TECHNICAL FACT SHEET SJ2005-FS3

ANNUAL WATER USE DATA
2002

St. Johns River Water Management District
2002 Annual Water Use Data

Latest update: February 8, 2005

Introduction: The following information reports 2002 annual water use data by category for the St. Johns River Water Management District (SJRWMD).

Disclaimer: Water use data is subject to change as updated information becomes available. Changes in methodologies may make year-to-year comparisons inappropriate.

Contact: For additional information, please contact: Lisa Parks, Division of Water Supply Management, (386) 312-2371.

Term	Definition	Data Source/Methodology
mgd	Water use expressed in million gallons per day.	N/A
Freshwater	Water with 1,000mg/L or less of total dissolved solids (TDS). Freshwater may be withdrawn from either ground or surface water sources.	N/A
Saline water	Water with more than 1,000mg/L of TDS. All reported saline water is withdrawn from surface water sources.	N/A
Groundwater	Water from sources located below the earth's surface, such as the Floridan aquifer. Groundwater withdrawals reported here contain 1,000mg/L or less of TDS and are, therefore, considered freshwater.	N/A
Surface water	Water sources located on the earth's surface, like rivers or lakes. Surface water may be withdrawn from either fresh or saline water sources.	N/A
Florida Population	The estimated number of permanent residents living within the state of Florida.	University of Florida Bureau of Economic Business and Research, Florida Estimates of Population, April 1, 2002.
Water use category	Classifications based on six types of water use: public supply, domestic self-supply, commercial/industrial self-supply, agricultural self-supply, recreational self-supply and thermoelectric power generation self-supply.	N/A

Term	Definition	Data Source/Methodology
Public supply	Water supplied to homes and industries by privately and publicly-owned public water supply utilities. Includes both residential and nonresidential uses by utilities that withdraw more than 0.01 mgd from ground or surface water sources. Estimated to the nearest 0.01 mgd.	Data from public supply utility water use records, extracted from either monthly operating reports submitted to the Florida Department of Environmental Protection, or data submitted to SJRWMD on EN-50 reports.
Domestic Self-Supply	Water withdrawn from privately owned residential wells.	This water use is not inventoried, so data is estimated from residential population and per capita water use figures. Residential water use for each public supplier is calculated by multiplying the total public supply water use by the percent of the total water use that is allocated to residential use as reported in consumptive use permits. The resulting water use values for each public supplier are then summed to the county level and divided by the county total permanent residential public supply population to obtain the residential per capita value. The per capita value is multiplied by the domestic self-supply population, resulting in the estimated water use for this category. The domestic self-supply population is obtained by subtracting the number of people served by public supply utilities from the total permanent residential population of the county.
Commercial/ Industrial self-supply	Commercial and industrial users not served by public supply utilities, which withdraw more than 0.01 mgd. The commercial category includes businesses and institutions such as government facilities, military installations, schools, prisons, and hospitals. The industrial category includes mining, processing, and manufacturing facilities.	Data obtained from Florida Department of Environmental Protection monthly operating reports or SJRWMD survey.
Agricultural Irrigation self-supply	Water withdrawals from ground and surface water sources that are used for supplemental crop irrigation	Water use for irrigation is assessed by crop, because crops have specific consumptive use requirements. Estimates of varying irrigation necessary for each crop are based on the modified Blaney-Criddle model and Benchmark Farms Program data, supplemented by USDA-SCS and NOAA data.

Term	Definition	Data Source/Methodology
Recreational Irrigation self-supply	Water withdrawals from ground and surface water sources that are used to irrigate turf grass for golf courses.	Estimates based on actual water use data collected directly from golf course operators.
Thermoelectric power generation self-supply	Water withdrawals from ground and surface water sources that are used by power plants, primarily for cooling.	Estimates based on actual water use data collected directly from thermoelectric power generation plant operators.
Gross public supply water use per capita	The average daily water use for all public supply customers. Expressed in gallons per day (gpd).	For a given county, the average daily public supply water use is divided by the total public supply population.
Residential public supply water use per capita	The average daily water use for each residential public supply customer. Expressed in gallons per day (gpd).	For a given county, the percentage of public supply residential customers is multiplied by the total public supply water use. Residential public supply customer data is provided by public supply utilities as part of consumptive use permitting process.
Domestic self-supply water use per capita	The average daily water use for each person using a domestic self-supply water source. Expressed in gallons per day (gpd).	For a given county, the total average domestic self-supply water use is divided by the total domestic self-supply population.

St. Johns River Water Management District
2002 Population by County

County	County Population	Percentage of County Population in SJRWMD	SJRWMD Population	Public Supply Population	Domestic Self-Supply Population
Alachua	228,607	76.8%	175,668	168,677	6,991
Baker	22,992	92.9%	21,369	4,416	16,953
Bradford	26,517	4.7%	1,256	304	952
Brevard	494,102	100.0%	494,102	474,173	19,929
Clay	149,901	100.0%	149,901	108,596	41,305
Duval	809,394	100.0%	809,394	758,236	51,158
Flagler	56,785	100.0%	56,785	51,467	5,318
Indian River	118,149	100.0%	118,149	100,311	17,838
Lake	231,072	99.5%	229,847	189,093	40,754
Marion	271,096	72.5%	196,640	124,264	72,376
Nassau	61,094	100.0%	61,094	27,371	33,723
Okeechobee	36,551	2.0%	746	0	746
Orange	955,865	77.5%	741,149	647,024	94,125
Osceola	193,355	1.0%	1,934	0	1,934
Polk	496,112	2.8%	13,891	7,344	6,547
Putnam	71,329	100.0%	71,329	23,976	47,353
St. Johns	133,953	100.0%	133,953	117,468	16,485
Seminole	387,626	100.0%	387,626	358,545	29,081
Volusia	459,737	100.0%	459,737	434,257	25,480
Total	5,204,237		4,124,570	3,595,522	529,048

2002 total population for the state of Florida: 16,674,608
Percent of state of Florida population living within SJRWMD: 25%
Percent of SJRWMD population served by Public Supply: 87%

2002 Total Water Use by County (mgd)

County	Freshwater			Saline Water Surface	All Water Total
	Ground	Surface	Total		
Alachua	31.86	0.11	31.97	0.00	31.97
Baker	5.32	0.90	6.22	0.00	6.22
Bradford	0.26	0.01	0.27	0.00	0.27
Brevard	122.84	33.29	156.13	0.00	156.13
Clay	27.50	0.47	27.97	0.00	27.97
Duval	144.14	3.52	147.66	0.00	147.66
Flagler	16.23	0.33	16.56	3.60	20.16
Indian River	57.27	97.04	154.31	0.00	154.31
Lake	80.86	6.91	87.77	0.00	87.77
Marion	34.08	1.78	35.86	0.00	35.86
Nassau	46.79	0.88	47.67	1.27	48.94
Okeechobee	7.80	0.00	7.80	0.00	7.80
Orange	135.37	2.54	137.91	0.00	137.91
Osceola	12.50	9.28	21.78	0.00	21.78
Polk	6.04	0.53	6.57	0.00	6.57
Putnam	24.72	45.80	70.52	0.00	70.52
St. Johns	39.62	1.97	41.59	0.00	41.59
Seminole	65.32	0.76	66.08	0.00	66.08
Volusia	80.06	16.05	96.11	0.00	96.11
Total	938.58	222.17	1,160.75	4.87	1,165.62

St. Johns River Water Management District
2002 Total Water Use by Category (mgd)

Category	Freshwater			Saline Water Surface	All Water Total
	Ground	Surface	Total		
Public supply	520.07	15.57	535.64	0.00	535.64
Domestic self-supply	69.44	0.00	69.44	0.00	69.44
Commercial/industrial self-supply	69.94	26.78	96.72	4.87	101.59
Agricultural irrigation self-supply	251.57	131.51	383.08	0.00	383.08
Recreational irrigation self-supply	18.60	21.27	39.87	0.00	39.87
Thermoelectric power generation self-supply	8.96	27.04	36.00	0.00	36.00
Total	938.58	222.17	1,160.75	4.87	1,165.62

St. Johns River Water Management District
2002 Public Supply and Domestic Self-Supply Water Use (mgd)

County	Public Supply Population	Public Supply Water Use	Gross Public Supply Water Use Per Capita	Residential Public Supply Water Use Per Capita	Domestic Self-Supply Population	Domestic Self-Supply Water Use
Alachua	168,677	26.10	155	96	6,991	0.67
Baker	4,416	0.80	181	166	16,953	2.81
Bradford[a]	304	0.12	N/A	127	952	0.12
Brevard[b]	474,173	55.58	117	73	19,929	1.45
Clay	108,596	14.26	131	120	41,305	4.97
Duval	758,236	113.42	150	133	51,158	6.81
Flagler	51,467	7.01	136	87	5,318	0.46
Indian River	100,311	13.31	133	92	17,838	1.65
Lake	189,093	38.75	205	137	40,754	5.57
Marion	124,264	19.33	156	100	72,376	7.20
Nassau	27,371	6.09	222	246	33,723	8.30
Okeechobee[a]	0	0.00	N/A	127	746	0.09
Orange	647,024	111.89	173	130	94,125	12.27
Osceola[a]	0	0.00	N/A	127	1,934	0.25
Polk[a]	7,344	0.40	N/A	127	6,547	0.83
Putnam	23,976	3.01	126	148	47,353	6.99
St. Johns	117,468	14.02	119	116	16,485	1.91
Seminole	358,545	56.11	156	128	29,081	3.71
Volusia	434,257	55.44	128	133	25,480	3.38
Total	3,595,522	535.64	153	127	529,048	69.44
			District average			

Water use data reported in million gallons per day (mgd).
Water use per capita data reported in gallons per day (gpd).

[a]Gross public supply water use per capita calculation not used if less than 5% of county population is within the District. For these counties, the districtwide average replaced the residential public supply water use per capita calculation.
[b]Includes 15.57 mgd surface water used for public supply.

St. Johns River Water Management District
2002 Commercial/Industrial Self-Supply Water Use

County	Freshwater			Saline Water Surface	All Water Total
	Ground	Surface	Total		
Alachua	0.95	0.00	0.95	0.00	0.95
Baker	0.15	0.00	0.15	0.00	0.15
Bradford	0.01	0.00	0.01	0.00	0.01
Brevard	0.97	0.02	0.99	0.00	0.99
Clay	3.82	0.00	3.82	0.00	3.82
Duval	13.05	0.00	13.05	0.00	13.05
Flagler	0.16	0.07	0.23	3.60	3.83
Indian River	0.14	0.00	0.14	0.00	0.14
Lake	10.43	0.00	10.43	0.00	10.43
Marion	1.40	0.00	1.40	0.00	1.40
Nassau	30.70	0.00	30.70	1.27	31.97
Okeechobee	0.08	0.00	0.08	0.00	0.08
Orange	2.99	0.00	2.99	0.00	2.99
Osceola	0.00	0.00	0.00	0.00	0.00
Polk	0.02	0.00	0.02	0.00	0.02
Putnam	4.55	26.69	31.24	0.00	31.24
St. Johns	0.02	0.00	0.02	0.00	0.02
Seminole	0.06	0.00	0.06	0.00	0.06
Volusia	0.44	0.00	0.44	0.00	0.44
Total	69.94	26.78	96.72	4.87	101.59

St. Johns River Water Management District
2002 Agricultural Irrigation Self-Supply Water Use (mgd)

County	Freshwater			Acreage	
	Ground	Surface	Total	Farmed	Irrigated
Alachua	3.40	0.02	3.42	30,547	3,193
Baker	1.47	0.90	2.37	1,245	1,133
Bradford	0.01	0.01	0.02	13	13
Brevard	78.87	15.21	94.08	185,658	75,269
Clay	3.89	0.00	3.89	40,479	342
Duval	2.33	0.19	2.52	21,011	1,351
Flagler	8.51	0.00	8.51	32,854	5,100
Indian River	39.97	92.72	132.69	138,929	80,529
Lake	21.76	3.60	25.36	147,837	19,970
Marion	5.15	0.42	5.57	107,839	6,651
Nassau	0.15	0.00	0.15	148	92
Okeechobee	7.63	0.00	7.63	2,799	2,799
Orange	5.60	1.93	7.53	6,002	5,786
Osceola	12.25	9.28	21.53	353,864	1,124
Polk	4.75	0.53	5.28	5,581	5,581
Putnam	9.23	3.59	12.82	4,515	3,478
St. Johns	22.65	0.00	22.65	41,569	7,158
Seminole	4.49	0.03	4.52	87,652	2,935
Volusia	19.46	3.08	22.54	72,810	5,141
Total	251.57	131.51	383.08	1,281,352	227,645

St. Johns River Water Management District
2002 Recreational Irrigation Self-Supply Water Use (mgd)

County	Freshwater			Acreage	
	Ground	Surface	Total	Total	Irrigated
Alachua	0.44	0.09	0.53	1,376	1,122
Baker	0.09	0.00	0.09	127	61
Bradford	0.00	0.00	0.00	69	55
Brevard	1.25	2.49	3.74	4,381	3,614
Clay	0.56	0.47	1.03	943	590
Duval	2.20	3.33	5.53	3,822	1,908
Flagler	0.09	0.26	0.35	1,290	1,290
Indian River	2.20	4.32	6.52	3,145	2,469
Lake	4.35	3.31	7.66	3,507	1,799
Marion	1.00	1.36	2.36	1,861	706
Nassau	1.55	0.88	2.43	1,028	906
Okeechobee	0.00	0.00	0.00	0	0
Orange	1.89	0.61	2.50	3,525	2,397
Osceola	0.00	0.00	0.00	0	0
Polk	0.04	0.00	0.04	60	35
Putnam	0.21	0.13	0.34	398	316
St. Johns	1.02	1.97	2.99	2,733	2,323
Seminole	0.95	0.73	1.68	3,011	1,847
Volusia	0.76	1.32	2.08	4,463	2,920
Total	18.60	21.27	39.87	35,739	24,358

St. Johns River Water Management District
2002 Thermoelectric Power Generation Self-Supply Water Use (mgd)

County	Freshwater			Saline Water	All Water
	Ground	Surface	Total	Total	Total
Alachua	0.30	0.00	0.30	0.00	0.30
Baker	0.00	0.00	0.00	0.00	0.00
Bradford	0.00	0.00	0.00	0.00	0.00
Brevard	0.29	0.00	0.29	0.00	0.29
Clay	0.00	0.00	0.00	0.00	0.00
Duval	6.33	0.00	6.33	0.00	6.33
Flagler	0.00	0.00	0.00	0.00	0.00
Indian River	0.00	0.00	0.00	0.00	0.00
Lake	0.00	0.00	0.00	0.00	0.00
Marion	0.00	0.00	0.00	0.00	0.00
Nassau	0.00	0.00	0.00	0.00	0.00
Okeechobee	0.00	0.00	0.00	0.00	0.00
Orange	0.73	0.00	0.73	0.00	0.73
Osceola	0.00	0.00	0.00	0.00	0.00
Polk	0.00	0.00	0.00	0.00	0.00
Putnam	0.73	15.39	16.12	0.00	16.12
St. Johns	0.00	0.00	0.00	0.00	0.00
Seminole	0.00	0.00	0.00	0.00	0.00
Volusia	0.58	11.65	12.23	0.00	12.23
Total	8.96	27.04	36.00	0.00	36.00

Water returned to source is non-consumptive use and therefore not reported.

St. Johns River Water Management District
Crops Included in Estimates of Water Use for Agricultural Irrigation Self-Supply

Vegetable Crops	Fruit Crops	Field Crops	Ornamentals and Grasses
Cabbage	Blueberries	Cotton	Ferns
Carrots	Citrus	Field corn	Ornamentals (field grown)
Cucumbers	Grapes	Peanuts	Ornamentals (container grown)
Peppers	Peaches	Rice	Improved pasture
Potatoes	Pecans	Sorghum	Sod
Tomatoes	Strawberries	Soybeans	
Sweet corn	Watermelons	Tobacco	
Misc. vegetables	Misc. fruits and nuts	Wheat	
		Misc. field crops	