Georgia's

State Water Plan

Forecasts Update

www.georgiawaterplanning.org


Industrial


Energy


Municipal


Agricultural

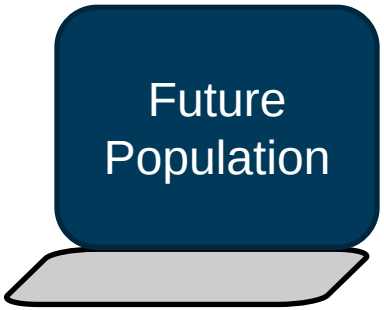
Base Year Per Capita Water Demand

×

Future Population

=

Future Water Need



Population Forecast Changes

	2010			2050		
County	Jun-09	OPB	Change	Jun-09	OPB	Change
Carroll	119,834	120,019	185	172,419	289,439	117,020
Chattahoochee	15,009	15,641	632	23,630	27,991	4,361
Clay	3,440	3,223	-217	4,765	2,745	-2,020
Haralson	30,780	30,062	-718	41,459	57,383	15,924
Harris	31,157	31,178	21	43,668	78,213	34,545
Heard	12,297	11,898	-399	18,985	23,789	4,804
Muscogee	200,252	191,259	-8,993	293,416	313,294	19,878
Quitman	2,873	2,747	-126	3,929	3,635	-294
Randolph	7,756	7,131	-625	10,066	5,246	-4,820
Stewart	4,918	4,624	-294	5,625	4,018	-1,607
Troup	67,897	66,608	-1,289	91,768	121,031	29,263
Total	496,213	484,390	-11,823	709,730	926,784	217,054

Demand Changes due to Fort Benning

- Population forecasts did not include transients.
- Muscogee and Chattahoochee counties only.
- The Chattahoochee County withdrawal and return will be out of/into the Walter F. George Basic Node.
- The Muscogee (CWW) withdrawal will be from the Columbus Planning Node and the return into the WFG Basic Node.

Demand Changes due to Fort Benning

Increased Surface Water Demands Asscoiated with Fort Benning, MGD AA

County	Flow Split	Year				
		2010	2020	2030	2040	2050
Chattahoochee	60%	5.75	6.45	7.14	7.56	7.98
Muscogee	40%	4.75	4.76	4.76	5.04	5.32
Total	100%	10.50	11.21	11.90	12.60	13.30

Notes:

The 2010 values were provided by Steve Davis of Columbus Water Works (CWW).

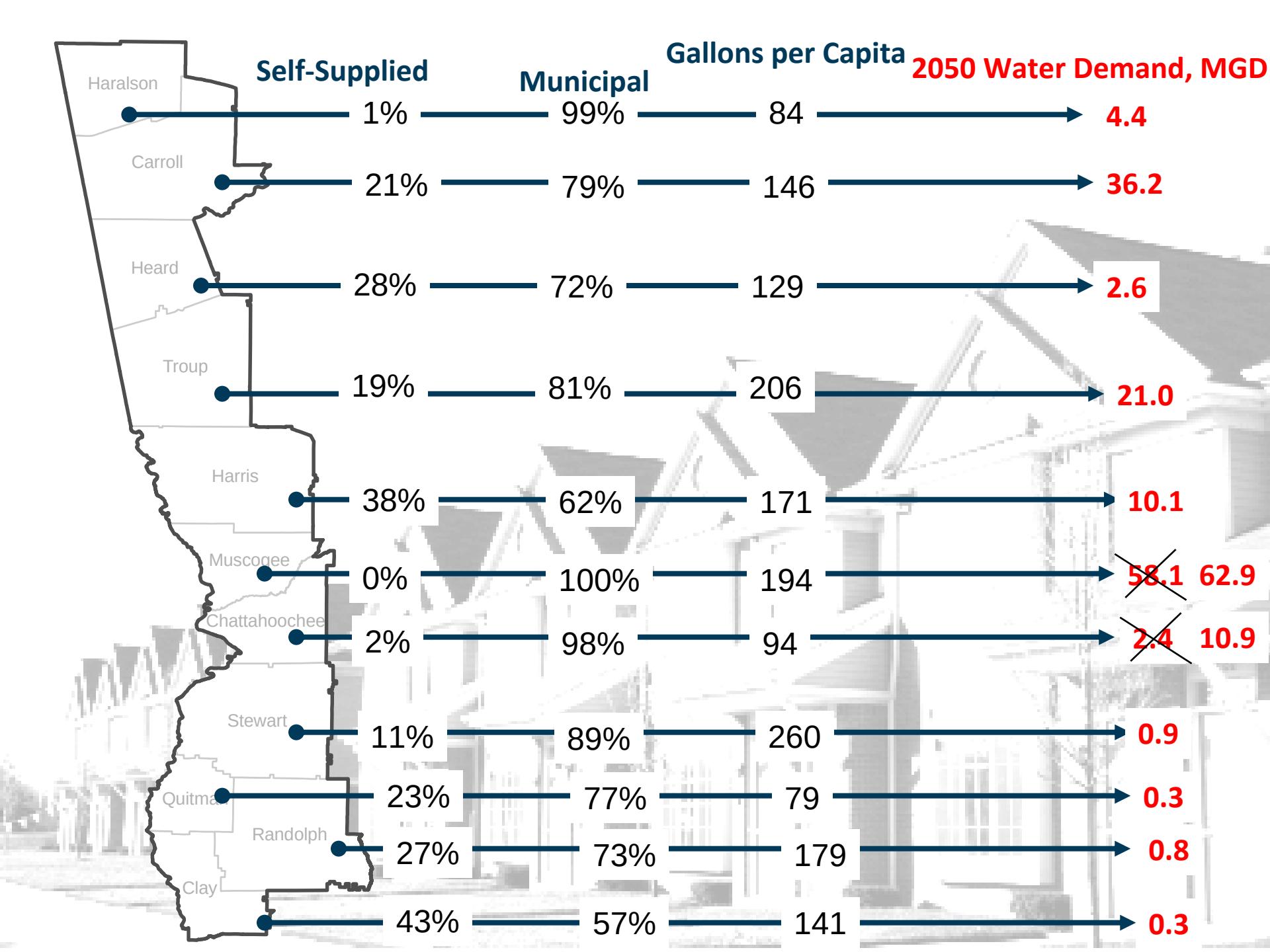
After 2012, the anticipated split between Chattahoochee and Muscogee Counties is 60:40.

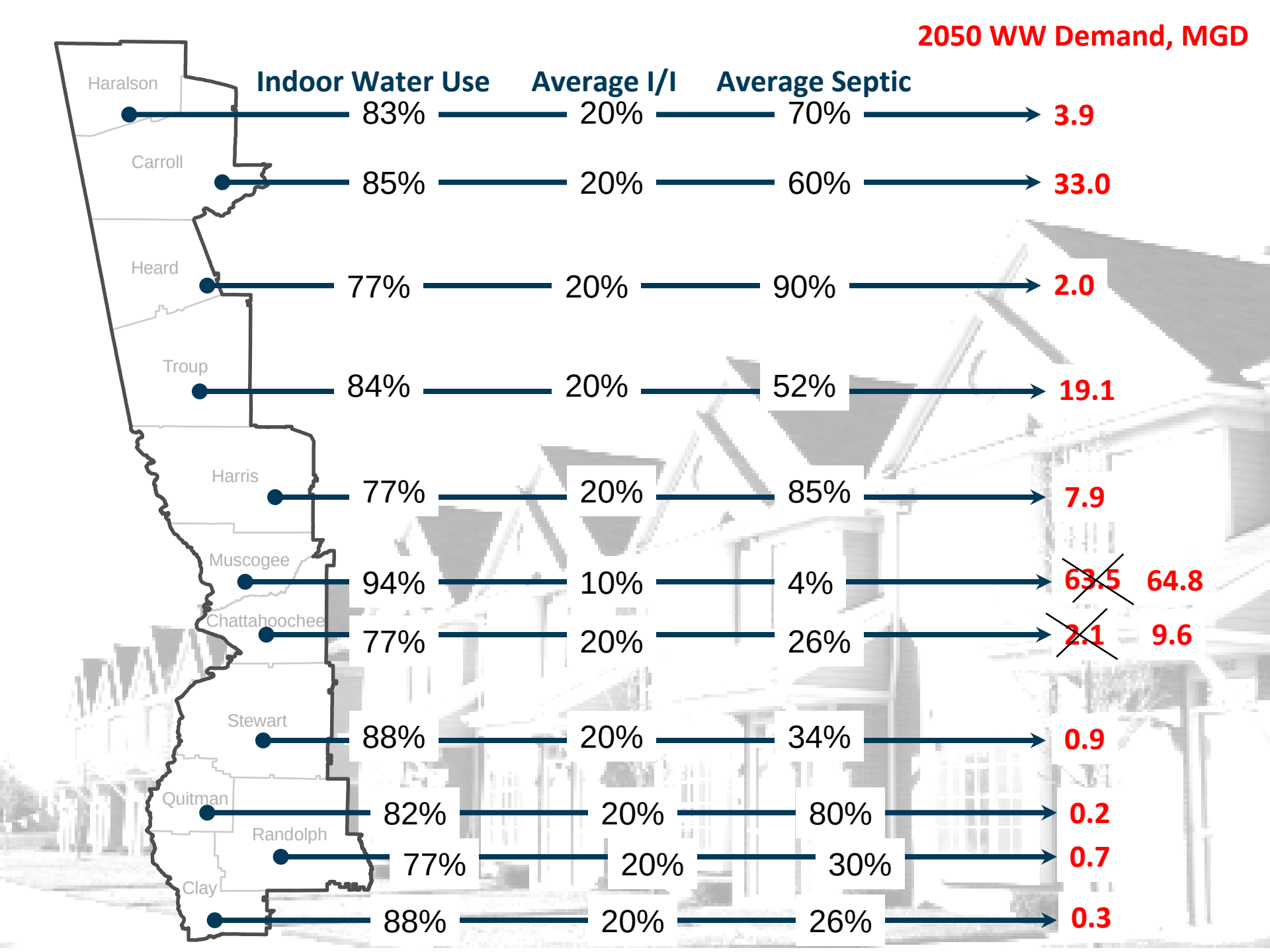
The 2030 total value is derived from the 2007 Facilities Master Plan Update prepared for CWW.

The 2030 allocation is based upon the 60:40 split.

The 2020 value is interploated.

The 2040 and 2050 values are trended forward.


Self-Supplied
Municipal
Gallons per Capita
2050 Water Demand, MGD
Haralson
1%
99%
84
4.4
Carroll
21%
79%
146
36.2
Heard
28%
72%
129
2.6
Troup
19%
81%
206
21.0
Harris
38%
62%
171
10.1
Muscogee
0%
100%
194
58.1
62.9
Chattahoochee
2%
98%
94
2.4
10.9
Stewart
11%
89%
260
0.9
Quitman
23%
77%
79
0.3
Randolph
27%
73%
179
0.8
Clay
43%
57%
141
0.3


2050 WW Demand, MGD
Indoor Water Use
Average I/I
Average Septic
Haralson
83%
20%
70%
3.9
Carroll
85%
20%
60%
33.0
Heard
77%
20%
90%
2.0
Troup
84%
20%
52%
19.1
Harris
77%
20%
85%
7.9
Muscogee
94%
10%
4%
63.5
64.8
Chattahoochee
77%
20%
26%
2.1
9.6
Stewart
88%
20%
34%
0.9
Quitman
82%
20%
80%
0.2
Randolph
77%
20%
30%
0.7
Clay
88%
20%
26%
0.3


Industrial

Georgia Mining Update

- More information submitted in April
- Kaolin Clay hydrous processing facilities
- The Upper Oconee Council, the Middle Ocmulgee Council and the Savannah-Upper Ogeechee Council.
- No change to Middle Chattahoochee Forecasts


Energy

- Energy forecasts are ongoing
  - Historical analyses of population growth and energy consumption
  - Energy ad hoc group – mix of energy sources, location of planned facilities
- Forecasts to be published in summer of 2010
  - Use of current energy based withdrawal data to be used in the short term for selection of management practices


Agricultural

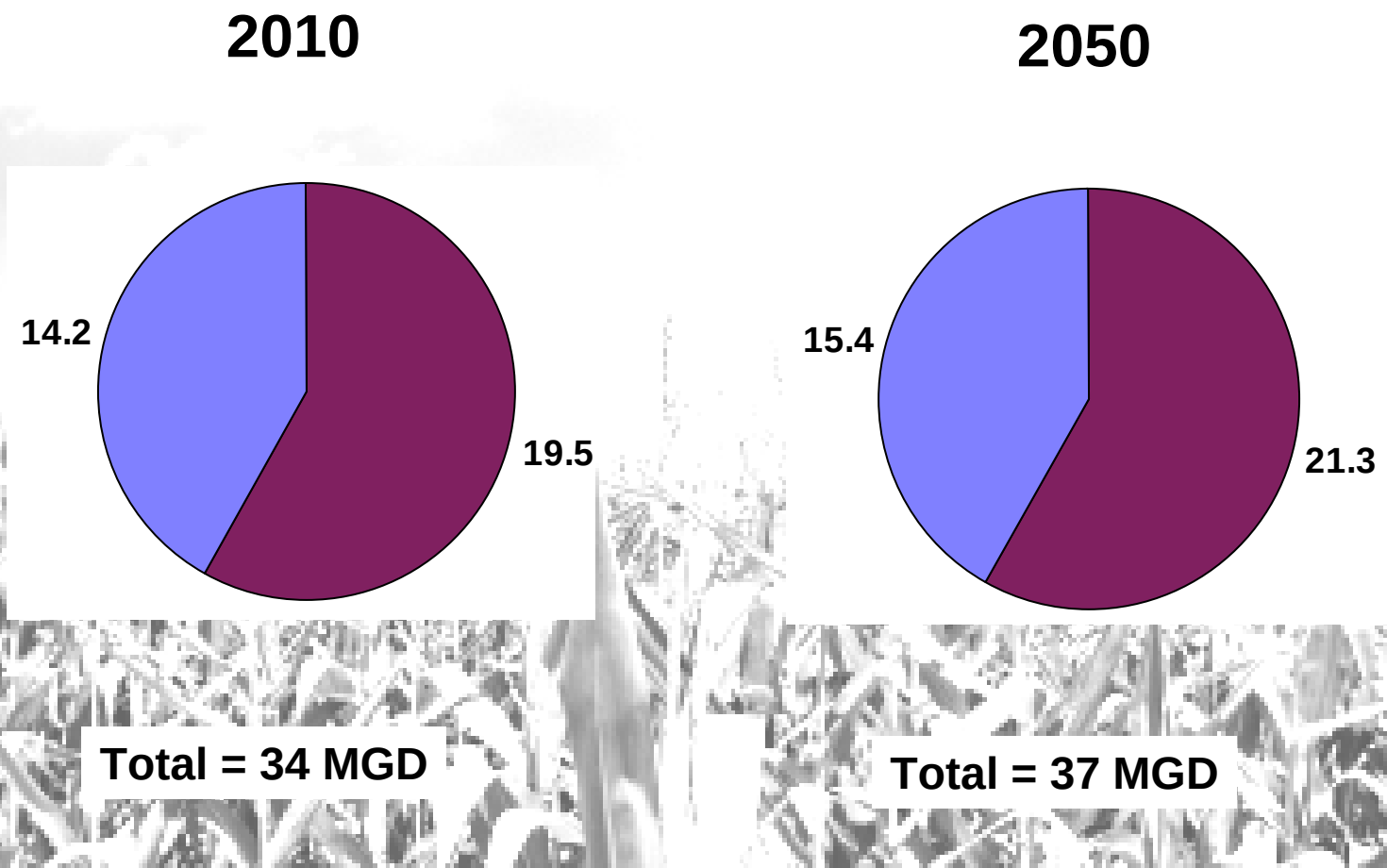
Agricultural Water Use Forecasts

- Dr. Hook updated Agricultural Forecasts. Available online
  - Row, specialty, & other crops
  - Container, in-ground, greenhouse, & nurseries
  - Golf courses
- Livestock forecasted at the county level only, not projected forward or modeled in resource assessments.

Agricultural Water Use Forecasts

Middle Chattahoochee Agricultural Water Use Forecasts (MGD Annual Average)						
County	Surface Water		Groundwater		Total	
	2010	2050	2010	2050	2010	2050
Carroll	0.79	0.81	0.10	0.12	0.89	0.93
Chattahoochee	0.00	0.00	0.00	0.00	0.00	0.00
Clay	2.49	2.79	2.89	3.17	5.38	5.96
Haralson	0.25	0.25	0.00	0.00	0.25	0.25
Harris	0.06	0.06	0.16	0.18	0.22	0.24
Heard	0.00	0.00	0.00	0.00	0.00	0.00
Muscogee	0.90	0.90	0.27	0.28	1.17	1.18
Quitman	0.27	0.31	0.00	0.00	0.27	0.31
Randolph	12.29	13.46	9.87	10.75	22.16	24.21
Stewart	2.28	2.52	0.86	0.90	3.14	3.42
Troup	0.17	0.17	0.01	0.01	0.18	0.18
Total	**19.5**	**21.7**	**14.2**	**15.2**	**33.7**	**36.7**

Agricultural Water Use Forecasts



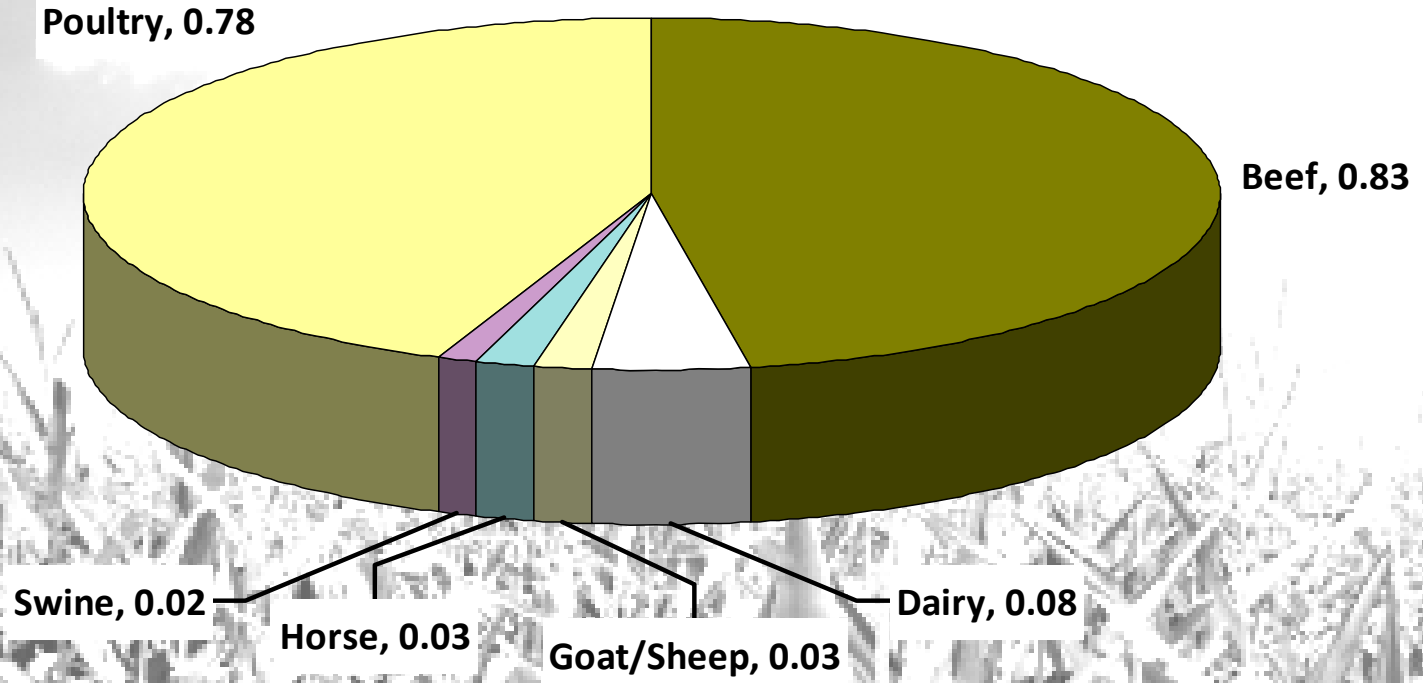
Georgia's

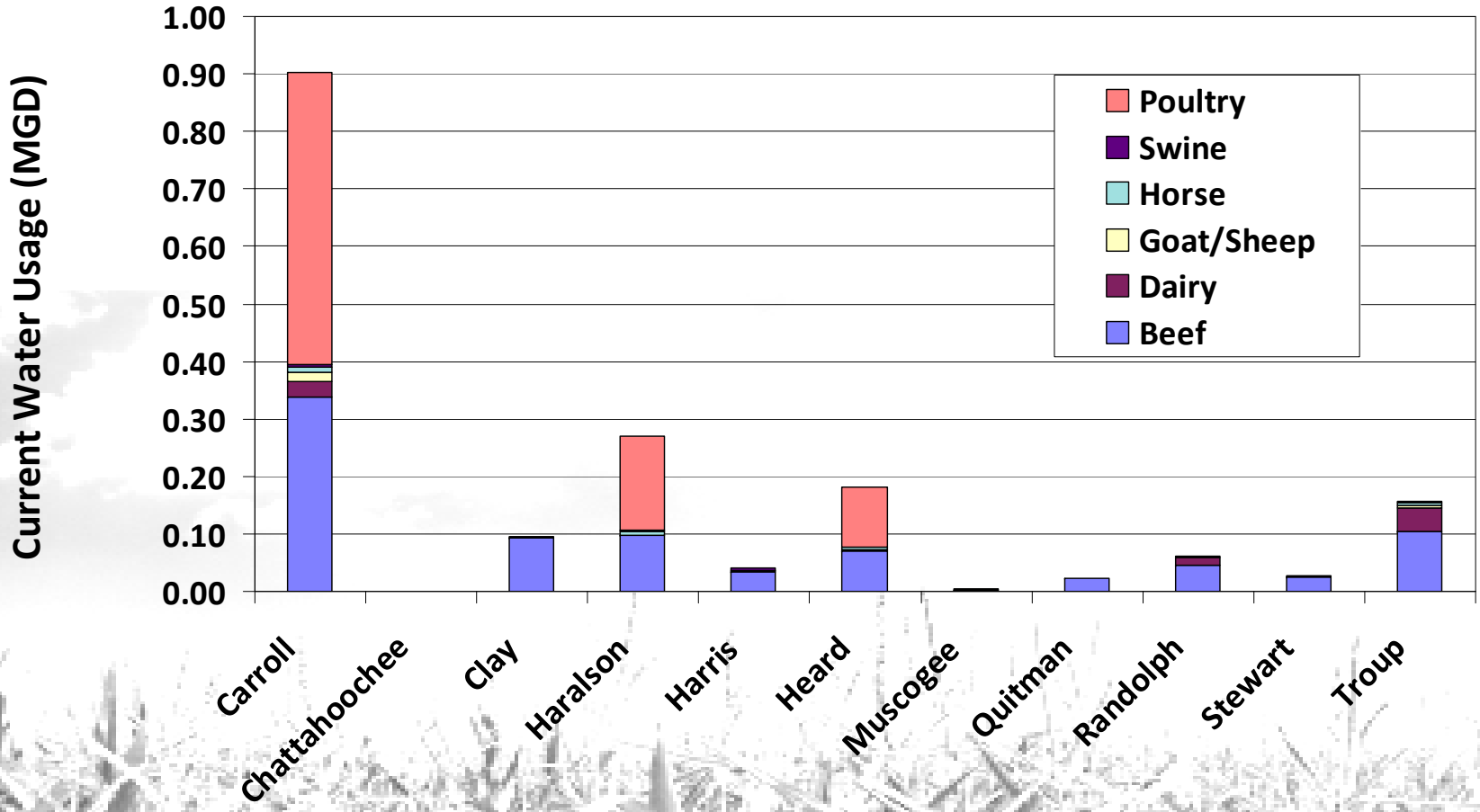
State Water Plan

Preliminary Forecast Results

www.georgiawaterplanning.org

Council-wide Livestock Water Use,
(all values are given in MGD)




Current Water Usage (MGD)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Poultry
Swine
Horse
Goat/Sheep
Dairy
Beef
Carroll
Chattahoochee
Clay
Haralson
Harris
Heard
Muscogee
Quitman
Randolph
Stewart
Troup


Industrial

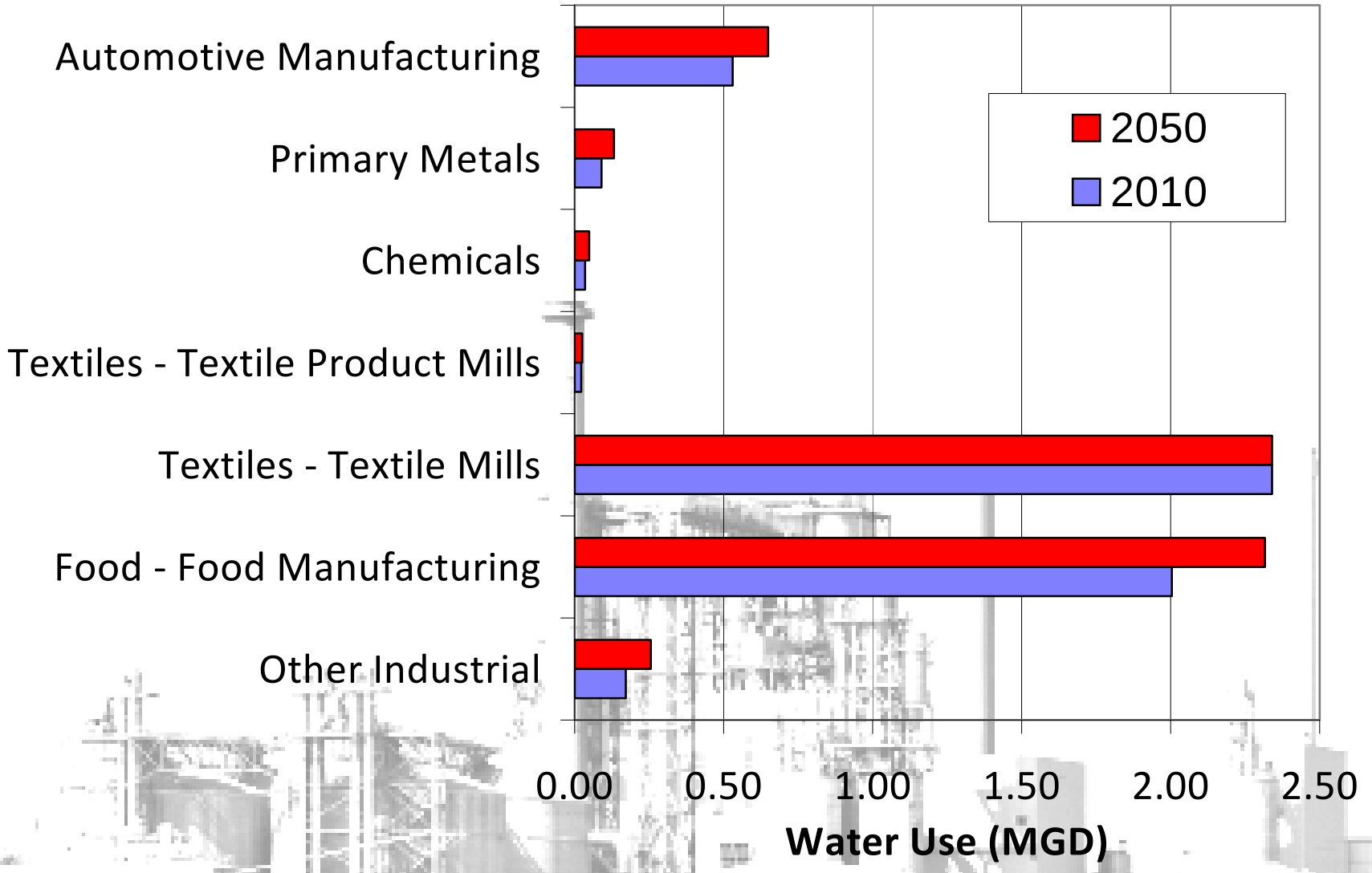

Energy

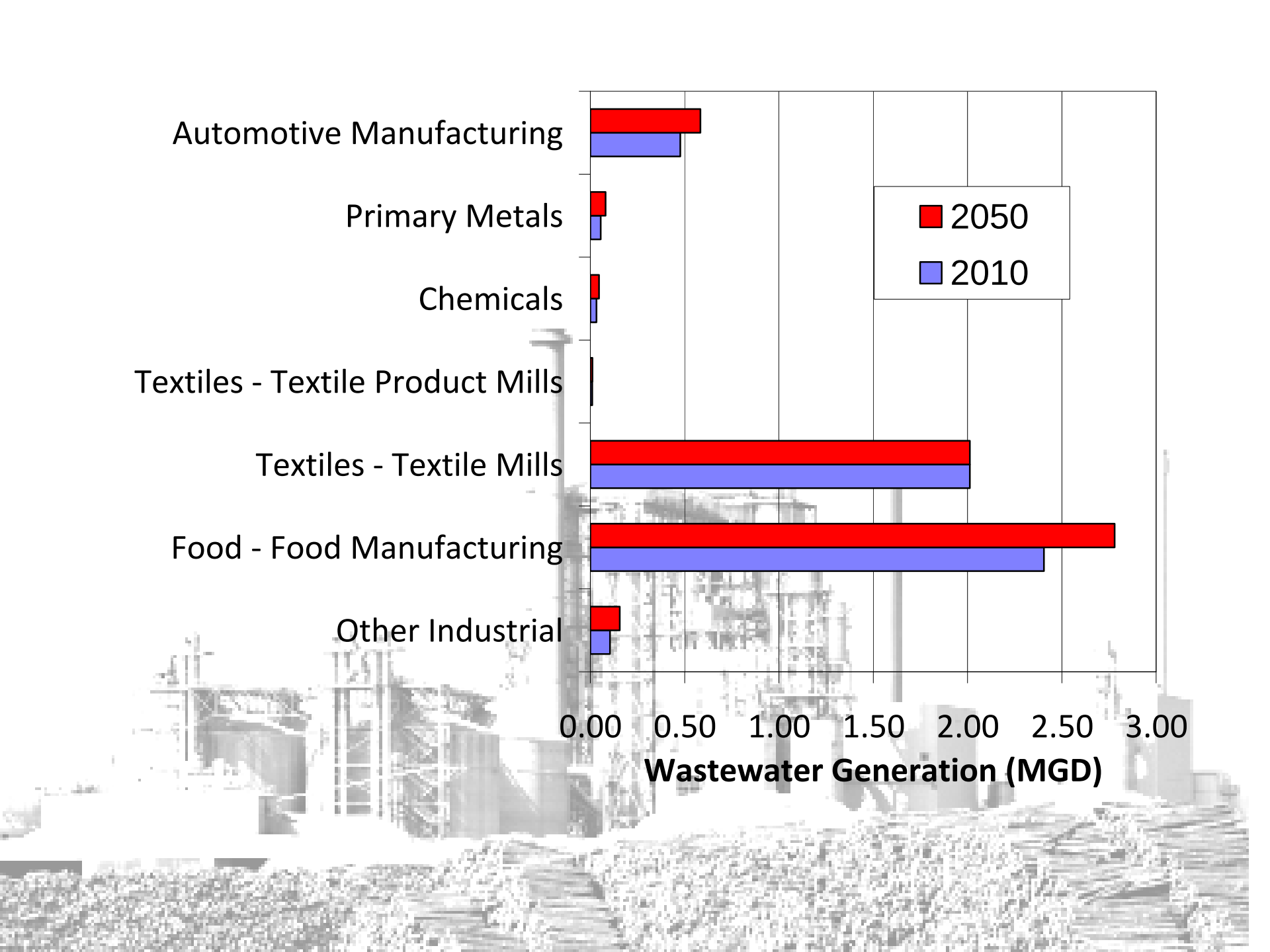

Municipal


Agricultural

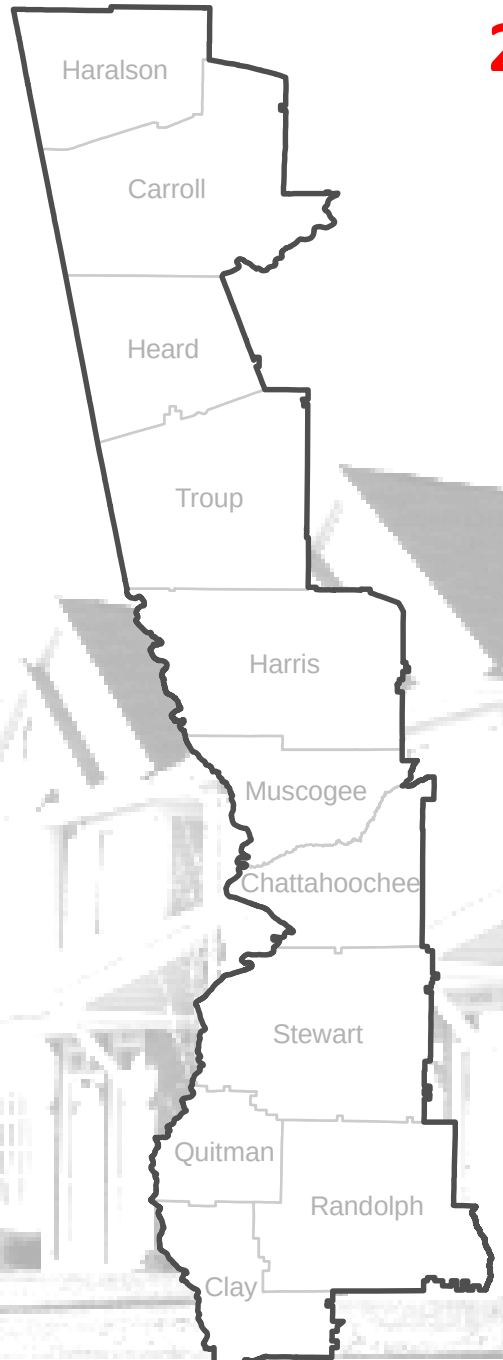
employment by category

Industry	2010	2050
Other Industrial	192,403	286,445
Mining	147	155
Food - Food Manufacturing	3,725	4,306
Food - Beverage and Tobacco	88	99
Textiles - Textile Mills	1,323	0
Textiles - Textile Product Mills	2,381	2,676
Apparel	499	0
Paper	870	1,038
Petroleum	59	65
Chemicals	355	499
Rubber	1,686	2,009
Stone and Clay	567	642
Primary Metals	2,601	3,817
Fabricated Metal Products	1,499	1,837
Electrical Machinery	1,212	1,912
Automotive Manufacturing	5,032	4,743


Automotive Manufacturing
Primary Metals
Chemicals
Textiles - Textile Product Mills
Textiles - Textile Mills
Food - Food Manufacturing
Other Industrial
2050
2010
0.00
0.50
1.00
1.50
2.00
2.50
Water Use (MGD)

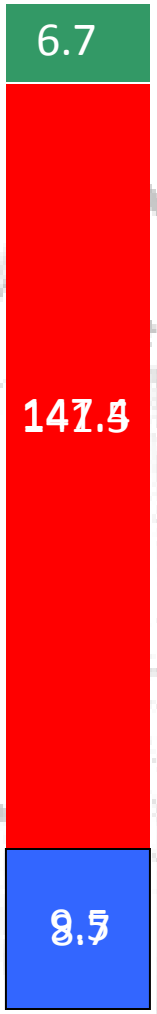

Automotive Manufacturing
Primary Metals
Chemicals
Textiles - Textile Product Mills
Textiles - Textile Mills
Food - Food Manufacturing
Other Industrial
2050
2010
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Wastewater Generation (MGD)

municipal demand
self-supply demand
plumbing code based water savings



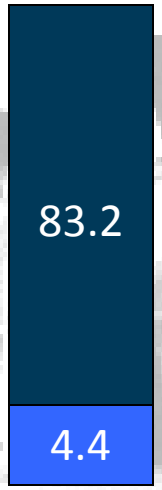
2050 water use

156.9

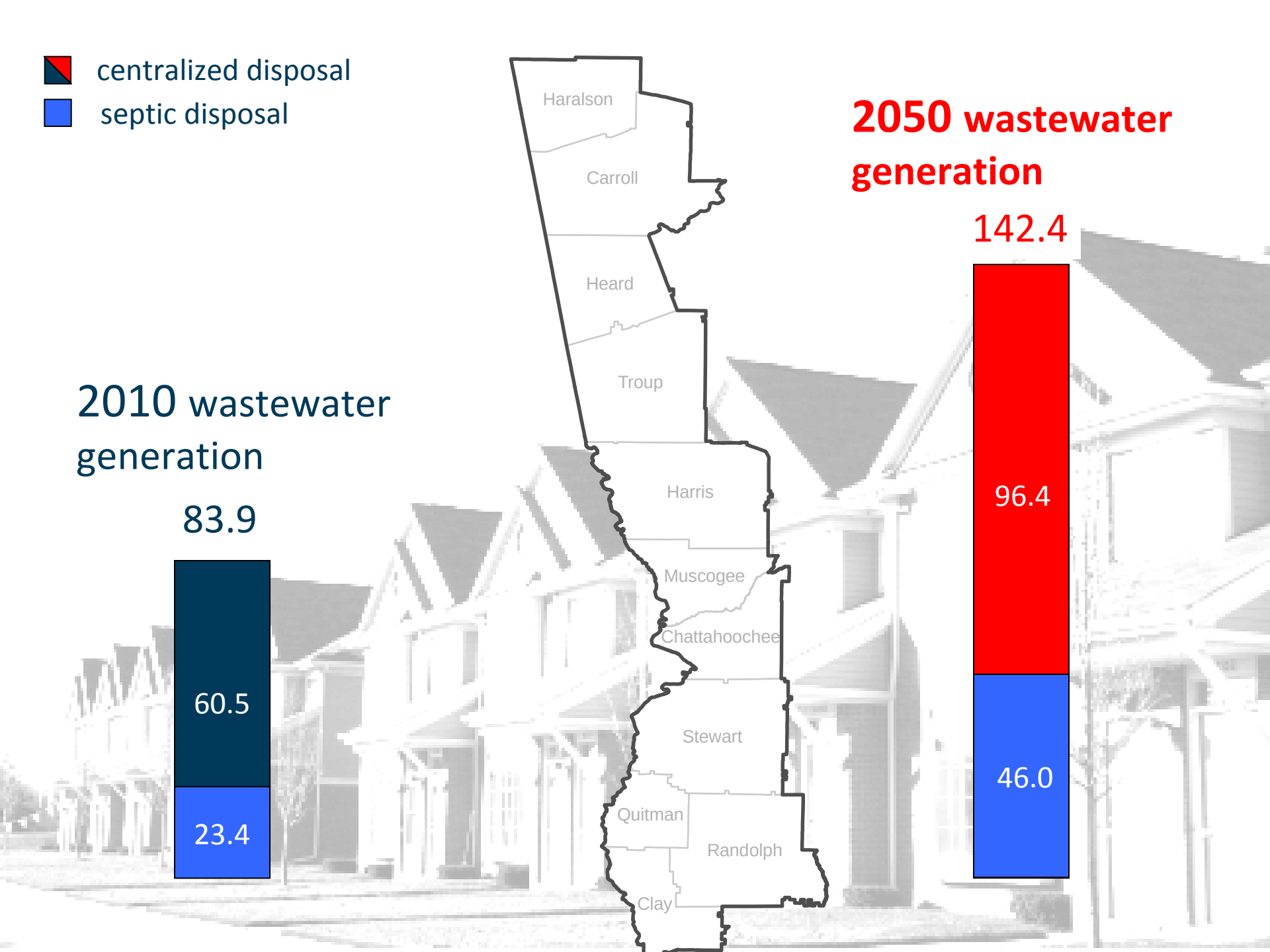


2010 water use

87.6



Total Wastewater Generation = Projected Municipal Water Use X Percent Average Indoor Water Use X * (1 + % I/I)


centralized disposal
septic disposal
Haralson
Carroll
Heard
Troup
Harris
Muscogee
Chattahoochee
Stewart
Quitman
Randolph
Clay
2010 wastewater generation
83.9
60.5
23.4
2050 wastewater generation
142.4
96.4
46.0