TECHNICAL FACT SHEET SJ2006-FS1

ANNUAL WATER USE DATA
2004

St. Johns River Water Management District
2004 Annual Water Use Data

Latest update: July 26, 2006

Introduction: The following information reports 2004 water use 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.

Note: In some instances, a water supply facility may serve areas within SJRWMD but withdraw water from sources outside of SJRWMD boundaries. For these facilities, only water use within SJRWMD boundaries is reflected in this document.

Contact: For additional information, please contact: Penni Hauck, Division of Water Supply Management, (386) 329-4873.

Term	Definition	Data Source/Methodology
mgd	Million gallons per day. All water use is expressed in million gallons per day unless otherwise noted.	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 Freshwater may be withdrawn from either ground or surface water sources.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 All reported saline water is withdrawn from surface water sources.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 from sources such as rivers or lakes, located on the earth's surface. Surface water may be either fresh or saline.	N/A
Reuse/reclaimed water	Treated wastewater distributed for nonpotable uses such as residential and recreational irrigation.	Reclaimed water use data obtained directly from wastewater treatment facility operators and major reclaimed water users by EN-50 reports and surveys.
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, 2004.

Term	Definition	Data Source/Methodology
Water use category	Classifications based on the following six types of water use: public supply, domestic self-supply, agricultural self-supply, recreational self-supply, commercial/industrial/institutional self-supply and thermoelectric power generation self-supply.	N/A
Public supply	Water supplied to homes, commercial sites 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.	Water use data obtained from the District's monthly hydrologic conditions report, EN-50 reports submitted to the District by consumptive use permittees, and monthly operating reports (MORs) submitted to the Florida Department of Environmental Protection (FDEP).
Domestic self-supply	Water withdrawn from privately owned residential wells.	This water use is not inventoried so data is estimated from residential population and public supply 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 total county 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/ institutional self-supply	Commercial, industrial and institutional users that withdraw more than 0.01 mgd and are not served by public supply utilities. This category includes businesses, government facilities, military installations, schools, prisons, hospitals, and industrial users, such as mining, processing, and manufacturing facilities.	Data reflects actual water use reported by consumptive use permittees on EN-50 reports.

Term	Definition	Data Source/Methodology
Agricultural irrigation self-supply	Water withdrawals from ground and surface water sources that are used for supplemental crop irrigation.	Irrigational water use is assessed by crop due to specific consumption requirements. Corresponding estimates are based on the modified Blaney-Criddle model and Benchmark Farms Program data that is supplemented by USDA-SCS and NOAA data. Crop type and acreage data are provided through a survey of county agricultural extension agents.
Recreational irrigation self-supply	Water withdrawals from ground and surface water sources that are used for recreational water uses, such as golf course irrigation.	Data reflects actual water use submitted by consumptive use permittees on EN-50 reports.
Thermoelectric power generation self-supply	Water withdrawals from ground and surface water sources that are used by power plants. This does not include water used for once-through cooling, which is considered nonconsumptive.	Data reflects actual water use reported by power plant operators on EN-50 reports.

Table 1

St. Johns River Water Management District
2004 Population by County

County	County Population	Percentage of County Population in SJRWMD	SJRWMD Population	Public Supply Population	Domestic Self-Supply Population
Alachua	236,174	76.8%	181,382	174,260	7,122
Baker	23,963	92.9%	22,262	4,602	17,660
Bradford	27,740	4.7%	1,304	318	986
Brevard	521,422	100.0%	521,422	500,391	21,031
Clay	163,461	100.0%	163,461	118,420	45,041
Duval	840,474	100.0%	840,474	787,352	53,122
Flagler	69,683	100.0%	69,683	63,157	6,526
Indian River	126,829	100.0%	126,829	107,681	19,148
Lake	251,878	99.5%	250,619	206,119	44,500
Marion	293,317	72.5%	212,655	134,450	78,205
Nassau	65,016	100.0%	65,016	29,128	35,888
Okeechobee	38,004	2.0%	760	0	760
Orange	1,013,937	77.5%	785,801	686,333	99,468
Osceola	225,816	1.0%	2,258	0	2,258
Putnam	73,226	100.0%	73,226	24,614	48,612
St. Johns	149,336	100.0%	149,336	130,958	18,378
Seminole	403,361	100.0%	403,361	373,100	30,261
Volusia	484,261	100.0%	484,261	457,422	26,839
Total	5,007,898		4,354,110	3,798,305	555,805

State of Florida total population, 2004: 17,516,732
Percent of state of Florida population living within SJRWMD: 25%
Percent of SJRWMD population served by public supply: 87%

Table 2

St. Johns River Water Management District
2004 Total Water Use by County in Million Gallons Per Day (mgd)

County	Freshwater			Saline Surface Water	Reuse	All Sources
	Ground	Surface	Total	Total	Total	Total
Alachua	37.77	0.25	38.02	0.00	2.57	40.59
Baker	5.88	0.99	6.87	0.00	0.00	6.87
Bradford	3.15	0.04	3.19	0.00	0.00	3.19
Brevard	117.99	38.56	156.55	0.00	3.32	159.87
Clay	31.39	2.04	33.43	0.00	0.25	33.68
Duval	158.38	7.27	165.65	0.00	0.95	166.60
Flagler	17.73	0.94	18.67	3.60	2.11	24.38
Indian River	96.78	162.72	259.50	0.00	2.90	262.40
Lake	82.52	41.29	123.81	0.00	5.36	129.17
Marion	37.97	4.65	42.62	0.00	1.35	43.97
Nassau	47.14	0.69	47.83	1.15	1.26	50.24
Okeechobee	6.60	0.00	6.60	0.00	0.00	6.60
Orange	142.41	6.44	148.85	0.00	1.93	150.78
Osceola	22.75	32.13	54.88	0.00	0.00	54.88
Putnam	23.44	43.34	66.78	0.00	0.04	66.82
St. Johns	28.46	4.35	32.81	0.00	1.27	34.08
Seminole	85.82	0.97	86.79	0.00	6.30	93.09
Volusia	84.33	20.37	104.70	0.00	8.19	112.89
Total	1,030.51	367.04	1,397.55	4.75	37.80	1,440.10

Table 3

St. Johns River Water Management District
2004 Total Water Use by Category in mgd

Category	Freshwater			Saline Surface Water	Reuse	All Sources
	Ground	Surface	Total	Total	Total	Total
Public supply	571.48	25.08	596.56	0.00	16.94	613.50
Domestic self-supply	72.91	0.00	72.91	0.00	0.00	72.91
Commercial/industrial self-supply	78.85	71.23	150.08	4.75	2.70	157.53
Agricultural irrigation self-supply	275.99	207.33	483.32	0.00	0.00	483.32
Recreational irrigation self-supply	28.13	35.09	63.22	0.00	18.10	81.32
Thermoelectric power generation self-supply	3.15	28.31	31.46	0.00	0.06	31.52
Total	1,030.51	367.04	1,397.55	4.75	37.80	1,440.10

Table 4

St. Johns River Water Management District
2004 Public Supply and Domestic Self-Supply Water Use in mgd

	Public Supply Freshwater			Domestic Self-Supply Freshwater (All Ground)
County	Ground	Surface	Total	Total
Alachua	27.85	0.00	27.85	0.68
Baker	0.82	0.00	0.82	2.93
Bradford	0.45	0.00	0.45	0.13
Brevard	49.46	16.13	65.59	1.54
Clay	18.17	0.00	18.17	5.40
Duval	128.16	0.00	128.16	7.07
Flagler	7.49	0.20	7.69	0.57
Indian River	18.13	3.96	22.09	1.76
Lake	42.68	3.09	45.77	6.10
Marion	20.47	0.19	20.66	7.82
Nassau	6.65	0.00	6.65	8.83
Okeechobee	0.00	0.00	0.00	0.10
Orange	116.63	0.10	116.73	12.93
Osceola	0.00	0.00	0.00	0.29
Putnam	3.42	0.00	3.42	7.19
St. Johns	17.15	0.73	17.88	2.13
Seminole	56.06	0.06	56.12	3.87
Volusia	57.89	0.62	58.50	3.57
Total	571.48	25.08	596.56	72.91

Table 5

St. Johns River Water Management District
2004 Commercial/Industrial/Institutional Self-Supply Water Use in mgd

County	Freshwater			Saline Water	Reuse	All Sources
	Ground	Surface	Total	Surface	Total	Total
Alachua	0.54	0.06	0.60	0.00	2.40	3.00
Baker	0.44	0.00	0.44	0.00	0.00	0.44
Bradford	1.17	0.00	1.17	0.00	0.00	1.17
Brevard	3.08	7.91	10.99	0.00	0.07	11.06
Clay	3.27	0.95	4.22	0.00	0.00	4.22
Duval	16.82	3.97	20.79	0.00	0.00	20.79
Flagler	0.43	0.00	0.43	3.60	0.00	4.03
Indian River	2.06	0.21	2.27	0.00	0.00	2.27
Lake	8.91	28.42	37.33	0.00	0.00	37.33
Marion	3.04	3.22	6.26	0.00	0.00	6.26
Nassau	29.73	0.05	29.78	1.15	0.00	30.93
Okeechobee	0.07	0.00	0.07	0.00	0.00	0.07
Orange	3.09	2.82	5.91	0.00	0.06	5.97
Osceola	0.00	0.00	0.00	0.00	0.00	0.00
Putnam	3.68	23.04	26.72	0.00	0.00	26.72
St. Johns	0.36	0.58	0.94	0.00	0.00	0.94
Seminole	0.61	0.00	0.61	0.00	0.02	0.63
Volusia	1.55	0.00	1.55	0.00	0.15	1.70
Total	78.85	71.23	150.08	4.75	2.70	157.53

Table 6

St. Johns River Water Management District
2004 Agricultural Irrigation Self-Supply Water Use in mgd

	Freshwater			Acreage	
County	Ground	Surface	Total	Farmed	Irrigated
Alachua	7.60	0.03	7.63	35,109	5,091
Baker	1.61	0.99	2.60	1,414	1,252
Bradford	0.15	0.04	0.19	156	156
Brevard	61.21	12.32	73.53	119,509	29,509
Clay	3.96	0.61	4.57	40,479	2,227
Duval	1.47	0.07	1.54	21,127	1,467
Flagler	9.02	0.00	9.02	32,399	4,645
Indian River	71.53	146.99	218.52	138,529	79,312
Lake	19.08	5.40	24.48	148,698	21,833
Marion	3.96	0.12	4.08	6,511	6,483
Nassau	0.16	0.00	0.16	142	106
Okeechobee	6.43	0.00	6.43	7,199	2,799
Orange	7.54	2.46	10.00	7,057	7,057
Osceola	22.46	32.13	54.59	144,727	6,438
Putnam	8.25	2.93	11.18	9,073	8,119
St. Johns	7.04	0.03	7.07	25,539	25,339
Seminole	24.56	0.00	24.56	7,307	3,046
Volusia	19.96	3.21	23.17	79,220	11,551
Total	275.99	207.33	483.32	824,195	216,430

Table 7

St. Johns River Water Management District
2004 Recreational irrigation Self-Supply Water Use in mgd

County	Freshwater			Reuse	All Sources
	Ground	Surface	Total	Total	Total
Alachua	0.68	0.16	0.84	0.17	1.01
Baker	0.08	0.00	0.08	0.00	0.08
Bradford	1.25	0.00	1.25	0.00	1.25
Brevard	2.39	2.20	4.59	2.74	7.33
Clay	0.59	0.48	1.07	0.25	1.32
Duval	4.25	3.23	7.48	0.95	8.43
Flagler	0.22	0.74	0.96	0.49	1.45
Indian River	3.30	11.56	14.86	1.69	16.55
Lake	5.75	4.38	10.13	2.23	12.36
Marion	2.68	1.12	3.80	1.35	5.15
Nassau	1.77	0.64	2.41	1.26	3.67
Okeechobee	0.00	0.00	0.00	0.00	0.00
Orange	1.37	1.06	2.43	1.84	4.27
Osceola	0.00	0.00	0.00	0.00	0.00
Putnam	0.26	0.00	0.26	0.04	0.30
St. Johns	1.78	3.01	4.79	1.27	6.06
Seminole	0.72	0.91	1.63	1.74	3.37
Volusia	1.04	5.60	6.64	2.08	8.72
Total	28.13	35.09	63.22	18.10	81.32

Table 8

St. Johns River Water Management District
2004 Thermoelectric Power Generation Self-Supply Water Use in mgd

County	Freshwater			Reuse Total	All Sources Total
	Ground	Surface	Total		
Alachua	0.42	0.00	0.42	0.00	0.42
Baker	0.00	0.00	0.00	0.00	0.00
Bradford	0.00	0.00	0.00	0.00	0.00
Brevard	0.31	0.00	0.31	0.06	0.37
Clay	0.00	0.00	0.00	0.00	0.00
Duval	0.61	0.00	0.61	0.00	0.61
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	0.85	0.00	0.85	0.00	0.85
Osceola	0.00	0.00	0.00	0.00	0.00
Putnam	0.64	17.37	18.01	0.00	18.01
St. Johns	0.00	0.00	0.00	0.00	0.00
Seminole	0.00	0.00	0.00	0.00	0.00
Volusia	0.32	10.94	11.26	0.00	11.26
Total	3.15	28.31	31.46	0.06	31.52

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

Table 9

St. Johns River Water Management District
2004 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	