

Draft March 2010 Municipal Water Demand Forecasts for the Savannah- Upper Ogeechee Water Planning Region

Table 1. Municipal Per Capita Water Use Rate (gpcd)

| COUNTY | Public Supplied ^{1, 3} | Base Year | Self Supplied ^{2, 3} |
|------------|---------------------------------|-----------|-------------------------------|
| Banks | 101 | 2005 | 75 |
| Burke | 132 | 2005 | 75 |
| Columbia | 153 | 2006 | 75 |
| Elbert | 102 | 2005 | 75 |
| Franklin | 139 | 2005 | 75 |
| Glascock | 73 | 2005 | 75 |
| Hart | 200 | 2005 | 75 |
| Jefferson | 169 | 2005 | 75 |
| Jenkins | 101 | 2005 | 75 |
| Lincoln | 67 | 2005 | 75 |
| McDuffie | 312 | 2005 | 75 |
| Madison | 107 | 2005 | 75 |
| Oglethorpe | 94 | 2005 | 75 |
| Rabun | 168 | 2005 | 75 |
| Richmond | 225 | 2005 | 75 |
| Screven | 161 | 2005 | 75 |
| Stephens | 144 | 2005 | 75 |
| Taliaferro | 71 | 2005 | 75 |
| Warren | 115 | 2005 | 75 |
| Wilkes | 156 | 2005 | 75 |

1 Based on "Water Use in Georgia 2005" (USGS) or input from local water providers

2 Based on data from "Water Use in Georgia 2005" for residential wells or input from local water providers

3 gpcd = gallons per day per person

These draft forecasts are for discussion and use in regional water planning only. They reflect an application of current management practices into the future. As such, Councils may opt to adjust this current application.

4/20/2010

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Table 2. Total Municipal Water Demand (mgd), Annual Average Daily Demand (AADD)

| COUNTY | 2010 | 2020 | 2030 | 2040 | 2050 |
|--------------------|--------------|---------------|---------------|---------------|---------------|
| Banks | 1.51 | 1.91 | 2.36 | 2.74 | 3.18 |
| Burke | 2.25 | 2.72 | 3.21 | 3.74 | 4.34 |
| Columbia | 16.77 | 21.79 | 27.40 | 32.13 | 37.00 |
| Elbert | 1.82 | 1.82 | 1.81 | 1.78 | 1.75 |
| Franklin | 2.37 | 2.70 | 3.08 | 3.38 | 3.67 |
| Glascock | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| Hart | 2.96 | 3.44 | 3.97 | 4.52 | 5.09 |
| Jefferson | 2.04 | 1.99 | 1.90 | 1.77 | 1.63 |
| Jenkins | 0.75 | 0.73 | 0.71 | 0.68 | 0.66 |
| Lincoln | 0.57 | 0.65 | 0.71 | 0.76 | 0.80 |
| McDuffie | 3.62 | 4.21 | 4.78 | 5.32 | 5.85 |
| Madison | 2.62 | 3.07 | 3.56 | 3.94 | 4.31 |
| Oglethorpe | 1.17 | 1.58 | 2.12 | 2.75 | 3.25 |
| Rabun | 2.43 | 2.85 | 3.30 | 3.75 | 4.20 |
| Richmond | 44.78 | 47.74 | 50.47 | 52.79 | 55.06 |
| Screven | 1.71 | 1.93 | 2.14 | 2.22 | 2.27 |
| Stephens | 3.53 | 3.72 | 3.89 | 4.04 | 4.18 |
| Taliaferro | 0.09 | 0.09 | 0.09 | 0.09 | 0.08 |
| Warren | 0.57 | 0.59 | 0.59 | 0.60 | 0.63 |
| Wilkes | 1.18 | 1.19 | 1.20 | 1.20 | 1.20 |
| Grand Total | 92.88 | 104.85 | 117.42 | 128.34 | 139.27 |

mgd = million gallons per day

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4/20/2010

Draft March 2010 Municipal Water Demand Forecasts for the Savannah- Upper Ogeechee Water Planning Region

Table 2.1 Total Public Supply Water Demand (mgd), AADD

| COUNTY | 2010 | 2020 | 2030 | 2040 | 2050 |
|--------------------|--------------|--------------|---------------|---------------|---------------|
| Banks | 0.76 | 0.95 | 1.18 | 1.38 | 1.60 |
| Burke | 1.12 | 1.36 | 1.61 | 1.89 | 2.20 |
| Columbia | 15.66 | 20.36 | 25.61 | 30.04 | 34.61 |
| Elbert | 1.03 | 1.03 | 1.03 | 1.02 | 1.00 |
| Franklin | 1.51 | 1.73 | 1.98 | 2.17 | 2.36 |
| Glascock | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hart | 1.72 | 2.02 | 2.34 | 2.68 | 3.03 |
| Jefferson | 1.46 | 1.43 | 1.37 | 1.28 | 1.18 |
| Jenkins | 0.41 | 0.40 | 0.39 | 0.38 | 0.37 |
| Lincoln | 0.39 | 0.45 | 0.48 | 0.52 | 0.55 |
| McDuffie | 2.55 | 2.98 | 3.39 | 3.79 | 4.18 |
| Madison | 1.47 | 1.72 | 2.00 | 2.22 | 2.43 |
| Oglethorpe | 0.24 | 0.33 | 0.44 | 0.57 | 0.68 |
| Rabun | 2.09 | 2.45 | 2.85 | 3.24 | 3.63 |
| Richmond | 44.48 | 47.42 | 50.14 | 52.45 | 54.71 |
| Screven | 1.02 | 1.16 | 1.29 | 1.35 | 1.38 |
| Stephens | 3.34 | 3.52 | 3.69 | 3.83 | 3.96 |
| Taliaferro | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren | 0.38 | 0.39 | 0.39 | 0.40 | 0.42 |
| Wilkes | 0.79 | 0.80 | 0.81 | 0.81 | 0.82 |
| Grand Total | 80.42 | 90.51 | 101.01 | 110.02 | 119.10 |

mgd = million gallons per day

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4/20/2010

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Table 2.2 Public Supply Surface Water Demand (mgd), AADD

| COUNTY | 2010 | 2020 | 2030 | 2040 | 2050 |
|--------------------|--------------|--------------|--------------|--------------|---------------|
| Banks | 0.76 | 0.95 | 1.18 | 1.38 | 1.60 |
| Burke | 0.16 | 0.20 | 0.23 | 0.27 | 0.32 |
| Columbia | 15.47 | 20.12 | 25.31 | 29.69 | 34.19 |
| Elbert | 1.03 | 1.03 | 1.03 | 1.02 | 1.00 |
| Franklin | 1.43 | 1.63 | 1.87 | 2.06 | 2.24 |
| Glascock | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hart | 1.72 | 2.02 | 2.34 | 2.68 | 3.03 |
| Jefferson | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jenkins | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lincoln | 0.39 | 0.45 | 0.48 | 0.52 | 0.55 |
| McDuffie | 2.55 | 2.98 | 3.39 | 3.79 | 4.18 |
| Madison | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oglethorpe | 0.24 | 0.33 | 0.44 | 0.57 | 0.68 |
| Rabun | 2.03 | 2.39 | 2.77 | 3.15 | 3.54 |
| Richmond | 35.62 | 37.97 | 40.15 | 42.00 | 43.81 |
| Screven | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stephens | 3.34 | 3.52 | 3.69 | 3.83 | 3.96 |
| Taliaferro | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren | 0.38 | 0.39 | 0.39 | 0.40 | 0.42 |
| Wilkes | 0.79 | 0.80 | 0.81 | 0.81 | 0.82 |
| Grand Total | 65.91 | 74.77 | 84.10 | 92.16 | 100.32 |

mgd = million gallons per day

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4/20/2010

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Table 2.3 Public Supply Groundwater Demand (mgd), AADD

| COUNTY | 2010 | 2020 | 2030 | 2040 | 2050 |
|--------------------|--------------|--------------|--------------|--------------|--------------|
| Banks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burke | 0.96 | 1.17 | 1.38 | 1.61 | 1.88 |
| Columbia | 0.19 | 0.24 | 0.30 | 0.36 | 0.41 |
| Elbert | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Franklin | 0.08 | 0.09 | 0.10 | 0.12 | 0.13 |
| Glascok | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hart | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jefferson | 1.46 | 1.43 | 1.37 | 1.28 | 1.18 |
| Jenkins | 0.41 | 0.40 | 0.39 | 0.38 | 0.37 |
| Lincoln | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| McDuffie | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Madison | 1.47 | 1.72 | 2.00 | 2.22 | 2.43 |
| Oglethorpe | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rabun | 0.05 | 0.06 | 0.07 | 0.09 | 0.10 |
| Richmond | 8.86 | 9.45 | 9.99 | 10.45 | 10.90 |
| Screven | 1.02 | 1.16 | 1.29 | 1.35 | 1.38 |
| Stephens | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Taliaferro | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wilkes | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grand Total | 14.51 | 15.74 | 16.91 | 17.86 | 18.78 |

mgd = million gallons per day

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4/20/2010

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Table 2.4 Self Supply Groundwater Demand (mgd), AADD

| COUNTY | 2010 | 2020 | 2030 | 2040 | 2050 |
|--------------------|--------------|--------------|--------------|--------------|--------------|
| Banks | 0.76 | 0.95 | 1.17 | 1.36 | 1.58 |
| Burke | 1.13 | 1.36 | 1.60 | 1.85 | 2.15 |
| Columbia | 1.11 | 1.43 | 1.79 | 2.09 | 2.40 |
| Elbert | 0.79 | 0.78 | 0.78 | 0.76 | 0.75 |
| Franklin | 0.86 | 0.97 | 1.10 | 1.20 | 1.30 |
| Glascock | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 |
| Hart | 1.23 | 1.42 | 1.63 | 1.85 | 2.07 |
| Jefferson | 0.58 | 0.56 | 0.53 | 0.49 | 0.45 |
| Jenkins | 0.34 | 0.33 | 0.32 | 0.30 | 0.29 |
| Lincoln | 0.18 | 0.20 | 0.22 | 0.24 | 0.25 |
| McDuffie | 1.07 | 1.23 | 1.39 | 1.53 | 1.67 |
| Madison | 1.16 | 1.35 | 1.56 | 1.72 | 1.87 |
| Oglethorpe | 0.93 | 1.25 | 1.68 | 2.17 | 2.57 |
| Rabun | 0.35 | 0.40 | 0.46 | 0.51 | 0.57 |
| Richmond | 0.30 | 0.32 | 0.33 | 0.34 | 0.35 |
| Screven | 0.68 | 0.77 | 0.84 | 0.87 | 0.88 |
| Stephens | 0.19 | 0.20 | 0.21 | 0.21 | 0.22 |
| Taliaferro | 0.09 | 0.09 | 0.09 | 0.09 | 0.08 |
| Warren | 0.19 | 0.20 | 0.20 | 0.20 | 0.21 |
| Wilkes | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 |
| Grand Total | 12.46 | 14.34 | 16.41 | 18.32 | 20.17 |

mgd = million gallons per day

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4/20/2010

Draft March 2010 Municipal Wastewater Demand Forecasts for the Savannah- Upper Ogeechee Water Planning Region

Table 3. Total Municipal Wastewater Produced (mgd), Annual Average Daily Flow (AADF)

| COUNTY | 2010 | 2020 | 2030 | 2040 | 2050 |
|--------------------|--------------|--------------|---------------|---------------|---------------|
| Banks | 1.16 | 1.47 | 1.81 | 2.11 | 2.45 |
| Burke | 1.84 | 2.22 | 2.61 | 3.05 | 3.54 |
| Columbia | 14.95 | 19.44 | 24.44 | 28.66 | 33.01 |
| Elbert | 1.62 | 1.62 | 1.61 | 1.58 | 1.56 |
| Franklin | 2.06 | 2.34 | 2.67 | 2.93 | 3.18 |
| Glascock | 0.11 | 0.11 | 0.11 | 0.11 | 0.10 |
| Hart | 2.58 | 3.00 | 3.47 | 3.95 | 4.45 |
| Jefferson | 1.90 | 1.86 | 1.77 | 1.65 | 1.52 |
| Jenkins | 0.62 | 0.61 | 0.59 | 0.57 | 0.55 |
| Lincoln | 0.52 | 0.59 | 0.64 | 0.68 | 0.73 |
| Madison | 2.10 | 2.45 | 2.80 | 3.11 | 3.40 |
| McDuffie | 3.58 | 4.18 | 4.79 | 5.33 | 5.85 |
| Oglethorpe | 1.02 | 1.38 | 1.85 | 2.40 | 2.85 |
| Rabun | 2.14 | 2.51 | 2.90 | 3.29 | 3.69 |
| Richmond | 44.44 | 47.38 | 50.09 | 52.40 | 54.65 |
| Screven | 1.40 | 1.59 | 1.76 | 1.83 | 1.86 |
| Stephens | 3.20 | 3.37 | 3.52 | 3.66 | 3.78 |
| Taliaferro | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Warren | 0.54 | 0.55 | 0.56 | 0.57 | 0.59 |
| Wilkes | 1.00 | 1.00 | 1.01 | 1.02 | 1.02 |
| Grand Total | 86.85 | 97.73 | 109.09 | 118.96 | 128.82 |

mgd = million gallons per day

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4/20/2010

Draft March 2010 Municipal Wastewater Demand Forecasts for the Savannah- Upper Ogeechee Water Planning Region

Table 3.1 Municipal Septic Wastewater (mgd), AADF

| COUNTY | 2010 | 2020 | 2030 | 2040 | 2050 |
|--------------------|--------------|--------------|--------------|--------------|--------------|
| Banks | 1.16 | 1.47 | 1.81 | 2.11 | 2.45 |
| Burke | 1.23 | 1.49 | 1.75 | 2.03 | 2.36 |
| Columbia | 2.67 | 3.46 | 4.35 | 5.09 | 5.86 |
| Elbert | 0.93 | 0.93 | 0.92 | 0.90 | 0.89 |
| Franklin | 1.83 | 2.07 | 2.37 | 2.60 | 2.81 |
| Glascock | 0.11 | 0.11 | 0.11 | 0.11 | 0.10 |
| Hart | 2.18 | 2.54 | 2.93 | 3.33 | 3.75 |
| Jefferson | 0.91 | 0.88 | 0.84 | 0.78 | 0.72 |
| Jenkins | 0.33 | 0.33 | 0.31 | 0.30 | 0.29 |
| Lincoln | 0.42 | 0.48 | 0.52 | 0.56 | 0.59 |
| Madison | 2.10 | 2.45 | 2.80 | 3.11 | 3.40 |
| McDuffie | 0.98 | 1.15 | 1.32 | 1.46 | 1.59 |
| Oglethorpe | 1.02 | 1.38 | 1.85 | 2.40 | 2.85 |
| Rabun | 1.72 | 2.01 | 2.33 | 2.64 | 2.96 |
| Richmond | 6.21 | 6.62 | 6.99 | 7.31 | 7.62 |
| Screven | 0.88 | 0.99 | 1.09 | 1.13 | 1.15 |
| Stephens | 2.03 | 2.14 | 2.24 | 2.32 | 2.40 |
| Taliaferro | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Warren | 0.30 | 0.31 | 0.31 | 0.32 | 0.33 |
| Wilkes | 0.47 | 0.47 | 0.47 | 0.47 | 0.47 |
| Grand Total | 27.56 | 31.34 | 35.41 | 39.06 | 42.66 |

mgd = million gallons per day

Table 3.2 Municipal Septic Wastewater (% of wastewater flow)

| COUNTY | 2010 | 2020 | 2030 | 2040 | 2050 |
|--------------------|------------|------------|------------|------------|------------|
| Banks | 100% | 100% | 100% | 100% | 100% |
| Burke | 67% | 67% | 67% | 67% | 67% |
| Columbia | 18% | 18% | 18% | 18% | 18% |
| Elbert | 57% | 57% | 57% | 57% | 57% |
| Franklin | 89% | 89% | 89% | 89% | 89% |
| Glascock | 100% | 100% | 100% | 100% | 100% |
| Hart | 85% | 85% | 84% | 84% | 84% |
| Jefferson | 48% | 48% | 47% | 47% | 47% |
| Jenkins | 54% | 53% | 53% | 53% | 53% |
| Lincoln | 82% | 82% | 82% | 82% | 82% |
| Madison | 100% | 100% | 100% | 100% | 100% |
| McDuffie | 27% | 27% | 28% | 27% | 27% |
| Oglethorpe | 100% | 100% | 100% | 100% | 100% |
| Rabun | 80% | 80% | 80% | 80% | 80% |
| Richmond | 14% | 14% | 14% | 14% | 14% |
| Screven | 62% | 62% | 62% | 62% | 62% |
| Stephens | 64% | 64% | 63% | 63% | 63% |
| Taliaferro | 100% | 100% | 100% | 100% | 100% |
| Warren | 57% | 56% | 56% | 56% | 56% |
| Wilkes | 47% | 47% | 47% | 46% | 46% |
| Grand Total | 32% | 32% | 32% | 33% | 33% |

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4/20/2010

Draft March 2010 Municipal Wastewater Demand Forecasts for the Savannah- Upper Ogeechee Water Planning Region

Table 3.3 Municipal Centralized Wastewater (mgd), AADF

| COUNTY | 2010 | 2020 | 2030 | 2040 | 2050 |
|--------------------|--------------|--------------|--------------|--------------|--------------|
| Banks | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Burke | 0.60 | 0.73 | 0.87 | 1.01 | 1.18 |
| Columbia | 12.28 | 15.97 | 20.09 | 23.57 | 27.15 |
| Elbert | 0.69 | 0.69 | 0.69 | 0.68 | 0.67 |
| Franklin | 0.23 | 0.26 | 0.30 | 0.33 | 0.36 |
| Glascock | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hart | 0.40 | 0.46 | 0.54 | 0.62 | 0.70 |
| Jefferson | 0.99 | 0.97 | 0.93 | 0.87 | 0.80 |
| Jenkins | 0.29 | 0.28 | 0.28 | 0.27 | 0.26 |
| Lincoln | 0.09 | 0.11 | 0.12 | 0.12 | 0.13 |
| Madison | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| McDuffie | 2.60 | 3.04 | 3.46 | 3.87 | 4.26 |
| Oglethorpe | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rabun | 0.42 | 0.50 | 0.58 | 0.66 | 0.74 |
| Richmond | 38.23 | 40.76 | 43.10 | 45.08 | 47.02 |
| Screven | 0.53 | 0.60 | 0.67 | 0.70 | 0.71 |
| Stephens | 1.17 | 1.23 | 1.29 | 1.34 | 1.38 |
| Taliaferro | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Warren | 0.23 | 0.24 | 0.24 | 0.25 | 0.26 |
| Wilkes | 0.53 | 0.53 | 0.54 | 0.54 | 0.54 |
| Grand Total | 59.28 | 66.38 | 73.68 | 79.90 | 86.16 |

mgd = million gallons per day

Table 3.4 Municipal Centralized Wastewater (% of wastewater flow)

| COUNTY | 2010 | 2020 | 2030 | 2040 | 2050 |
|--------------------|------------|------------|------------|------------|------------|
| Banks | 0% | 0% | 0% | 0% | 0% |
| Burke | 33% | 33% | 33% | 33% | 33% |
| Columbia | 82% | 82% | 82% | 82% | 82% |
| Elbert | 43% | 43% | 43% | 43% | 43% |
| Franklin | 11% | 11% | 11% | 11% | 11% |
| Glascock | 0% | 0% | 0% | 0% | 0% |
| Hart | 15% | 15% | 16% | 16% | 16% |
| Jefferson | 52% | 52% | 53% | 53% | 53% |
| Jenkins | 46% | 47% | 47% | 47% | 47% |
| Lincoln | 18% | 18% | 18% | 18% | 18% |
| Madison | 0% | 0% | 0% | 0% | 0% |
| McDuffie | 73% | 73% | 72% | 73% | 73% |
| Oglethorpe | 0% | 0% | 0% | 0% | 0% |
| Rabun | 20% | 20% | 20% | 20% | 20% |
| Richmond | 86% | 86% | 86% | 86% | 86% |
| Screven | 38% | 38% | 38% | 38% | 38% |
| Stephens | 36% | 36% | 37% | 37% | 37% |
| Taliaferro | 0% | 0% | 0% | 0% | 0% |
| Warren | 43% | 44% | 44% | 44% | 44% |
| Wilkes | 53% | 53% | 53% | 54% | 54% |
| Grand Total | 68% | 68% | 68% | 67% | 67% |

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