



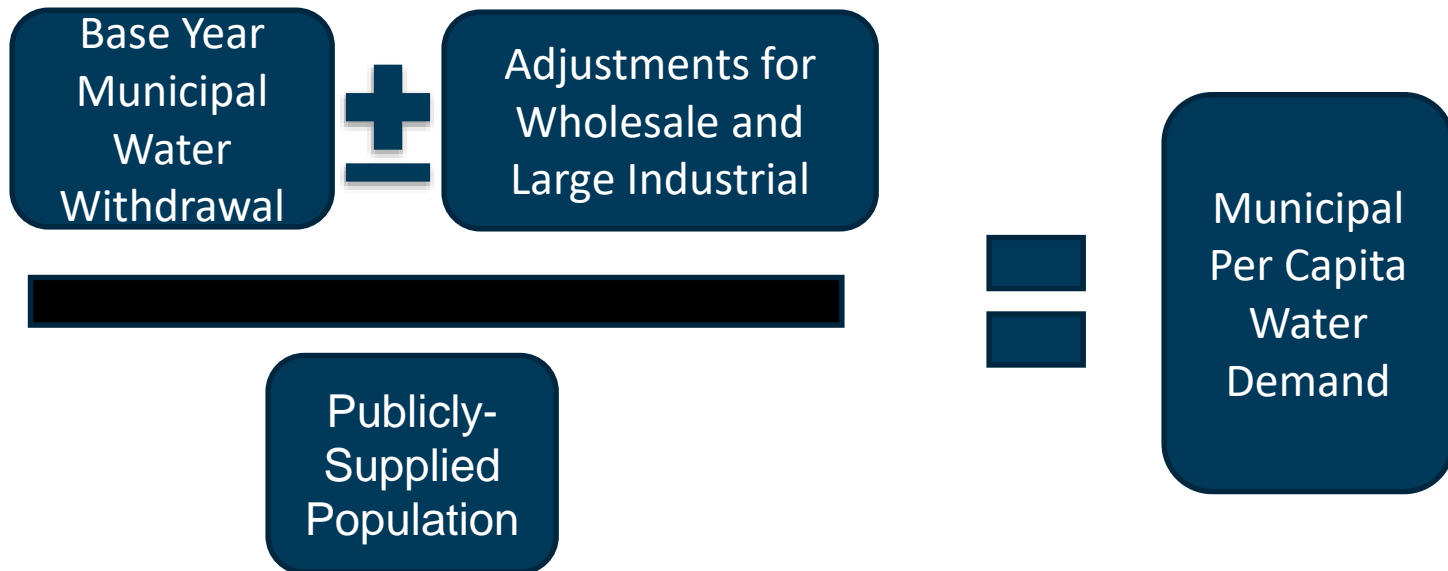
Georgia's  
**State Water Plan**

Municipal Water Demand Forecast  
Update

[www.georgiawaterplanning.org](http://www.georgiawaterplanning.org)

# Calculating Per Capita Demand

- Municipal
  - public/private water systems
  - adjustment for wholesale and large industrial
  - Council feedback for region specific adjustment
- Self-Supply (i.e. private wells)
  - 75 gpcd demand (USGS)
  - Council feedback for region specific adjustment



# Projecting Municipal Water Demand

Future Water Need:

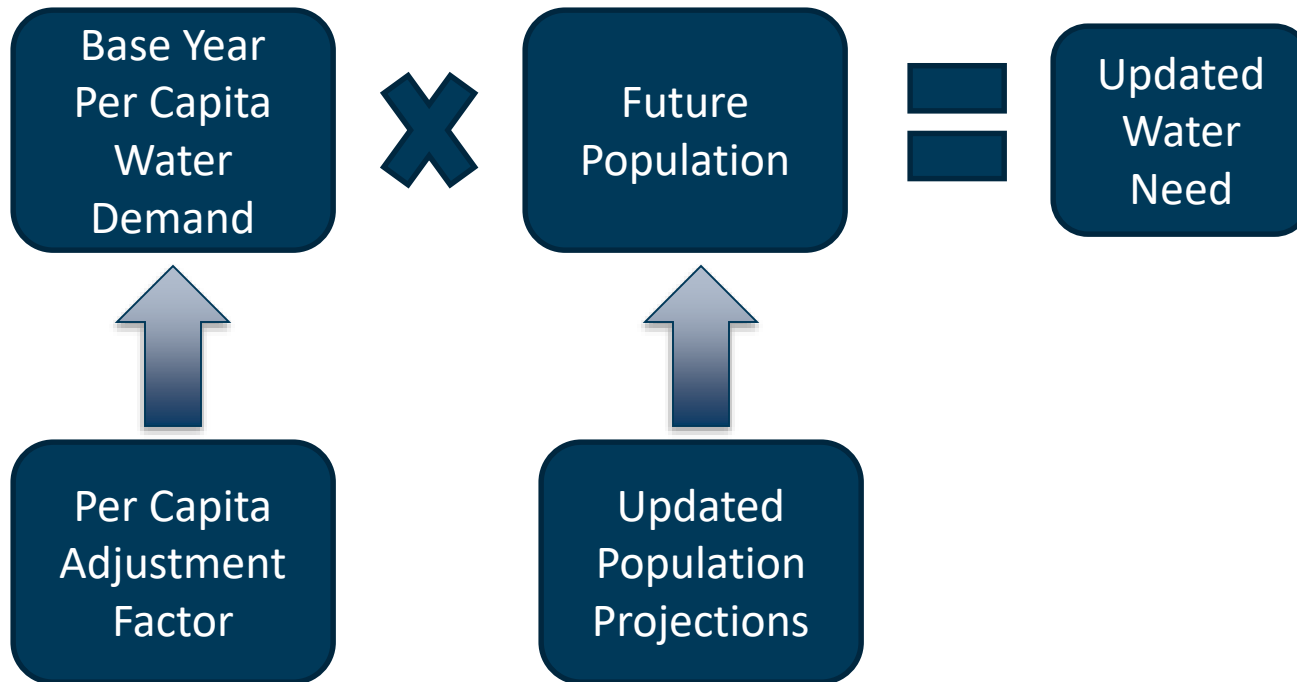


# Round 1 Methodology

- Estimated municipal water use and population served by municipalities in each county
- Calculated a weighted average (weighted by population served) for each county
- Reconciled the county average with USGS estimates
- Refined the county gpcd values given comments from regional councils

# Projecting Municipal Water Demand

Updated Municipal Water Need with Adjustment Factor:



# WDCP Updated Adjustment to GPCD

- EPD collected municipal water use and population served by municipalities and water systems from 2010 to 2014 (5 years)
- The % change was calculated for each year interval (2010 to 2011, 2011 to 2012, 2012 to 2013, and 2013 to 2014), and the average of those was calculated as the ***per capita water use adjustment factor***
- The adjustment factor was applied to the Round 1 gpcd values

# Update Methodology

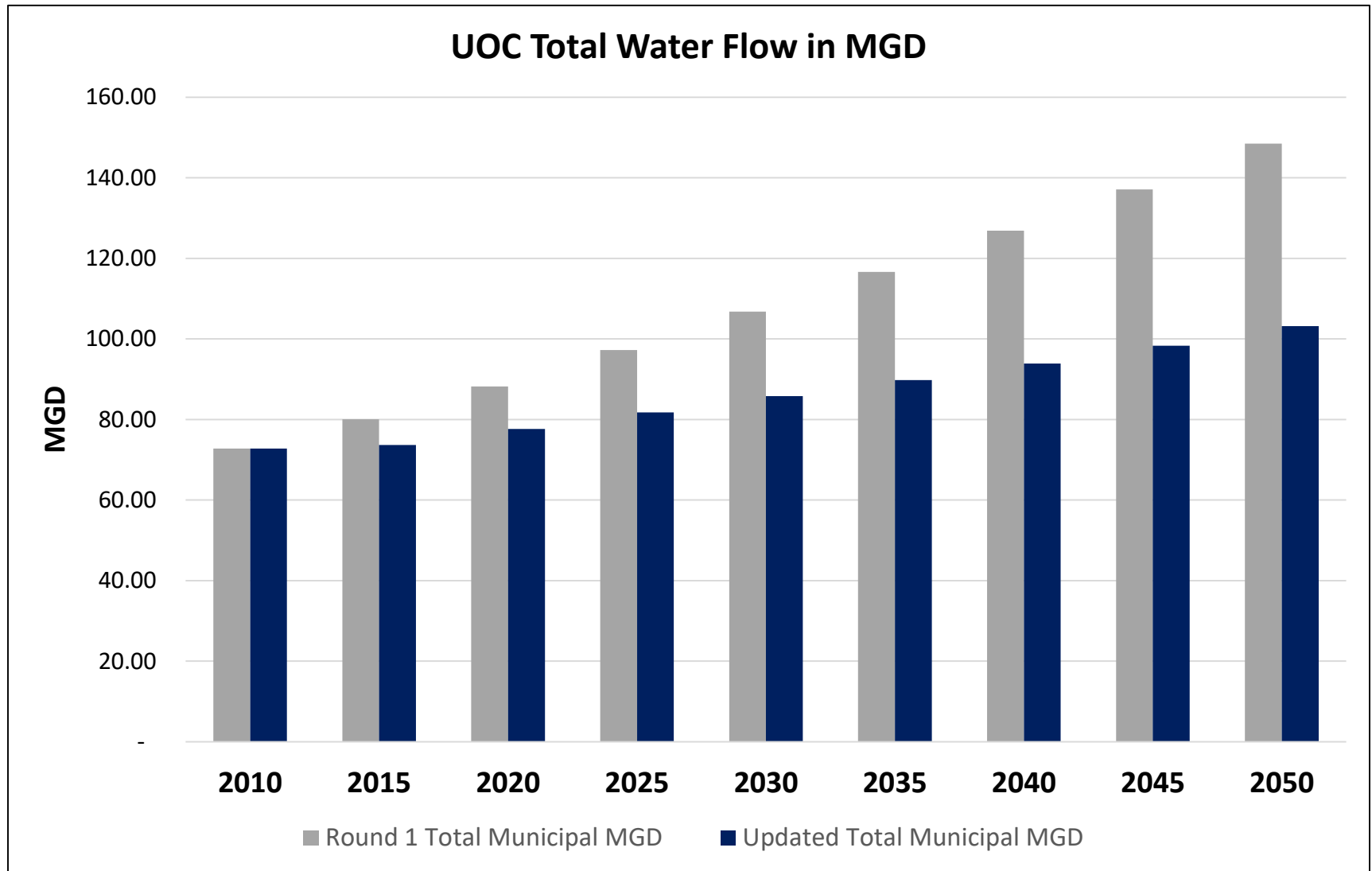
- New population projections
- Each county has the “municipal” water demand split between publicly-supplied (i.e., water provider) and self-supplied (i.e., private wells).
- The ratio of public-supplied to self-supplied water use in each county for Round 1 were maintained for Update

# Upper Oconee Municipal GPCD Change

| County     | Round 1 GPCD | Adjustment Factor | Adjusted GPCD | GPCD Δ |
|------------|--------------|-------------------|---------------|--------|
| Baldwin    | 140          | -2.3%             | 137           | -3.2   |
| Barrow     | 153          | 0.4%              | 153           | 0.6    |
| Clarke     | 157          | 6.7%              | 167           | 10.5   |
| Greene     | 153          | 4.5%              | 160           | 6.9    |
| Hancock    | 125          | -3.8%             | 120           | -4.8   |
| Jackson    | 111          | -1.4%             | 110           | -1.5   |
| Laurens    | 157          | -3.1%             | 153           | -4.9   |
| Morgan     | 164          | -0.3%             | 163           | -0.5   |
| Oconee     | 142          | -4.7%             | 136           | -6.7   |
| Putnam     | 131          | -1.1%             | 129           | -1.5   |
| Walton     | 138          | 2.4%              | 142           | 3.4    |
| Washington | 195          | -2.1%             | 191           | -4.1   |
| Wilkinson  | 132          | 2.0%              | 135           | 2.6    |



# Water Forecast Update Results



# Summary: Upper Oconee Region

- Small relative change
- Less than 5% change across most counties
- 10 out of 13 counties have less than 5 GPCD change
- Round 1 Regional Average GPCD: 146.0
- Updated Regional Average GPCD: 145.8

# Additional GPCD Analysis by EPD

- EPD will continue to evaluate and refine the additional source of information
- Planning Considerations:
  - Regional and statewide planning are conducted at a different scale than that used in facility planning and permitting
  - Data requirements, local and site specific conditions are unique
- We will keep Council engaged and informed as this work progresses

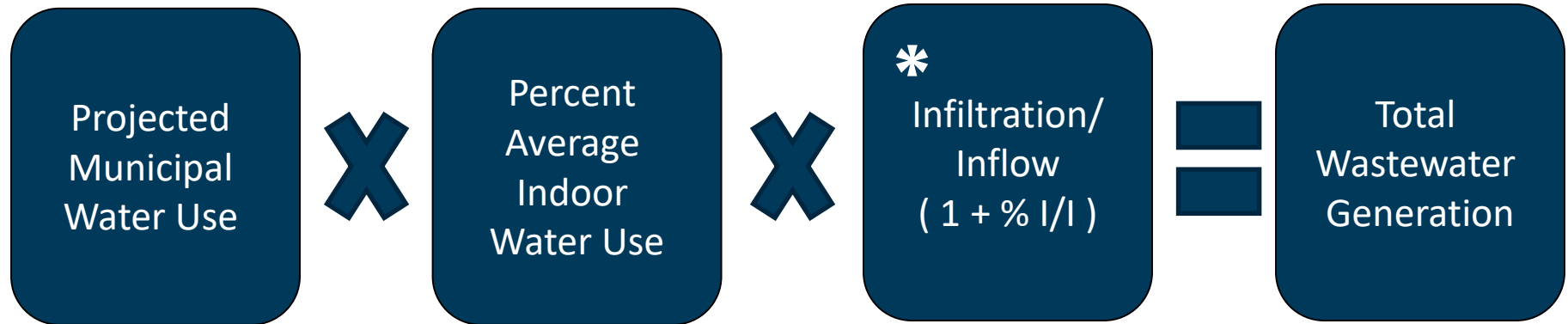


# Georgia's State Water Plan

## Municipal Wastewater Demand Forecast Update

[www.georgiawaterplanning.org](http://www.georgiawaterplanning.org)

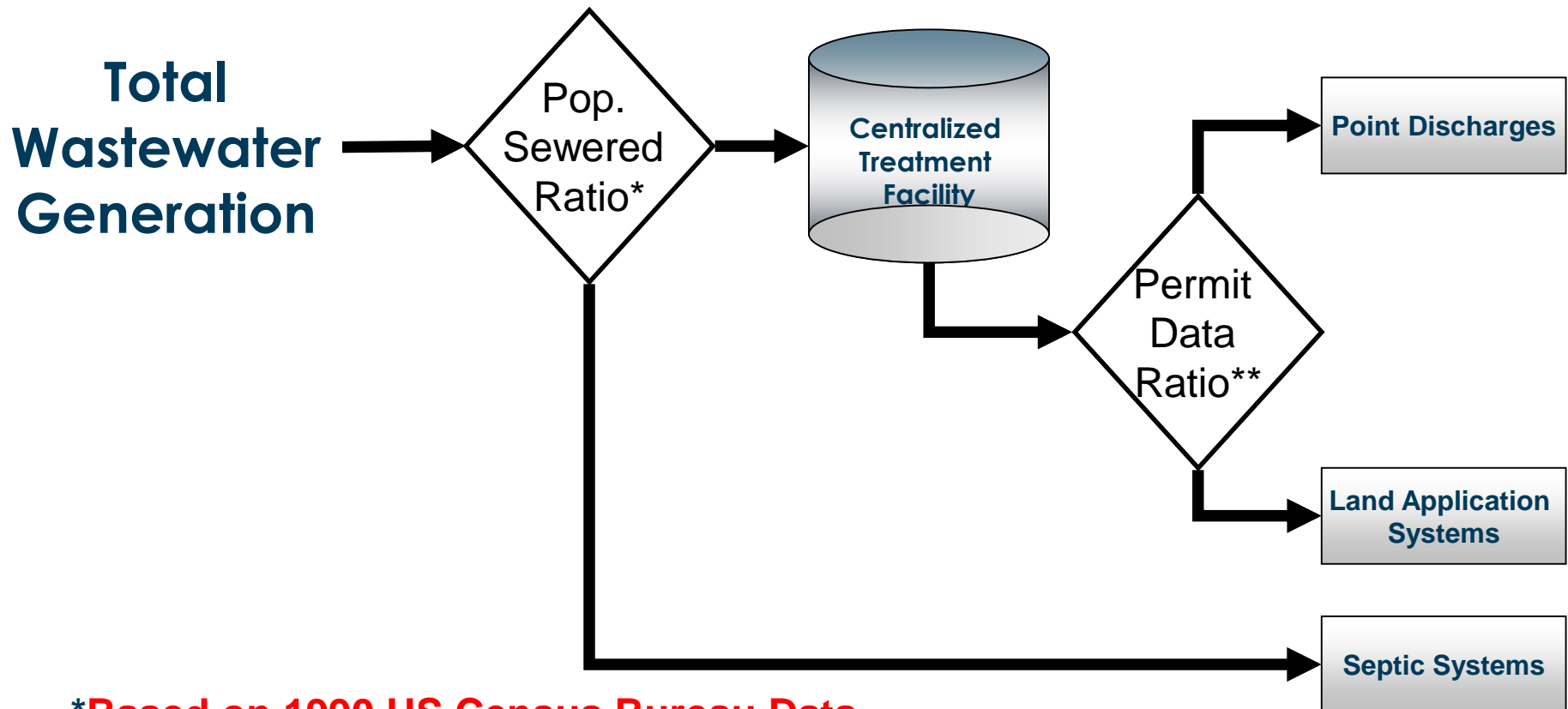
# Round 1 Municipal Wastewater Calculation



\* Water Planning Region-specific values were determined with Regional Councils:

- All sanitary sewer systems experience I&I
- Inflow is stormwater entering at points of direct connection
- Infiltration is groundwater entering through cracks and/or leaks
- Average I&I percentage estimated for each water planning region based on input from water users

# Municipal Wastewater Discharges



**\*Based on 1990 US Census Bureau Data**

**\*\*Based on Existing GA EPD Permit Data**

# Municipal Wastewater Forecast Update

*Round 1 Total Wastewater:  
estimated from Water Forecasts*

Total Wastewater (MGD)

Septic

Centralized

Point Source  
(NPDES)

Land  
Application  
(LAS)

Total Wastewater = Septic + Centralized

*Round 2 Total Wastewater: calculated from EPD Permit Information and Round 1  
Septic Numbers and Projections*

Septic (from  
Round 1)

Applied %  
change in  
population

Round 1: % Septic  
change over time

2014  
NPDES  
Permit data

2014 LAS  
Permit data

Used septic  
projection from  
Round 1 to  
calculate %  
change (increase)  
in centralized  
flow

Applied % increase in  
population

Total Wastewater (MGD)

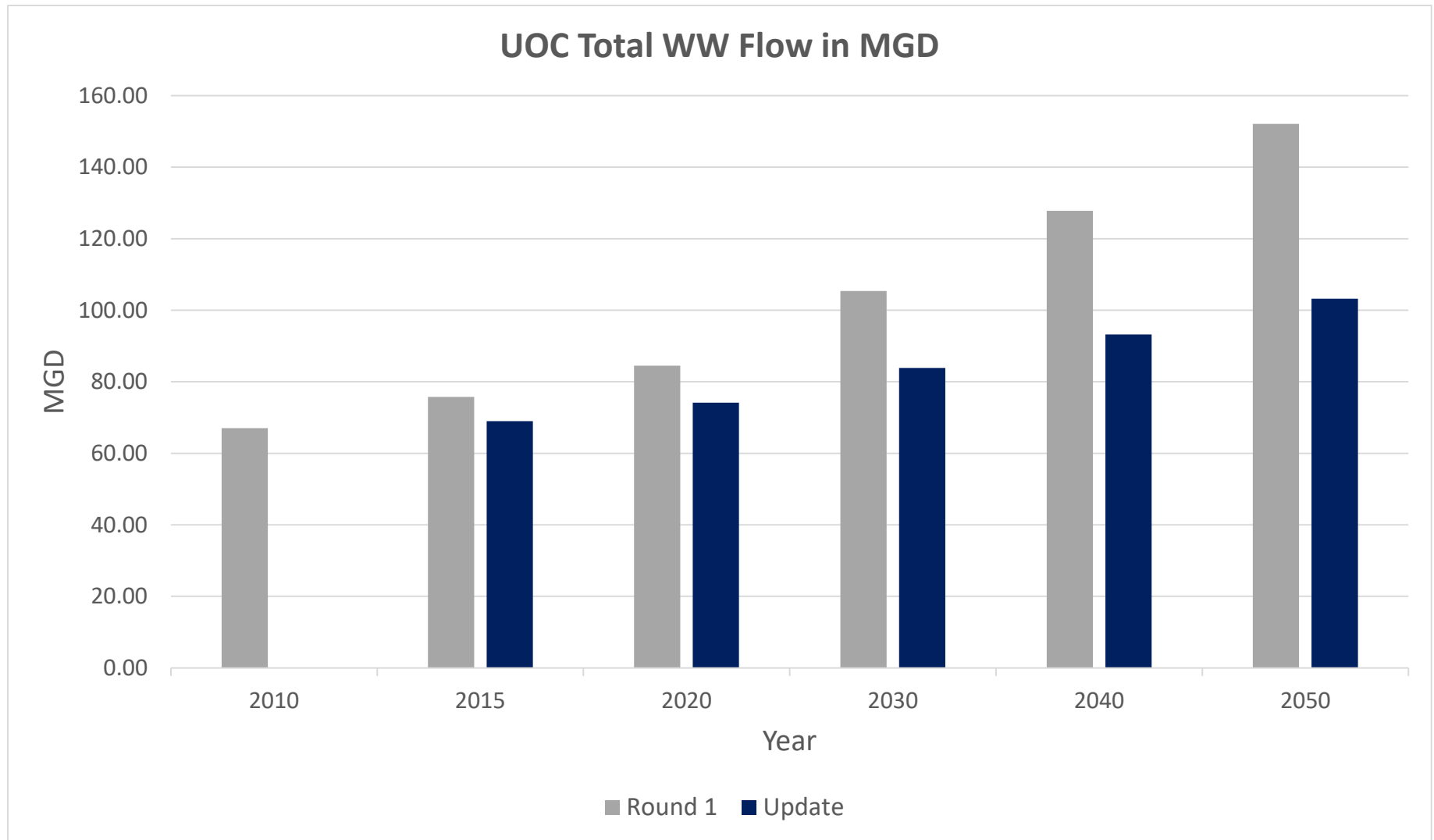
Septic

Centralized

Point Source  
(NPDES)

Land Application  
(LAS)

# Municipal Wastewater Forecast Update Results



Information on this slide has been updated since presented in the meeting







# Georgia's State Water Plan

## Industrial Water and Wastewater Demand Forecast Review

[www.georgiawaterplanning.org](http://www.georgiawaterplanning.org)

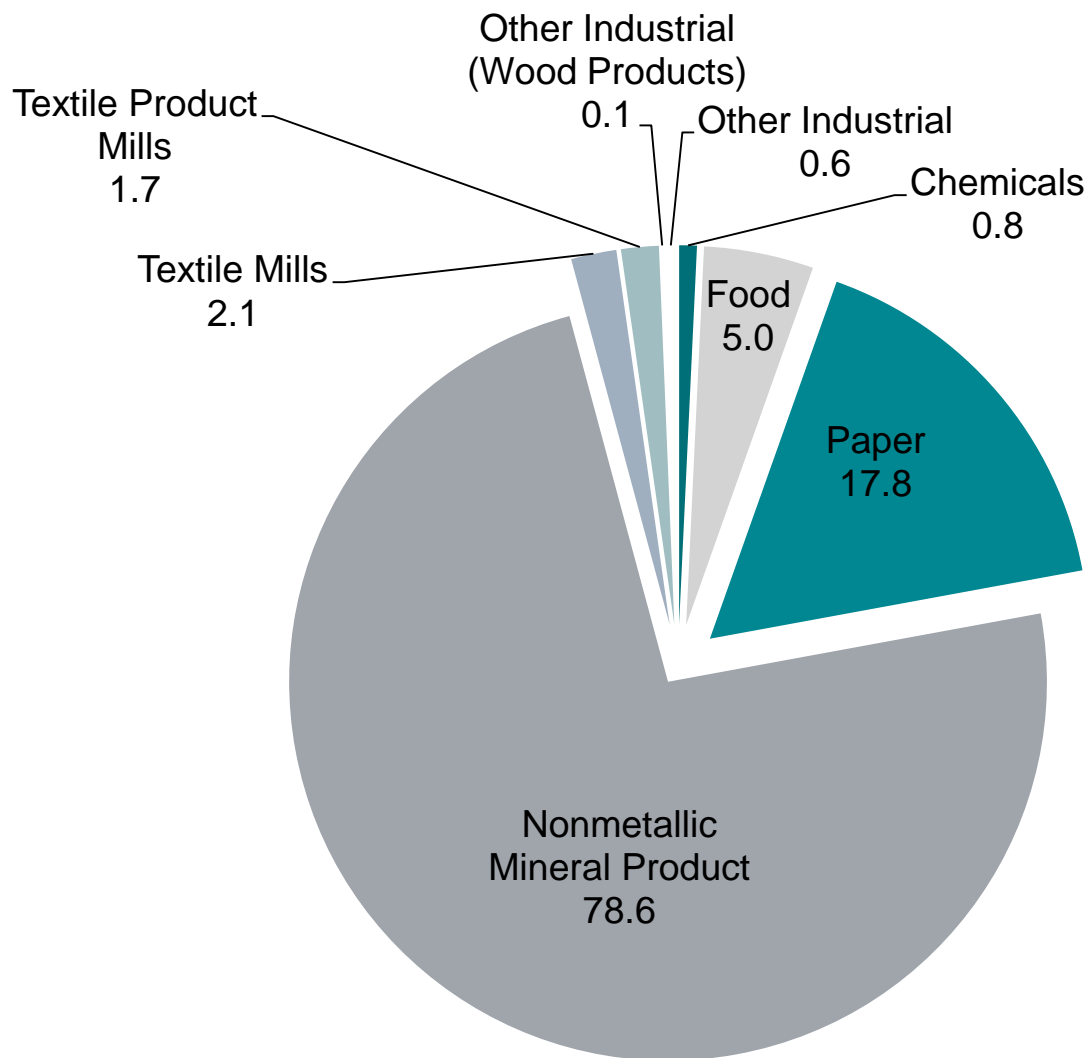
# Industrial Water Needs

- Water is needed for industrial processes, sanitation, cooling and some domestic (employee) use
- Water need is linked to production
- Employment is linked to production
- Updates of employment data are not available, therefore industrial forecasts are not being updated at this time

# Industrial Water & Wastewater Demand

- EPD recommends maintaining Round 1 estimates of industrial water & wastewater forecasts
- Regional Councils are encouraged to review Round 1 projections and identify any significant changes that may have occurred

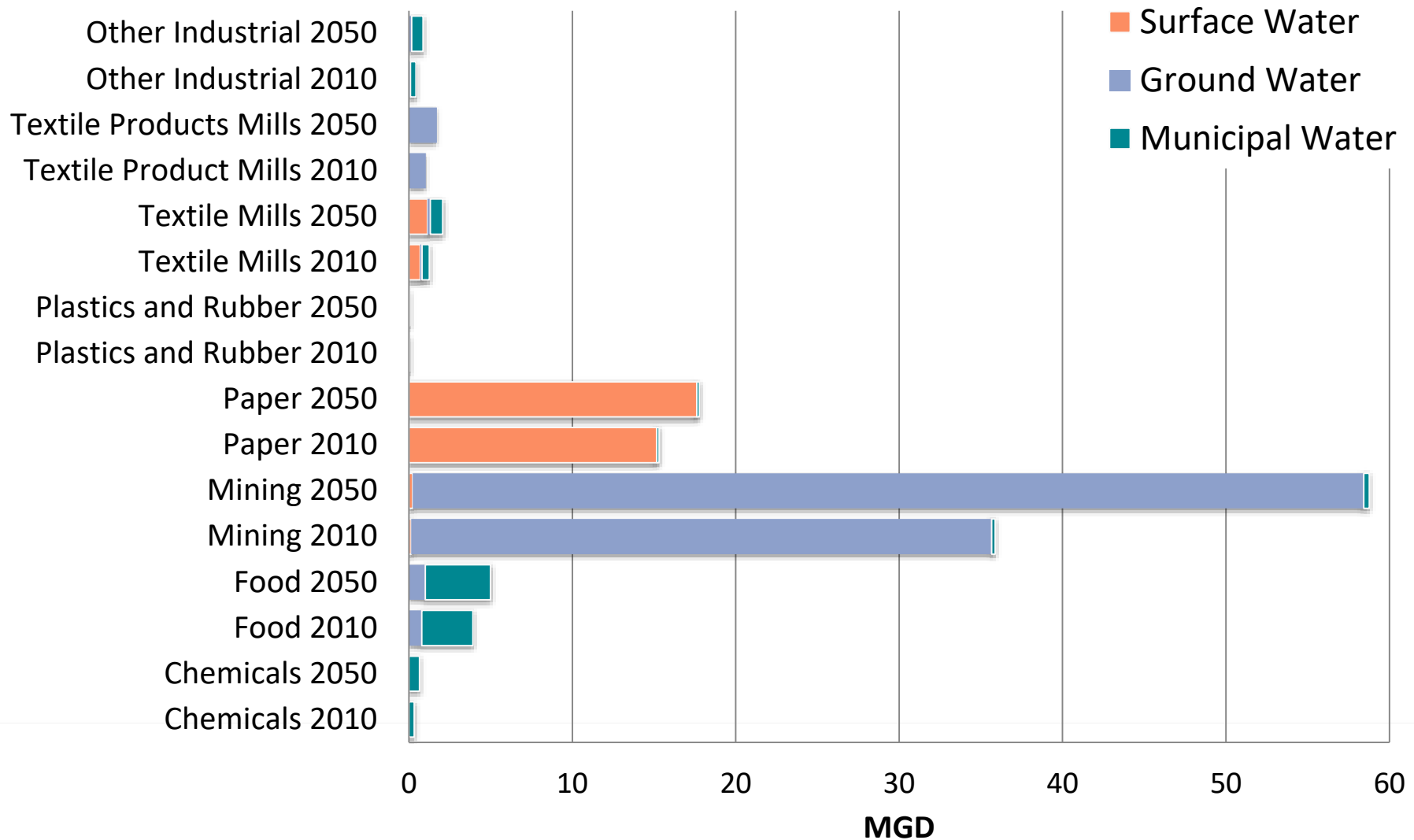
# Region Industrial Water Demand Forecast



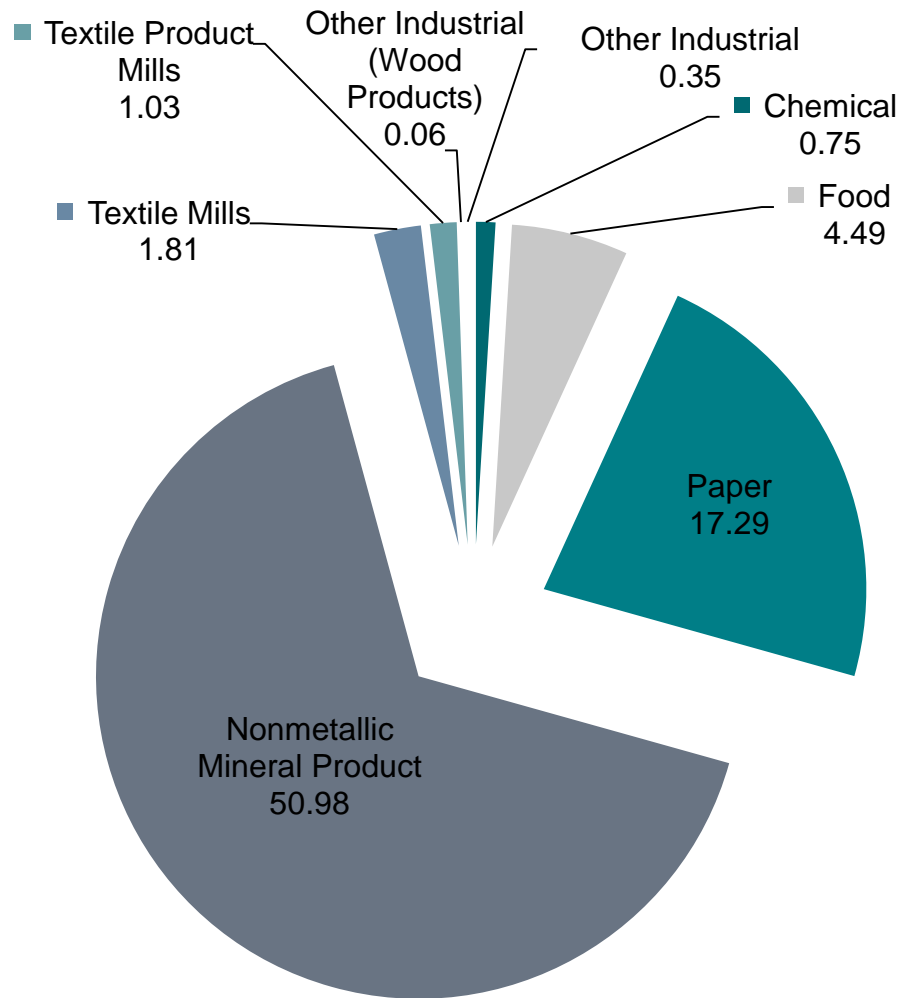
**Withdrawals by  
Industry (MGD): Upper  
Oconee 2050**

# Region Industrial Water Demand Forecast

## Withdrawals by Industry by Source (MGD): Upper Oconee 2010 and 2050



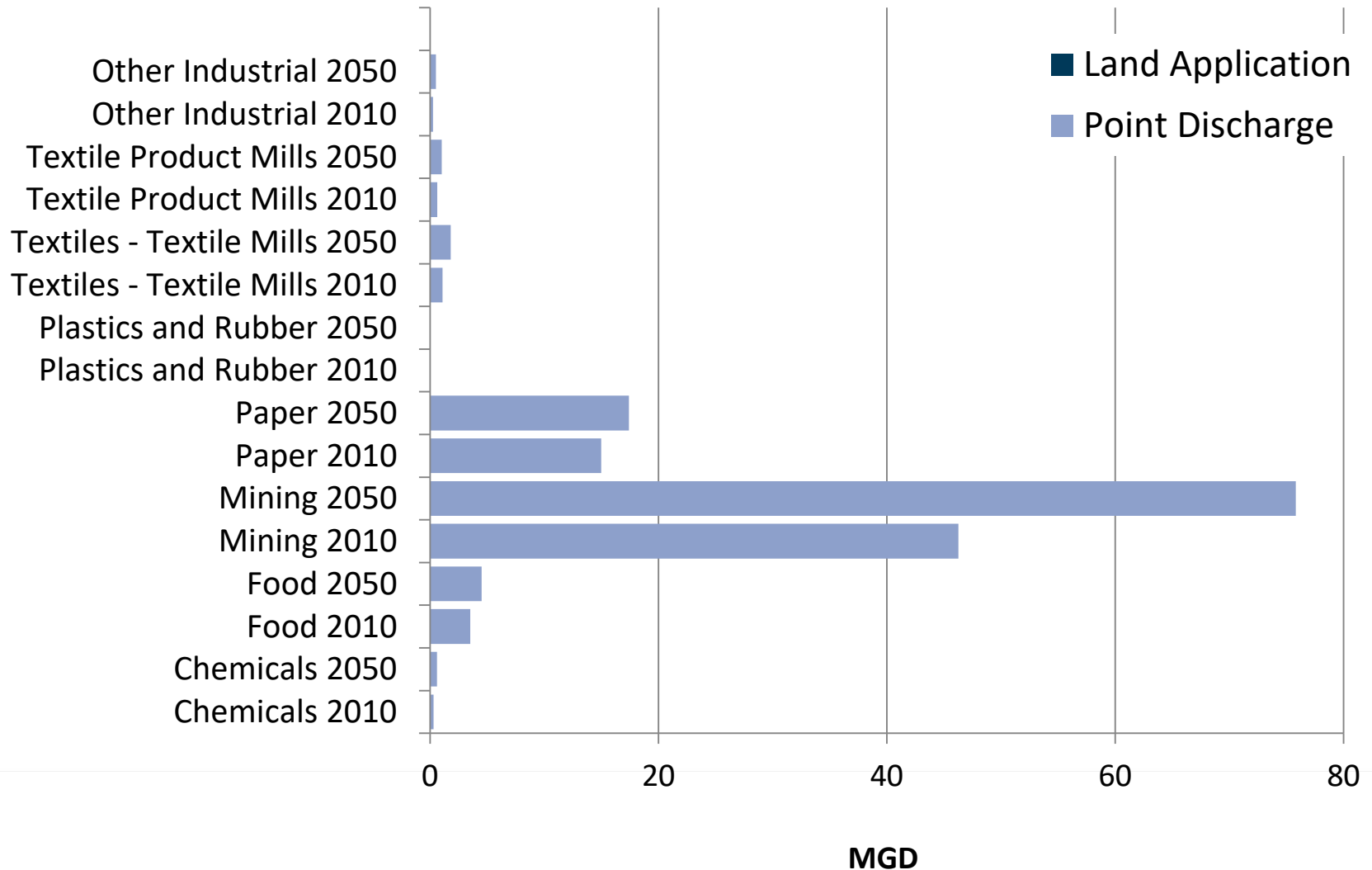
# Region Industrial Wastewater Demand Forecast



**Wastewater by  
Industry (MGD): Upper  
Oconee 2050**

# Region Industrial Wastewater Demand Forecast

Discharge Type by Industry (MGD): Upper Oconee 2010 and 2050



# Questions & Discussion