

APPENDIX A

CURRENT AND FUTURE WATER DEMANDS



SC DEPARTMENT of
ENVIRONMENTAL
SERVICES



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Appendix A. Current and Future Water Demands

Table A-1. Water Use, including hydroelectric power, for basins with hydroelectric use.

Basin	Withdrawal (mgd)
Upper Savannah	30,515
Saluda	3,551
Broad	9,239
Catawba	14,301
Santee	4,095
Total	61,701

Table A-2. Current demand by water use category and basin.

Basin	Thermoelectric	Public Supply	Manufacturing	Agriculture	Other	Total
Upper Savannah	2,650	60	7.0	0.27	1.2	2,719
Saluda	126	116	26	2.3	0.63	272
Broad	666	96	3.4	0.27	0.91	767
Catawba	136	60	63	3.3	2.5	265
Lower Savannah-Salkehatchie	93	79	24	36	6.0	238
Edisto	3.9	59	2	73	0.68	139
Santee	374	84	72	15	4.0	549
Pee Dee	704	128	87	40	6.8	966
Total	4,753	683	284	171	23	5,913

Table A-3. Current demand by source and by basin in MGD, excluding thermoelectric demand.

Basin	Surface Water	Groundwater	Total
Upper Savannah	68	0.36	68
Saluda	145	0.25	145
Broad	100	0.63	101
Catawba	122	6.6	128
Lower Savannah-Salkehatchie	70	75	145
Edisto	70	65	135
Santee	145	30	175
Pee Dee	144	117	262
Total	865	296	1,160

Table A-4. Surface water P&R amounts by basin, with portion currently withdrawn.

Basin	P&R Amount	Current Withdrawal
Upper Savannah	3,498	2,718
Saluda	1,096	271
Broad	1,541	766
Catawba	801	258
Lower Savannah-Salkehatchie	1,472	163
Edisto	749	70
Santee	1,688	518
Pee Dee	1,465	848
Total	12,310	5,612

Table A-5. Groundwater P&R¹ amounts by basin, with portion currently withdrawn.

Basin	P&R Amount	Current Withdrawal
Upper Savannah	0.36	0.36
Saluda	0.54	0.25
Broad	0.67	0.63
Catawba	11	6.6
Lower Savannah-Salkehatchie	152	75
Edisto	127	69
Santee	62	30
Pee Dee	202	118
Total	556	301

¹Only the planning basins in the Coastal Plain are shown since nearly all groundwater use in the upstate basins is registered, not permitted, and groundwater registrations, unlike surface water registrations, do not include an amount.

Table A-6. Statewide demand projections by water use category and source.

Water Use Category	Demand Scenario	Projection Year	Groundwater	Surface Water	Total
Thermoelectric	Moderate	2025	2.0	4,878	4,880
		2070	2.1	4,411	4,413
	High	2025	2.3	5,597	5,599
		2070	2.7	4,908	4,911
Public Supply	Moderate	2025	113	596	709
		2070	132	969	1,101
	High	2025	147	696	843
		2070	249	1,485	1,734
Manufacturing	Moderate	2025	25	268	293
		2070	40	409	449
	High	2025	38	354	392
		2070	88	776	864
Agriculture	Moderate	2025	128	27	156
		2070	171	36	208
	High	2025	228	39	267
		2070	314	55	369
Other	Moderate	2025	8.5	11	19
		2070	8.5	11	19
	High	2025	19	21	41
		2070	19	22	41
Total	Moderate	2025	277	5,780	6,058
		2070	354	5,836	6,190
	High	2025	434	6,707	7,142
		2070	674	7,245	7,919

Table A-7. Moderate Demand Scenario projections by basin and source.

Basin	Projection Year	Groundwater	Surface Water	Total
Upper Savannah	2025	0.40	2,675	2,676
	2070	0.40	2,740	2,740
Saluda	2025	0.49	307	308
	2070	0.49	348	348
Broad	2025	0.76	845	845
	2070	0.76	932	932
Catawba	2025	6.9	258	265
	2070	8.4	215	223
Lower Savannah-Salkehatchie	2025	75	157	232
	2070	91	170	261
Edisto	2025	65	92	158
	2070	88	146	234
Santee	2025	26	553	579
	2070	36	303	339
Pee Dee	2025	102	893	995
	2070	129	984	1,113
Total	2025	277	5,780	6,058
	2070	354	5,836	6,190

Table A-8. High Demand Scenario projections by basin and source.

Basin	Projection Year	Groundwater	Surface Water	Total
Upper Savannah	2025	0.40	2,927	2,927
	2070	0.40	3,041	3,042
Saluda	2025	0.49	327	328
	2070	0.49	426	427
Broad	2025	0.76	952	953
	2070	0.76	1,112	1,113
Catawba	2025	11	331	342
	2070	18	333	351
Lower Savannah-Salkehatchie	2025	119	236	355
	2070	169	291	459
Edisto	2025	67	109	175
	2070	96	207	303
Santee	2025	58	792	850
	2070	93	503	596
Pee Dee	2025	178	1,033	1,210
	2070	296	1,332	1,628
Total	2025	434	6,707	7,142
	2070	674	7,245	7,919

Table A-9. Moderate Demand Scenario projections by basin and water use category.

Basin	Projection Year	Thermoelectric	Public Supply	Manufacturing	Agriculture	Other	Total
Upper Savannah	2025	2,609	58	7.3	0.26	1.1	2,676
	2070	2,609	119	11	0.32	1.1	2,740
Saluda	2025	171	108	26	2.5	0.59	308
	2070	171	117	56	3.2	0.59	348
Broad	2025	739	101	3.6	0.27	1.0	845
	2070	775	150	5.7	0.27	1.0	932
Catawba	2025	139	55	67	2.4	1.7	265
	2070	11	130	77	3.4	1.7	223
Lower Savannah-Salkehatchie	2025	90	80	23	35	3.9	232
	2070	90	95	25	46	3.9	261
Edisto	2025	4.7	75	2.4	76	0.22	158
	2070	6.4	121	4.7	101	0.22	234
Santee	2025	403	92	69	10	4.0	579
	2070	26	161	134	14	4.0	339
Pee Dee	2025	724	141	95	29	6.5	995
	2070	724	208	136	39	6.6	1,113
Total	2025	4,880	709	293	156	19	6,058
	2070	4,413	1,101	449	208	19	6,190

Table A-10. High Demand Scenario projections by basin and water use category.

Basin	Projection Year	Thermoelectric	Public Supply	Manufacturing	Agriculture	Other	Total
Upper Savannah	2025	2,849	63	13	0.41	2.3	2,927
	2070	2,849	170	20	0.53	2.3	3,042
Saluda	2025	171	116	36	3.4	1.2	328
	2070	171	158	92	4.5	1.2	427
Broad	2025	819	126	4.8	0.30	1.9	953
	2070	855	244	12	0.30	1.9	1,113
Catawba	2025	178	71	87	4.5	2.5	342
	2070	17	203	122	6.8	2.9	351
Lower Savannah-Salkehatchie	2025	151	100	29	66	9.1	355
	2070	151	154	56	90	9.1	459
Edisto	2025	6.0	83	3.7	82	0.25	175
	2070	11	171	7.2	114	0.25	303
Santee	2025	599	110	99	35	7.5	850
	2070	31	259	250	49	7.5	596
Pee Dee	2025	827	173	119	76	16	1,210
	2070	827	376	304	105	16	1,628
Total	2025	5,599	843	392	267	41	7,142
	2070	4,911	1,734	864	369	41	7,919

Table A-11. Permitted and registered amounts by basin compared to the projected 2070 withdrawal in the High Demand Scenario and current water use.

Basin	Current Withdrawal	2070 High Demand	P&R Amount
Upper Savannah	2,719	3,042	3,498
Saluda	272	427	1,096
Broad	767	1,113	1,542
Catawba	265	351	813
Lower Savannah-Salkehatchie	238	459	1,624
Edisto	139	303	876
Santee	549	596	1,750
Pee Dee	966	1,628	1,667
Total	5,913	7,919	12,866