in Resource Assessment for comparison with the baseline.
• What additional performance measure would you like to see in assessing river recreation?
Reach Habitat

• Shallow/Fast
  • Species: Spottail Shiner and Bluehead Chub

• Deep/Fast
  • Species: Largemouth Bass

https://www.inaturalist.org/guide_taxa/490641
Reaches of the Ocmulgee River Where Bathymetric Data Allow for Habitat Assessment
Performance Metric-Shallow/Fast Habitat Frequency

Shallow/Fast Habitat Index--Probability

Area Weighted Suitability (ft^3/ft)

Percent of simulated time steps

Better
Performance Metric-Shallow/Fast Habitat (Monthly Average)

Shallow/Fast Habitat Index--Monthly Average

Area Weighted Suitability (ft^3/ft)

Better
Performance Metric-Deep/Fast Habitat Frequency

Deep/Fast Habitat Index--Probability

Area Weighted Suitability (ft^3/ft)

Better
Performance Metric-Deep/Fast Habitat (Monthly Average)
Discussion

• Do you want to adopt this performance metric as part of your plan?
• Future conditions will be included in the next update in Resource Assessment for comparison with the baseline.
• What additional performance measure would you like to see in assessing fish habitat availability?
Summary

• Moderate water supply challenges under baseline water use conditions
• Established baseline performance measures for recreational (boating) activities in the Ocmulgee River near Macon
• Established baseline performance measures for assessing habitat availability for certain types of fish
• Will incorporate projected municipal, industrial, thermal energy, and agricultural water use in the future scenario for comparison to better inform the Council
• Council’s input in additional Performance Measures?
Questions?

Contact Information:

Wei Zeng, Ph.D., Professional Hydrologist
Manager, Water Supply Program
Watershed Protection Branch, Georgia EPD
470-251-4897 (Zoom Phone)  New!
470-898-3891 (Cell)

Wei.Zeng@dnr.ga.gov
Five Minute Break
Surface Water Quality Update

Dr. Liz Booth, EPD
Bandalong Trash Trap Project

Jacqueline Echols, PhD
www.southriverga.org
Ubiquitous Trash Atlanta to the Atlantic Ocean

- Big Picture – Owning the Problem of Ubiquitous Trash
- Origin of an Idea
- Cold-Call that Paid Off
- Finding the Perfect Location
- Fundraising
- Obstacles
DeKalb County Government

Bandalong Trash Trap Project

Brent Zern, PE
Assistant Director, Watershed Management
SITE LOCATION: Snapfinger Advanced Water Treatment Facility

4124 Flakes Mill Road
Decatur, GA  30034
Site Layout
Plan
South River
Bandalong
Example: Gainesville, GA Litter Trap
Things to Consider

• Planning –
  • Site selection and access
  • Trap maintenance and responsibility
  • Permitting requirements
  • Neighbor considerations

• Implementation –
  • Government processes take time – procurement, Board approval, change orders
  • Permitting processes (can) take even more time – local, state, and likely federal jurisdictions will each have their own requirements
Trap Maintenance & Protection
Middle Ocmulgee Region Council Meeting

Questions and Discussion
Middle Ocmulgee Region Council Meeting

• **Wrap Up and Next Steps**
  - Next Council meeting
    • General date range is mid- to late March
    • Any topics or ideas you would like to see on agenda?
    • Contact Paula Feldman with input or ideas
Public Comment Period

• Please limit comments to 3 minutes total
• Council encourages written submission of comments as well
Thank You!

Questions? Comments? Need More Information?
Michelle.Vincent@Jacobs.com
Paula.Feldman@freese.com
Veronica.Craw@dnr.ga.gov