



**Suwanee - Satilla
Regional Water Planning Council Meeting
April 15, 2021**

www.georgiawaterplanning.org

Council Meeting Agenda



Council Meeting Suwannee-Satilla Regional Water Council Agenda - April 15, 2021

Objectives:

- 1) Receive updates on Seed Grant Projects
- 2) Receive updates on the Municipal, Energy and Industrial Water Demand Forecasts that will support the 2020-2022 Water Plan Update Cycle
- 3) Receive updates on 2019 Agricultural Water Demands

- | | |
|--------------------|--|
| 10:00 – 10:10 a.m. | Welcome and Introductions |
| | Approve meeting minutes from September 30, 2020 Council Meeting |
| | Approve meeting agenda |
| 10:10 – 10:25 a.m. | Updates on Seed Grants (Corey Hull, SGRC and Shayne Wood, CDM Smith) |
| 10:25 – 10:35 a.m. | Updates from EPD (Cliff Lewis, Georgia EPD) |
| 10:35 – 11:15 a.m. | Updates on Water Demand Forecasting for 2020-2022 Regional Water Plan Update Cycle |
| | - Municipal Water Demand Forecast (Bill Davis, CDM Smith) |
| | - Industrial Water Demand Forecast (Bill Davis, CDM Smith) |
| | - Energy Water Demand Forecast (Bill Davis, CDM Smith) |
| 11:15 – 11:50 a.m. | 2019 Agricultural Water Demands (Mark Masters, GA Water Planning & Policy Center) |
| 11:50 – 12:00 p.m. | Discussion |
| | Next Steps / Public Comments / Local Elected Official Comments |
| | Wrap Up |
| 12:00 p.m. | Adjourn |



Georgia's State Water Plan

Council Business

Council Meeting Overview

- Welcome and Introductions
- Meeting Summary from September 30, 2020 Council Meeting in Valdosta, GA
- Approve meeting agenda



Georgia's State Water Plan

Updates on Seed Grants –
Corey Hull, SGRC and Shayne Wood, CDM Smith



Georgia's State Water Plan

Updates from EPD—
Cliff Lewis, Georgia EPD

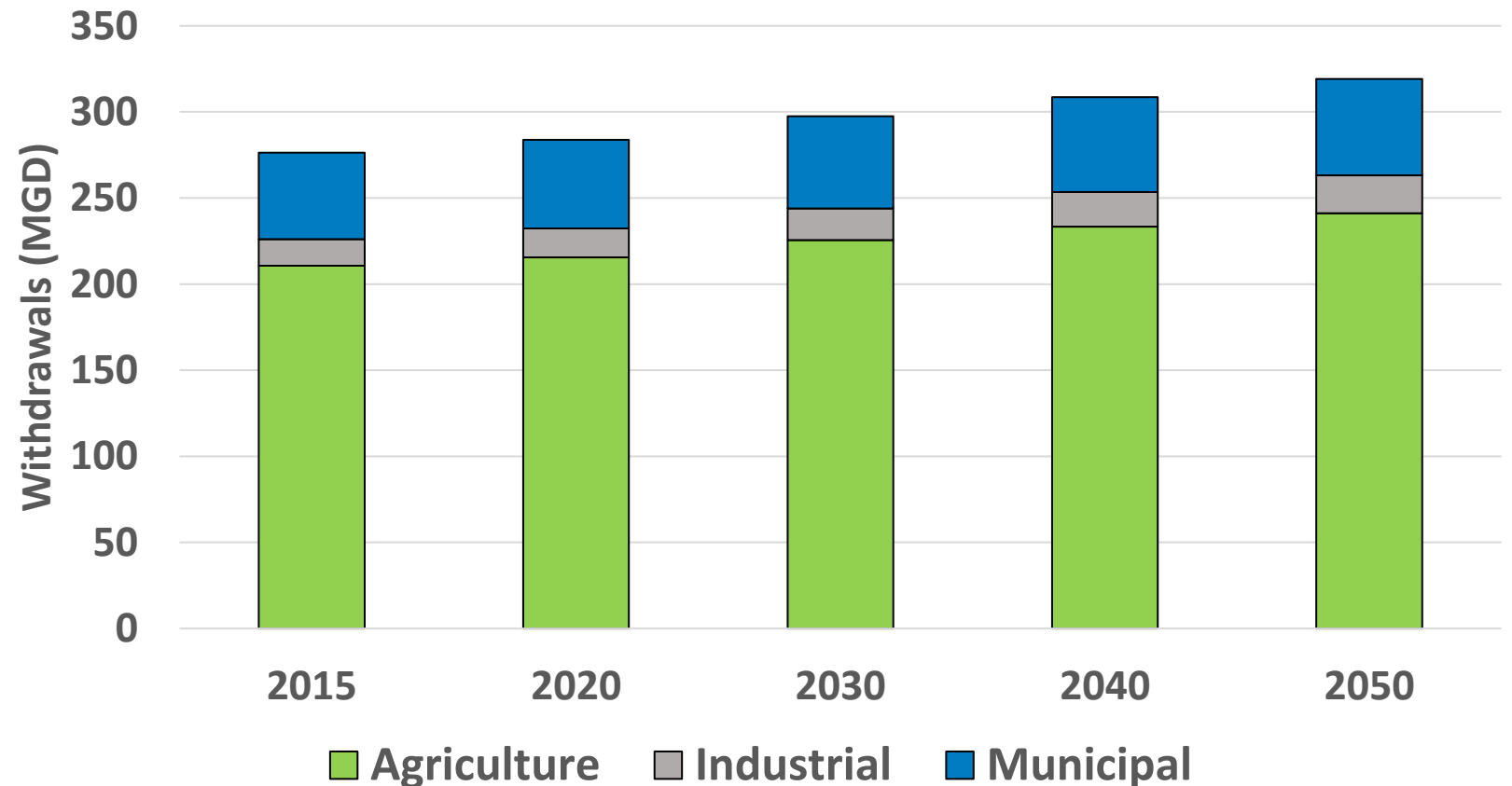


Georgia's State Water Plan

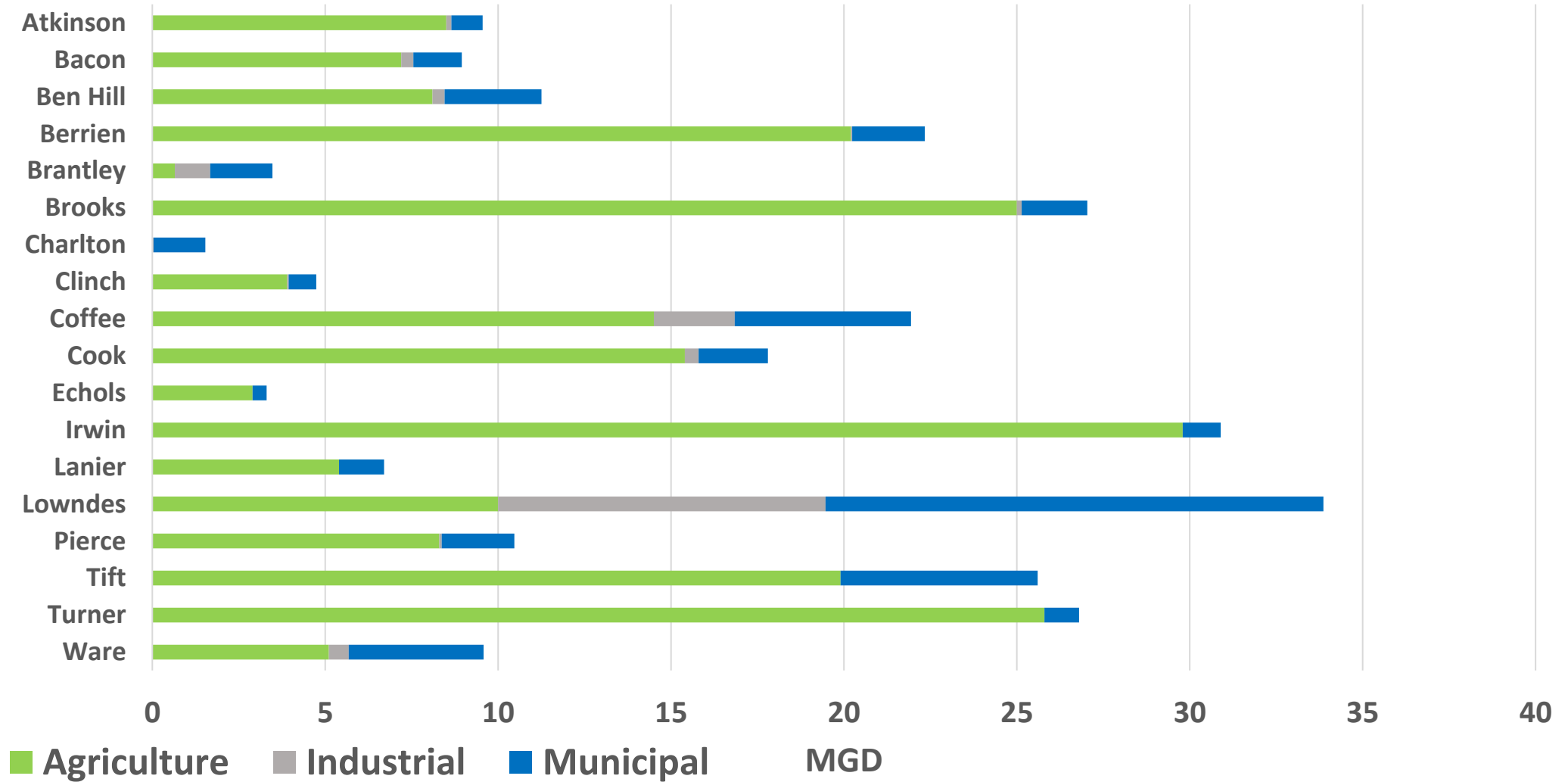
Updates on Demand Forecasting for the 2020-2022
Regional Water Plan Update Cycle –
Bill Davis, CDM Smith

Review of 2017 Demand Forecast for Suwannee-Satilla

- Agriculture is 76% of total demand (increases 14.5%)
- There is no Energy demand
- Industrial demand is small (increases 42%)
- Total demand increases 15.5% from 2015 to 2050



Review of 2015 Water Demands by County





Georgia's State Water Plan

Municipal Water Demand Forecast

Municipal Demand Forecast Update

- Forecast prepared by Black & Veatch team
<https://waterplanning.georgia.gov/forecasting/municipal-water-use>
- Revised population projections by county
- Updated GPCD by county
- Forecast was reviewed by Municipal Forecasting Stakeholder Group with representative from each Council

DRAFT

MUNICIPAL WATER DEMAND AND WASTEWATER FLOW FORECASTING METHODS REPORT



PREPARED FOR

Regional Water Planning Councils

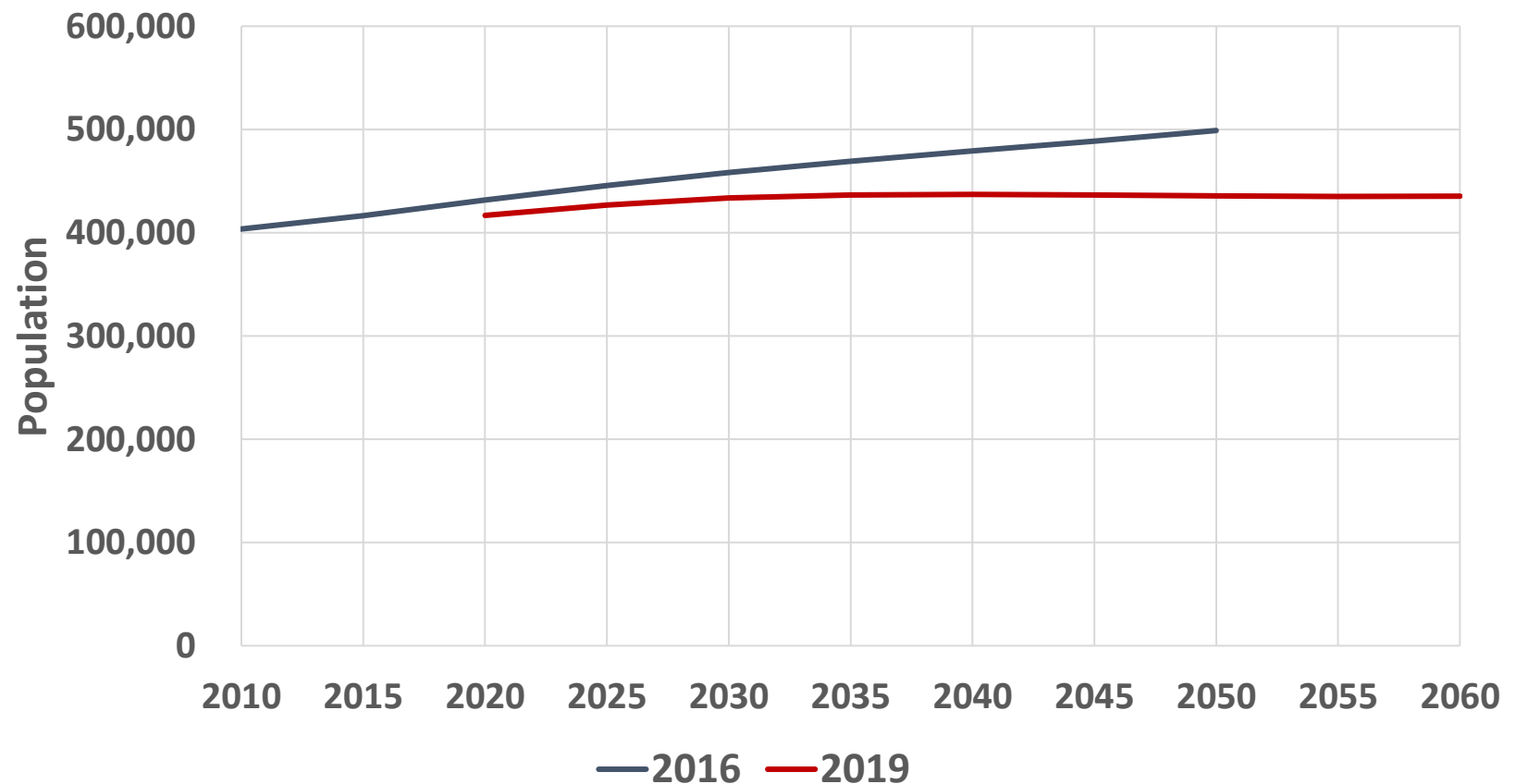
ON BEHALF OF

Georgia Environmental Protection Division

15 DECEMBER 2020

Suwanee-Satilla Population Projections

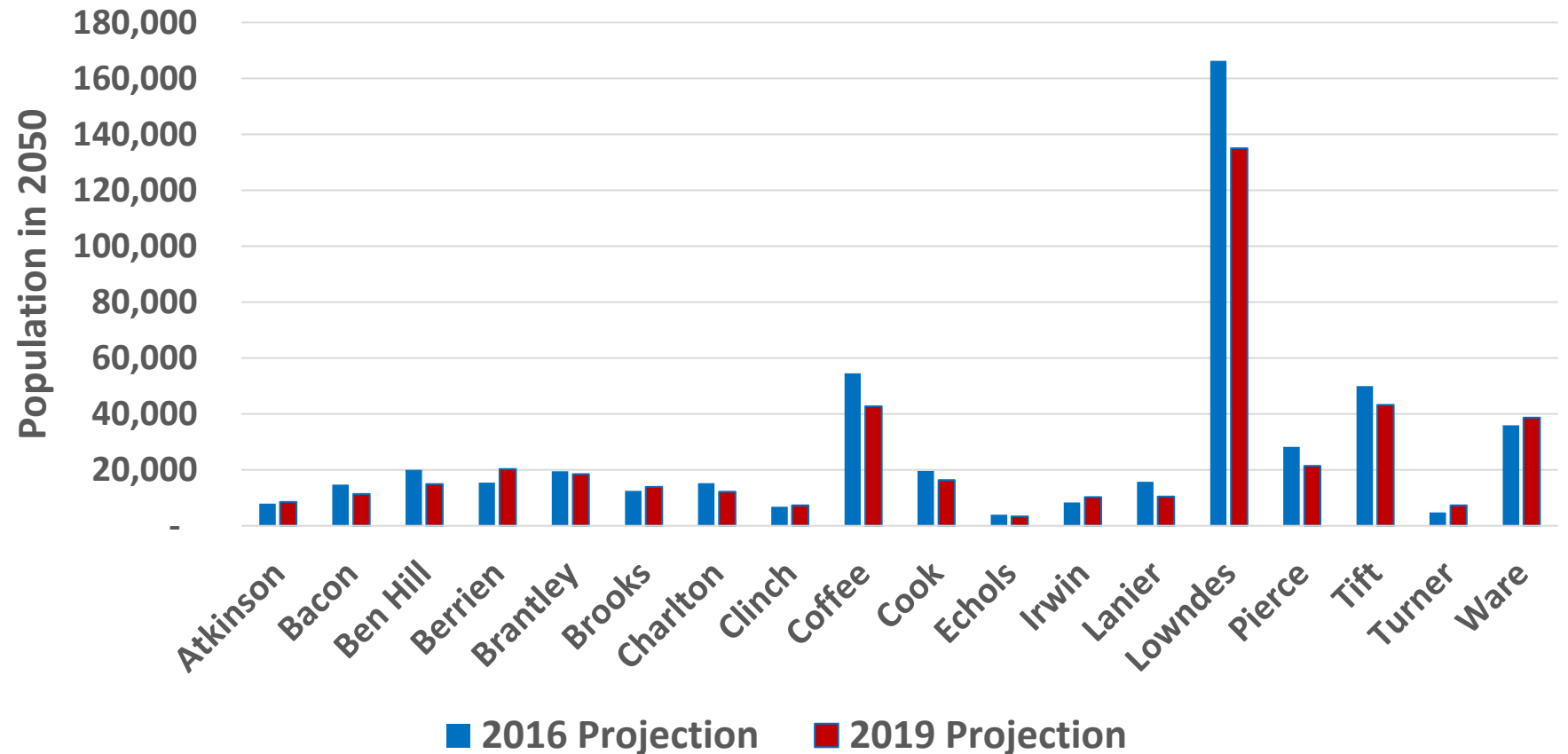
- 2017 RWP Update based on 2016 population projections from Office of Planning & Budget (OPB)
- 2020 Municipal Forecast Demand Update based on 2019 OPB population projections
- OPB 2020 projections became available in October 2020 and similar to 2019 projections



Suwanee-Satilla Population Projections Comparison for 2050 by County

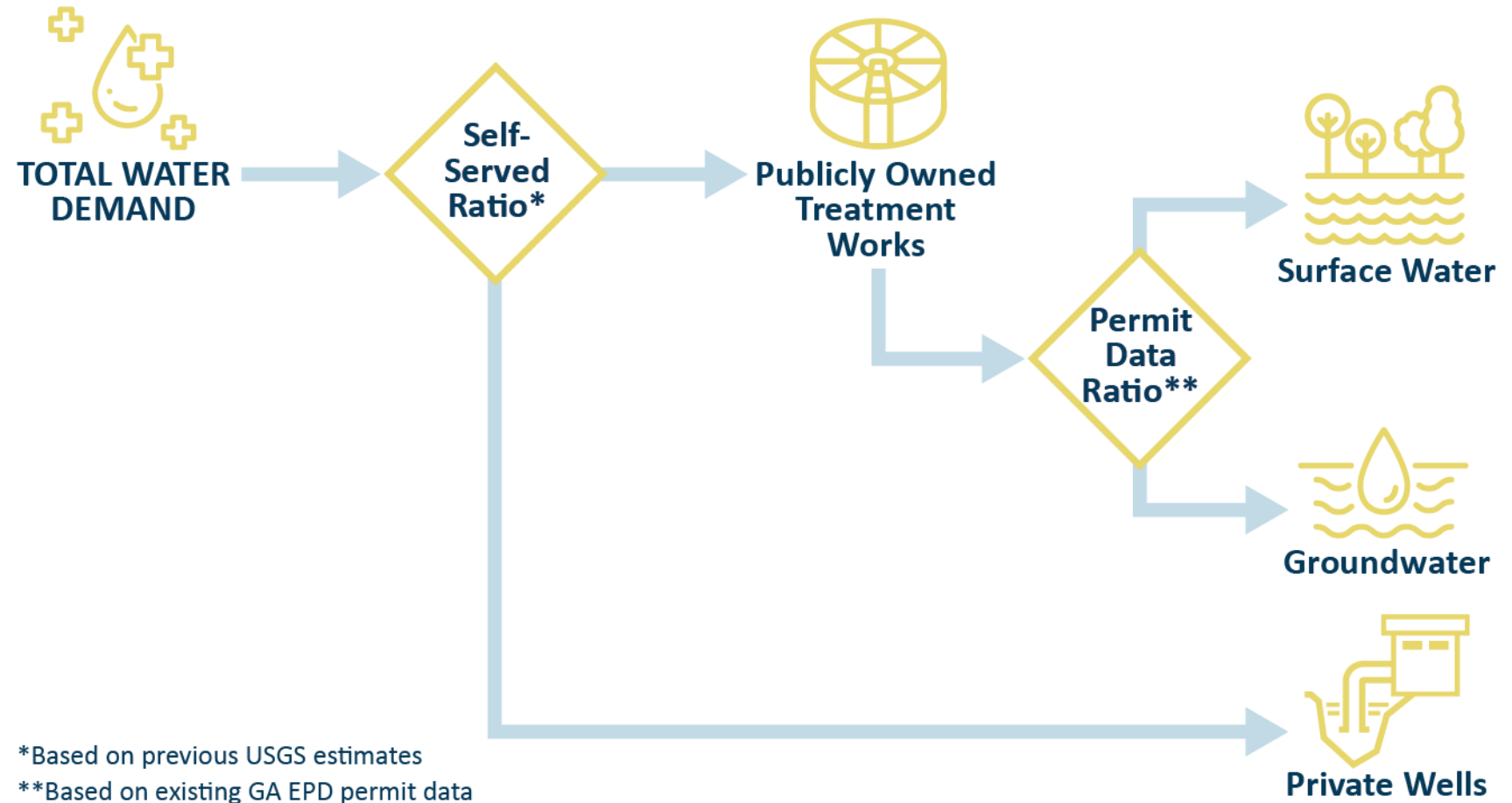
In 2050:

- 11 counties projected to have lower population
- 7 counties projected to have higher population



County Water Demand Methodology

- Some % of county population is self-served (75 gpcd)
- Remainder of population is municipally-supplied
- Each county has unique municipal gpcd (weighted average)



Suwanee-Satilla Region

Percent Self Supplied

- 2020 % self-supplied taken from USGS 2015 data
- Percentages held constant for the future
- Self-supplied population assumed to use 100 GPCD (USGS)

County	2017 % Self-Supplied	2020 % Self-Supplied
Atkinson	53	47
Bacon	67	57
Ben Hill	21	26
Berrien	55	60
Brantley	86	87
Brooks	57	51
Charlton	59	47
Clinch	53	43
Coffee	58	50
Cook	43	48
Echols	79	100
Irwin	63	66
Lanier	61	60
Lowndes	17	21
Pierce	72	58
Tift	28	33
Turner	34	34
Ware	15	8

Suwanee-Satilla

Municipal Forecast GPCD

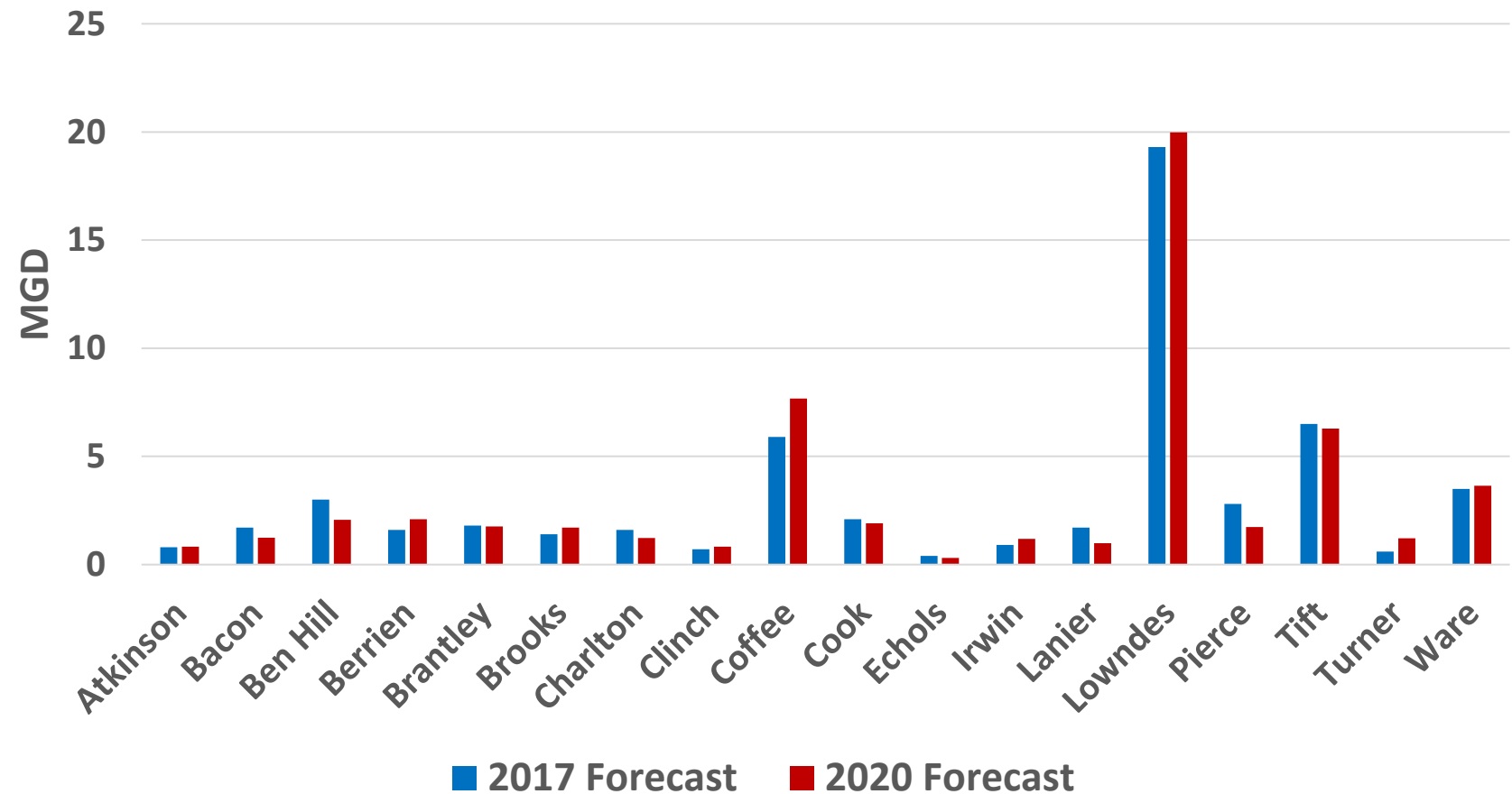
- Updated GPCD by county based on weighted average from 2015 – 2018 Water Loss Audits
- GPCD calculated from State Drinking Water Information System (SDWIS) data if Water Loss Audit data not available
- 9 counties have lower GPCD
- 8 Counties have higher GPCD

County	2017 GPCD	2020 GPCD	Change
Atkinson	111	109	-
Bacon	177	141	-
Ben Hill	177	163	-
Berrien	128	128	n/c
Brantley	96	115	+
Brooks	147	162	+
Charlton	128	115	-
Clinch	140	137	-
Coffee	139	179	+
Cook	131	183	+
Echols	96	75	-
Irwin	148	170	+
Lanier	143	99	-
Lowndes	129	169	+
Pierce	131	73	-
Tift	153	179	+
Turner	140	212	+
Ware	109	125	-

Suwanee-Satilla Municipal Demand Forecast Comparison for 2050 by County

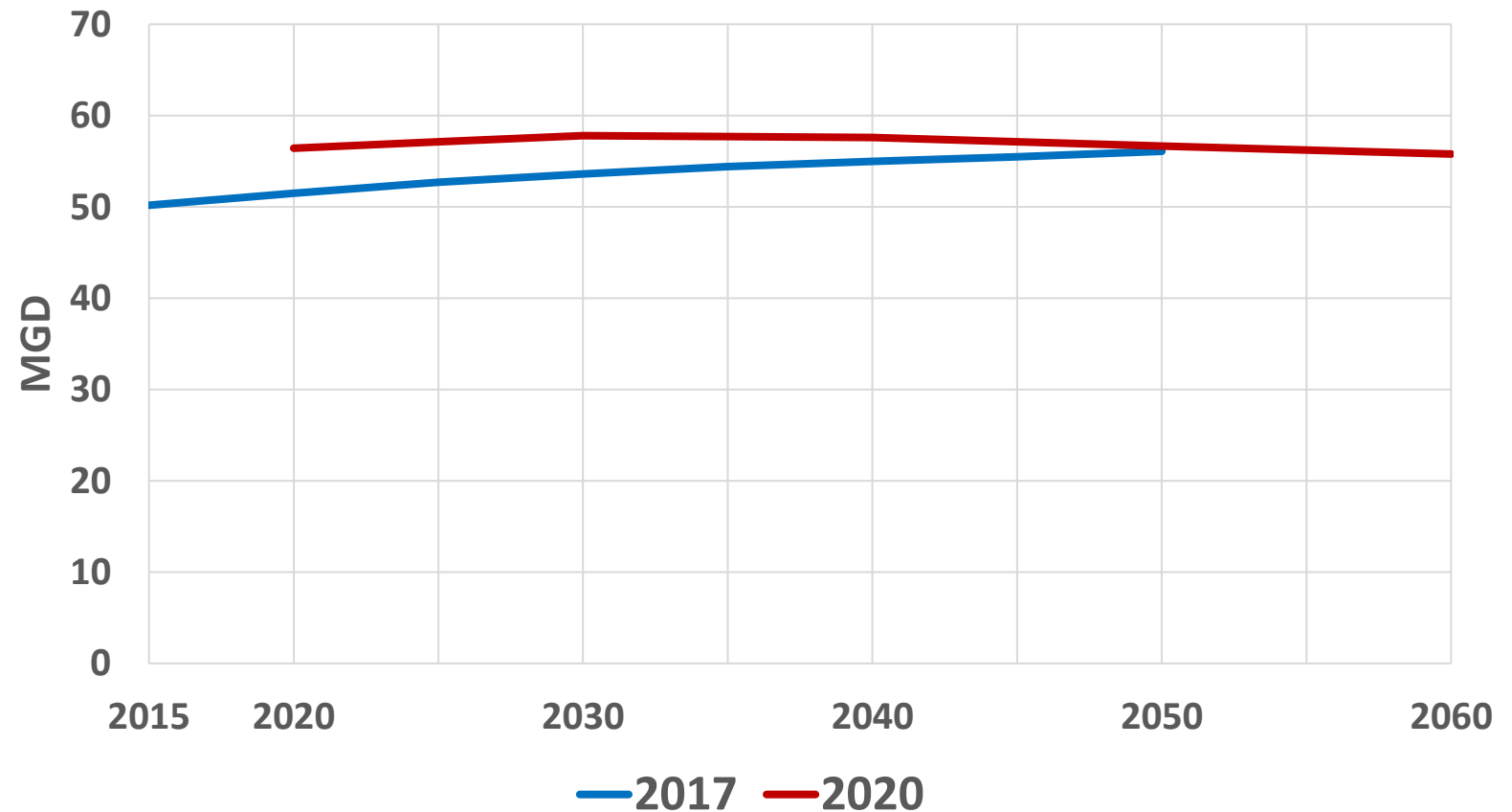
In 2050:

- 9 counties have lower demand
- 9 counties have higher demand



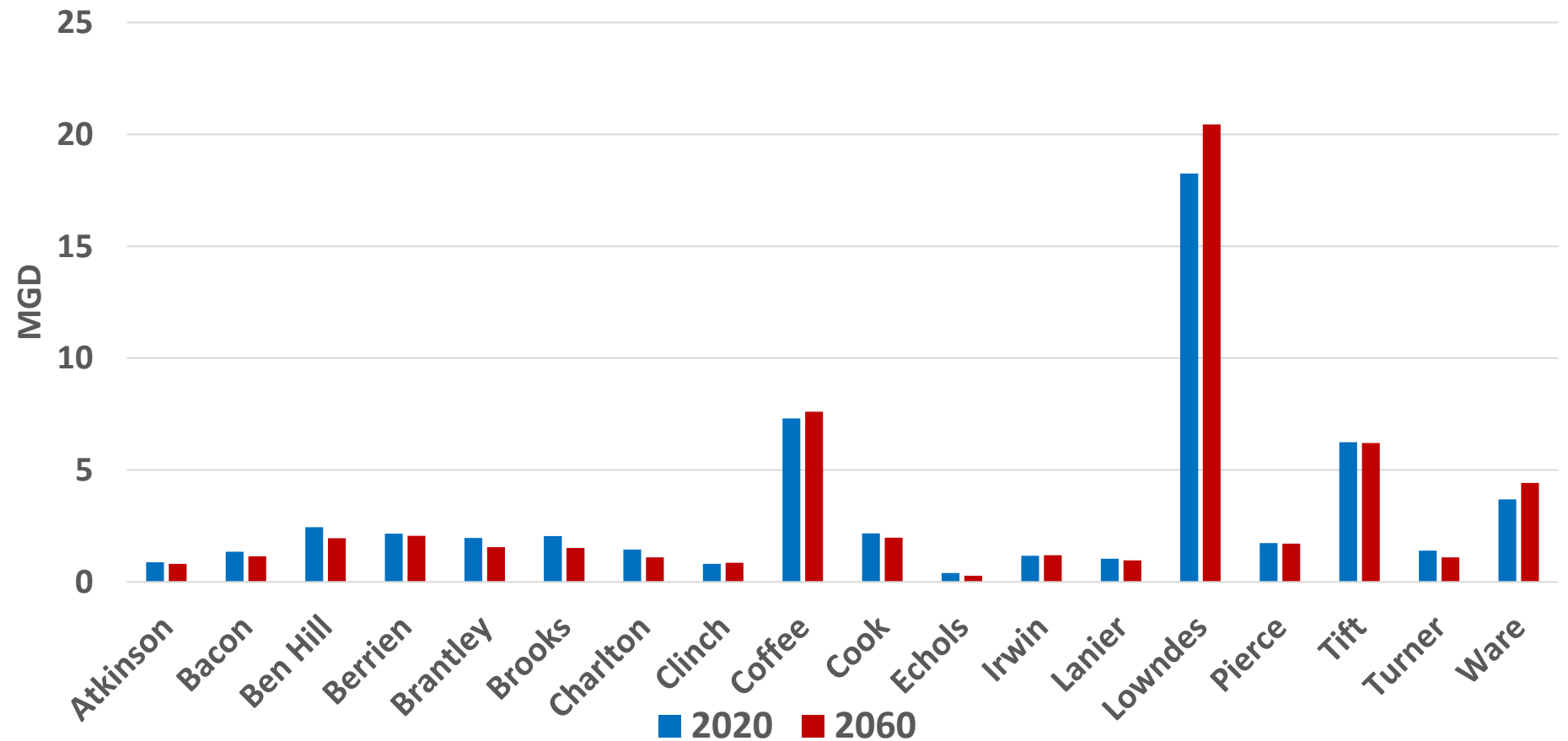
Suwanee-Satilla Region Municipal Demand Forecast

- Updated demand is higher than the prior forecast in the near term, then declines
- Population projections are lower by 13% in 2050
- County average GPCD is lower in half of the counties



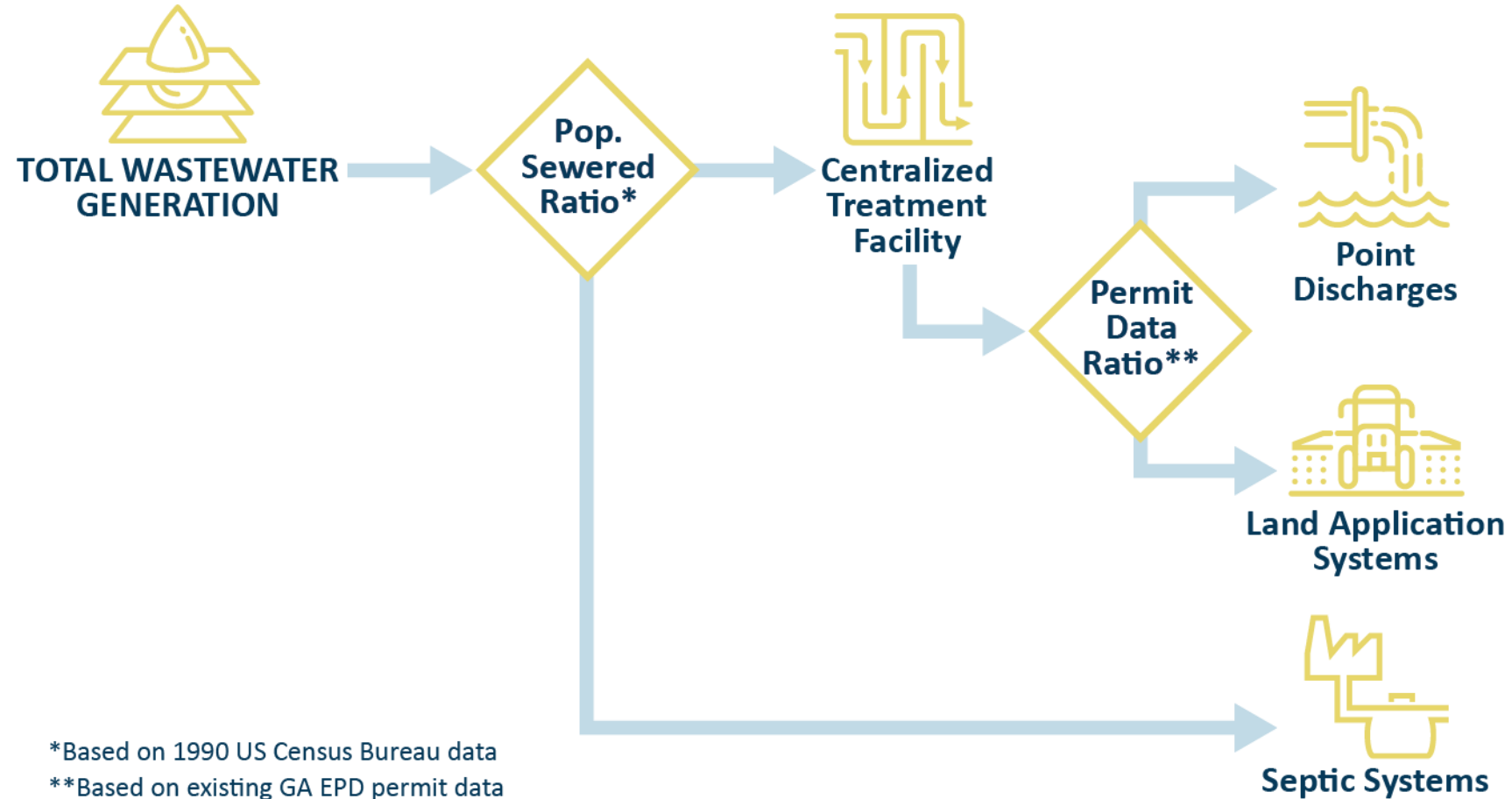
Suwanee-Satilla 2020 Municipal Demand Forecast by County

The 2020 Municipal demand forecast shows a decline in demand in many counties



Municipal Wastewater Methodology

- Septic flow based on % households on septic (80% of use)
- Used 2019 discharges by county
- Applied % change in population
- Maintain same ratio of Point and LAS



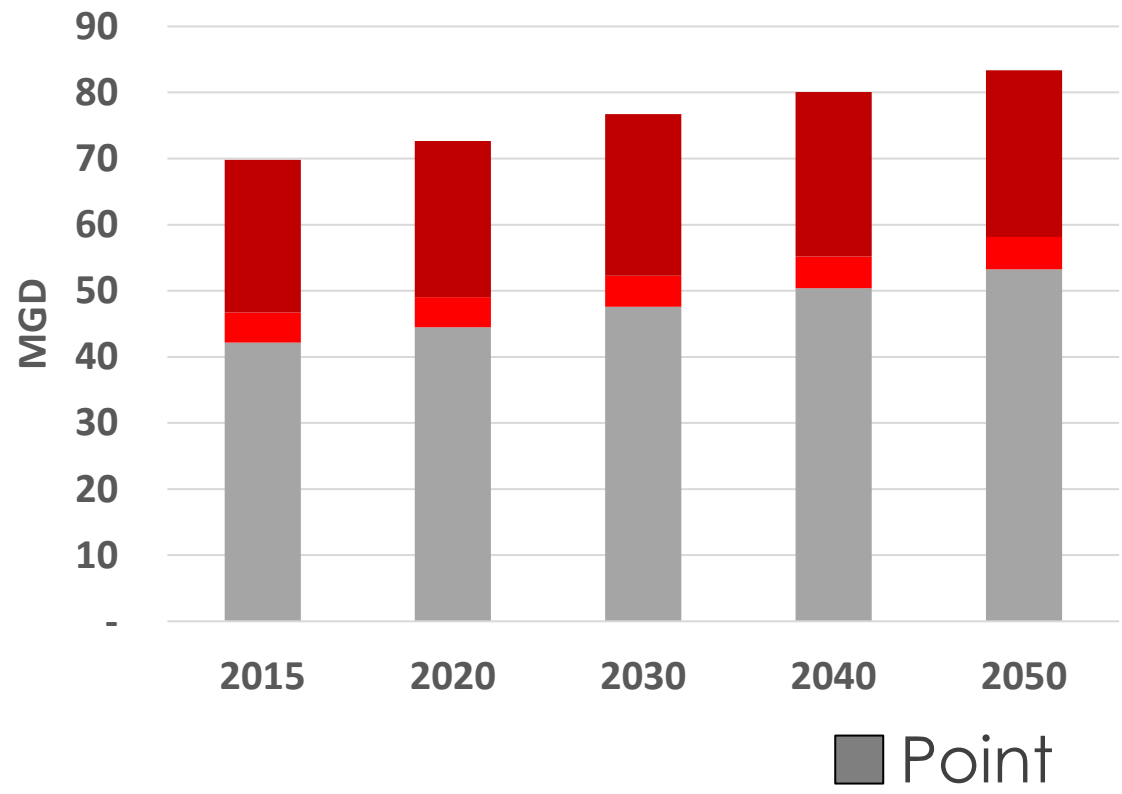
Municipal Wastewater – Septic

- County % population on septic systems
 - Held constant, unless specific input provided
- Values with asterisks are from the 1990 Census housing characteristics for Georgia
- Values w/o asterisks are from Georgia Dept. of Public Health data (through 2018)

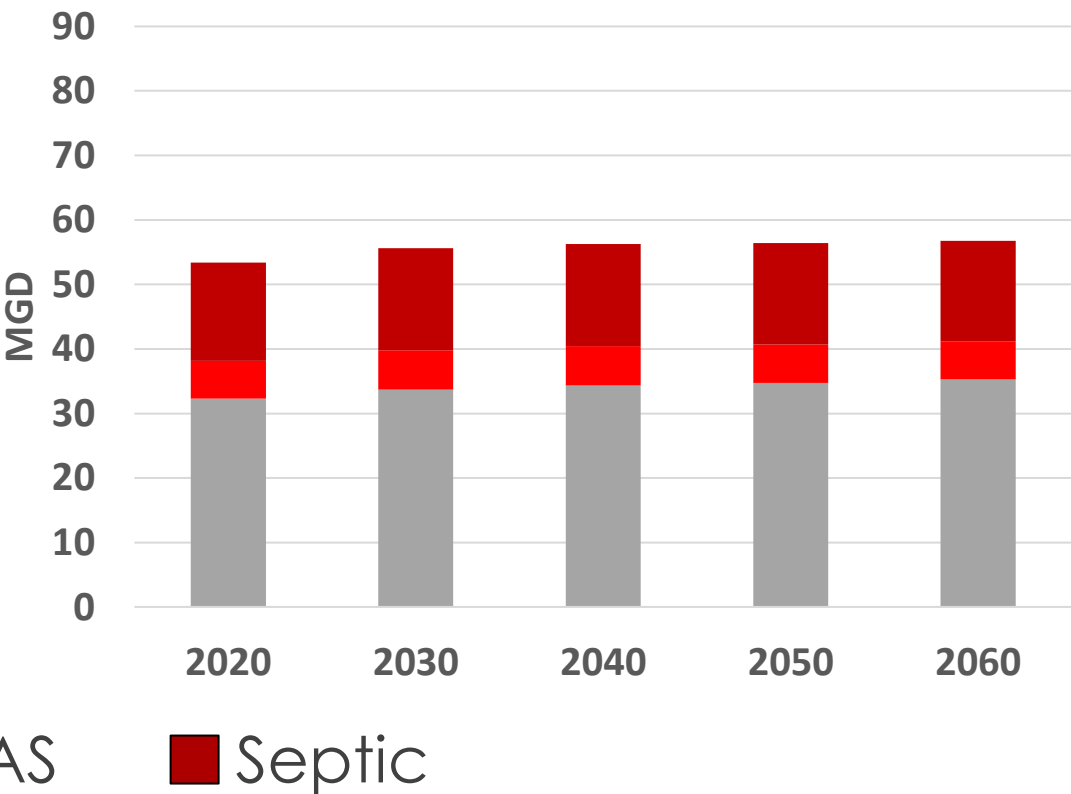
County	2020 % Septic
Atkinson	60*
Bacon	85
Ben Hill	82
Berrien	78
Brantley	92*
Brooks	68*
Charlton	81
Clinch	74
Coffee	61*
Cook	47*
Echols	100
Irwin	89
Lanier	90
Lowndes	42
Pierce	66*
Tift	39*
Turner	73
Ware	74

Suwanee-Satilla Municipal Wastewater Forecast

2017 Forecast



2020 Forecast





Georgia's State Water Plan

Energy Water Demand Forecast

Energy Demand Forecast Update

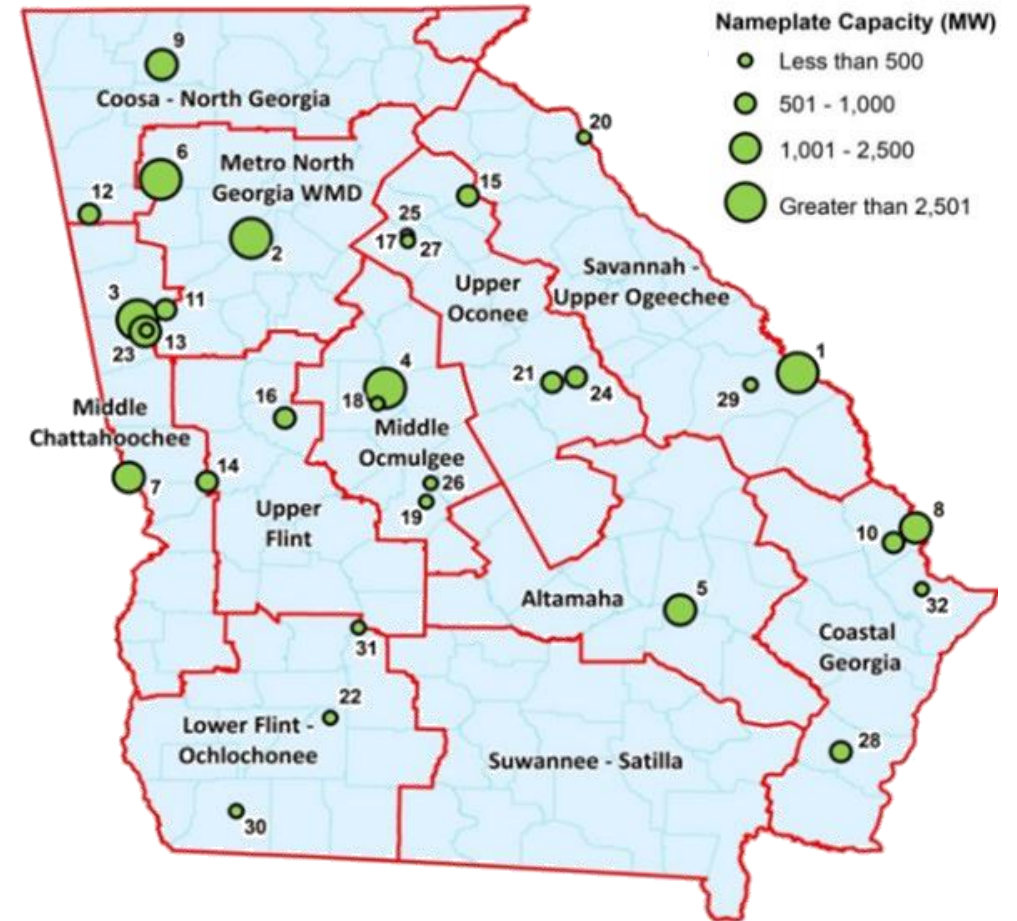
- Convened a stakeholder advisory group representing power companies in the State of Georgia
- Worked with stakeholder group to identify future sources of power generation
- <https://waterplanning.georgia.gov/forecasting/energy-water-use>

Participating Representatives from:

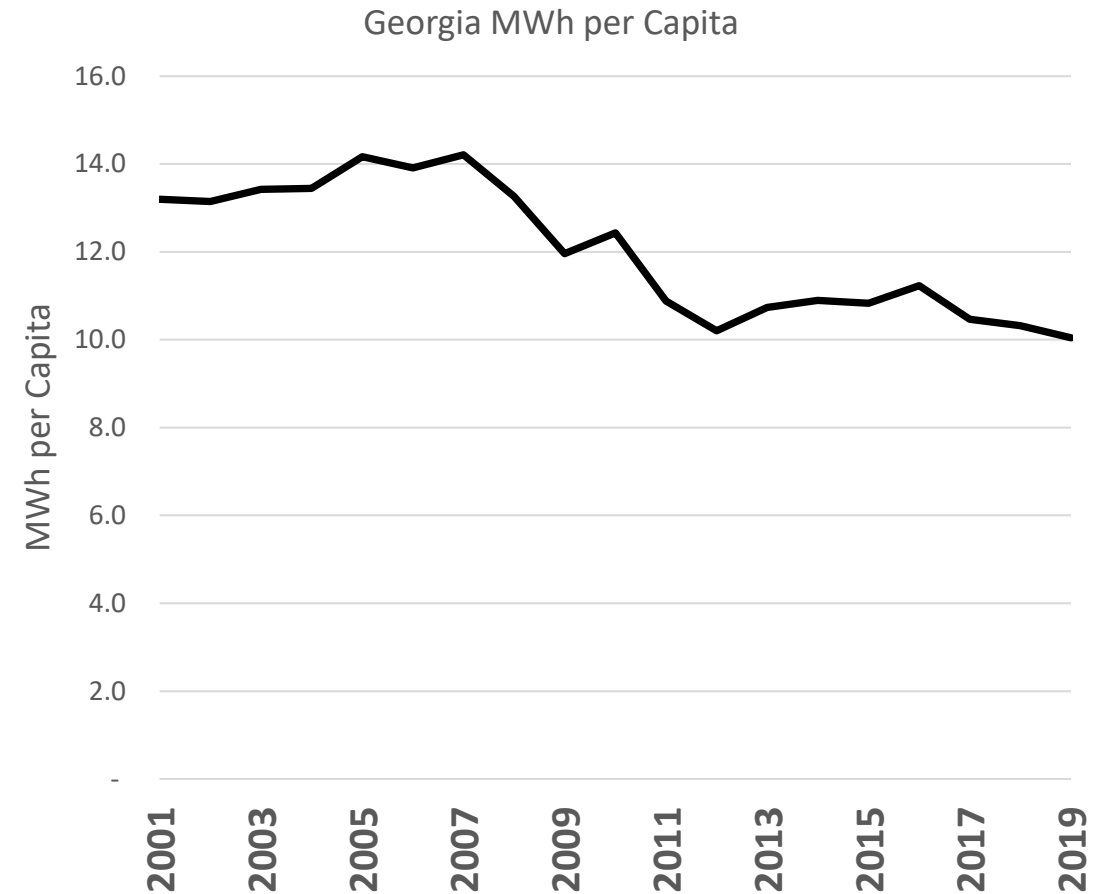
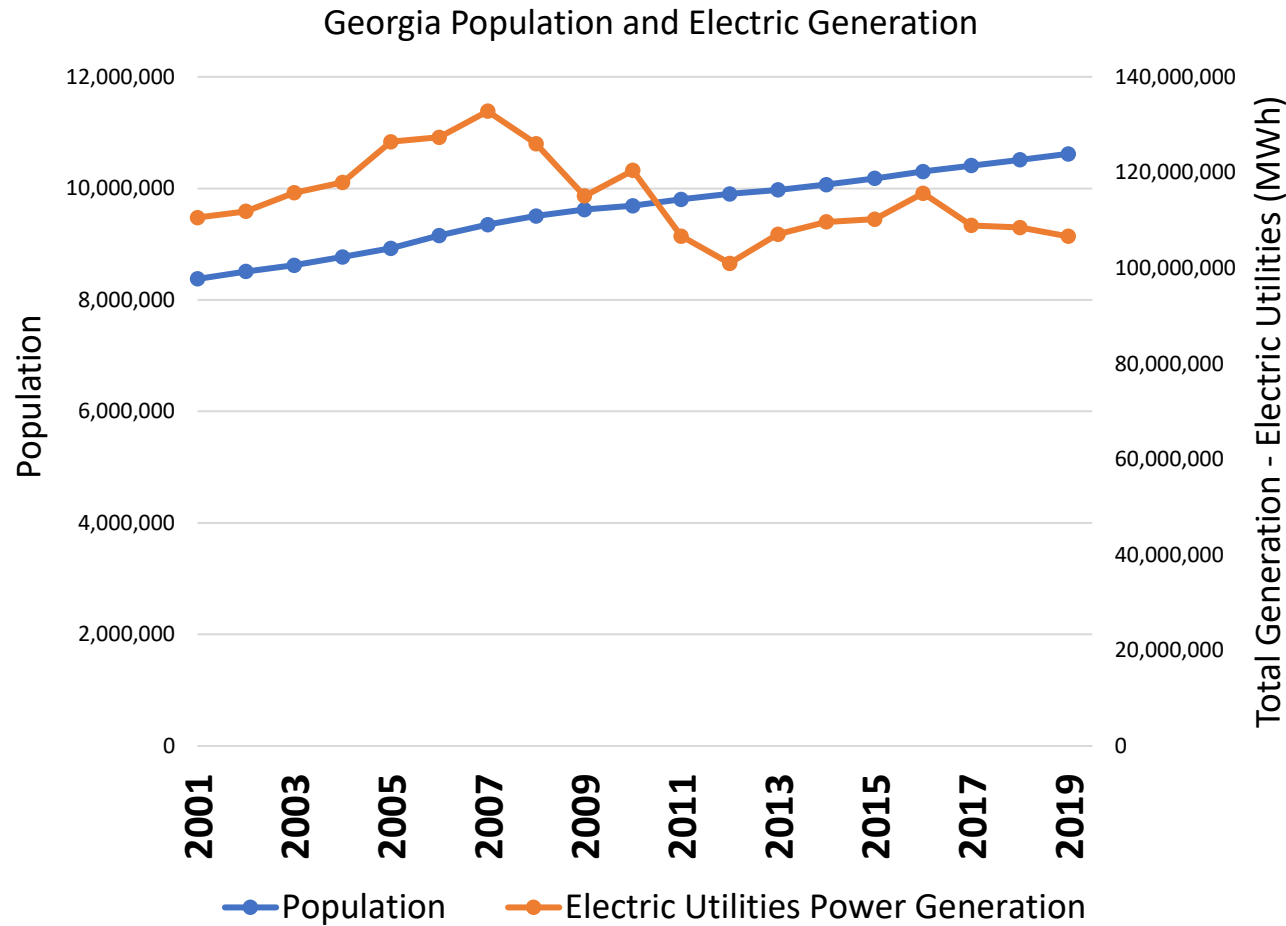
- Georgia Power / Southern Company
- Municipal Electric Authority of Georgia (MEAG)
- Oglethorpe Power Corporation
- Dalton Utilities
- Georgia Public Service Commission
- Georgia Environmental Finance Authority

Energy Demand Forecast Update Methodology

- Updated the list of active, retired and planned generating units
- Evaluated historic MWh per capita use
- Estimated need for power generation
- Estimated statewide generation by fuel type
- Applied water use factors by fuel type
- Identified water withdrawals and consumption by facility location

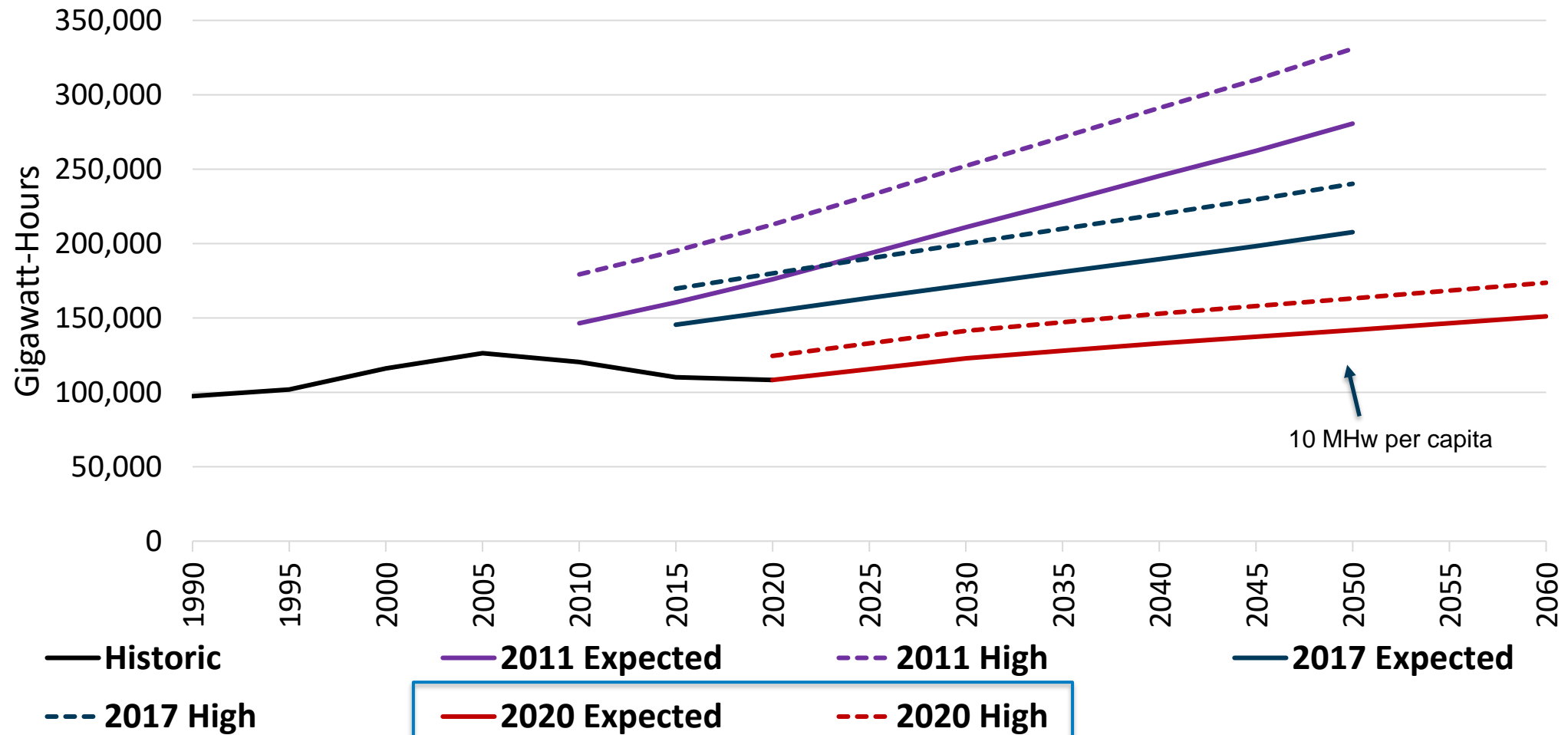


How Much Energy Do Georgians Use?



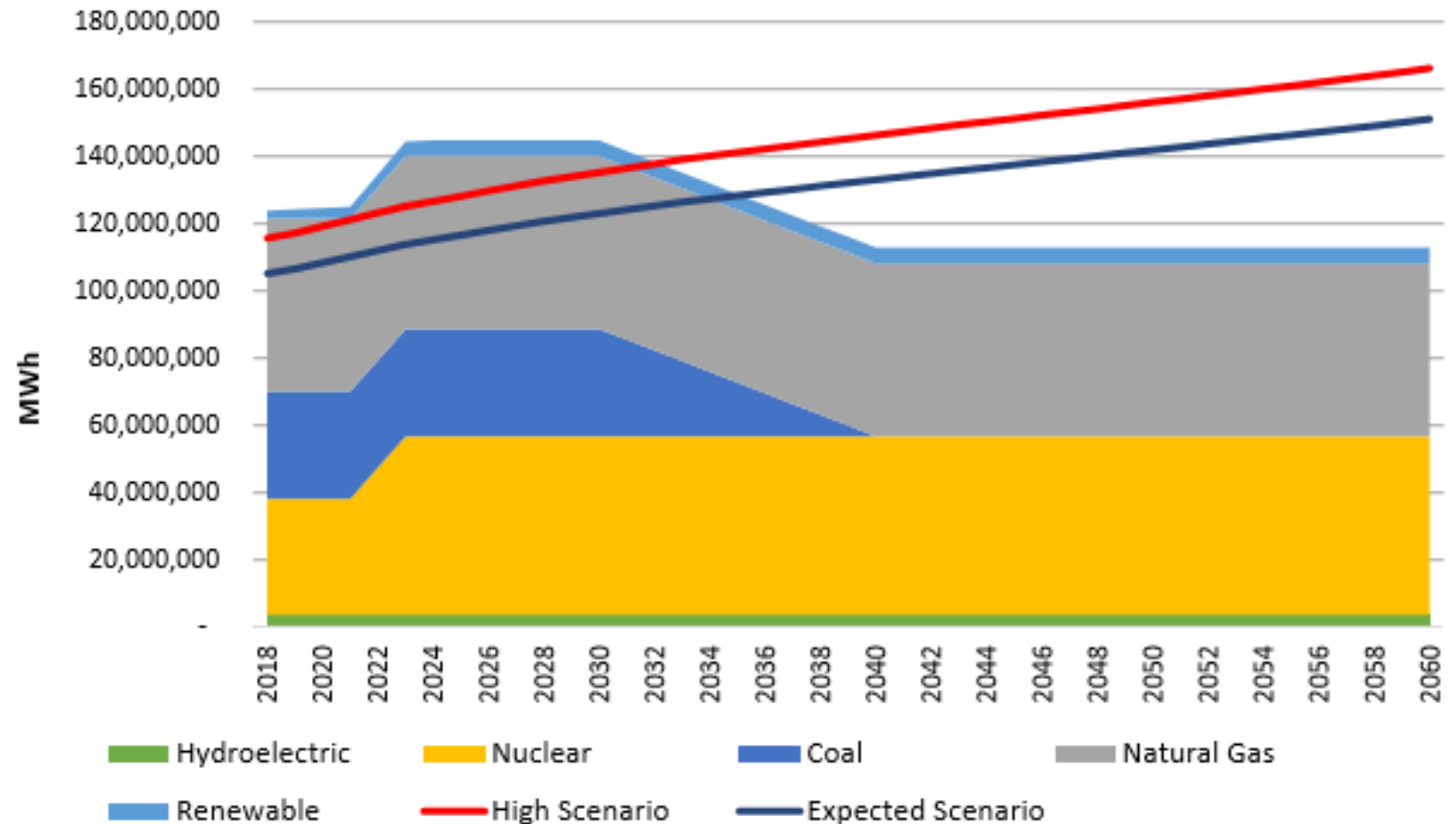
Source: US Census and EIA data for Georgia

How Much Power will Georgia Need?



Using Current Generating Capacity for the Future

- Nuclear generation (yellow) will increase with Vogtle 3&4
- Coal generation (blue) will be phased out in the future
- Both Natural Gas and Renewable assumed to increase to meet the need



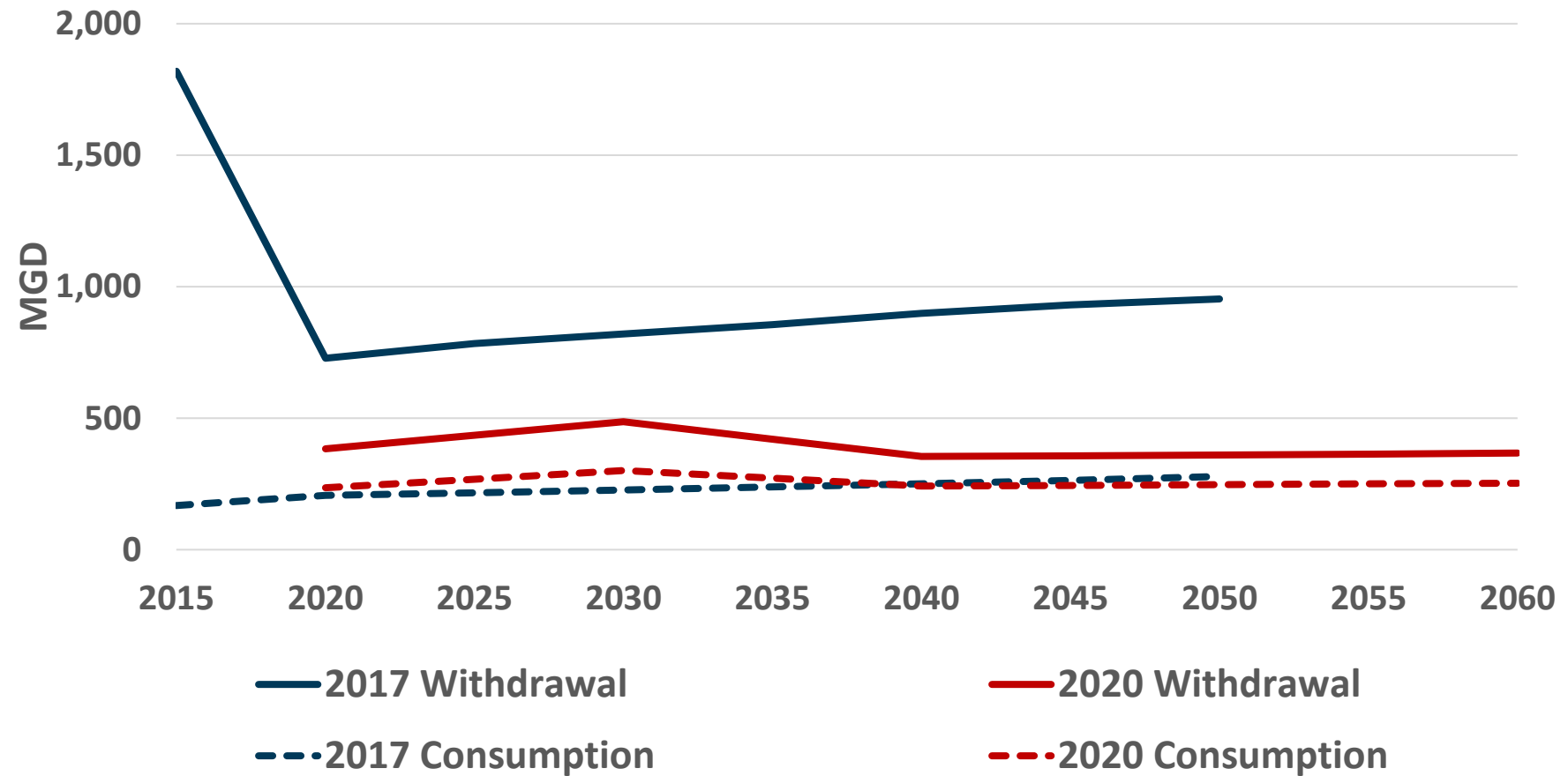
Water Use by Generation Configuration

POWER GENERATING CONFIGURATION	WATER WITHDRAWALS Gal/MWh	WATER CONSUMPTION Gal/MWh
Fossil Fuel/Biomass, Steam Turbine, Once-Through Cooling	41,005	0
Fossil Fuel/Biomass, Steam Turbine, Cooling Tower	1,153	567
Fossil Fuel/Biomass, Gas (Combustion) Turbine	0	0
Natural Gas, Combined-Cycle, Cooling Tower	225	198
Nuclear, Steam Turbine, Cooling Tower	1,372	880

Source: 2003-2007 Averages from EIA and EPD data for Georgia facilities

Statewide Energy Water Demand Forecast

- 2017 Forecast has high withdrawals for coal facilities now retired
- 2020 Need (MWh) is lower
- Water per MWh is more efficient





Georgia's State Water Plan

Industrial Water Demand Forecast

Industrial Demand Forecast Update

- Updated forecasting methodology based on input from industry representatives from across the state
- No longer based on employment
- Convened industry experts into multiple advisory groups and developed separate estimates
- <https://waterplanning.georgia.gov/forecasting/industrial-water-use>

Industrial Sub-Sectors:

- Paper and Forest Products
- Food Processing
- Manufacturing
- Mining

Industrial Stakeholder Advisory Group

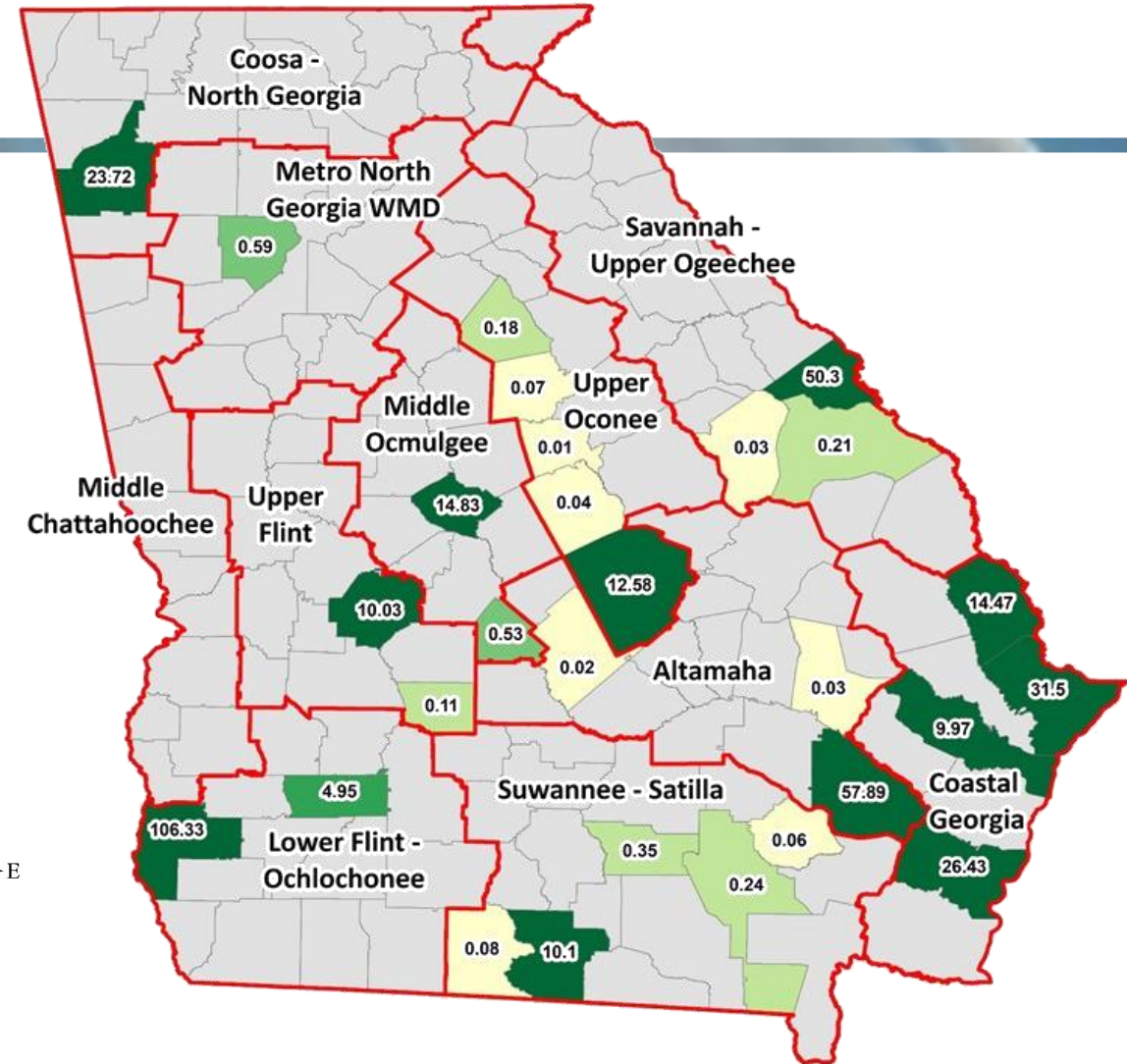
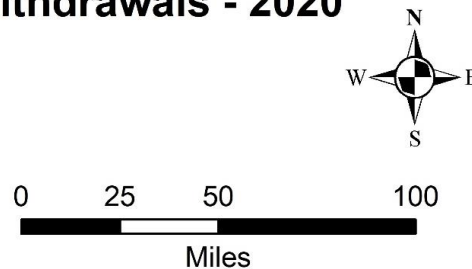
- BASF
- Covia
- Georgia Association of Manufacturers
- Georgia Chemistry Council
- Georgia Department of Economic Development
- Georgia Mining Association
- Georgia Pacific
- Georgia Paper and Forest Products Association
- Georgia Poultry Federation
- Georgia Tech Research Institute
- Gerdau Steel
- Gulfstream Aerospace
- International Paper
- Irving Consumer Products
- Kamin
- Kia Motors
- Milliken and Company
- Mohawk Industries
- Office of Planning and Budget
- Packaging Corporation of America
- Rayonier Performance Fibers
- SAFT, Inc.
- Southwire
- Toyo Tire

Paper & Forest Products

- Water use to remain constant using the (2010 to 2019) 10-year average water withdrawals by location

Paper & Forest Products Water Withdrawals - 2020

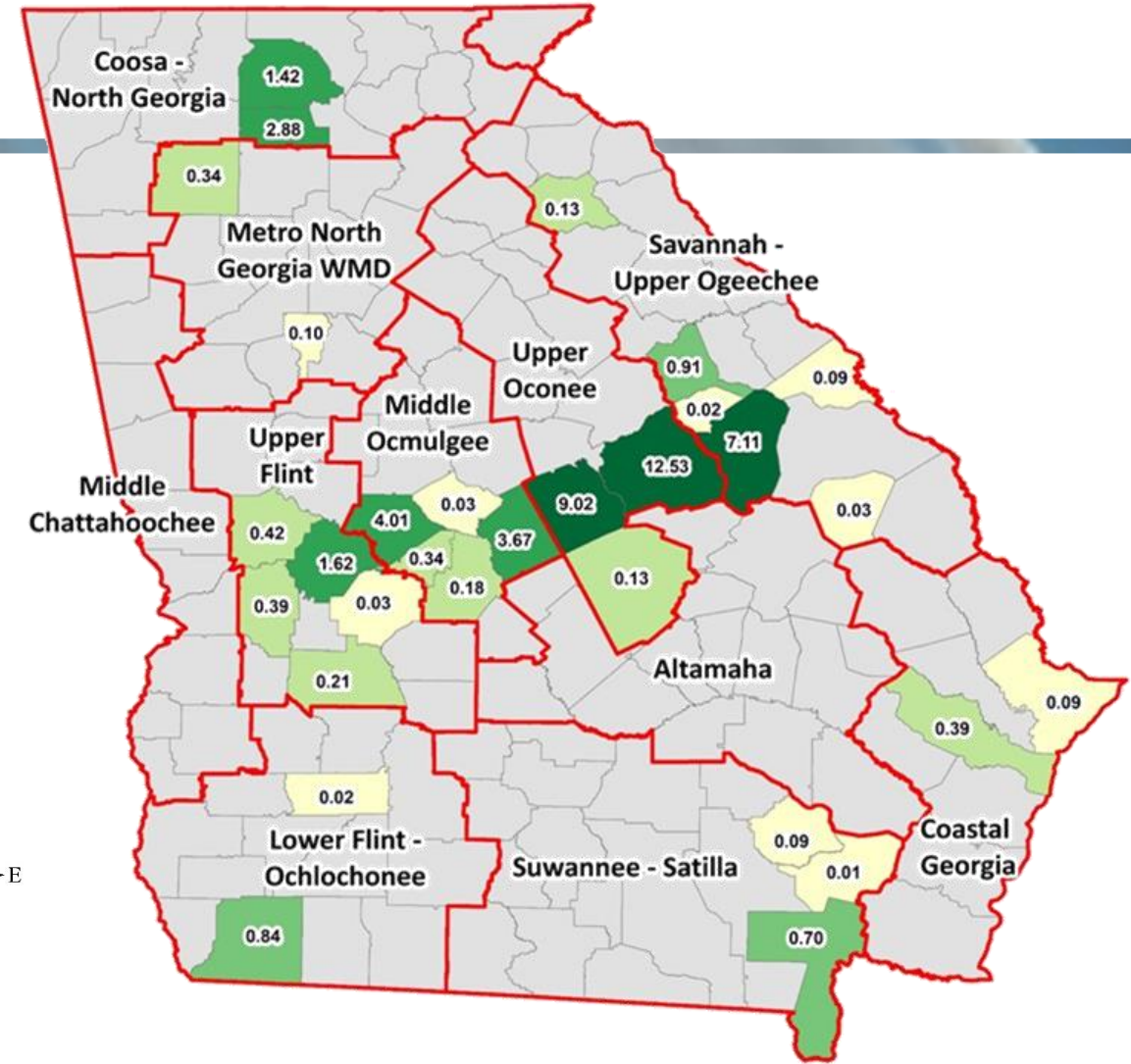
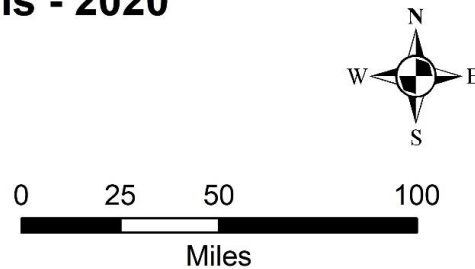
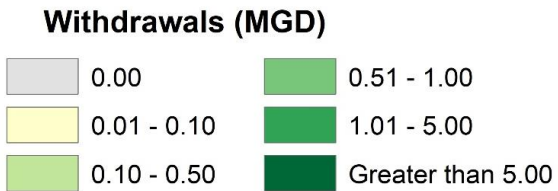
Withdrawals (MGD)



Mining

- Water use to remain constant using the (2010 to 2019) 10-year average water withdrawals by location

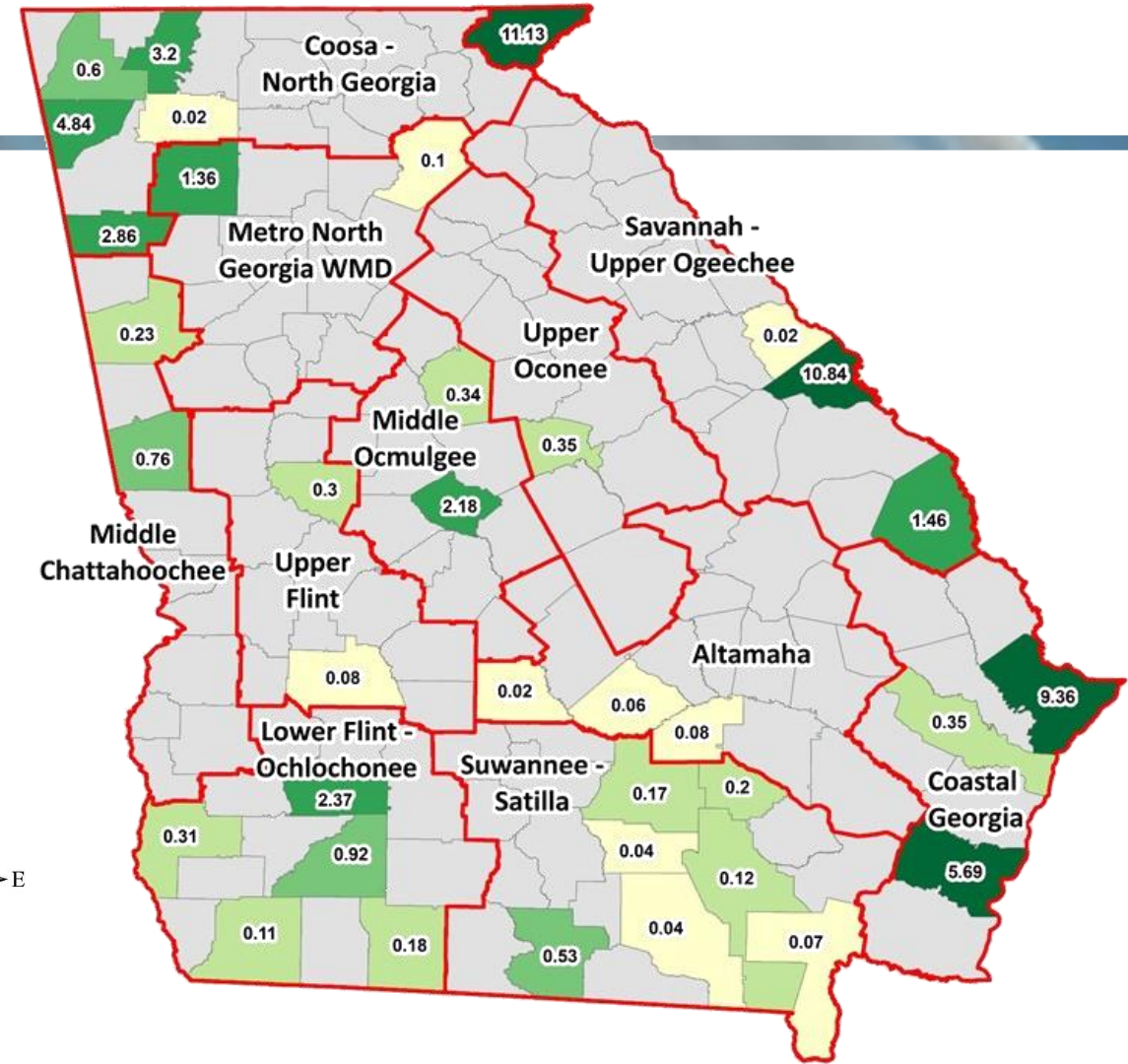
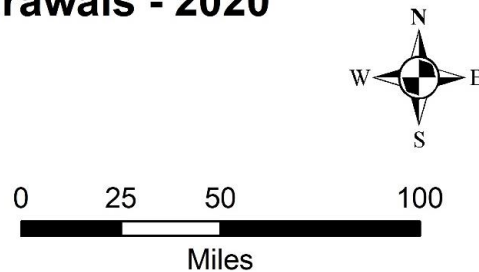
Mining Water Withdrawals - 2020



Manufacturing

- Water use to remain constant using the (2010 to 2019) 10-year average water withdrawals by location

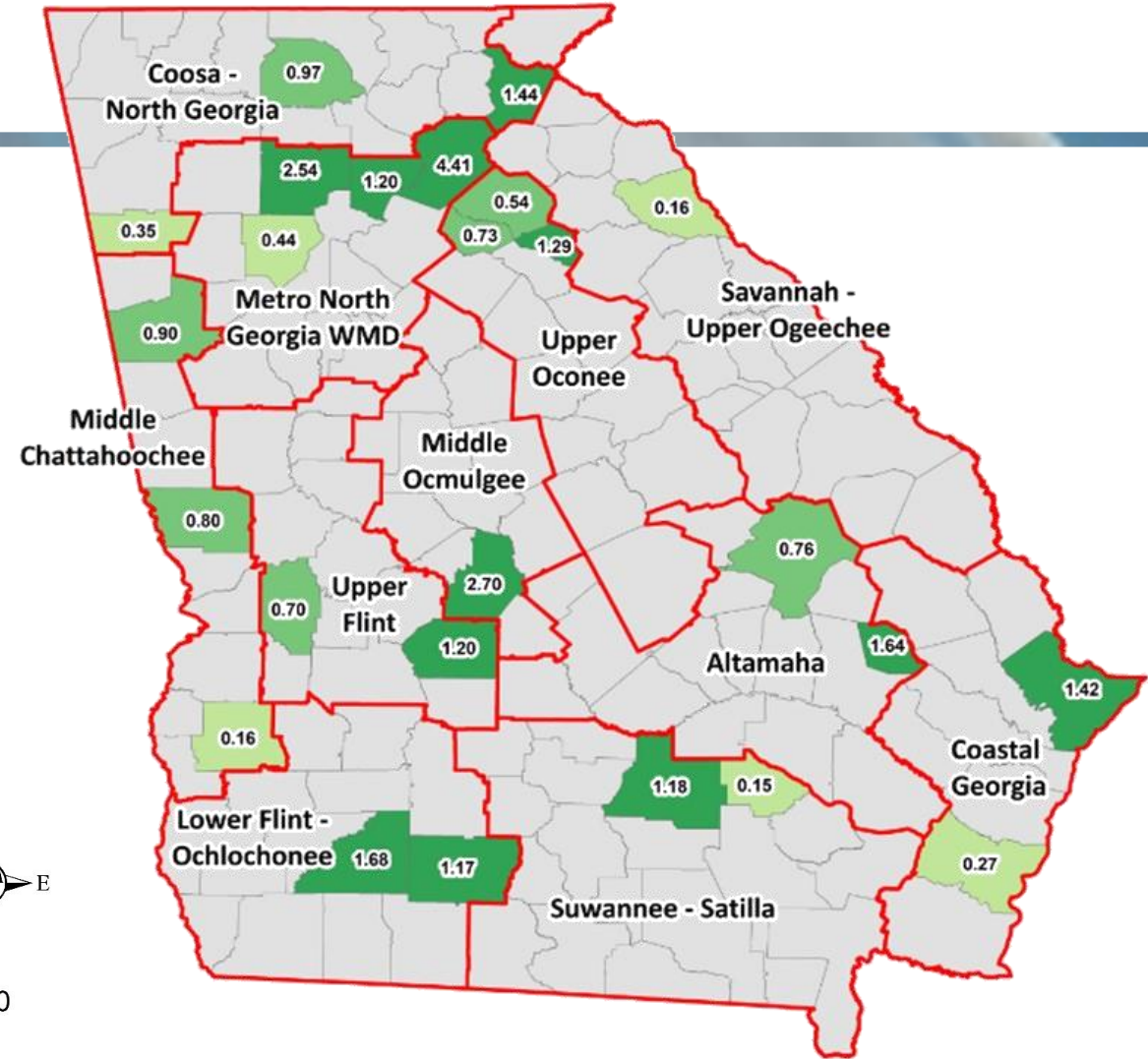
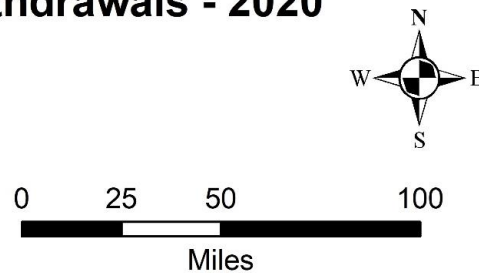
Manufacturing Water Withdrawals - 2020



Food Processing

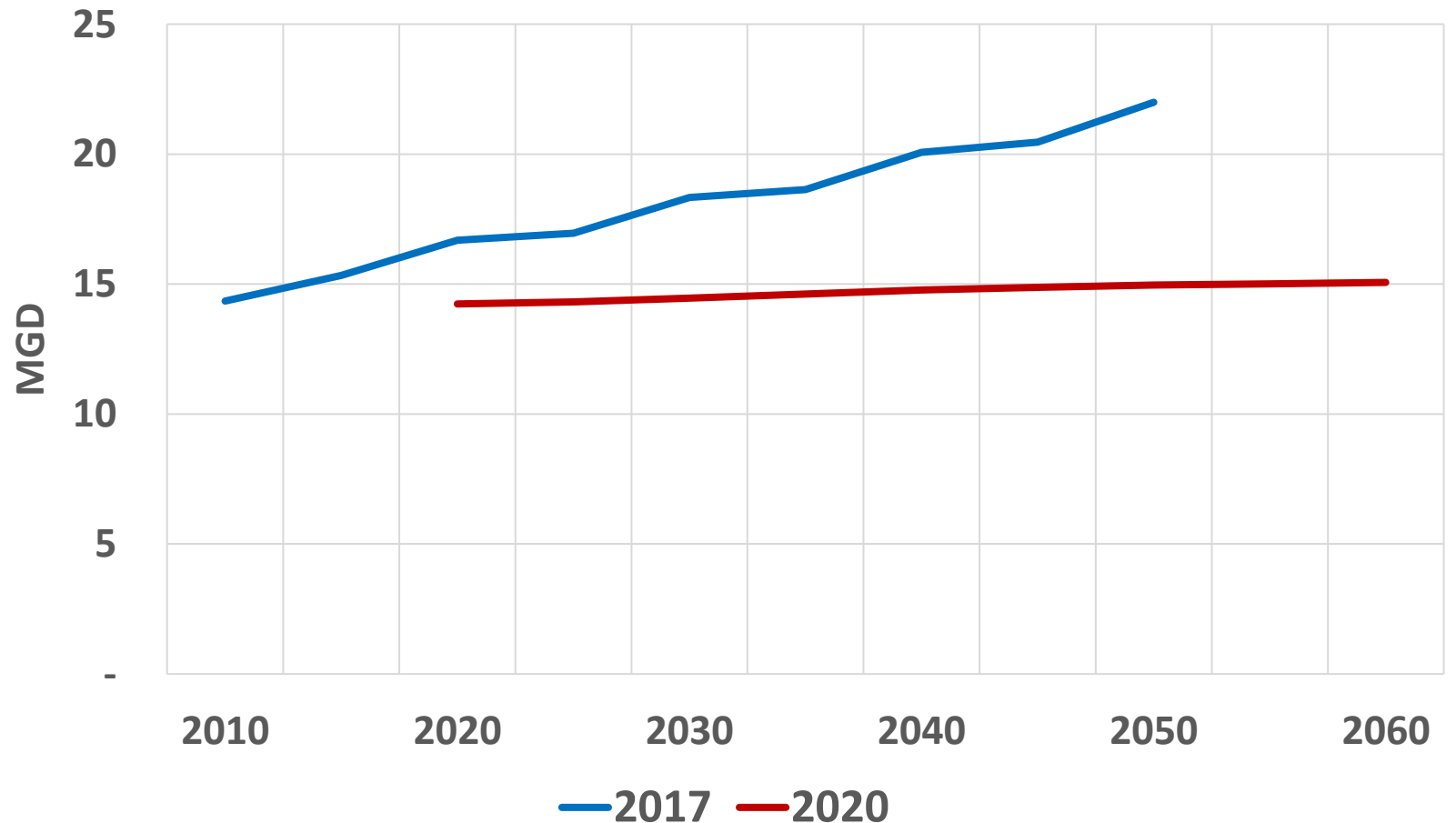
- Poultry processing projected to increase
- Non-poultry processing to remain constant at 10-year average water withdrawals

Food Processing Water Withdrawals - 2020



Suwanee-Satilla - Industrial Forecast

- 2017 forecast is from 2011 RWP, and was based on employment growth projections
- 2020 based on input from local industry experts

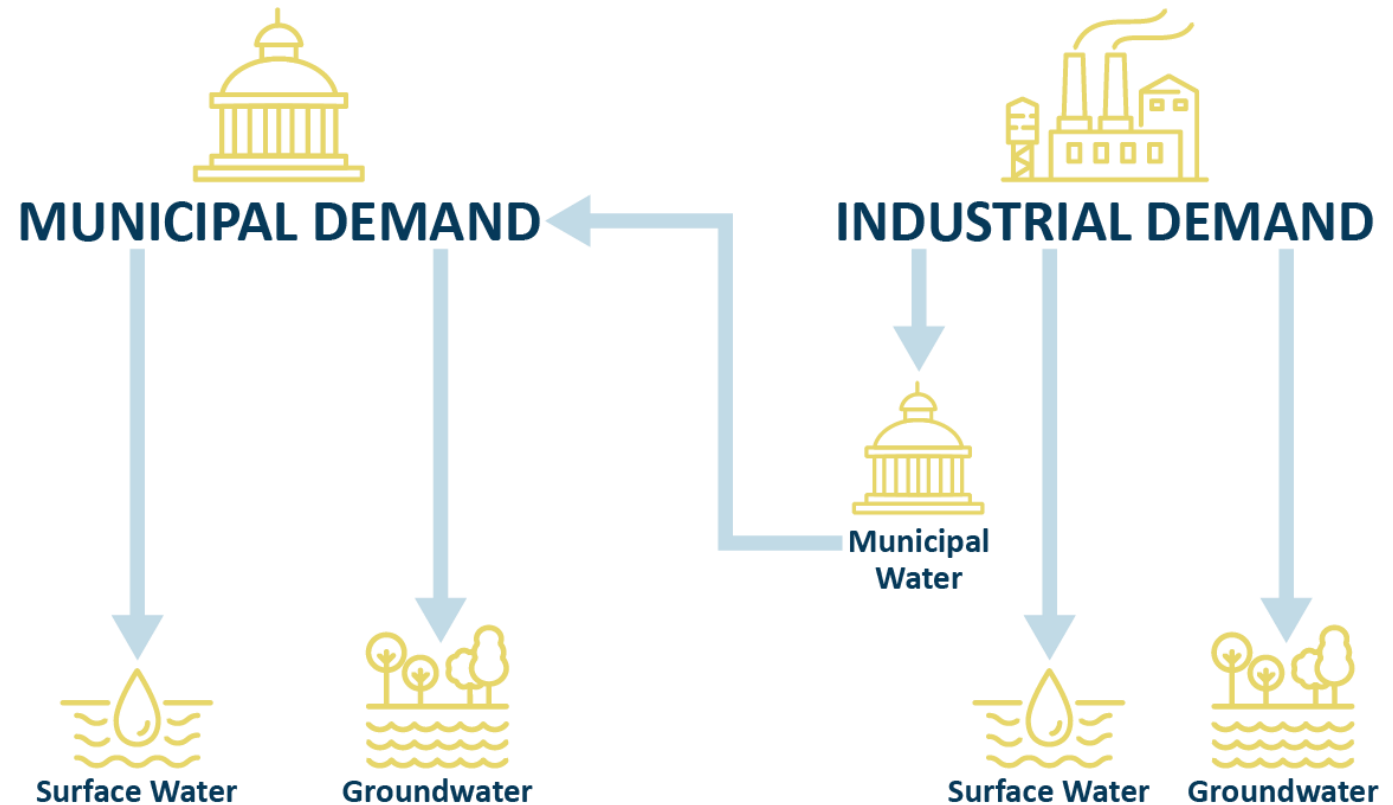


Coordination with Municipal Water Demand Forecast

- Shared information with municipal forecast team where municipal water use is identified and greater than 0.2 MGD

Are we double counting?

- If we add Municipal and Industrial demand, yes
- If we add surface water and groundwater demand, no





Georgia's State Water Plan

2019 Agricultural Water Demand Forecast – Mark Masters, GA Water Planning & Policy Center

Water Demand Forecasting – Agricultural

- Georgia Water Planning & Policy Center at Albany State University, along with modeling support from UGA, will be updating this sector forecast
- Forecast includes irrigated land and other agricultural uses
- Estimates of irrigation water use informed by estimates of wetted acreage and irrigation use
- Forecasts informed by economic models that look at crop projections
- Forecasts will be complete by mid-April 2021



Georgia's State Water Plan

Public Comments/Local Elected Official Comments



Georgia's State Water Plan

Next Steps / Wrap Up

Thank You!

Questions? Comments? Need
More Information?

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