

A stylized, light blue outline of the state of Georgia, positioned to the left of the main title. The outline is thick and has a slightly irregular, hand-drawn appearance.

Georgia's State Water Plan

Preliminary Draft Results

Industrial Water and Wastewater Demand Forecasts
Forecasts

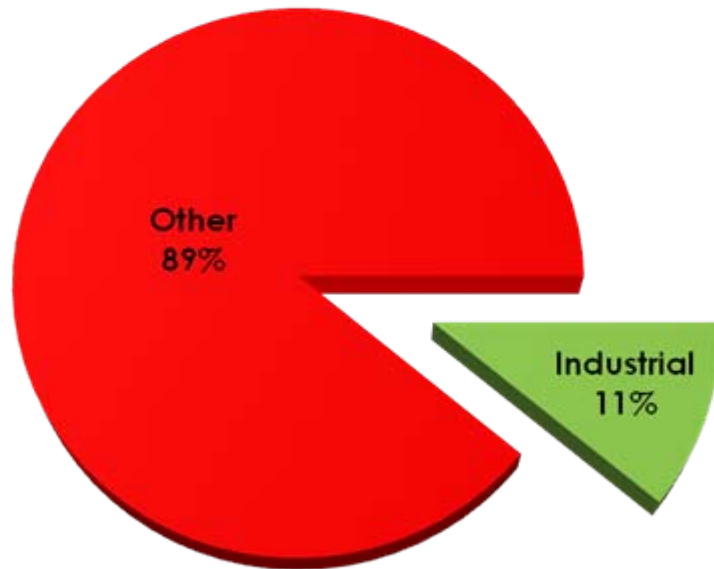
www.georgiawaterplanning.org

Demand Forecasting Categories

- **Agricultural** – Major forecasts complete; evaluating if/how to incorporate smaller use/unpermitted sectors
- **Energy** – Forecasts under development with assistance from power/energy companies
- **Municipal** – Includes residential, commercial, and light industrial water use
- **Industrial** – Major water using industries

Industrial Water Withdrawal Percentages

Industrial Water Withdrawals
as a Percent of Total
Withdrawals in Georgia



Combined Withdrawals of 13
Major Industries as a Percent
of Total Industrial Withdrawal
in Georgia



Preliminary Forecasts

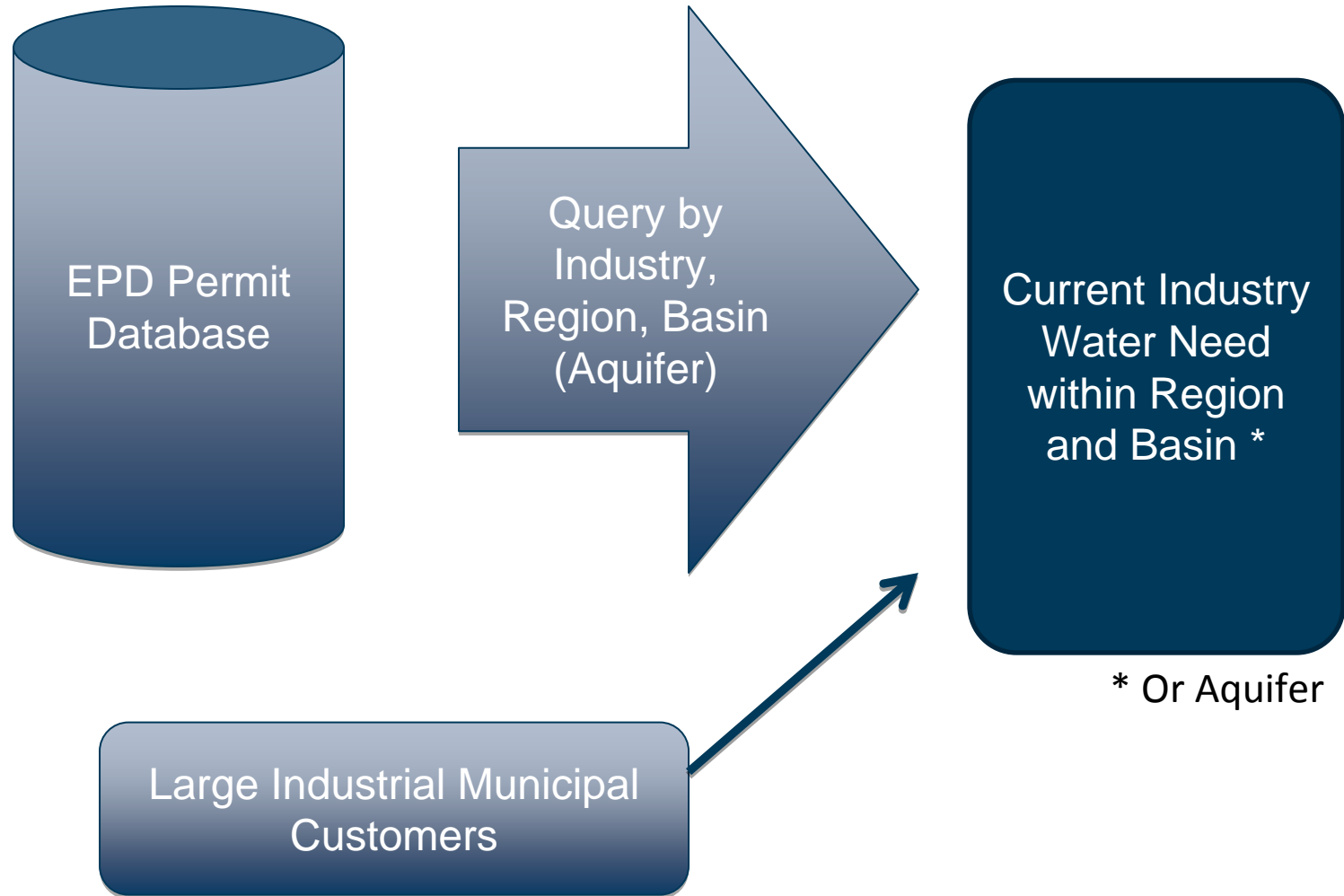
- Based on the continuation of current trends and practices into the future
- Excluding any new management practice that may alter demands

Reminder: To ensure confidentiality, specific industry data will not be presented

Major Water-Using Industries in Georgia

Industry	SIC Code	NAICS Code	Industry	SIC Code	NAICS Code
Mining	14	212	Petroleum	29	324
Food	20	311	Rubber	30	326
		312			
Textiles	22	313	Stone and Clay	32	327
		314			
Apparel	23	315	Primary Metals	33	331
Paper	26	322	Fabricated Metal Products	34	332
Chemicals	28	325	Electric Machinery	36	335

Industrial Water Needs (Withdrawals) by Basin



Regional Industrial Water Demand by NAICS Code

NAICS	Category	Ground Water	Surface Water	Municipal Supplied	Total MGD
0	Other Industrial	0.8	-	-	0.8
212	Mining	PENDING			
311	Food- Food Manufacturing	PENDING			
312	Food- Beverage and Tobacco	PENDING			
313	Textiles- Textile Mills	-	0.2	-	0.2
314	Textiles- Textile Product Mills	PENDING			
315	Apparel	-	-	-	-
322	Paper	0.5	9.5	-	10.0
324	Petroleum	-	-	-	-
325	Chemicals	-	-	-	-
326	Rubber	-	-	-	-
327	Stone and Clay	PENDING			
331	Primary Metals	-	-	-	-
332	Fabricated Metal Products	-	-	-	-
335	Electrical Machinery	-	-	-	-
336	Automotive Manufacturing	-	-	-	-
	Total	1.5	11.9	-	13.4

Water Need (Withdrawals) Increases at Employment Rate of Growth



* Or Aquifer

- Without production data, water need is a function of employment
- Except for efficiency improvements, water need will remain constant if employment does not grow (i.e., water need will not decrease)
- The projection of future water need may be adjusted for industry production if adequate, credible data are publicly available

Projecting Future Growth

- Water use by NAICS category increases at the same rate as NAICS employment (growth estimates completed by CVIOG)
- If NAICS employment decreases, then NAICS water use remains the same

Regional Employment Growth Rates

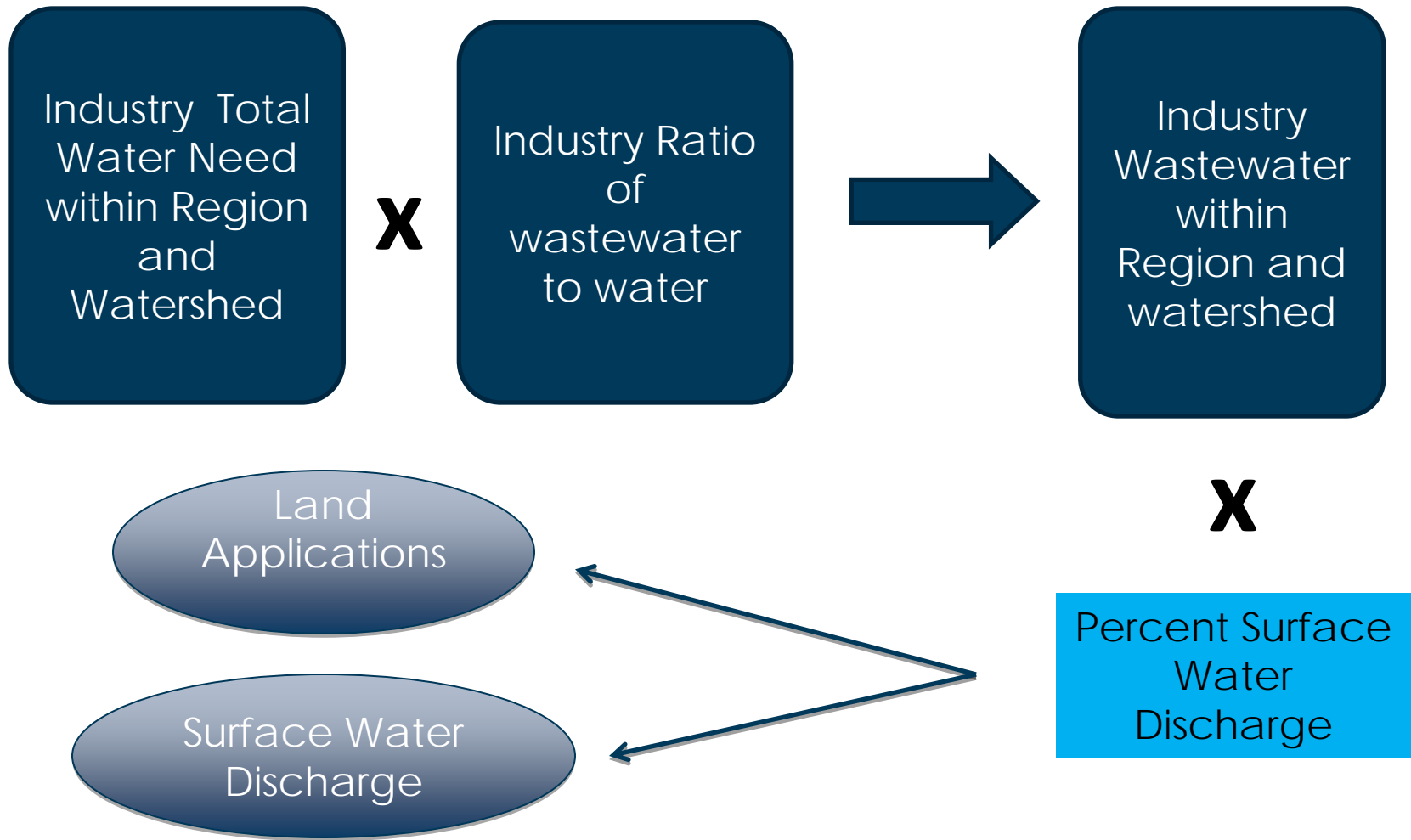
Employment Percent Growth

NAICS	Industry	2005-10	2010-15	2015-20	2020-25	2025-30	2030-35	2035-40	2040-45	2045-50
0	Other Industrial	0.00%	0.00%	0.00%	0.78%	0.38%	0.44%	0.48%	0.45%	0.47%
212	Mining	5.04%	0.00%	1.06%	0.00%	0.17%	0.18%	0.18%	0.18%	0.20%
311	Food - Food Manufacturing	0.00%	0.00%	0.00%	3.73%	1.14%	0.38%	0.22%	0.19%	0.20%
312	Food - Beverage and Tobacco	15.63%	11.32%	0.00%	2.36%	0.20%	0.18%	0.18%	0.18%	0.20%
313	Textiles - Textile Mills	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
314	Textiles - Textile Product Mills	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.05%	0.11%	0.16%
315	Apparel	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
322	Paper	1.59%	0.00%	0.00%	2.73%	0.23%	0.17%	0.18%	0.18%	0.19%
324	Petroleum	0.00%	14.29%	0.00%	2.12%	0.24%	0.20%	0.20%	0.20%	0.22%
325	Chemicals	7.20%	5.75%	0.00%	0.24%	0.16%	0.17%	0.19%	0.19%	0.21%
326	Rubber	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
327	Stone and Clay	21.96%	3.74%	0.00%	0.01%	0.55%	0.36%	0.28%	0.23%	0.23%
331	Primary Metals	0.00%	4.51%	0.00%	21.70%	0.46%	0.24%	0.20%	0.18%	0.20%
332	Fabricated Metal Products	4.35%	0.00%	3.87%	0.00%	0.05%	0.29%	0.33%	0.35%	0.38%
335	Electrical Machinery	0.34%	2.91%	0.35%	0.00%	0.12%	0.19%	0.20%	0.19%	0.21%
336	Automotive Manufacturing	0.00%	0.02%	0.00%	5.08%	0.00%	0.00%	0.00%	0.00%	0.00%

Region Industrial Water Demand Forecast

NAICS	Category	Surface Water		Groundwater		Municipal		Total	
		2010	2050	2010	2050	2010	2050	2010	2050
0	Other Industrial	-	-	0.8	1.0	-	-	0.8	1.0
212	Mining	PENDING							
311	Food- Food Manufacturing	PENDING							
312	Food- Beverage and Tobacco	PENDING							
313	Textiles- Textile Mills	0.2	0.2	-	-	-	-	0.2	0.2
314	Textiles- Textile Product Mills	PENDING							
315	Apparel	-	-	-	-	-	-	-	-
322	Paper	9.5	11.7	0.5	0.6	-	-	10.0	12.3
324	Petroleum	-	-	-	-	-	-	-	-
325	Chemicals	-	-	-	-	-	-	-	-
326	Rubber	-	-	-	-	-	-	-	-
327	Stone and Clay	PENDING							
331	Primary Metals	-	-	-	-	-	-	-	-
332	Fabricated Metal Products	-	-	-	-	-	-	-	-
335	Electrical Machinery	-	-	-	-	-	-	-	-
336	Automotive Manufacturing	-	-	-	-	-	-	-	-
	Total	12.2	14.8	1.6	2.0	-	-	13.7	16.8

Regional Industrial Wastewater Demand



Region Industrial Wastewater Forecast

NAICS	Category	Surface Discharge		Land Application		Total MGD	
		2010	2050	2010	2050	2010	2050
0	Other Industrial	0.4	0.5	-	-	0.4	0.5
212	Mining	PENDING					
311	Food - Food Manufacturing	PENDING					
312	Food - Beverage and Tobacco	PENDING					
313	Textiles - Textile Mills	0.2	0.2	-	-	0.2	0.2
314	Textiles - Textile Product Mills	PENDING					
315	Apparel	-	-	-	-	-	-
322	Paper	6.7	8.3	-	-	6.7	8.3
324	Petroleum	-	-	-	-	-	-
325	Chemicals	-	-	-	-	-	-
326	Rubber	-	-	-	-	-	-
327	Stone and Clay	PENDING					
331	Primary Metals	-	-	-	-	-	-
332	Fabricated Metal Products	-	-	-	-	-	-
335	Electrical Machinery	-	-	-	-	-	-
336	Automotive Manufacturing	-	-	-	-	-	-
	Total	11.6	14.0	-	-	11.6	14.0

Industry Stakeholder Input

- EPD convened a meeting of industry representatives on August 18, 2009
- Representatives of the carpet, mining, pulp & paper, and food manufacturing industries provided information relative to future water use in the state for those industries
 - Reconfirming results with industry ad hoc group

County	Gallons Per Capita (USGS)	Preliminary Adjusted Per Capita
Crisp	122	
Dooly	286	145
Macon	585	Pending
Marion	230	93
Meriwether	143	
Pike	1244	202
Schley	183	Pending
Spalding	163	
Sumter	143	
Talbot	37	132
Taylor	166	
Upson	233	100
Webster	137	