

**Preliminary Calculation**  
**Public Supplied Water Withdrawal and Per Capita Water Use**  
**Savannah-Upper Ogeechee Planning Region**

County	Publicly Supplied Total Water Withdrawal (MGD) <sup>1</sup>	Estimated Publicly Supplied Population <sup>1</sup>	Gross per Capita Water Use (gal/cap) <sup>2</sup>	Revised Gross per Capita Water Use (gal/cap) <sup>2</sup>	Feedback
Banks	0.69	6,850	101		
Burke	1.11	8,390	132		
Columbia	12.55	90,710	138	153	Use 2006 forecasting base year
Elbert	1.84	10,200	180		
Franklin	1.93	10,490	184		
Glascock	0.08	1,090	73		
Hart	1.31	8,250	159		Need to combine with City of Hartwell data
Jefferson	1.51	8,950	169		
Jenkins	0.42	4,150	101		
Lincoln	0.39	5,840	67		
Madison	0.42	12,830	33	107	Population served should be 3,921
McDuffie	2.61	7,910	330		
Oglethorpe	0.22	2,340	94		
Rabun	1.97	11,740	168		
Richmond	43.13	191,860	225		
Screven	1.02	6,340	161		
Stephens	3.97	22,550	176		
Taliaferro	0.05	700	71		
Warren	0.39	3,420	114		
Wilkes	1.2	5,130	234		

\* Adjustments will be made based on available information on water sales between counties and large industrial customers served by the public water providers

1 - Data Source: "Water Use in Georgia by County for 2005 and Water-Use Trends for 1980-2005", by Fanning, J.L., and Trent, V.P.USGS, 2009

2 - Formula: Gross Per Capita Water Use = Publicly Supplied Total Water Withdrawal \* 1,000,000 / Estimated Publicly Supplied Population

Savannah-Upper Ogeechee Region Industry Codes for Major Water Using Industries		
Industry Description	SIC Code <sup>1</sup>	NAICS Code <sup>2</sup>
Apparel	23	315
Automotive Manufacturing	37	3361
Chemicals	28	325
Electrical Machinery	36	335
Fabricated Metal Products	34	332
Food - Food Manufacturing	20	311
Food - Beverage and Tobacco Manufacturing	20	312
Mining	14	212
Paper	26	332
Petroleum	29	324
Primary Metals	33	331
Rubber	30	326
Stone and Clay	32	327
Textiles - Textile Mills	22	313
Textiles - Textile Product Mills	22	314

1. SIC = Standard Industry Classification

2. NAICS = North America Industry Classification System

**Savannah-Upper Ogeechee Region  
Existing Surface Water Withdrawal Permits<sup>1</sup>  
Industrial**

County	Permit Holder	Permit Number	Maximum Daily Limit (MGD)	Monthly Average Limit (MGD)	SIC Code <sup>2</sup>	Industry Description
Jefferson	J M Huber Corp - Reedy Creek	081-0111-01	5.8	4.0	32	Stone and Clay
Jefferson	Thiele Kaolin Company	081-0202-03	1.8	1.5	14	Mining
Jefferson	Thiele Kaolin Company	149-0111-04	0.8	0.5	14	Mining
Madison	Turner Concrete Company, Incorporated	095-0106-03	0.6	0.3	32	Stone and Clay
Rabun	Rabun County	119-1501-01	3.7	3.1	313	Textiles - Textile Mills
Rabun	Sky Valley Resort	119-1501-04	1.5	0.3	70	Other - 70
Richmond	Avondale Mills - Augusta Canal	121-0191-10	1.4	0.7	313	Textiles - Textile Mills
Richmond	DSM Chemicals Augusta, Inc.	121-0191-07	8.2	6.8	28	Chemicals
Richmond	General Chemical Corp., Augusta Plant	121-0191-01	5.7	5.3	28	Chemicals
Richmond	International Paper Corporation - Augusta Mill	121-0191-02	79.0	72.0	26	Paper
Richmond	PCS Nitrogen Fertilizer, L.P.	121-0191-03	21.6	10.8	28	Chemicals
Warren	J M Huber Corp - Brier Creek	149-0111-02	5.0	2.5	32	Stone and Clay

1. Source: Environmental Protection Division

2. SIC = Standard Industry Classification

**Savannah-Upper Ogeechee Region  
Existing Groundwater Withdrawal Permits<sup>1</sup>  
Industrial**

County	Permit Holder	Permit Number	Monthly Average Limit (MGD)	Annual Average Limit (MGD)	SIC Code <sup>2</sup>	Industry Description
Burke	International Paper - McBean Woodyard	017-0004	1.0	1.0	24	Other - 24
Columbia	Southern Beverage Packers, Inc	036-0004	0.1	0.1	312	Food - Beverage and Tobacco Manufacturing
Glascocok	Thiele Kaolin Co - Reedy Creek Plant	062-0001	0.1	0.1	32	Stone and Clay
Jefferson	KaMin, LLC - Wrens Plant	081-0001	1.9	1.7	32	Stone and Clay
Jefferson	KaMin, LLC - Wrens Plant	081-0006	0.7	0.6	32	Stone and Clay
Jefferson	Thiele Kaolin Co - Reedy Creek Division - Lamb Tract	081-0008	5.0	5.0	32	Stone and Clay
Jenkins	Jockey International, Inc,	082-0001	0.1	0.1	313	Textiles - Textile Mills
Lincoln	Crider, Inc.	090-0003	0.3	0.3	311	Food - Food Manufacturing
Madison	Weyerhaeuser	095-0003	0.1	0.1	24	Other - 24
Rabun	Hanesbrand, Inc.	119-0001	0.2	0.2	313	Textiles - Textile Mills
Richmond	Olin Corporation	121-0009	1.2	1.2	28	Chemicals
Richmond	Olin Corporation - Corrective Action Wells	121-0014	0.9	0.9	28	Chemicals
Richmond	Prayon, Inc	121-0001	0.4	0.4	28	Chemicals
Richmond	Procter & Gamble Manufacturing Company / Augusta Plant	121-0013	0.7	0.7	28	Chemicals
Richmond	Southern Wood Piedmont Company	121-0016	0.7	0.7	28	Chemicals
Richmond	Thermal Ceramics, Inc.	121-0010	0.9	0.9	32	Stone and Clay
Screven	King America Finishing, inc.	124-0001	3.7	2.9	313	Textiles - Textile Mills
Screven	Wall Timber Products	124-0003	0.2	0.1	24	Other - 24
Warren	KaMin, LLC - Warren County Mine	149-0001	0.9	0.9	32	Stone and Clay

1. Source: Environmental Protection Division

2. SIC = Standard Industry Classification

**Savannah-Upper Ogeechee Region  
Existing Surface Water Withdrawal Permits<sup>1</sup>  
Energy**

County	Permit Holder	Permit Number	Maximum Daily Limit (MGD)	Monthly Average Limit (MGD)	SIC Code <sup>2</sup>	Industry Description
Appling	Southern Nuclear Operating Co., Inc.	017-0191-05	127.0	85.0	49	Energy
Burke	Georgia Power Co - Plant Vogtle	VOGTLE	0.0	0.0	0	

1. Source: Environmental Protection Division

2. SIC = Standard Industry Classification

**Savannah-Upper Ogeechee Region  
Existing Groundwater Withdrawal Permits<sup>1</sup>  
Energy**

County	Permit Holder	Permit Number	Monthly Average Limit (MGD)	Annual Average Limit (MGD)	SIC Code <sup>2</sup>	Industry Description
Burke	Southern Nuclear Operating Company - Vogtle Electric Generating Plant	017-0003	6.0	5.5	49	Energy
Hart	Hartwell Energy Limited Partnership	073-0001	0.3	0.3	49	Energy

1. Source: Environmental Protection Division

2. SIC = Standard Industry Classification

Savannah-Upper Ogeechee Region Existing Surface Water Withdrawal Permits <sup>1, 2</sup> Municipal				
County	Permit Holder	Permit Number	Maximum Daily Limit (MGD)	Monthly Average Limit (MGD)
Banks	Banks County Board Of Commissioners	006-0106-05	1.0	1.0
Burke	Waynesboro, City Of	017-0113-01	1.5	1.0
Columbia	Columbia County Water System	036-0109-04	8.0	8.0
Columbia	Columbia County Water System	036-0110-01	31.0	31.0
Elbert	Elberton, City Of	052-0104-01	2.2	1.7
Elbert	Elberton, City Of	052-0104-04	4.1	3.7
Franklin	Lavonia, City Of	059-0102-01	1.5	1.5
Franklin	Lavonia, City Of	059-0102-04	3.0	3.0
Franklin	Royston, City Of	059-0103-01	1.0	1.0
Hart	Hartwell, City Of	073-0190-01	4.5	3.5
Lincoln	Lincolnton, City Of	090-0108-01	0.6	0.6
McDuffie	Thomson-McDuffie County W/S Commission	097-0109-05	3.0	2.0
McDuffie	Thomson-McDuffie County W/S Commission	097-0111-03	2.0	1.5
Oglethorpe	Crawford, City Of	109-0105-01	0.4	0.3
Rabun	Clayton, City Of	119-1501-02	1.0	0.7
Rabun	Clayton-Rabun Co. Water & Sewer Authority	119-0101-03	3.5	3.5
Rabun	Sky Valley, City Of	119-1501-03	0.4	0.3
Richmond	Augusta-Richmond County	121-0191-06	50.0	45.0
Richmond	Augusta-Richmond County	121-0191-09	21.0	15.0
Richmond	Fort Gordon - Butler Creek	121-0110-03	5.4	5.0
Richmond	Fort Gordon - Cow Branch	121-0110-02	0.7	0.6
Richmond	Fort Gordon - Lietner Lake	121-0110-05	0.5	0.4
Richmond	Fort Gordon - Union Mill Pond	121-0110-06	0.3	0.2
Stephens	Toccoa, City of	127-0102-05	6.0	6.0
Stephens	Toccoa, City Of - Davidson Creek	127-0102-02	16.5	15.5
Warren	Warrenton, City Of	149-0202-01	0.8	0.8
Wilkes	Washington, City Of - Clarks Hill	157-0109-01	2.2	2.0
Wilkes	Washington, City Of - Old Plant	157-0109-03	2.2	1.8

1. Source: Environmental Protection Division

2. Municipal use includes residential, commercial, institutional and light industrial use. Some municipal water providers may also serve major water-using industries.

**Savannah-Upper Ogeechee Region  
Existing Groundwater Withdrawal Permits<sup>1, 2</sup>  
Municipal**

County	Permit Holder	Permit Number	Monthly Average Limit (MGD)	Annual Average Limit (MGD)
Burke	Sardis, City of	017-0005	0.4	0.4
Burke	Waynesboro, City of	017-0002	4.0	3.5
Columbia	Grovetown, City of	036-0002	0.9	0.9
Columbia	Harlem, City of	036-0001	0.3	0.3
Franklin	Canon, City of	059-0002	0.1	0.1
Franklin	Franklin Springs, City of	059-0001	0.3	0.3
Jefferson	Louisville, City of	081-0003	2.0	2.0
Jefferson	Wadley, City of	081-0002	0.5	0.5
Jefferson	Wrens, City of	081-0004	0.8	0.7
Jenkins	Millen, City of	082-0002	1.0	1.0
Lincoln	Lincoln County Water System	090-0002	0.4	0.3
Madison	Comer, City of	095-0002	0.3	0.3
Madison	Danielsville, City of	095-0001	0.3	0.3
Madison	Madison County Industrial Development & Building Authority	095-0004	0.1	0.1
Rabun	City of Sky Valley	119-0002	0.3	0.3
Richmond	Augusta Utilities Department	121-0007	18.4	17.4
Richmond	East Central Regional Hospital - Gracewood Campus	121-0008	0.5	0.4
Richmond	Fort Gordon - Department of the Army	121-0018	0.1	0.1
Richmond	Hephzibah, City of	121-0003	1.2	1.2
Screven	Sylvania, City of	124-0002	1.5	1.3

1. Source: Environmental Protection Division

2. Municipal use includes residential, commercial, institutional and light industrial use. Some municipal water providers may also serve major water-using industries.

Savannah-Upper Ogeechee Region Employment Projections by Industry <sup>1</sup>								
Industry Description	Number of Employed Persons							
	1995	2000	2005.0	2010	2020	2030	2040	2050
Apparel	5025	1963	1222	259	23	3	0	0
Automotive Manufacturing	4115	5253	3301	3060	3688	3880	4029	4210
Chemicals	2448	2634	1835	2020	2053	2092	2139	2197
Electrical Machinery	148	264	396	247	322	344	356	367
Fabricated Metal Products	3624	4594	3269	3063	3484	3663	3823	4011
Food - Food Manufacturing	2634	2636	2529	2587	2578	2631	2688	2756
Food - Beverage and Tobacco	378	523	90	117	140	150	156	161
Mining	1168	1021	1033	1035	973	992	1013	1039
Paper	2271	1592	2006	1929	2025	2065	2109	2162
Petroleum	0	0	6	7	7	7	7	7
Primary Metals	93	100	201	67	92	95	97	99
Rubber	527	696	737	744	812	798	814	841
Stone and Clay	2724	2983	2783	2403	2702	2763	2826	2901
Textiles - Textile Mills	8809	7512	5769	2913	259	27	3	0
Textiles - Textile Product Mills	1997	1425	931	652	661	668	680	696

1. Source: University of Georgia and Environmental Protection Division

Savannah-Upper Ogeechee Region 2005 Industrial Water Demand Summary in MGD <sup>1, 2, 3</sup>			
Industry Description	Surface Water	Ground Water	Total
Chemicals	61.2	1.7	62.9
Food - Beverage and Tobacco Manufacturing	0.0	0.1	0.1
Mining	0.4	0.0	0.4
Paper	64.5	0.0	64.5
Stone and Clay	4.2	5.1	9.3
Textiles - Textile Mills	10.6	1.8	12.4
Other Industrial - 70	0.3	0.0	0.3
Other Industrial - 24	0.0	0.1	0.1
<b>Total</b>	<b>141.1</b>	<b>8.8</b>	<b>150.0</b>

1. MGD = Millions of Gallons per Day

2. Based on self-supplied industrial water use.

3. Projected water demand is shown only for major water using industries in the region. Other industries either do not use significant amounts of water or may be supplied by public water providers.

Savannah-Upper Ogeechee Region Projected Industrial Water Demand in MGD <sup>1, 2</sup>					
Withdrawal Type	2010	2020	2030	2040	2050
Surface Water	147.3	152.2	155.0	158.1	162.0
Ground Water	9.0	9.7	9.9	10.1	10.3
Total	156.3	161.9	164.9	168.2	172.3

1. MGD = Millions of Gallons per Day

2. Based on self-supplied industrial water use.