Welcome, Council Business

Approve Meeting Summary from April 21, 2021

Approve Today’s Draft Agenda

Objective:
1. Receive updates from EPD on current planning timeline and Seed Grants
2. Receive update from EPD on BEAM effort
3. Receive update from Contractor on agriculture forecasting
4. Provide Q&A opportunity for Council Members concerning all forecasting efforts

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:15-1:30 PM</td>
<td>Online Check-in/Roll Call</td>
<td>Laura Harris, Jacobs</td>
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<tr>
<td>1:30-1:35 PM</td>
<td>Welcome and Council Business</td>
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<tr>
<td></td>
<td>• Approve Draft Meeting Summary (4/21/21)</td>
<td>Chairman Melvin Davis</td>
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<tr>
<td></td>
<td>• Approve Draft Meeting Agenda (12/8/21)</td>
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<tr>
<td>1:35-1:40 PM</td>
<td>EPD Updates</td>
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<tr>
<td></td>
<td>• Appointments</td>
<td>Ania Truszczynski, EPD</td>
</tr>
<tr>
<td></td>
<td>• Current Efforts/Plan Timeline</td>
<td></td>
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<tr>
<td></td>
<td>• Seed Grants</td>
<td></td>
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<tr>
<td>1:40-1:50 PM</td>
<td>Basin Environmental Assessment Model (BEAM) Update</td>
<td>Wei Zeng, EPD</td>
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<td>1:50-2:10 PM</td>
<td>Agriculture Forecast</td>
<td>Mark Masters, GWPPPC</td>
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<td>2:10-2:25 PM</td>
<td>Other Forecasts Q&amp;A</td>
<td>EPD/Contractors</td>
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<td></td>
<td>• Municipal, Industrial, Energy</td>
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<tr>
<td>2:25-</td>
<td>Wrap Up</td>
<td>Chairman Melvin Davis</td>
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</tbody>
</table>
Planning Updates from Georgia EPD

Anna Truszczynski, Georgia EPD
Regional Water Plan Review and Revision Process

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
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
Regional Water Plan Seed Grants

• Active Seed Grants in the Upper Oconee region:
  • UGA: ArcGIS toolbox for Automating Digitization of Septic Systems
  • GA Water Planning & Policy Center: Flow-dependent benefits and values of water resources in the Upper Oconee Region
  • City of Madison: GIS Mapping (completed in 2021)

• Applications submitted and currently under evaluation:
  • Athens-Clarke County: Stormwater Infrastructure Improvements
  • Union County Extension: Soil Erosion Reduction on North Georgia Terrain
Anna Truszczynski
Georgia Environmental Protection Division

404-657-5739
anna.truszczynski@dnr.ga.gov
Oconee-Ocmulgee-Altamaha (OOA) Basin Environmental Assessment Model (BEAM)
Dr. Wei Zeng, GA EPD
AGRICULTURAL WATER USE FORECAST

Upper Oconee Regional Water Planning Council
December 8, 2021

Mark Masters
Albany State University
Georgia Water Planning & Policy Center
Project Team

- Albany State University – Georgia Water Planning and Policy Center (Lead)
- University of Georgia Agricultural and Applied Economics
2020-21 Agricultural Water Demand Forecasts - Methods

- **Acreage** – Updated 2020 wetted acreage data
  - Field observation and aerial survey

- **Crop projections through 2060** - modeled based on multiple data sources:
  - Remote sensing and field data
  - USDA Projections, Southeast Model, Georgia Model, Data Trends

- **Crop water needs** - wet, normal, dry years
  - Expanded use of meter data
  - Review estimates used in 2015-2016 and revise if needed
    - Surface water method revised to remove “70% assumption”

- **Animal Ag/Nursery**
Animal Agriculture - Daily Water Use by Water Planning Region
Statewide Total: 43.8 MGD

<table>
<thead>
<tr>
<th>Region</th>
<th>2015</th>
<th>2020</th>
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</thead>
<tbody>
<tr>
<td>Altamaha</td>
<td>5.04</td>
<td>0.45</td>
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<tr>
<td>Coastal GA</td>
<td>3.20</td>
<td>0.45</td>
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<tr>
<td>Coosa-North GA</td>
<td>6.37</td>
<td>6.38</td>
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<tr>
<td>Lower Flint-Ochlocknee</td>
<td>4.71</td>
<td>4.90</td>
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<tr>
<td>Middle Chattahoochee</td>
<td>1.93</td>
<td>1.86</td>
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<tr>
<td>Middle Ocmulgee</td>
<td>1.46</td>
<td>1.82</td>
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<tr>
<td>MNGWPD</td>
<td>2.08</td>
<td>1.43</td>
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<tr>
<td>Savannah-Upper Ogeeche</td>
<td>10.65</td>
<td>11.35</td>
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<tr>
<td>Suwannee-Satilla</td>
<td>4.11</td>
<td>4.11</td>
</tr>
<tr>
<td>Upper Flint</td>
<td>4.30</td>
<td>3.46</td>
</tr>
<tr>
<td>Upper Oconee</td>
<td>4.68</td>
<td>3.97</td>
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</tbody>
</table>
Daily Water Use by Horticultural Nurseries (Container, In-Ground, and Greenhouse), Millions of Gallons Per Day
Statewide Total: 41.76 MGD - draft

- Alburna
- Coastal GA
- Coosa-North GA
- Lower Flint-Ochlockonee
- Middle Chath Atlee
- Middle Ocmulgee
- MNGWD
- Savannah Upper Ogeechee
- Suwannee-Satilla
- Upper Flint
- Upper Oconee

2015
2020

- [Bar Graph Showing Water Use Comparison for Each Region]
Irrigated Acres

<table>
<thead>
<tr>
<th>County</th>
<th>2015</th>
<th>2020</th>
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</thead>
<tbody>
<tr>
<td>Clarke</td>
<td>114</td>
<td>115</td>
</tr>
<tr>
<td>Greene</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Hancock</td>
<td>47</td>
<td>77</td>
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<tr>
<td>Jackson</td>
<td>113</td>
<td>113</td>
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<tr>
<td>Laurens</td>
<td>10,774</td>
<td>11,651</td>
</tr>
<tr>
<td>Morgan</td>
<td>1,272</td>
<td>1,272</td>
</tr>
<tr>
<td>Oconee</td>
<td>1,304</td>
<td>1,304</td>
</tr>
<tr>
<td>Putnam</td>
<td>391</td>
<td>654</td>
</tr>
<tr>
<td>Walton</td>
<td>930</td>
<td>930</td>
</tr>
<tr>
<td>Washington</td>
<td>10,924</td>
<td>12,050</td>
</tr>
<tr>
<td>Wilkinson</td>
<td>244</td>
<td>299</td>
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</table>
# Upper Oconee RWPC

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2020</th>
<th>% Change</th>
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</thead>
<tbody>
<tr>
<td>Total # of Fields</td>
<td>542</td>
<td>592</td>
<td>+ 9.2%</td>
</tr>
<tr>
<td>Total Acreage</td>
<td>26,113</td>
<td>28,468</td>
<td>+ 9.0%</td>
</tr>
<tr>
<td>Total GW Acreage</td>
<td>19,624</td>
<td>21,475</td>
<td>+ 11.5%</td>
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<tr>
<td>Total SW Acreage</td>
<td>6,489</td>
<td>6,723</td>
<td>+ 3.6%</td>
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<tr>
<td>Total Center Pivots</td>
<td>368</td>
<td>458</td>
<td>+ 24.5%</td>
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<tr>
<td>Center Pivot Acreage</td>
<td>19,307</td>
<td>22,753</td>
<td>+ 17.8%</td>
</tr>
</tbody>
</table>

## System Type - % of Systems

- Center Pivot: 77%
- Drip: 12%
- Solid Set: 7%
- Solid Set/Drip: 3%
- Traveler: 0%

## System Type - % of Acreage

- Center Pivot: 80%
- Drip: 10%
- Solid Set: 6%
- Solid Set/Drip: 0%
- Traveler: 0%
Baseline Crop Mix by RWPC

Upper Oconee RWPC

- Corn: 26%
- Cotton: 11%
- Forage: 10%
- Nursery: 10%
- Orchard: 4%
- Peanut: 3%
- Pecan: 3%
- Sod: 4%
- Soybean: 10%
- Vegetables: 18%
Rotation areas assigned use values based on the crop mix percentage in the county. (e.g. the use on this pivot is x% corn, y% peanut, z% cotton, etc...).
Areas with a static crop (pecans, orchard, etc…) were assigned water use values specific to that crop.
UO Council – Ag Demand – 75\textsuperscript{th} Percentile

Ag Demand – Forecast – 75th Percentile
Totals (2020 & 2060)

- **2020**
  - Groundwater
  - Surface Water
  - Horticulture
  - Animal

- **2060**
  - Groundwater
  - Surface Water
  - Horticulture
  - Animal

Legend:
- Blue: Groundwater
- Red: Surface Water
- Green: Horticulture
- Purple: Animal
Questions & Discussion

Mark H. Masters
Albany State University
Georgia Water Planning & Policy Center
mmasters@h2opolicycenter.org
229-430-2900 x36
Forecasting Q&A: Municipal Laura Hartt, Jacobs
Forecasting Q&A: Energy
Bill Davis, CDM Smith
- All facilities are natural gas facilities that use very small amounts of water
- 3 facilities are on municipal water supply
- 2 facilities have groundwater permits
- Energy generation with natural gas is expected to increase in the future

### Table 17. Water Withdrawal and Consumption Forecast in mgd: Upper Oconee

<table>
<thead>
<tr>
<th></th>
<th>Upper Oconee</th>
<th>2020</th>
<th>2030</th>
<th>2040</th>
<th>2050</th>
<th>2060</th>
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</thead>
<tbody>
<tr>
<td>Withdrawals - High Demand Scenario</td>
<td></td>
<td>0.72</td>
<td>0.72</td>
<td>1.10</td>
<td>1.21</td>
<td>1.32</td>
</tr>
<tr>
<td>Withdrawals - Expected Demand Scenario</td>
<td></td>
<td>0.72</td>
<td>0.72</td>
<td>0.94</td>
<td>1.05</td>
<td>1.15</td>
</tr>
<tr>
<td>Consumption - High Demand Scenario</td>
<td></td>
<td>0.63</td>
<td>0.63</td>
<td>0.96</td>
<td>1.06</td>
<td>1.16</td>
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<tr>
<td>Consumption - Expected Demand Scenario</td>
<td></td>
<td>0.63</td>
<td>0.63</td>
<td>0.83</td>
<td>0.92</td>
<td>1.01</td>
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[https://waterplanning.georgia.gov/forecasting/energy-water-use](https://waterplanning.georgia.gov/forecasting/energy-water-use)
Upper Oconee Council Meeting

Georgia’s State Water Plan

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

www.georgiawaterplanning.org
Wrap Up

- Next Council Meeting
  - Potential dates (March 2022)
  - In person location(s)? Hybrid?
  - Contact Laura with any ideas for topics or speakers
Thank You!

Questions? Comments? Need More Information?

Laura.Hartt@jacobs.com
Anna.Truszczynski@dnr.ga.gov