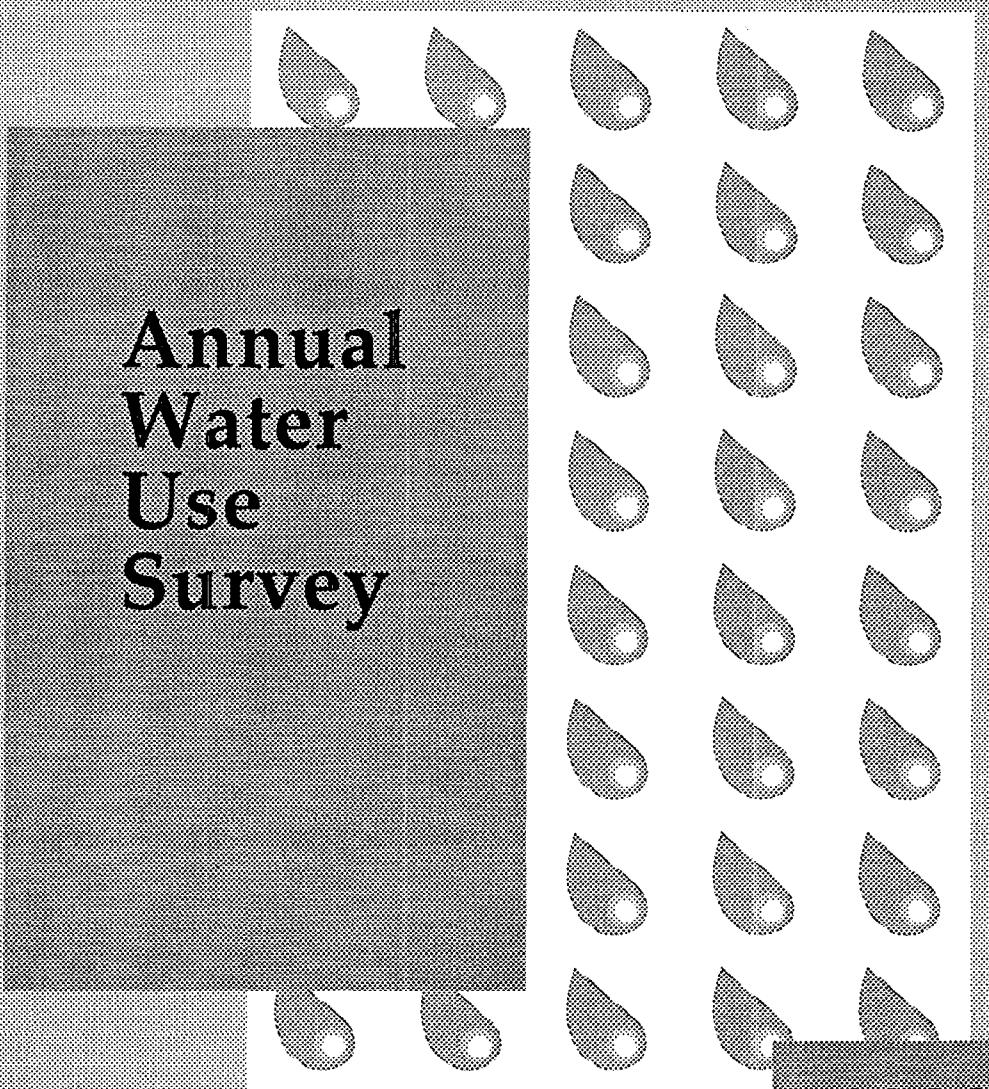
Technical Report SJ 91-6



Annual Water Use Survey

1989

St. Johns River Water Management District

Technical Publication SJ 91-6

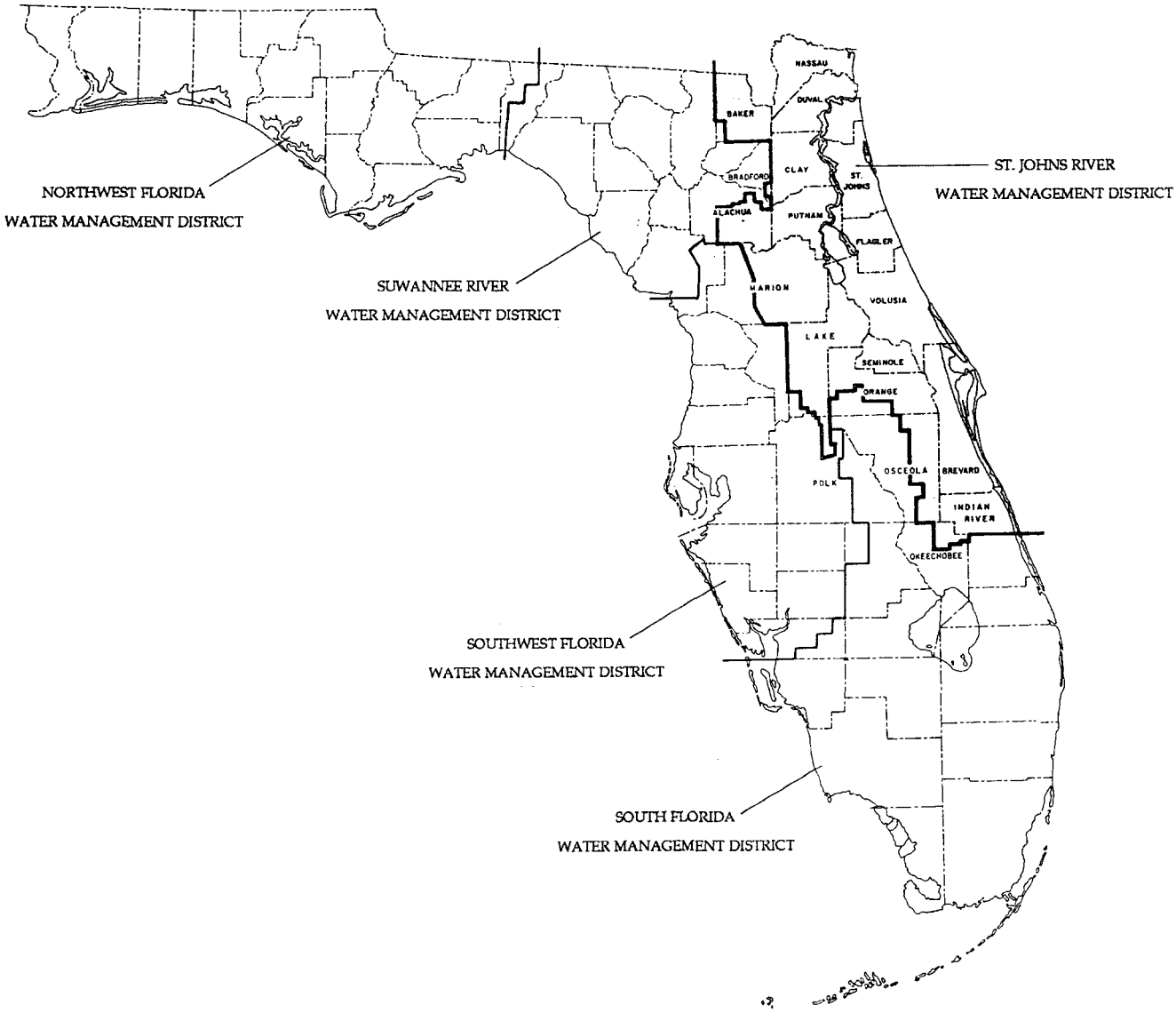
ANNUAL WATER USE SURVEY: 1989

by

Bruce L. Florence

St. Johns River Water Management District
Palatka, Florida

1991



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

The St. Johns River Water Management District (SJRWMD) was created by the Florida Legislature in 1972 to be one of five water management districts in Florida. It includes all or parts of 19 counties in northeast Florida. The mission of SJRWMD is to manage water resources to ensure their continued availability while maximizing environmental and economic benefits. It accomplishes its mission through regulation; applied research; assistance to federal, state, and local governments; operation and maintenance of water control works; and land acquisition and management. Technical reports are published to disseminate information collected by SJRWMD in pursuit of its mission.

Copies of this report can be obtained from:

Library
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EXECUTIVE SUMMARY

This report assesses water use in the St. Johns River Water Management District (SJRWMD) for 1989. This assessment presents the total quantities of water used, arranged by source (ground or surface), six categories of use, and county. Water use data have been published annually by SJRWMD since 1978.

Water use covers all water withdrawals from ground water or surface water sources. Water use values are the average annual quantities withdrawn rounded to the nearest 10,000 gallons and expressed in million gallons per day (mgd).

The total amount of water used in SJRWMD in 1989, including fresh and saline water, was 3,163.70 mgd. Of that total, 1,523.17 mgd, or about 48 percent, was fresh water.

Most surface water used was saline water, used for thermoelectric power generation. The total surface water use for SJRWMD was 2,001.00 mgd, of which 1,595.28 mgd was for power generation. The total amount of ground water withdrawn in SJRWMD was 1,162.70 mgd. All ground water was fresh water.

The largest use of fresh ground water was for public supply —415.63 mgd or 36 percent of the total for SJRWMD—followed closely by agricultural irrigation—390.07 mgd or 34 percent of the total. The largest use of fresh surface water was for agricultural irrigation— 210.02 mgd, or nearly 58 percent of the total fresh surface water use in SJRWMD.

Brevard County had the largest total water use, at 1,262.58 mgd, because of large saline surface water withdrawals. Discounting saline surface water use, Orange County had the highest total fresh water use, at 218.60 mgd, closely followed by Volusia County, at 215.73 mgd.

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INTRODUCTION

This report assesses water use in the St. Johns River Water Management District (SJRWMD) for 1989. This assessment presents the total quantities of water used arranged by source (ground or surface), six categories of use, and county (see Appendix). Water use data have been published annually by SJRWMD since 1978.

Water use covers all water withdrawals from ground or surface water sources. Water use data are expressed in million gallons per day (mgd). Water use values are the average annual quantities withdrawn and are rounded to the nearest 10,000 gallons (.01 mgd).

SJRWMD includes all or part of nineteen counties in northeast Florida (Figure 1). The following counties are wholly or partly included in SJRWMD:

Alachua
Baker
Bradford
Brevard
Clay
Duval
Flagler
Indian River
Lake
Marion
Nassau
Okeechobee
Orange
Osceola
Polk
Putnam
St. Johns
Seminole
Volusia

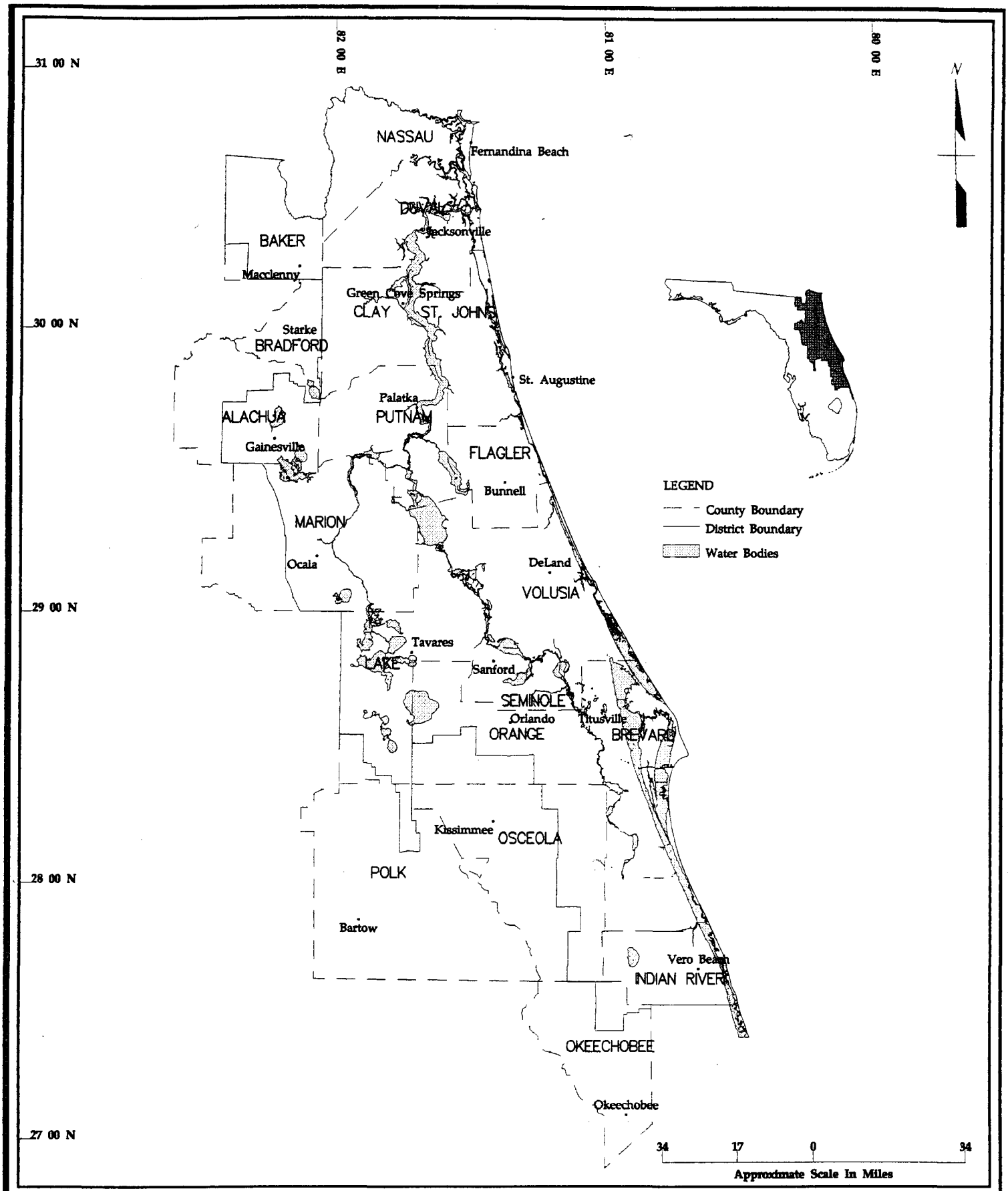


FIGURE 1
St. Johns River Water Management District

WATER USE CATEGORIES

Water use information is reported for six categories of use:

- Public supply
- Domestic self-supply
- Commercial/industrial self-supply
- Thermoelectric power generation
- Agricultural irrigation
- Miscellaneous

PUBLIC SUPPLY

The public supply category consists of water supplied by utilities to homes and industries. The reported amounts are a minimum, as some utilities report water withdrawals taken into the plant and others report only deliveries to service, which can be less than withdrawals. Utilities that serve 400 people or more or withdraw more than 10,000 gallons per day from ground or surface water sources are included in the public supply category. These data come from utility records and are estimated to the nearest 10,000 gallons per day.

The 195 public supply utilities included in this report served 2,598,404 people in 1989, or about 83 percent of the total population in SJRWMD. The rest of the population is assumed to use domestic self-supplied systems. Population data are estimated from Florida Bureau of Economics and Business Research figures (Shoemyen et al. 1990, University of Florida 1990a) or from the average service connections reported in the utility records multiplied by the average number of people per household (University of Florida 1990b).

DOMESTIC SELF-SUPPLY

The domestic self-supply category includes water withdrawn by individual domestic wells or provided by utilities that serve

fewer than 400 people. All domestic self-supplied water is assumed to be ground water, and it is assumed that individual wells are drilled into the easiest accessible aquifer that could produce the water, based on aquifer depth. Small utilities and domestic wells are not inventoried, so water use in this category is estimated from population and per capita water use figures.

As SJRWMD follows watershed, not county, boundaries and some counties are only partially included in the District, SJRWMD population figures are estimated to be a percentage of the total county population. The percentages are based on 1980 census data (Table 1).

SJRWMD populations are further adjusted if the people served by a public supply utility do not live in SJRWMD—so that the water use population is larger than the District population—or if the people living in the District are served by a utility outside the District—so that the water use population is smaller than the District population (Table 2).

Domestic self-supplied water use is derived by subtracting the number of people served by public supply systems from the water use population of the county to obtain a domestic self-supplied population and multiplying the result by the county per capita water use. Per capita water use is derived by dividing the public supply water use by the public supply population.

COMMERCIAL/INDUSTRIAL SELF-SUPPLY

The commercial/industrial self-supply category consists of the larger commercial and industrial users not covered by public supply utilities. The commercial category includes businesses and institutions, such as government facilities, military installations, schools, prisons, hospitals, and recreational facilities. The industrial category includes mining, processing, and manufacturing facilities. It does not include water used for power generation by thermoelectric power plants.

Table 1. Population in the St. Johns River Water Management District (SJRWMD), by county, 1989

County	County Population*	Percentage of County in SJRWMD	SJRWMD Population
Alachua	186,772	69%	128,873
Baker	19,364	95%	18,396
Bradford	28,804	7%	1,736
Brevard	403,500	100%	403,500
Clay	102,796	100%	102,796
Duval	686,337	100%	686,337
Flagler	23,911	100%	23,911
Indian River	91,375	100%	91,375
Lake	146,333	98%	143,406
Marion	190,742	80%	152,594
Nassau	47,863	100%	47,863
Okeechobee	29,941	1.5%	449
Orange	653,982	81.5%	532,995
Osceola	97,605	0.5%	488
Polk	410,863	1.5%	6,163
Putnam	62,828	100%	62,828
St. Johns	84,389	100%	84,389
Seminole	281,049	100%	281,049
Volusia	360,049	100%	360,049
DISTRICT TOTALS	3,904,503		3,129,197

*Source: Shoemyen et al. 1990

Table 2. Water use population in the St. Johns River Water Management District (SJRWMD), by county, 1989

County	SJRWMD Population	Adjustments to SJRWMD Population*	Water Use Population	Public Supply Population	Domestic Self-supply Population
Alachua	128,873	+9,709	138,582	126,022	12,560
Baker	18,396	-0-	18,396	4,270	14,126
Bradford	1,736	-0-	1,736	351	1,385
Brevard	403,500	-0-	403,500	355,303	48,197
Clay	102,796	-0-	102,796	73,673	29,123
Duval	686,337	-0-	686,337	600,898	85,439
Flagler	23,911	-0-	23,911	19,487	4,424
Indian River	91,375	-0-	91,375	52,251	39,124
Lake	143,406	-0-	143,406	99,305	44,101
Marion	152,594	-0-	152,594	73,205	79,389
Nassau	47,863	-0-	47,863	22,327	25,536
Okeechobee	449	-0-	449	-0-	449
Orange	532,995	-0-	532,995	507,388	25,607
Osceola	488	-0-	488	-0-	488
Polk	6,163	-3,150	3,013	850	2,163
Putnam	62,828	-0-	62,828	22,096	40,732
St. Johns	84,389	-0-	84,389	66,474	17,915
Seminole	281,049	-0-	281,049	254,182	26,867
Volusia	360,049	-0-	360,049	320,322	39,727
District Totals	3,129,197	+6,559	3,135,756	2,598,404	537,352

*A positive number means water was withdrawn in SJRWMD and used by residents of another water management district. A negative number means water was withdrawn in another water management district and used by SJRWMD residents.

NOTE: Adjustments to SJRWMD population and public supply population figures are found in Appendix as footnotes.

Only self-supplied facilities that used more than 0.01 mgd of ground or surface water were inventoried. In 1989, 39 commercial and 59 industrial users were included in this survey. Water used in the mining industry to transport materials from the mine pit to the plant and water pumped for dewatering mining pits are considered conveyance and are not included in estimates of water use.

The data for this category are based on reported water use or permitted allowances. The data were collected using information from the consumptive use permits issued by SJRWMD to the facilities and information from monthly operating reports received by SJRWMD, the Florida Department of Environmental Regulation (DER), or the Florida Department of Health and Rehabilitative Services (HRS). Industries not reporting to DER or SJRWMD were contacted individually by District staff.

Agricultural Irrigation

The agricultural water use category consists of estimated water withdrawals from ground or surface sources for agricultural irrigation. Estimates of the acreage planted in various crops are multiplied by estimates of the water necessary to irrigate those crops per acre.

Water use for irrigation is assessed by crop, because different crops require different amounts of irrigation (USDA 1970). There are 33 types of crops assessed, and these are divided into four groups (Table 3):

- vegetables
- fruits
- field crops
- ornamentals and grasses

Some other agricultural water uses are also included in the agricultural irrigation category, such as livestock watering and lake augmentation for fish farming.

Table 3. Crops included in the estimates of water use for agricultural irrigation

Vegetable Crops	Fruit Crops	Field Crops	Ornamentals and Grasses
cabbage	blueberries	field corn	ferns
carrots	citrus	peanuts	flower & foliage
cucumbers	grapes	rice	woody ornamentals
peppers	peaches	sorghum	improved pasture
potatoes	pecans	soybeans	sod
tomatoes	strawberries	sugar cane	turf grass
sweet corn	watermelons	tobacco	
watercress	miscellaneous fruits	wheat	
miscellaneous vegetables		miscellaneous grains	

The acreage data are primarily supplied by the Institute of Food and Agricultural Sciences (IFAS) at the University of Florida, supplemented by information from SJRWMD Consumptive Use Permit (CUP) files and the Florida Department of Agriculture and Consumer Services (FDACS 1990a,b). The Florida Crop and Livestock Reporting Service provides counts of livestock, which are multiplied by a certain amount of water use per head (FDACS 1990c).

The estimates of irrigation necessary per acre for each crop are calculated using the modified Blaney-Criddle irrigation model (USDA 1970) and data from the SJRWMD Benchmark Farms irrigation monitoring program (Singleton 1990), supplemented by other information from the U.S. Department of Agriculture Soil Conservation Service (USDA 1970, 1982) and the National Oceanographic and Atmospheric Administration (NOAA 1990). The aquifer from which water for agricultural irrigation was withdrawn was determined using area maps of crops and depth to the aquifers.

Thermoelectric Power Generation

The thermoelectric power generation category of water use consists of water used, primarily for cooling, by power plants. These figures are derived from permit information from the SJRWMD CUP files or data supplied by the power companies to SJRWMD, DER, or HRS in monthly operating reports. In 1989, water use data were collected for 11 self-supplied thermoelectric power plants.

Miscellaneous

The miscellaneous category of water use includes an assortment of uses not covered in the other categories: water used to operate heat pump and air conditioning units, water used for residential lawn irrigation, and estimates of water flowing from abandoned artesian wells.

Data for heat pump and air conditioning units are collected from the Volusia County Vol-Data file (Leach 1983) and SJRWMD CUP files. All figures for industrial and commercial miscellaneous water use are collected from permit information in the SJRWMD CUP files. Data for residential heat pump/air conditioning water use were collected for seven counties only: Alachua, Duval, Orange, Putnam, St. Johns, Brevard, and Volusia; the remaining counties in SJRWMD are presently being inventoried. Data for residential lawn irrigation are taken from Skipp (1988).

Water flowing from abandoned artesian wells is estimated based on an average of metered flow from some wells multiplied by an estimated number of wells. For counties where known flows exist, the average of the known flows in that county is used to estimate flow from the wells of unknown flow. For counties where no flows have been metered, the District average for all wells of known flow is used. In 1989, the District average for all wells of known flow was 0.12 mgd (Steele 1990).

All miscellaneous wells are known to be Floridan aquifer wells.

1989 Water Use by Source

Water can be withdrawn from surface water bodies or from the various aquifers within SJRWMD. There are three ground water aquifers in SJRWMD: the surficial, the intermediate, and the Floridan. Most ground water used in SJRWMD comes from the Floridan aquifer.

For the purposes of this report, fresh water (ground or surface) is defined as any water containing less than 1,000 mg/L of total dissolved solids (See Glossary). Fresh water includes both potable and non-potable water. Potable water is defined as containing less than 250 mg/L chlorides and less than 500 mg/L of total dissolved solids. Non-potable, or slightly saline, water is defined as water with a chloride concentration between 250 and 1,000 mg/L or a total dissolved solids concentration between 500 and 3,000 mg/L. Small amounts of slightly saline ground water are either diluted with fresh water or treated by reverse osmosis to potable standards to be used for public supply. For other uses slightly saline water is not treated. In this report, slightly saline water is included in the reported quantities of fresh water. In reports published before 1987, slightly saline water was reported as saline.

Some of the surface water use recorded in this report is saline water. Saline water is defined as water with a total dissolved solids concentration of more than 3,000 mg/L.

Total Water Use From All Sources

Total water used in SJRWMD in 1989 was 3,163.70 mgd, of which 1,523.17 mgd was fresh water and 1,640.53 mgd was saline surface water (Table 4).

The largest use of fresh ground water was for public supply—415.63 mgd (Table 5) or about 36 percent (Figure 2) of the total—followed closely by agricultural irrigation—390.07 mgd, or 34 percent of the total fresh ground water use in SJRWMD. The

Table 4. Total 1989 water use by county, St. Johns River Water Management District (in million gallons per day)

COUNTY	GROUND WATER	SURFACE WATER		TOTALS
	FRESH	FRESH	SALINE	
Alachua	32.48	0.15	0.00	32.63
Baker	7.07	2.20	0.00	9.27
Bradford	0.33	0.00	0.00	0.33
Brevard	177.74	26.35	1,058.49	1,262.58
Clay	24.50	0.26	0.00	24.76
Duval	167.74	1.02	443.18	611.94
Flagler	11.03	0.96	0.00	11.99
Indian River	83.46	107.36	137.46	328.28
Lake	96.24	13.26	0.00	109.50
Marion	36.70	1.26	0.00	37.96
Nassau	41.24	0.49	1.40	43.13
Okeechobee	9.94	0.25	0.00	10.19
Orange	165.82	52.78	0.00	218.60
Osceola	6.82	7.13	0.00	13.95
Polk	11.52	1.14	0.00	12.66
Putnam	77.07	17.69	0.00	94.76
St. Johns	49.78	1.10	0.00	50.88
Seminole	72.44	2.12	0.00	74.56
Volusia	90.78	124.95	0.00	215.73
DISTRICT TOTALS	1,162.70	360.47	1,640.53	3,163.70

Note: 0.00 value means no pumpage was reported over 10,000 gallons per day.

Table 5. Total 1989 water use by category (in million gallons per day), St. Johns River Water Management District

CATEGORY	FRESH			SALINE*
	GROUND	SURFACE	TOTAL	SURFACE
Public Supply	415.63	15.49	431.12	0.00
Domestic Self-Supply	90.24	0.00	90.24	0.00
Commercial/Industrial	144.65	4.01	148.66	45.25
Agricultural	390.07	210.02	600.09	0.00
Thermoelectric Power Generation	6.16	130.95	137.11	1,595.28
Miscellaneous	115.95	0.00	115.95	0.00
TOTALS	1,162.70	360.47	1,523.17	1,640.53

* Saline water is all from surface water sources.

Note: 0.00 value means no pumpage was reported over 10,000 gallons per day.

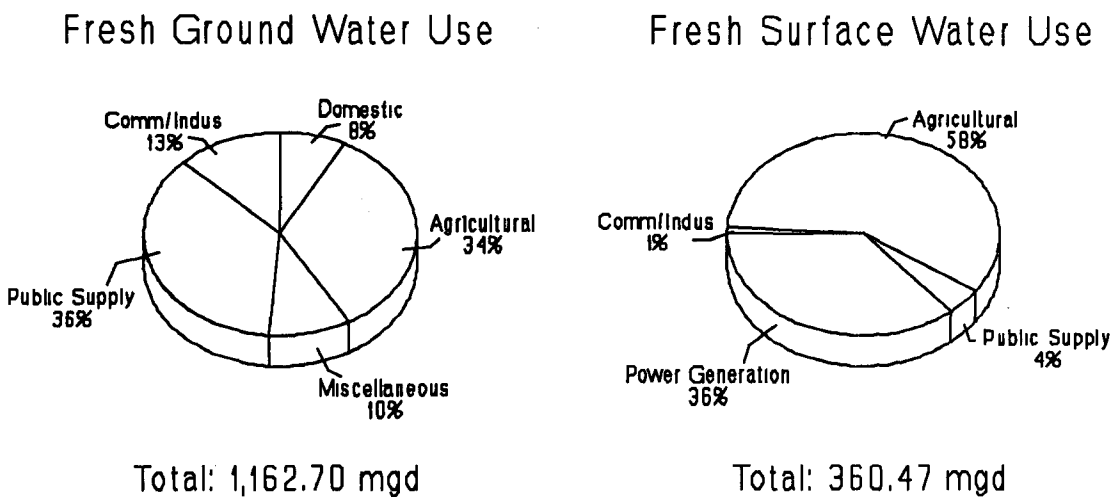


Figure 2. **Total Fresh Water Use, 1989.** *Most of the fresh water used in St. Johns River Water Management District came from ground water sources. Surface water is used primarily for agricultural irrigation and thermoelectric power generation.*

largest use of fresh surface water was for agricultural irrigation—210.02 mgd, or 58 percent of the total fresh surface water used in SJRWMD.

SURFACE WATER

In 1989, surface water accounted for a total of 2,001.00 mgd of water use (Table 4). This included water from both fresh and saline surface water sources. About 24 percent (360.47 mgd) of the total fresh water used in SJRWMD came from surface water sources. All of the saline water discussed in this report came from surface water sources.

Fresh Water

The county using the most fresh surface water (124.95 mgd) was Volusia County (Table 4). Most of this water was for thermoelectric power generation. Indian River County used 107.36 mgd of fresh surface water, all of it for agricultural irrigation. Water use in these two counties totaled 232.31 mgd, or 64 percent of the total fresh surface water used in SJRWMD in 1989.

The largest category of fresh surface water use was agricultural irrigation, which accounted for 210.02 mgd (Table 5), or 58 percent (Figure 2) of the total fresh surface water use in SJRWMD. The second largest category of fresh surface water use was thermoelectric power generation, which accounted for 130.95 mgd, or 36 percent of the total. Fresh surface water withdrawn for public supply accounted for 15.49 mgd, or about 4 percent of the total fresh surface water used. Commercial/industrial water use accounted for 4.01 mgd, or about 1 percent of the total fresh surface water use in SJRWMD (Figure 2).

Saline Water

Total saline water use in SJRWMD in 1989 was 1,640.53 mgd (Table 4). Saline surface water is primarily used in SJRWMD for thermoelectric power generation or for commercial/industrial plant operation (Table 5). Thermoelectric power plants use large

amounts of saline water for cooling purposes. This is recorded as a water use in this report even though nearly all of the cooling water is returned to its original source.

Brevard County used the most saline surface water—1,058.49 mgd (Table 4) for thermoelectric power generation at two plants:

- Florida Power and Light (591.48 mgd)
- Orlando Utilities Commission (467.01 mgd)

Duval County used 443.18 mgd (Table 4) of saline surface water for power generation and commercial purposes at four plants:

- Jacksonville Electric Authority (359.83 mgd)
- Eastport Power Plant (39.50 mgd)
- Seminole Kraft Corporation (41.54 mgd)
- Jacksonville Shipyard (2.31 mgd)

Indian River County used saline surface water at the Vero Beach Municipal Power Plant (137.46 mgd), and Nassau County used saline water at the ITT Rayonier paper mill (1.40 mgd).

GROUND WATER

In 1989, 1,162.70 mgd, or 76 percent of the fresh water used in SJRWMD, came from ground water sources. All ground water withdrawals are fresh water. Most of the ground water used in SJRWMD is withdrawn from the Floridan aquifer (Table 6).

The counties in SJRWMD using the most ground water were Brevard, Duval, and Orange (Tables 4 and 6). Each of these counties used more than 100 mgd of ground water, for a total of 511.30 mgd for the three counties, or 44 percent of the total ground water used in SJRWMD in 1989.

The largest category of ground water use in 1989 in SJRWMD was public supply, which accounted for about 415.63 mgd (Table

Table 6. Source of ground water by county, St. Johns River Water Management District, 1989 (in million gallons per day)

County	Total Ground	Intermediate and Surficial		Floridan	
		Quantity	Percentage	Quantity	Percentage
Alachua	32.48	1.95	6%	30.53	94%
Baker	7.07	3.39	48%	3.68	52%
Bradford	0.33	0.02	6%	0.31	94%
Brevard	177.74	28.44	16%	149.30	84%
Clay	24.50	3.43	14%	21.07	86%
Duval	167.74	15.10	9%	152.64	91%
Flagler	11.03	2.76	25%	8.27	75%
Indian River	83.46	23.37	28%	60.09	72%
Lake	96.24	7.70	8%	88.54	92%
Marion	36.70	6.97	19%	29.73	81%
Nassau	41.24	2.88	7%	38.36	93%
Okeechobee	9.94	0.00	0%	9.94	100%
Orange	165.82	3.28	2%	162.54	98%
Osceola	6.82	0.00	0%	6.82	100%
Polk	11.52	0.23	2%	11.29	98%
Putnam	77.07	6.17	8%	70.90	92%
St. Johns	49.78	7.47	15%	42.31	85%
Seminole	72.44	2.17	3%	70.27	97%
Volusia	90.78	5.44	6%	85.34	94%
DISTRICT TOTALS	1,162.70	120.76	10%	1,041.94	90%

Note: 0.00 value means no pumpage was reported over 10,000 gallons per day.

5), or 36 percent of the total ground water use (Figure 2). The second largest category of ground water use was agricultural irrigation, accounting for 390.07 mgd, or nearly 34 percent of the total ground water used.

Commercial/industrial water use accounted for 144.65 mgd, or about 13 percent of the total ground water used in SJRWMD in 1989, domestic self-supply for 90.24 mgd, or about 8 percent of the total, miscellaneous uses for 115.95 mgd, or about 10 percent of the total, and thermoelectric power generation for 6.16 mgd, less than 1 percent of the total.

1989 Water Use by Category

In four categories of water use fresh water only is consumed:

- Public Supply
- Domestic Self-Supply
- Agricultural Irrigation
- Miscellaneous

In two categories of water use both fresh and saline water are consumed:

- Thermoelectric Power Generation
- Commercial/Industrial Self-Supply

Public Supply

Total water use from ground and surface sources for public supply in 1989 was 431.12 mgd (Table 7). All public supply water is fresh water and most of the water supplied in 1989 (96 percent) was ground water (Table 5). A small amount of fresh surface water (15.49 mgd) was used for public supply in Brevard County. Nearly all (96 percent) of the ground water used for public supply was withdrawn from the Floridan aquifer.

The figures in this report for fresh ground water use include a small amount of slightly saline ground water that was treated by reverse osmosis or blended with fresh water for use as potable water. In SJRWMD annual water use surveys published before 1987, this slightly saline ground water was reported as saline water.

The public supply category of water use accounted for nearly 36 percent of the total ground water use in SJRWMD in 1989 (Table 5). Most public supply water is used in private households (70 percent), but public supply water is also used for commercial and industrial uses, system maintenance in the water utility itself, and other miscellaneous uses (Figure 3).

Table 7. Public supply and domestic self-supply water use in the St. Johns River Water Management District, by county, 1989

County	Public Supply Population	Public Supply Water Use (mgd*)	Per Capita (gallons per day)	Domestic Self-supply Population	Domestic Self-supply Water Use (mgd)
Alachua	126,022	21.53	171	12,560	2.15
Baker	4,270	0.73	171	14,126	2.42
Bradford	351	0.05	142	1,385	0.20
Brevard	355,303	51.64[a]	145	48,197	6.99
Clay	73,673	10.23	139	29,123	4.05
Duval	600,898	94.07	157	85,439	13.41
Flagler	19,487	3.34	171	4,424	0.76
Indian River	52,251	13.74	263	39,124	10.29
Lake	99,305	20.76	209	44,101	9.22
Marion	73,205	11.56	158	79,389	12.54
Nassau	22,327	3.59	161	25,536	4.11
Okeechobee	-0-	0.00	166[c]	449	0.07
Orange	507,388	97.52[b]	192	25,607	4.92
Osceola	-0-	0.00	166[c]	488	0.08
Polk	850	0.12	141	2,163	0.30
Putnam	22,096	3.38	153	40,732	6.23
St. Johns	66,474	7.79	117	17,915	2.10
Seminole	254,182	47.39	186	26,867	5.00
Volusia	320,322	43.68	136	39,727	5.40
District Totals	2,598,404	431.12	166	537,352	90.24[d]

*million gallons per day

[a] 26.78 mgd withdrawn in Brevard County plus 24.86 mgd withdrawn in Orange County.
[b] 122.38 mgd withdrawn in Orange County minus 24.86 mgd used in Brevard County
[c] District average per capita
[d] This is a total of the county domestic self-supply figures, not based on District per capita.

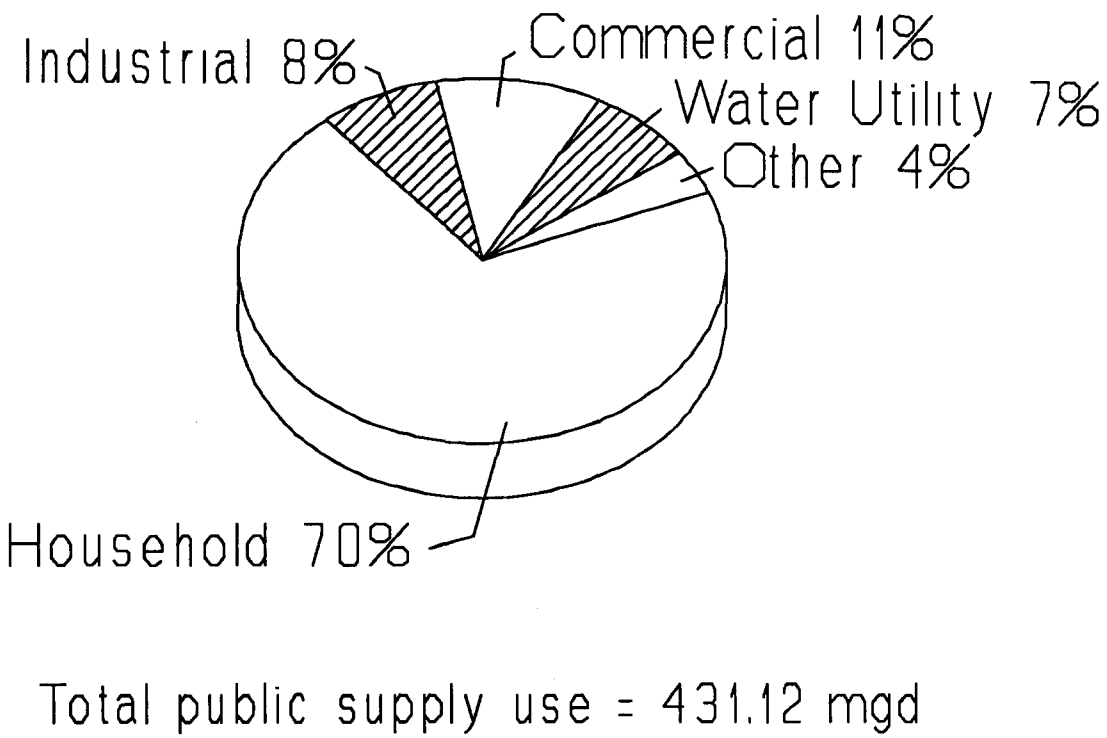


Figure 3. **End Use for Public Supply Water.** *The end use for most public supply water is household uses.*

Per Capita

The average per capita water use in SJRWMD in 1989, based on the population served by public supply, was 166 gallons per day (Table 7).

Water Use By County

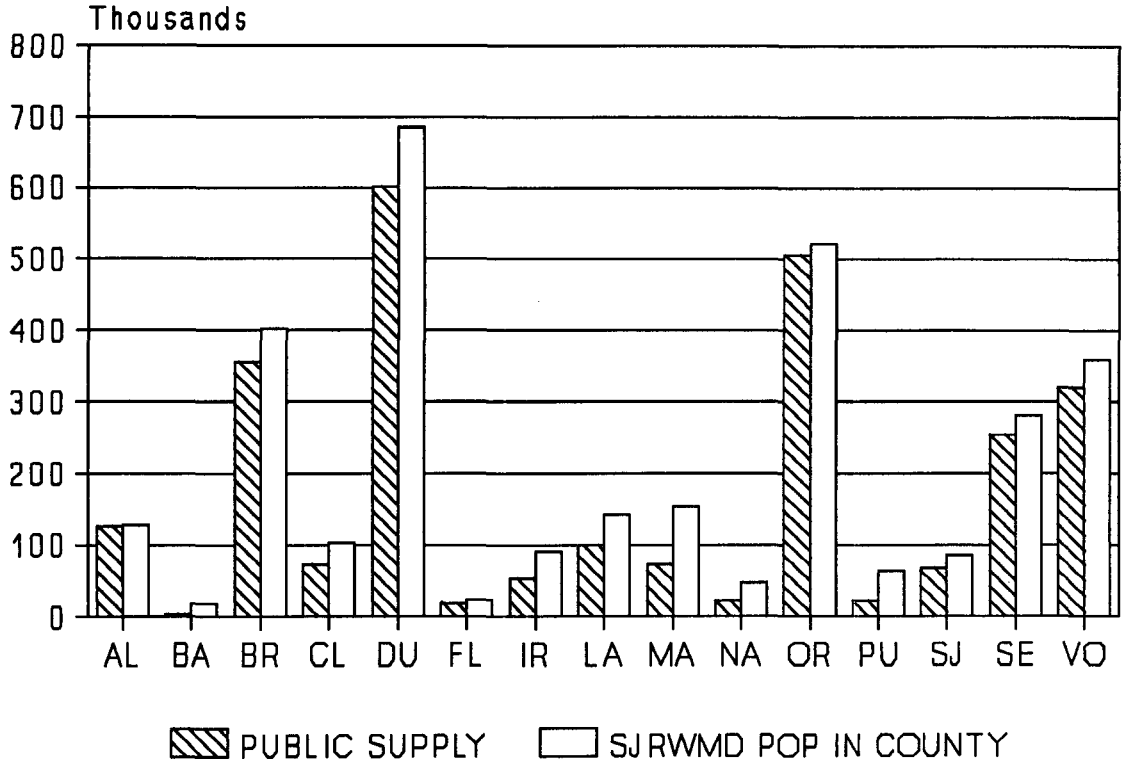
The counties with the largest populations in SJRWMD and therefore the counties with the largest public supply water use are Duval and Orange counties (Table 7), which represent, together, 39 percent of SJRWMD's water use population (Figure 4).

Water use for public supply in Duval and Orange counties was 216.45 mgd, half of the public supply water use in SJRWMD in 1989. Orange County is split between two water management districts, so some public supply water use in Orange County is not included in the totals in this report; 31.00 mgd was used in the South Florida Water Management District (Appendix). Some of the water use in Orange County (24.86) was also for the City of Cocoa's public supply system in Brevard County (Table 7).

The largest public supply utility in SJRWMD serves the City of Jacksonville in Duval County. This utility supplied its customers with 68.15 mgd in 1989 (Appendix).

DOMESTIC SELF-SUPPLY

In 1989, an estimated 537,352 people used 90.24 mgd (Table 7) of domestic self-supplied water, about 8 percent of the total fresh ground water used in SJRWMD (Table 4). All of the domestic self-supplied water was assumed to be ground water. Approximately 69 percent of the ground water used for domestic self-supply is estimated to be withdrawn from the surficial and intermediate aquifer systems. In most of SJRWMD, these aquifers yield sufficient water for domestic uses.



Key to County Names

AL Alachua	DU Duval	MA Marion	SJ St. Johns
BA Baker	FL Flagler	NA Nassau	SE Seminole
BR Brevard	IR Indian River	OR Orange	VO Volusia
CL Clay	LA Lake	PU Putnam	

Figure 4. **Population Served by Public Supply in St. Johns River Water Management District in 1989.** *The largest counties in SJRWMD are Duval, Orange, and Brevard.*

Duval County had the largest self-supplied population of 85,439 people (Table 7). Marion County had the second largest, with 79,389 people, followed by Brevard County with 48,197 people.

COMMERCIAL/INDUSTRIAL SELF-SUPPLY

The total fresh water use in the commercial/industrial category was 148.66 mgd (Table 5) or about 10 percent of the total fresh water used in SJRWMD (Table 4). Of this total, 144.65 mgd was ground water and 4.01 mgd was surface water. In addition, 45.25 mgd of saline water was used in this category.

Most water used in this category supplied the pulp and paper industries in Putnam, Nassau, and Duval counties (Table 8). In 1989, water use for pulp and paper production totaled 89.24 mgd. The second largest water user in this category was mining, which accounted for 18.05 mgd. Together, pulp and paper production and mining accounted for nearly 72 percent of the commercial/ industrial self-supply water use in SJRWMD.

The largest amount of fresh water used for commercial/industrial self-supply (47.75 mgd) was in Putnam County (Table 8). Duval, Nassau, Lake, and Clay counties also had significant amounts of fresh water use in this category. Nearly 93 percent of the total fresh water used for commercial/industrial self-supply in SJRWMD, 138.60 mgd, was in these five counties.

AGRICULTURAL IRRIGATION

All of the water used for agricultural irrigation in SJRWMD was fresh water. Total fresh water use for agricultural irrigation was estimated at 600.09 mgd, or about 40 percent of the total fresh water used in SJRWMD in 1989 (Tables 5 and 9). Of this total, 390.07 mgd, or 65 percent of the total water used for agriculture, was ground water. Most ground water used for agricultural irrigation came from the Floridan aquifer (Appendix).

Table 8. Commercial/industrial self-supply water use, St. Johns River Water Management District, 1989 (in million gallons per day)

COUNTY	FRESH			SALINE
	GROUND	SURFACE [a]	TOTAL	SURFACE
Alachua	1.96	0.00	1.96	0.00
Baker	0.93	0.00	0.93	0.00
Bradford	0.00	0.00	0.00	0.00
Brevard	0.19	0.00	0.19	0.00
Clay	7.03	0.00	7.03	0.00
Duval	39.89	0.00	39.89	43.85
Flagler	0.16	0.00	0.16	0.00
Indian River	0.31	0.00	0.31	0.00
Lake	12.29	0.00	12.29	0.00
Marion	1.02	0.00	1.02	0.00
Nassau	31.64	0.00	31.64	1.40
Okeechobee	0.05	0.00	0.05	0.00
Orange	4.01	0.00	4.01	0.00
Osceola	0.00	0.00	0.00	0.00
Polk	0.02	0.00	0.02	0.00
Putnam	43.74	4.01	47.75	0.00
St. Johns	0.05	0.00	0.05	0.00
Seminole	0.53	0.00	0.53	0.00
Volusia	0.83	0.00	0.83	0.00
DISTRICT TOTALS	144.65	4.01	148.66	45.25

[a] Does not include water used in mining for dewatering and transport.

Note: 0.00 figure means no pumpage was reported over 10.000 gallons per day

Table 9. Agricultural irrigation water use, St. Johns River Water Management District, 1989 (in million gallons per day)

COUNTY	FRESH			SALINE
	GROUND	SURFACE	TOTAL	SURFACE
Alachua	5.75	0.15	5.90	0.00
Baker	2.99	2.20	5.19	0.00
Bradford	0.08	0.00	0.08	0.00
Brevard	91.63	10.86	102.49	0.00
Clay	2.59	0.26	2.85	0.00
Duval	9.22	1.02	10.24	0.00
Flagler	6.76	0.96	7.72	0.00
Indian River	46.54	107.36	153.90	0.00
Lake	52.41	13.26	65.67	0.00
Marion	8.83	1.26	10.09	0.00
Nassau	1.66	0.49	2.15	0.00
Okeechobee	9.82	0.25	10.07	0.00
Orange	33.24	52.78	86.02	0.00
Osceola	6.62	7.13	13.75	0.00
Polk	11.08	1.14	12.22	0.00
Putnam	19.37	1.37	20.74	0.00
St. Johns	37.71	1.10	38.81	0.00
Seminole	12.70	2.12	14.82	0.00
Volusia	31.07	6.31	37.38	0.00
DISTRICT TOTALS	390.07	210.02	600.09	0.00

Note: 0.00 figure means no pumpage was reported over 10,000 gallons per day

By Acreage and Crop

An estimated 951,317 acres were farmed in SJRWMD in 1989, of which 396,270 acres were irrigated (Appendix). Of the total acreage irrigated, 263,951 acres were irrigated by flood systems, 68,928 acres by sprinkler systems, and 63,391 acres by low pressure/low volume systems. The total amount of irrigated acres decreased from 405,849 acres in 1988—a decrease of 9,579 acres (Florence 1990).

The group of crops with the largest water use in 1989 was ornamentals and grasses, which includes pasture land, accounting for 221.96 mgd, or about 37 percent of the agricultural water use (Figure 5). The largest water use for a single crop type was for citrus irrigation, which accounted for 203.75 mgd, or nearly 34 percent of the total agricultural water use in SJRWMD. Other crops using large amounts of irrigation water include improved pasture (103.55 mgd), ferns (35.02 mgd), and golf course turf grass (33.29 mgd) (Figure 5).

By County

The largest water use for agriculture occurred in Indian River County: 153.90 mgd of fresh water (Table 9), or about 26 percent of the total water used for irrigation in SJRWMD. Most of this amount, 107.36 mgd, was fresh surface water. The second largest water use for agriculture was in Brevard County: 102.49 mgd, most of which was ground water. Orange and Lake counties each used more than 50 mgd of ground and surface water combined. These four counties together used 408.08 mgd, or 68 percent, of the total agricultural irrigation water used in SJRWMD in 1989.

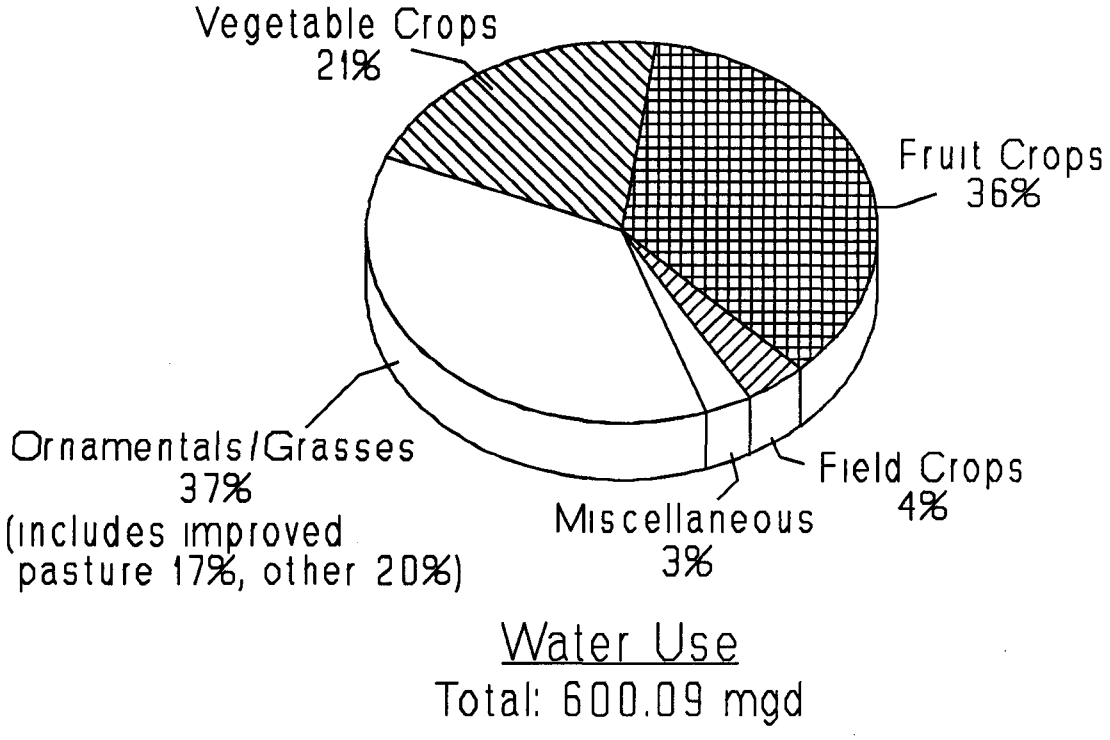


Figure 5. **1989 Water Use in the St. Johns River Water Management District for Four Crop Types.** *Ornamentals and grasses (which include improved pasture land) accounted for 37 percent of agricultural irrigation water use in 1989.*

THERMOELECTRIC POWER GENERATION

Total water use for the 11 self-supplied power plants amounted to 1,595.28 mgd of saline surface water, 130.95 mgd of fresh surface water, and 6.16 mgd of ground water (Tables 5 and 10).

The largest amount of saline water used for thermoelectric power generation was in Brevard County—1,058.49 mgd. The largest amount of fresh water use was in Volusia County—119.07 mgd.

MISCELLANEOUS

Miscellaneous water use in SJRWMD totaled 115.95 mgd, all of which was fresh ground water (Tables 5 and 11).

Heat pump/air conditioning water use accounted for 38.79 mgd, and residential lawn watering in Brevard County accounted for 4.59 mgd (Table 11). The majority of the heat pump/air conditioning wells penetrate the Floridan aquifer. Wells for residential lawn irrigation, however, usually penetrate only the surficial aquifer.

An estimated 471 abandoned artesian wells exist in SJRWMD. The estimated flow from all wells is 60.71 mgd. This value was derived by using the average of the known flows in each county, multiplying the average by the estimated number of wells in each county, adding to the result the known flow from inventoried wells, and finally summing the county totals. For counties with no wells of known flow, the average of all known flows in the District was used. In 1989, the District average for wells of known flow was 0.12 mgd (Steele 1990).

Data for miscellaneous water use were available for only eleven of the counties in SJRWMD. Data for heat pump/air conditioning wells are available for only seven counties in SJRWMD.

Table 10. Thermoelectric power generation water use, St. Johns River Water Management District, 1989 (in million gallons per day)

COUNTY	FRESH WATER			SALINE
	GROUND	SURFACE	TOTALS	SURFACE
Alachua	0.12	0.00	0.12	0.00
Baker	0.00	0.00	0.00	0.00
Bradford	0.00	0.00	0.00	0.00
Brevard	0.25	0.00	0.25	1,058.49
Clay	0.00	0.00	0.00	0.00
Duval	4.44	0.00	4.44	399.33
Flagler	0.00	0.00	0.00	0.00
Indian River	0.08	0.00	0.08	137.46
Lake	0.00	0.00	0.00	0.00
Marion	0.00	0.00	0.00	0.00
Nassau	0.00	0.00	0.00	0.00
Okeechobee	0.00	0.00	0.00	0.00
Orange	0.39	0.00	0.39	0.00
Osceola	0.00	0.00	0.00	0.00
Polk	0.00	0.00	0.00	0.00
Putnam	0.45	12.31	12.76	0.00
St. Johns	0.00	0.00	0.00	0.00
Seminole	0.00	0.00	0.00	0.00
Volusia	0.43	118.64	119.07	0.00
DISTRICT TOTALS	6.16	130.95	137.11	1,595.28

Note: 0.00 figure means no pumpage was reported over 10,000 gallons per day

Table 11. Miscellaneous water use, St. Johns River Water Management District, 1989 (in million gallons per day)

COUNTY	LAWN IRRIGATION	HEAT PUMPS	ABANDONED ARTESIAN WELLS				TOTAL
			NUMBER OF WELLS OF KNOWN FLOW	KNOWN FLOWS	NUMBER OF WELLS OF UNKNOWN FLOW	TOTAL ESTIMATED FLOWS	
ALACHUA	--	0.97	0	0.00	0	0.00	0.97
BAKER	--	--	0	0.00	0	0.00	0.00
BRADFORD	--	--	0	0.00	0	0.00	0.00
BREVARD	4.59	22.75	50	7.50	167	32.55	67.39
CLAY	--	--	0	0.00	5	0.60	0.60
DUVAL	--	5.63	0	0.00	9	1.08	6.71
FLAGLER	--	--	3	0.00	3	0.01	0.01
INDIAN RIVER	--	--	2	1.00	21	11.50	12.50
LAKE	--	--	0	0.00	13	1.56	1.86
MARION	--	--	4	1.00	3	1.75	2.75
NASSAU	--	--	0	0.00	2	0.24	0.24
OKEECHOBEE	--	--	0	0.00	0	0.00	0.00
ORANGE	--	0.82	1	0.02	1	0.04	0.88
OSCEOLA	--	--	0	0.00	1	0.12	0.12
POLK	--	--	0	0.00	0	0.00	0.00
PUTNAM	--	2.30	7	0.34	19	1.26	3.90
ST. JOHNS	--	0.09	0	0.00	17	2.04	2.13
SEMINOLE	--	--	22	1.00	106	5.82	6.82
VOLUSIA	--	6.23	7	1.00	8	2.14	9.37
DISTRICT TOTALS	4.59	38.79	96	11.86	375	60.71	115.95

Source: Skipp 1988, Steele 1991

Note: -- means no data were available, 0.00 means no pumpage exceeded 10,000 gallons per day

TRENDS

15-YEAR TREND

Total fresh water use since 1975 has fluctuated from year to year, but generally has been increasing. Except for very high water use in 1981 (a drought year) and lower water use in 1985 (a wet year), the increase is due to increases in population, changes in agricultural commodities, and increasing tourism (Figure 6).

Over the 15 years in which SJRWMD has been collecting data on water use, public supply water use has increased steadily. Water use for commercial/industrial self-supply and domestic self-supply have remained steady, and water use for agricultural irrigation has fluctuated in response to changes in seasonal rainfall and increased slightly overall (Figure 7).

1988 TO 1989

In the 1988 report (Florence 1990) population figures were computed differently from those in this report. In order to compare public supply and domestic self-supply data from the two years, the 1988 figures have been recalculated according to the methods used for 1989 data (Tables 12, 13, and 14).

Total ground water use increased slightly between 1988 and 1989, from 1,097.93 mgd in 1988 to 1,162.70 mgd in 1989 (Table 4). Fresh surface water use decreased slightly between 1988 and 1989, from 379.15 mgd in 1988 to 360.47 mgd in 1989 (Table 4). This was due to a decrease in agricultural use of fresh surface water, which was down 30.8 mgd, or nearly 5 percent, from 1988 use. Commercial/industrial use of fresh ground water also

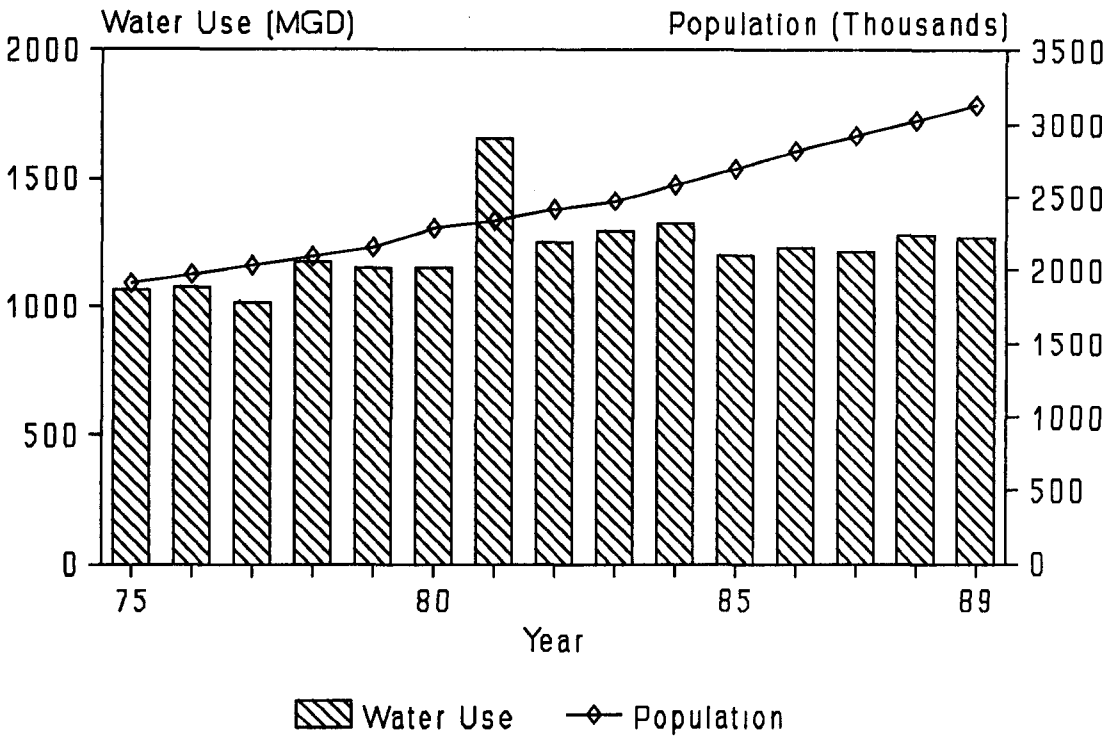


Figure 6. **Total Fresh Water Use and Population in the St. Johns River Water Management District from 1975 to 1989.** *Except for very high water use in 1981 (a drought year) and lower water use in 1985 (a wet year), water use has increased gradually, changing slightly from year to year.*

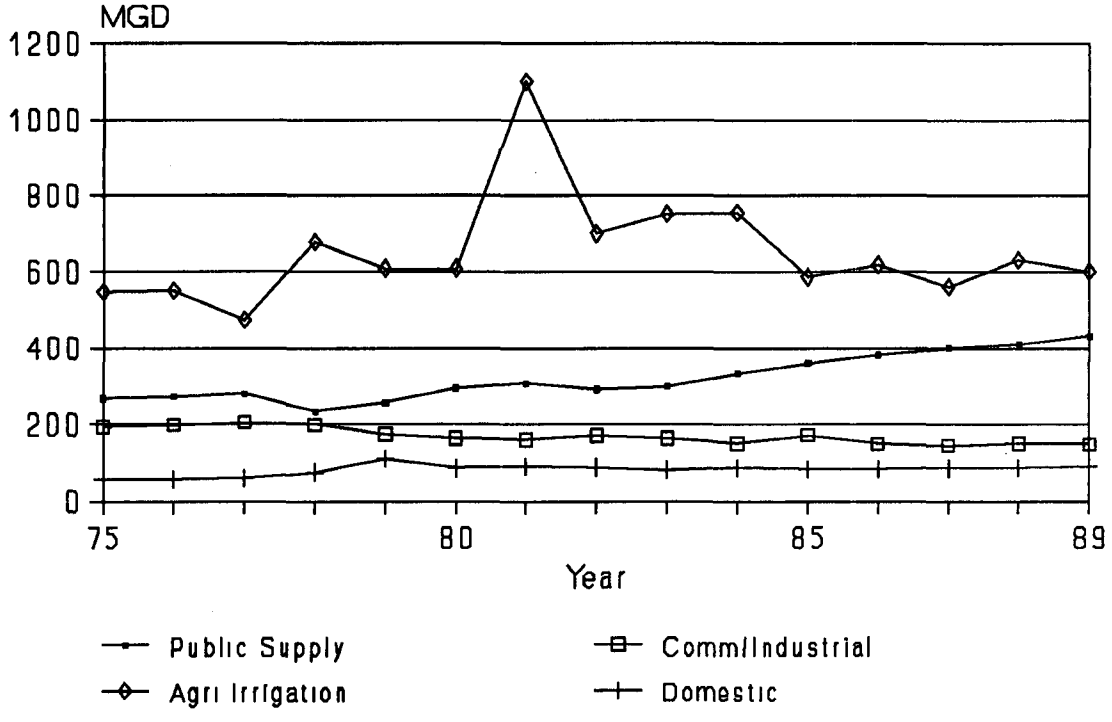


Figure 7. **Fresh Water Use in the St. Johns River Water Management District by Category from 1975 to 1989.** *Water use for agricultural irrigation has fluctuated from year to year in response to rainfall and increased slightly overall. Water use for public supply has increased steadily with increasing population.*

Table 12. Population in the St. Johns River Water Management District (SJRWMD), by county, 1988

County	County Population*	Percentage of County in SJRWMD	SJRWMD Population
Alachua	182,940	69%	126,229
Baker	18,683	95%	17,749
Bradford	24,297	7%	1,701
Brevard	387,635	100%	387,635
Clay	99,171	100%	99,171
Duval	677,007	100%	677,007
Flagler	21,428	100%	21,428
Indian River	87,512	100%	87,512
Lake	140,783	99%	139,375
Marion	182,329	80%	145,863
Nassau	45,609	100%	45,609
Okeechobee	28,762	1.5%	431
Orange	623,425	81.5%	508,091
Osceola	94,041	0.5%	470
Polk	400,426	1.5%	6,006
Putnam	60,717	100%	60,717
St. Johns	80,278	100%	80,278
Seminole	267,108	100%	267,108
Volusia	346,299	100%	346,299
DISTRICT TOTALS	3,768,450		3,018,679

*Source: Shoemyen et al. 1989, Florence 1990

Table 13. Water use population in the St. Johns River Water Management District (SJRWMD), by county, 1988

County	SJRWMD Population	Adjustments to SJRWMD Population*	Water Use Population	Public Supply Population	Domestic Self-Supply Population
Alachua	126,229	+9,519	135,748	123,392	12,356
Baker	17,749	-0-	17,749	4,315	13,434
Bradford	1,701	-0-	1,701	340	1,361
Brevard	387,635	-0-	387,635	342,264	45,371
Clay	99,171	-0-	99,171	72,243	26,928
Duval	677,007	-0-	677,007	580,423	96,584
Flagler	21,428	-0-	21,428	18,825	2,603
Indian River	87,512	-0-	87,512	50,617	36,895
Lake	139,375	-0-	139,375	95,721	43,654
Marion	145,863	-0-	145,863	74,685	71,178
Nassau	45,609	-0-	45,609	21,321	24,288
Okeechobee	431	-0-	431	-0-	431
Orange	508,091	-0-	508,091	492,028	16,063
Osceola	470	-0-	470	-0-	470
Polk	6,006	-3,150	2,856	850	2,006
Putnam	60,717	-0-	60,717	21,314	39,403
St. Johns	80,278	-0-	80,278	62,626	17,652
Seminole	267,108	-0-	267,108	238,960	28,148
Volusia	346,299	-0-	346,299	308,115	38,184
DISTRICT TOTALS	3,018,679	+6,369	3,025,048	2,508,039	517,009

*A positive number means water was withdrawn in SJRWMD and used by residents of another water management district. A negative number means water was withdrawn in another water management district and used by SJRWMD residents.

NOTE: Adjustments to SJRWMD population and public supply population figures are found in Appendix as footnotes.

Source: Florence 1990

Table 14. Public supply and domestic self-supply water use in the St. Johns River Water Management District, by county, 1988

County	Public Supply Population	Public Supply Water Use (mgd*)	Per Capita	Domestic Self-supply Population	Domestic Self-supply Water Use (mgd*)
Alachua	123,392	20.53	166	12,356	2.05
Baker	4,315	0.65	151	13,434	2.03
Bradford	340	0.05	147	1,361	0.80
Brevard	342,264	51.96[a]	152	45,371	6.90
Clay	72,243	10.39	144	26,928	3.87
Duval	580,423	93.44	161	96,584	15.55
Flagler	18,825	3.03	161	2,603	0.42
Indian River	50,617	12.28	243	36,895	8.97
Lake	95,721	18.21	190	43,654	8.29
Marion	74,685	11.64	156	71,178	11.1
Nassau	21,321	3.58	168	24,288	4.08
Okeechobee	-0-	0.00	163[c]	431	0.70
Orange	492,208	85.81[b]	174	16,063	2.79
Osceola	-0-	0.00	163[c]	470	0.76
Polk	850	0.11	129	2,006	0.26
Putnam	21,314	3.44	161	39,403	6.34
St. Johns	62,626	7.49	120	17,652	2.12
Seminole	238,960	42.86	179	28,148	5.04
Volusia	308,115	43.67	142	38,184	5.42
DISTRICT TOTALS	2,508,039	409.29	163	517,009	87.44[d]

*million gallons per day
[a] 26.94 mgd withdrawn in Brevard County plus 25.02 mgd withdrawn in Orange County.
[b] 110.83 mgd withdrawn in Orange County minus 25.02 mgd used in Brevard County.
[c] District average per capita.
[d] This is a total of the county domestic self-supply figures, not based on District per capita.

decreased slightly, by 1.4 mgd, about 1 percent. All other categories of fresh water use increased from 1988 to 1989:

- Public supply increased 5 percent, from 409.29 mgd in 1988 to 431.12 mgd in 1989 (Table 14)
- Domestic self-supplied increased 3 percent, from 87.44 mgd in 1988 to 90.24 mgd in 1989
- Power generation (fresh water use) increased 1 percent from 135.78 mgd in 1988 to 137.11 mgd in 1989

SEASONAL TRENDS

In 1989, total fresh water use was highest in May (Figure 8). Monthly trends in water use follow the trends in agricultural water use, which depend on rainfall and growing season. March, April, and May are in Florida's dry season and are peak crop irrigation months, so irrigation demand increases during these months. Demand for residential lawn irrigation also increases during these months because of seasonally dry conditions (Figure 9).

Public Supply

Public supply water use in SJRWMD in 1989 fluctuated from a low of 346.3 mgd in January to a high of 470.3 mgd in April (Figure 10). During April, May, and June, record low rainfall and record high temperatures contributed to an increase in residential water demand, primarily for lawn irrigation, and an increase in seasonal demand by tourists and seasonal residents. In August 1989, SJRWMD declared a Districtwide water shortage due to extremely low ground water levels in the Floridan aquifer.

Commercial/Industrial Self-Supply

This category of water use was highest in February and lowest in November but varied little over the year (Figure 11).

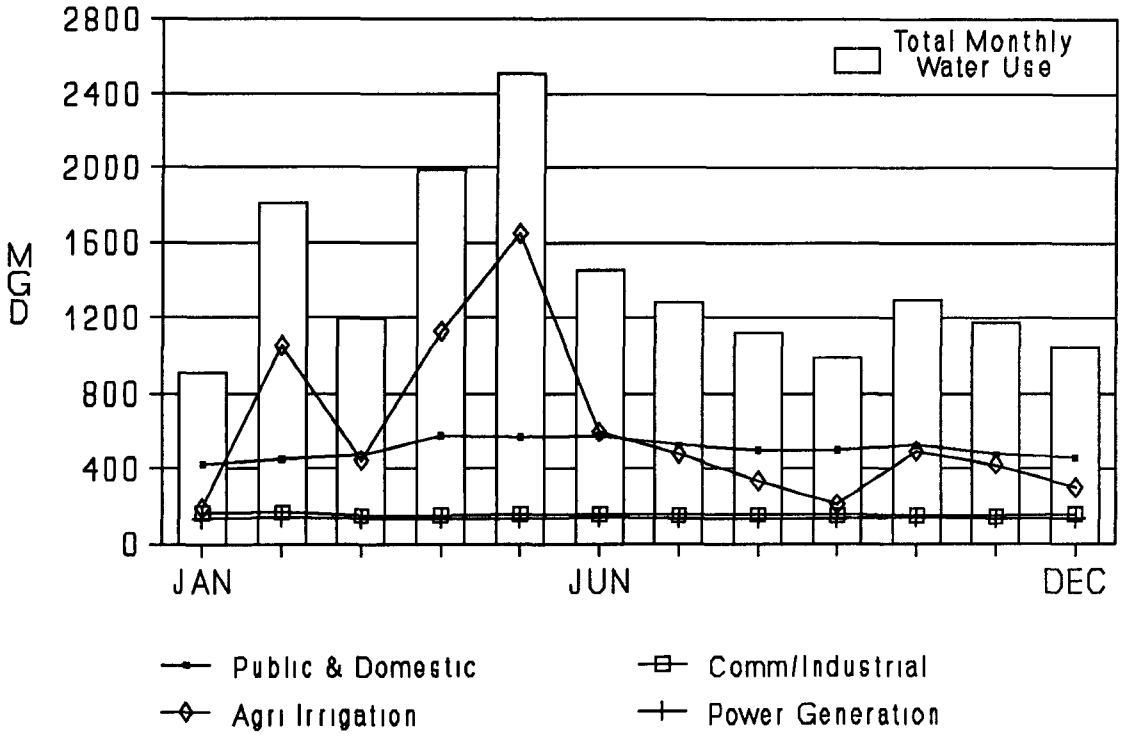


Figure 8. **Total Monthly Fresh Water Use and Fresh Water Use by Category in the St. Johns River Water Management District in 1989.** *Monthly fluctuations in water use follow the fluctuations in agricultural irrigation.*

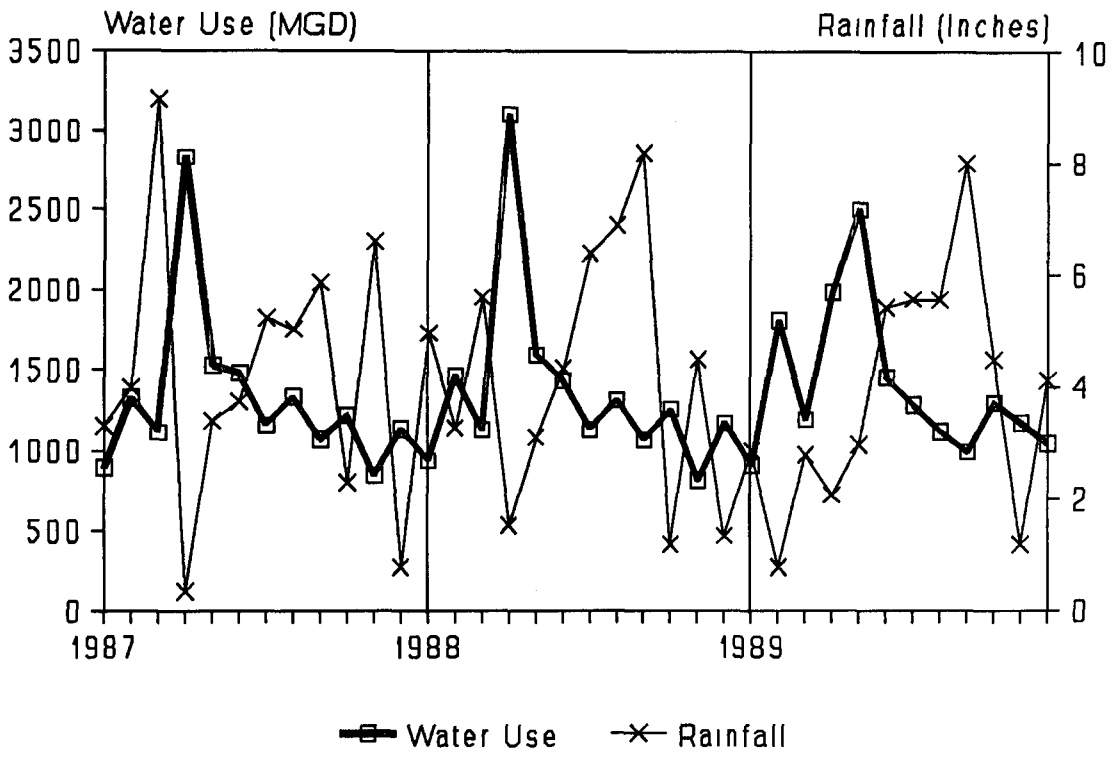


Figure 9. **Total Monthly Fresh Water Use Compared With Rainfall in the St. Johns River Water Management District, 1987-1989.** *Monthly fluctuations in water use are significantly affected by rainfall.*

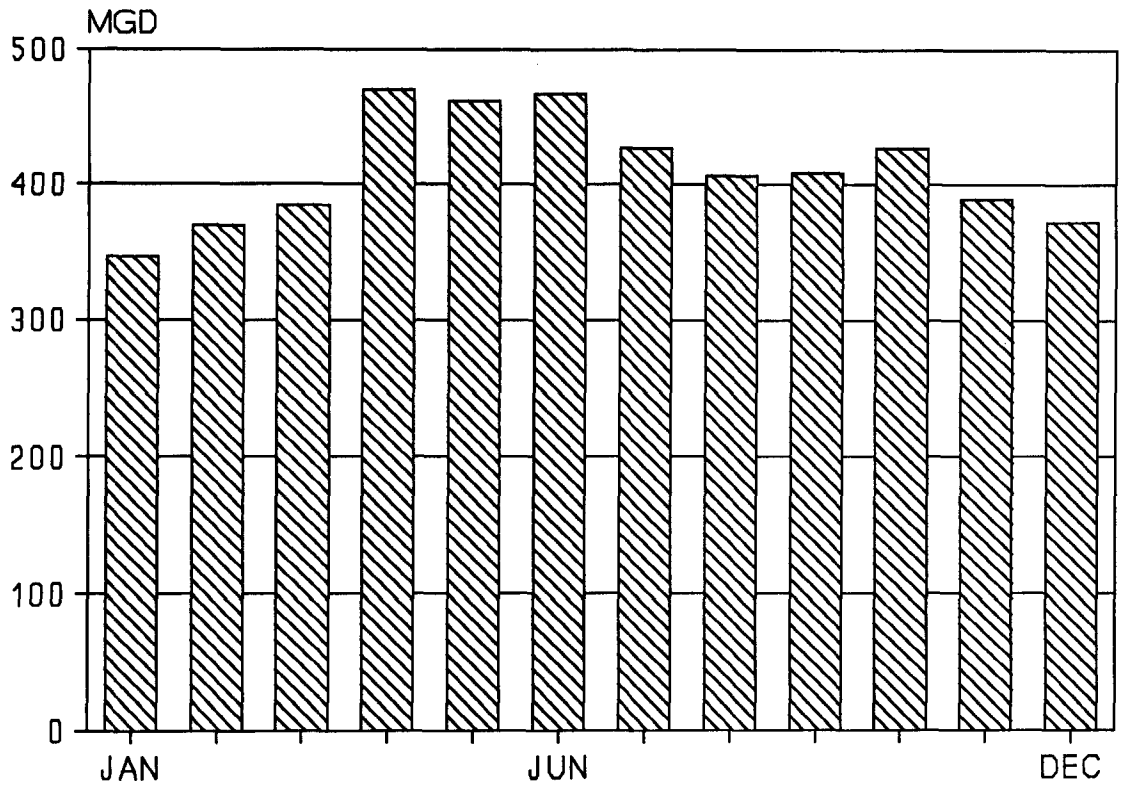


Figure 10. **Monthly Water Use for Public Supply, St. Johns River Water Management District, 1989.** *Demand for public supply water was high in April, May, and June due to record low rainfall and record high temperatures.*

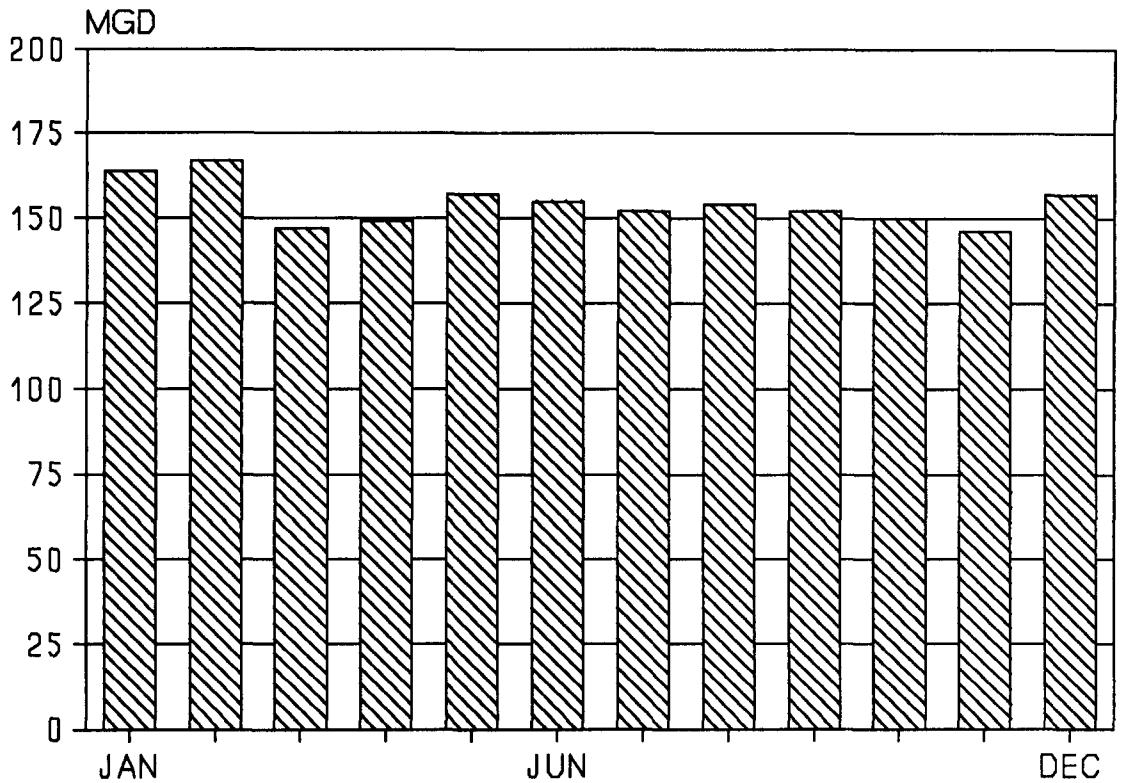


Figure 11. **Monthly Water Use for Commercial/Industrial Self-Supply, St. Johns River Water Management District, 1989.** *Commercial/Industrial water use varies little over the year.*

Agricultural Irrigation

Agricultural water use fluctuated more seasonally than any other water use category. In 1989, agricultural water use was highest in February, April, and May, all months of low rainfall and high crop production (Figure 12).

Thermoelectric Power Generation

Water use for thermoelectric power generation fluctuated very little during the year. Small fluctuations could be the result of power plant shutdowns for maintenance or increased power demands (Figure 13).

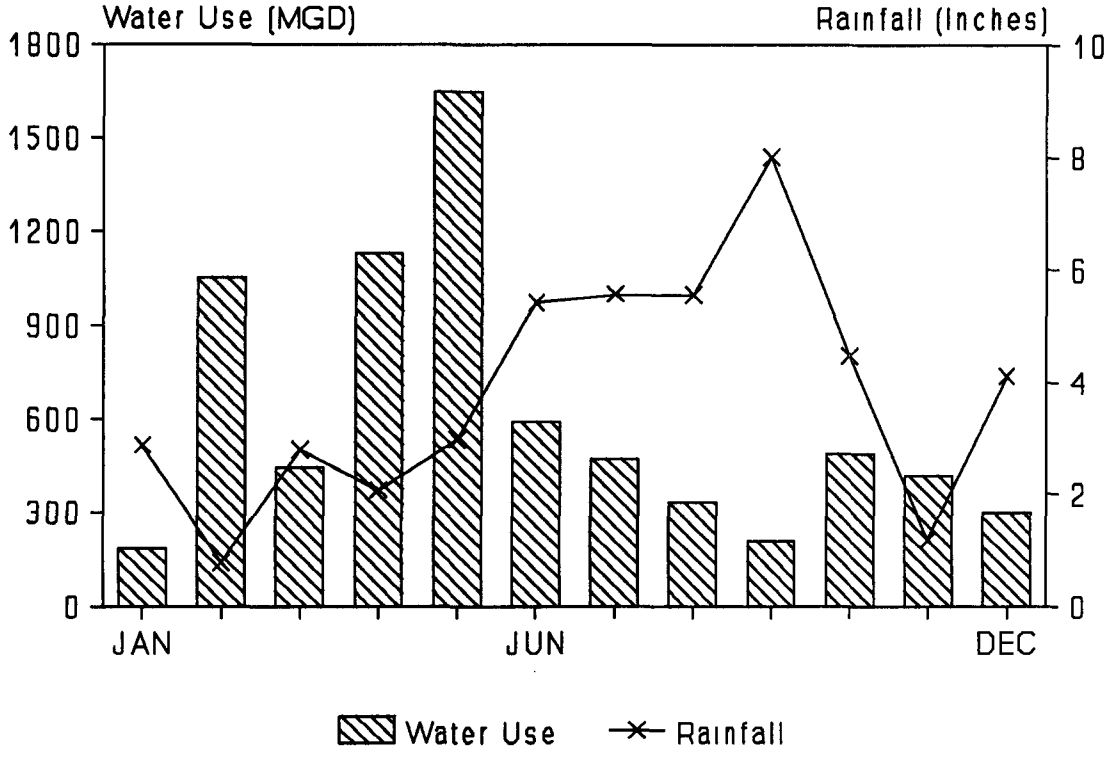


Figure 12. **Monthly Water Use for Agricultural Irrigation, St. Johns River Water Management District, 1989.** *Agricultural irrigation water use varies as rainfall varies.*

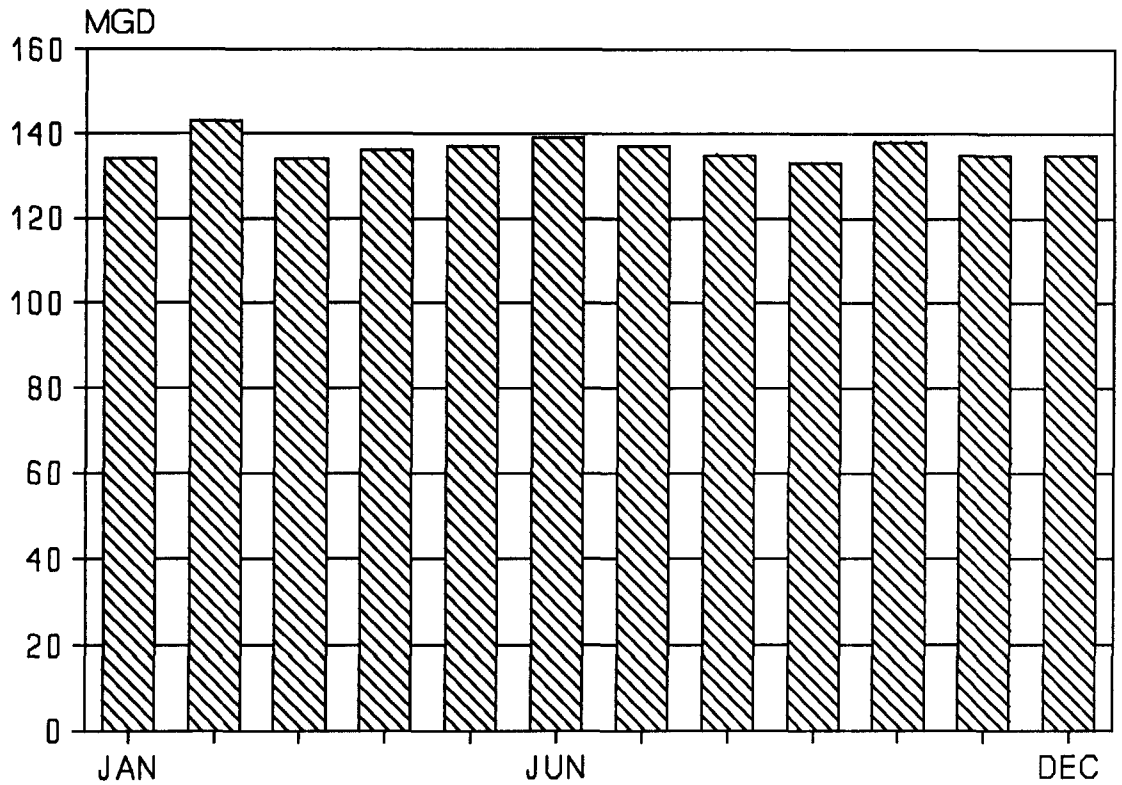


Figure 13. **Monthly Water Use for Thermoelectric Power Generation, St. Johns River Water Management District, 1989.** *Water use for power generation varies little over the year.*

GLOSSARY

ABANDONED ARTESIAN WELL

An artesian well, with or without a mechanism for controlling discharge, that allows water to flow continuously at the land surface or into other aquifers through internal flow because of improper well construction or condition. Also called *wild flowing well, freeflowing well,* and *uncontrolled artesian well.*

AQUIFER

A reservoir of ground water. In SJRWMD, there are three major aquifers present: the Floridan, the intermediate, and the surficial. In this report, data for the intermediate and surficial aquifers are combined.

AVERAGE ANNUAL WATER USE

The total quantity of water withdrawn during the year (in gallons) divided by 365 days. Reported in million gallons per day (mgd).

CONVEYANCE USE

Water used for transporting materials or products through a pipe canal, conduit, or ditch from one point to another. Materials may be either raw materials or waste products, and the water may be used only once, or reused many times.

FRESH WATER

Water with a total dissolved solids concentration less than or equal to 1,000 milligrams per liter (mg/L). The fresh water category includes both potable and non-potable water.

POTABLE WATER

Water that meets the requirements of DER in Chapter 17-3.091, Florida Administrative Codes. Chlorides in potable water are less than or equal to 250 mg/L and total dissolved solids concentrations are less than or equal to 500 mg/L.

REVERSE OSMOSIS (R/O)

A process of desalination that removes chlorides or other dissolved solids from saline water to make it potable.

SALINE WATER

Water with a chloride concentration greater than 1,000 mg/L or a total dissolved solids concentration greater than 3,000 mg/L.

SLIGHTLY SALINE WATER

Water with a chloride concentration between 250 and 1,000 mg/L or a total dissolved solids concentration between 500 and 3,000 mg/L. This water is non-potable, as chlorides generally fluctuate between 250 and 1,000 mg/L. Slightly saline water is either diluted with fresh water or treated by reverse osmosis (R/O) to potable standards for public supply. For other uses this water is generally not treated. In this report, slightly saline water is included in the reported quantities of fresh water.

SUPPLEMENTAL IRRIGATION

The amount of water in addition to rainfall that is applied to produce a crop. This supplemental irrigation value (in inches) includes water required to compensate for irrigation system losses.

WATER USE

Describes both the quantity of water withdrawn and how the water was used. Water use includes "withdrawals," as the term is used in previous SJRWMD annual water use surveys.

WATER WITHDRAWALS

Describes the amount of water withdrawn from a source (ground or surface, fresh, or saline). This is equivalent to "intake," "water diversion," or "pumpage," terms commonly associated with industrial, agricultural irrigation, and public supply use, respectively. Water withdrawals are considered water use for this report.

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APPENDIX: 1989 Water Use By County

This appendix presents the detailed water use data from which this report is constructed. District totals are first presented for population, land area, water withdrawals by category, and agricultural acreage and water use by crop.

Then for each county, tables present 1) population and land area totals, with water withdrawals by category, 2) the reported water use of large individual water users, and 3) agricultural acreage and water use by crop. Monthly fresh water use is graphed for public supply and commercial/industrial water use except when these numbers are very small, in counties that have only a small area in SJRWMD—Bradford, Okeechobee, Osceola, and Polk.

CONTENTS

STATE of FLORIDA DATA - 1989

TOTAL POPULATION	12,797,318
TOTAL LAND AREA	58,560 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD):

POPULATION		
TOTAL SJRWMD	3,129,197	(30.51 percent of state)
WATER USE	3,135,756	(1)(2)
PUBLIC SUPPLY	2,598,404	
SELF-SUPPLIED	537,352	
PER CAPITA	166	(SJRWMD Average)
LAND AREA	(ACRES)	
TOTAL AREA	7,900,060	12,344 SQ. MILES
FARMED	951,317	
IRRIGATED	396,270	

****

1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY (3)	415.63	15.49	431.12	0.00
DOMESTIC SELF-SUPPLY	90.24	0.00	90.24	0.00
COM/IND. SELF-SUPPLY	144.65	4.01	148.66	45.25
AGRICULTURAL IRR.	390.07	210.02	600.09	0.00
POWER GENERATION S-S	6.16	130.95	137.11	1,595.28
MISCELLANEOUS	115.95	0.00	115.95	0.00
	1,162.70	360.47	1,523.17	1,640.53

TOTAL GROUND	1,162.70
TOTAL SURFACE	2,001.00
COUNTY TOTAL	3,163.70

(1) INCLUDES 9,709 POPULATION SERVED BY PUBLIC SUPPLY IN SJRWMD WHO LIVE IN THE SUWANNEE RIVER WATER MANAGEMENT DISTRICT (SRWMD).

(2) INCLUDES 3,150 POPULATION SERVED BY PUBLIC SUPPLY IN THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD) WHO LIVE IN SJRWMD.

(3) INCLUDES 2.98 mgd OF SLIGHTLY SALINE GROUND WATER (250 to 1000 mg/l chlorides) USED IN REVERSE OSMOSIS (R/O) OR DILUTED FOR PUBLIC SUPPLY USE. IN PREVIOUS REPORTS THIS WATER WAS INCLUDED UNDER SALINE GROUND WATER.

TABLE A-1. ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	6,195	5,495	3.99	0.04	4.03
CARROTS	15,550	13,650	1.14	5.50	6.64
CUCUMBERS	2,250	2,070	2.12	0.02	2.14
PEPPERS	400	400	0.36	0.00	0.36
POTATOES	28,300	28,300	38.74	0.00	38.74
TOMATOES	85	85	0.11	0.00	0.11
SWEET CORN	19,485	19,060	11.95	36.21	48.16
WATERCRESS	150	150	1.67	0.00	1.67
MISC. VEGETABLES	24,347	22,020	8.06	15.16	23.22
FRUIT CROPS					
BLUEBERRIES	733	631	0.69	0.00	0.69
CITRUS	137,335	125,050	104.85	98.90	203.75
GRAPES	198	185	0.30	0.00	0.30
PEACHES	105	105	0.18	0.00	0.18
PECANS	2,850	390	0.95	0.00	0.95
STRAWBERRIES	30	30	0.05	0.00	0.05
WATERMELLONS	3,515	2,965	1.95	0.02	1.97
MISC. FRUIT	1,395	1,185	0.85	0.00	0.85
FIELD CROPS					
FIELD CORN	18,800	9,680	9.44	5.53	14.97
PEANUTS	2,250	209	0.15	0.00	0.15
RICE	50	50	0.10	0.00	0.10
SORGHUM	5,500	2,150	2.77	0.25	3.02
SOYBEANS	4,800	2,700	3.66	0.17	3.83
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	168	120	0.04	0.07	0.11
WHEAT	1,350	1,000	1.17	0.00	1.17
MISC. GRAINS	10,184	300	0.17	0.17	0.34
ORNAMENTALS & GRASSES					
FERNS	7,520	6,815	29.28	5.74	35.02
FLOWERS & FOLIAGE	1,961	1,961	6.79	0.47	7.26
WOODY ORNAMENTALS	3,138	2,845	21.80	3.44	25.24
IMPROVED PASTURE	623,500	125,790	83.34	20.21	103.55
SOD	6,454	6,354	8.65	3.70	12.35
TURF GRASS (GOLF)	20,349	12,273	22.65	10.64	33.29
TURF GRASS (OTHER)	2,290	2,252	4.64	0.61	5.25
MISC. AGRICULTURAL					
LIVESTOCK	0	0	8.43	3.17	11.60
FISH FARMING/AESTHETICS	0	0	9.03	0.00	9.03
	951,317	396,270	390.07	210.02	600.09

SPRINKLER ACREAGE	68,928
LOW PRESSURE ACREAGE	63,391
FLOOD ACREAGE	263,951
TOTAL IRRIGATED ACREAGE	396,270

ALACHUA COUNTY DATA - 1989

TOTAL POPULATION	186,772
TOTAL LAND AREA	961 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	128,873	
WATER USE	138,582	(1)
PUBLIC SUPPLY	126,022	
SELF-SUPPLIED	12,560	
PER CAPITA	171	
LAND AREA	(ACRES)	
TOTAL AREA	308,480	482 SQ. MILES
FARMED	39,650	
IRRIGATED	4,123	

****

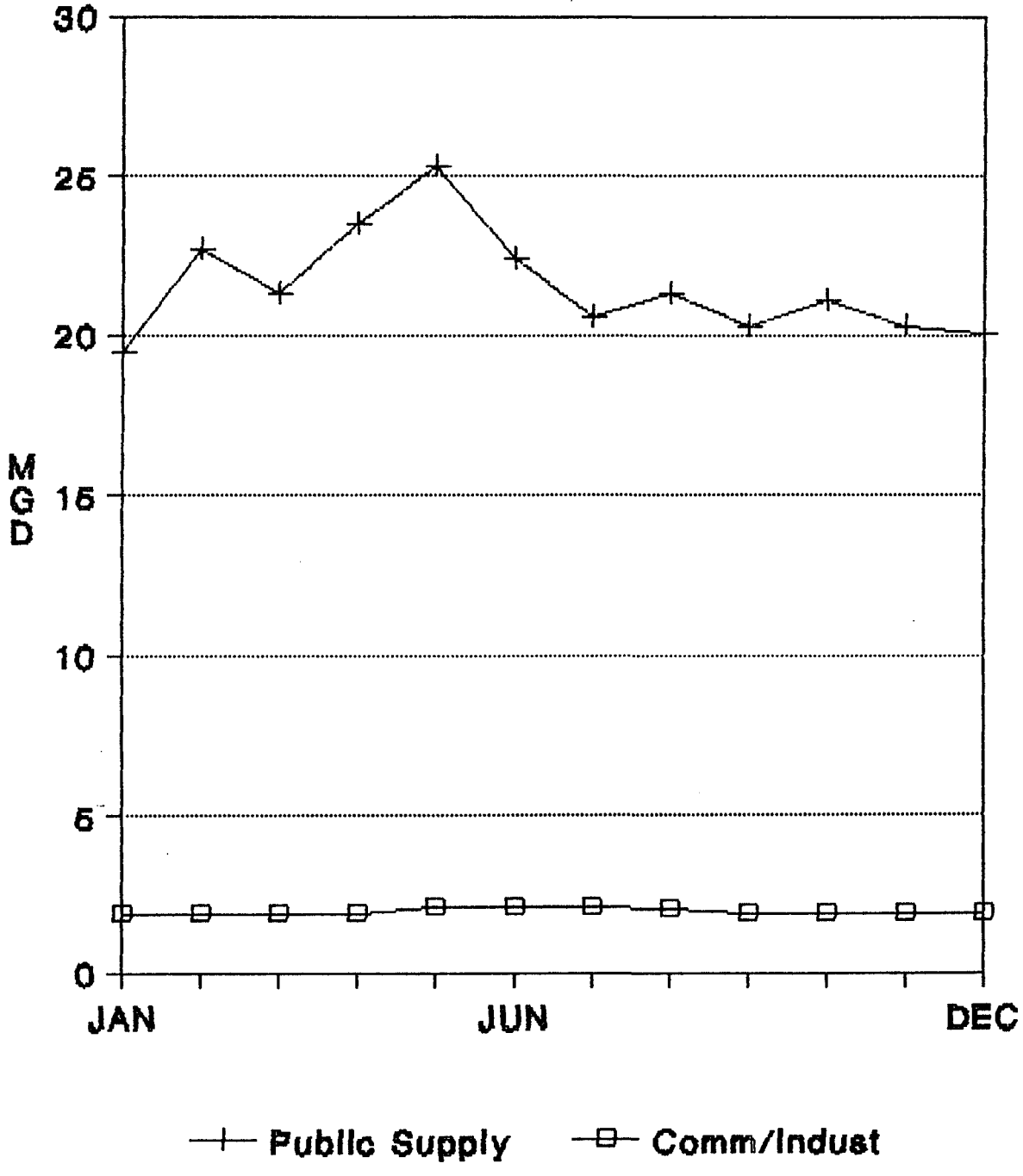
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	21.53	0.00	21.53	0.00
DOMESTIC SELF-SUPPLY	2.15	0.00	2.15	0.00
COM/IND. SELF-SUPPLY	1.96	0.00	1.96	0.00
AGRICULTURAL IRR.	5.75	0.15	5.90	0.00
POWER GENERATION S-S	0.12	0.00	0.12	0.00
MISCELLANEOUS	0.97	0.00	0.97	0.00
	32.48	0.15	32.63	0.00

TOTAL GROUND	32.48
TOTAL SURFACE	0.15
COUNTY TOTAL	32.63

(1) INCLUDES 9,709 POPULATION SERVED BY PUBLIC SUPPLY (GAINESVILLE REGIONAL UTILITIES) IN SJRWMD WHO LIVE IN THE SUWANNEE RIVER WATER MANAGEMENT DISTRICT (SRWMD).

FRESH WATER USE
Alachua County, 1989



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN ALACHUA COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
ARREDONDO VILLAGE/ESTATES	PUBLIC SUPPLY	1,510	0.066	0.000	FLORIDAN AQF.
GAINESVILLE REGIONAL UTILITIES	PUBLIC SUPPLY	121,363	21.005	0.000	FLORIDAN AQF.
HAWTHORNE - CITY OF	PUBLIC SUPPLY	1,363	0.270	0.000	FLORIDAN AQF.
KINCAID HILLS S/D	PUBLIC SUPPLY	1,000	0.101	0.000	FLORIDAN AQF.
MICANOPY - TOWN OF	PUBLIC SUPPLY	786	0.092	0.000	FLORIDAN AQF.
GAINESVILLE REGIONAL UTILITIES	POWER GEN.		0.118	0.000	FLORIDAN AQF.
SUNLAND CENTER	INSTITUTIONAL		0.252	0.000	FLORIDAN AQF.
UNIVERSITY OF FLORIDA	INSTITUTIONAL		1.707	0.000	FLORIDAN AQF.

ALACHUA COUNTY (SJR) ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	0	0	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	300	200	0.18	0.00	0.18
PEPPERS	250	250	0.22	0.00	0.22
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	75	50	0.06	0.00	0.06
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	750	750	0.67	0.00	0.67
FRUIT CROPS					
BLUEBERRIES	385	350	0.40	0.00	0.40
CITRUS	0	0	0.00	0.00	0.00
GRAPES	30	30	0.05	0.00	0.05
PEACHES	15	15	0.03	0.00	0.03
PECANS	2,600	300	0.73	0.00	0.73
STRAWBERRIES	5	5	0.01	0.00	0.01
WATERMELLONS	500	400	0.28	0.00	0.28
MISC. FRUIT	90	80	0.06	0.00	0.06
FIELD CROPS					
FIELD CORN	1,200	100	0.09	0.00	0.09
PEANUTS	200	75	0.05	0.00	0.05
RICE	0	0	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00
SOYBEANS	2,000	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	200	0	0.00	0.00	0.00
MISC. GRAINS	1,500	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	0	0	0.00	0.00	0.00
FLOWERS & FOLIAGE	4	4	0.02	0.00	0.02
WOODY ORNAMENTALS	60	50	0.39	0.07	0.46
IMPROVED PASTURE	28,500	600	0.62	0.00	0.62
SOD	100	50	0.11	0.00	0.11
TURF GRASS (GOLF)	480	328	0.69	0.08	0.77
TURF GRASS (OTHER)	406	406	0.91	0.00	0.91
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.16	0.00	0.16
FISH FARMING	0	0	0.02	0.00	0.02
	39,650	4,123	5.75	0.15	5.90

SPRINKLER ACREAGE	3,593
LOW PRESSURE ACREAGE	480
FLOOD ACREAGE	50
TOTAL IRRIGATED ACREAGE	4,123

BAKER COUNTY DATA - 1989

TOTAL POPULATION	19,364
TOTAL LAND AREA	588 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	18,396	
WATER USE	18,396	
PUBLIC SUPPLY	4,270	
SELF-SUPPLIED	14,126	
PER CAPITA	171	
LAND AREA	(ACRES)	
TOTAL AREA	343,040	536 SQ. MILES
FARMED	14,858	
IRRIGATED	825	

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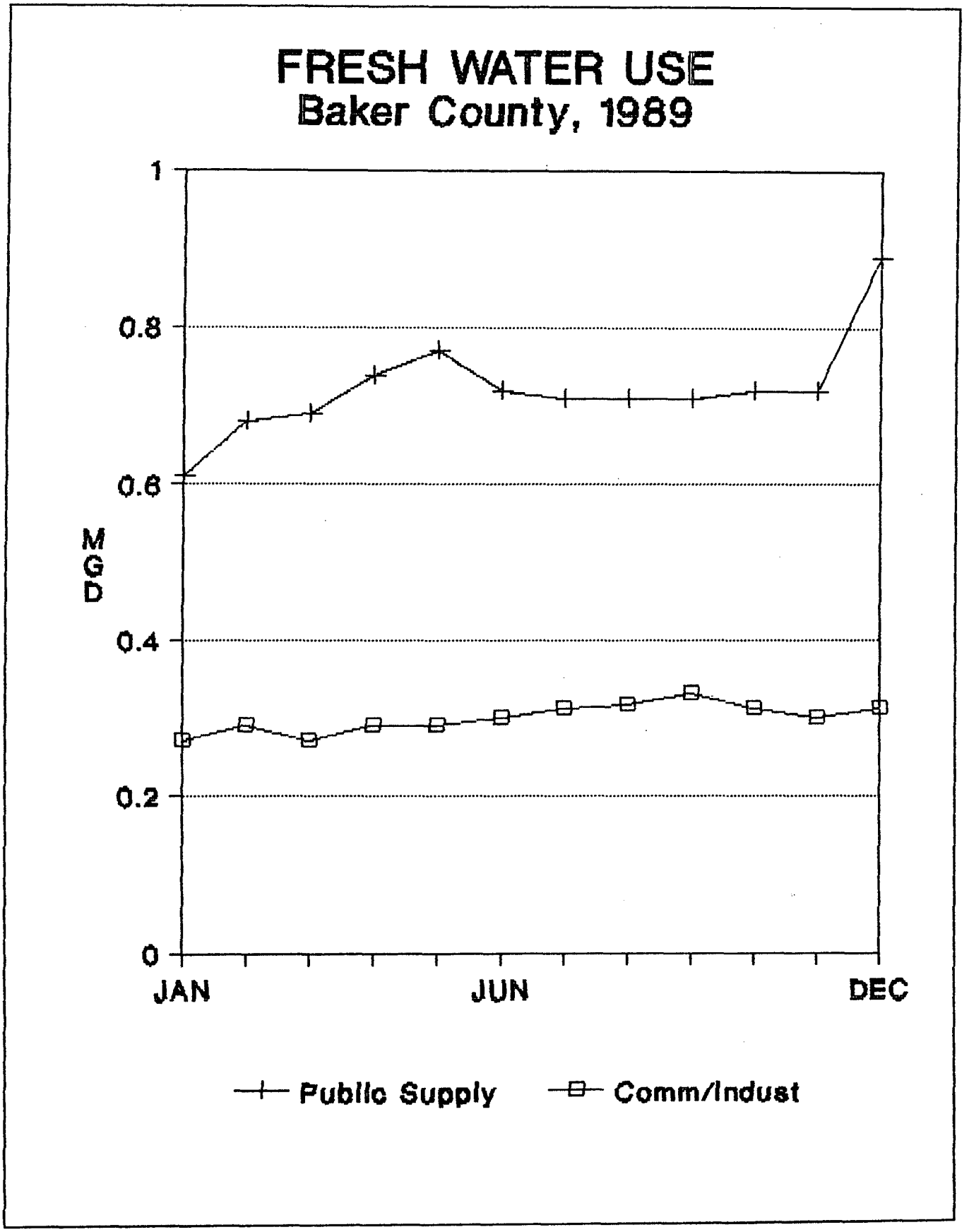
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	0.73	0.00	0.73	0.00
DOMESTIC SELF-SUPPLY	2.42	0.00	2.42	0.00
COM/IND. SELF-SUPPLY	0.93	0.00	0.93	0.00
AGRICULTURAL IRR.	2.99	2.20	5.19	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.00	0.00	0.00	0.00
	7.07	2.20	9.27	0.00

TOTAL GROUND	7.07
TOTAL SURFACE	2.20
COUNTY TOTAL	9.27


FRESH WATER USE
Baker County, 1989
1
0.8
0.6
0.4
0.2
0
MGD
JAN
JUN
DEC
Public Supply
Comm/Indust

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN BAKER COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
MACCLENNY - CITY OF	PUBLIC SUPPLY	4,134	0.709	0.000	FLORIDAN AQF.
MACCLENNY S/D	PUBLIC SUPPLY	136	0.016	0.000	FLORIDAN AQF.
NORTHEAST FLA. STATE HOSPITAL	INSTITUTIONAL		0.171	0.000	FLORIDAN AQF.
WIRENILL INC.	INDUSTRIAL		0.130	0.000	FLORIDAN AQF.
BAKER CORRECTIONAL FAC.	INDUSTRIAL		0.614	0.000	FLORIDAN AQF.
FLORIDA DOT	INSTITUTIONAL		0.018	0.000	FLORIDAN AQF.

BAKER COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	0	0	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	100	20	0.01	0.00	0.01
PEPPERS	25	25	0.01	0.00	0.01
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	100	0	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	522	100	0.05	0.00	0.05
FRUIT CROPS					
BLUEBERRIES	25	0	0.00	0.00	0.00
CITRUS	0	0	0.00	0.00	0.00
GRAPES	0	0	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00
PECANS	50	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	400	120	0.07	0.00	0.07
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	800	0	0.00	0.00	0.00
PEANUTS	50	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00
SOYBEANS	100	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	128	80	0.00	0.07	0.07
WHEAT	150	0	0.00	0.00	0.00
MISC. GRAINS	1,584	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	0	0	0.00	0.00	0.00
FLOWERS & FOLIAGE	0	0	0.00	0.00	0.00
WOODY ORNAMENTALS	700	420	2.32	1.54	3.86
IMPROVED PASTURE	10,000	0	0.00	0.00	0.00
SOD	0	0	0.00	0.00	0.00
TURF GRASS (GOLF)	124	60	0.12	0.00	0.12
TURF GRASS (OTHER)	0	0	0.00	0.00	0.00
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.41	0.59	1.00
FISH FARMING	0	0	0.00	0.00	0.00
	14,858	825	2.99	2.20	5.19

SPRINKLER ACREAGE	660
LOW PRESSURE ACREAGE	165
FLOOD ACREAGE	0
TOTAL IRRIGATED ACREAGE	825

BRADFORD COUNTY DATA - 1989

TOTAL POPULATION	24,804
TOTAL LAND AREA	305 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	1,736	
WATER USE	1,736	
PUBLIC SUPPLY	351	
SELF-SUPPLIED	1,385	
PER CAPITA	142	
LAND AREA	(ACRES)	
TOTAL AREA	3,840	6 SQ. MILES
FARMED	50	
IRRIGATED	40	

****

1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	0.05	0.00	0.05	0.00
DOMESTIC SELF-SUPPLY	0.20	0.00	0.20	0.00
COM/IND. SELF-SUPPLY	0.00	0.00	0.00	0.00
AGRICULTURAL IRR.	0.08	0.00	0.08	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.00	0.00	0.00	0.00
	0.33	0.00	0.33	0.00

TOTAL GROUND	0.33
TOTAL SURFACE	0.00
COUNTY TOTAL	0.33

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN BRADFORD COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	SURFACE	WITHDRAWAL SOURCE
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	351	0.046	0.000	FLORIDAN AQF.

BRADFORD (SJR) COUNTY ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	0	0	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	0	0	0.00	0.00	0.00
FRUIT CROPS					
BLUEBERRIES	0	0	0.00	0.00	0.00
CITRUS	0	0	0.00	0.00	0.00
GRAPES	0	0	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	0	0	0.00	0.00	0.00
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	0	0	0.00	0.00	0.00
FLOWERS & FOLIAGE	0	0	0.00	0.00	0.00
WOODY ORNAMENTALS	0	0	0.00	0.00	0.00
IMPROVED PASTURE	0	0	0.00	0.00	0.00
SOD	0	0	0.00	0.00	0.00
TURF GRASS (GOLF)	40	30	0.06	0.00	0.06
TURF GRASS (OTHER)	10	10	0.02	0.00	0.02
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.00	0.00	0.00
FISH FARMING	0	0	0.00	0.00	0.00
	50	40	0.08	0.00	0.08

SPRINKLER ACREAGE	40
LOW PRESSURE ACREAGE	0
FLOOD ACREAGE	0
TOTAL IRRIGATED ACREAGE	40

BREVARD COUNTY DATA - 1989

TOTAL POPULATION	403,500
TOTAL LAND AREA	1,310 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	403,500	
WATER USE	403,500	
PUBLIC SUPPLY	355,303	
SELF-SUPPLIED	48,197	
PER CAPITA	145	
LAND AREA	(ACRES)	
TOTAL AREA	636,800	1,310 SQ. MILES
FARMED	145,907	
IRRIGATED	99,807	

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1989 WATER WITHDRAWALS (mgd) by CATEGORY

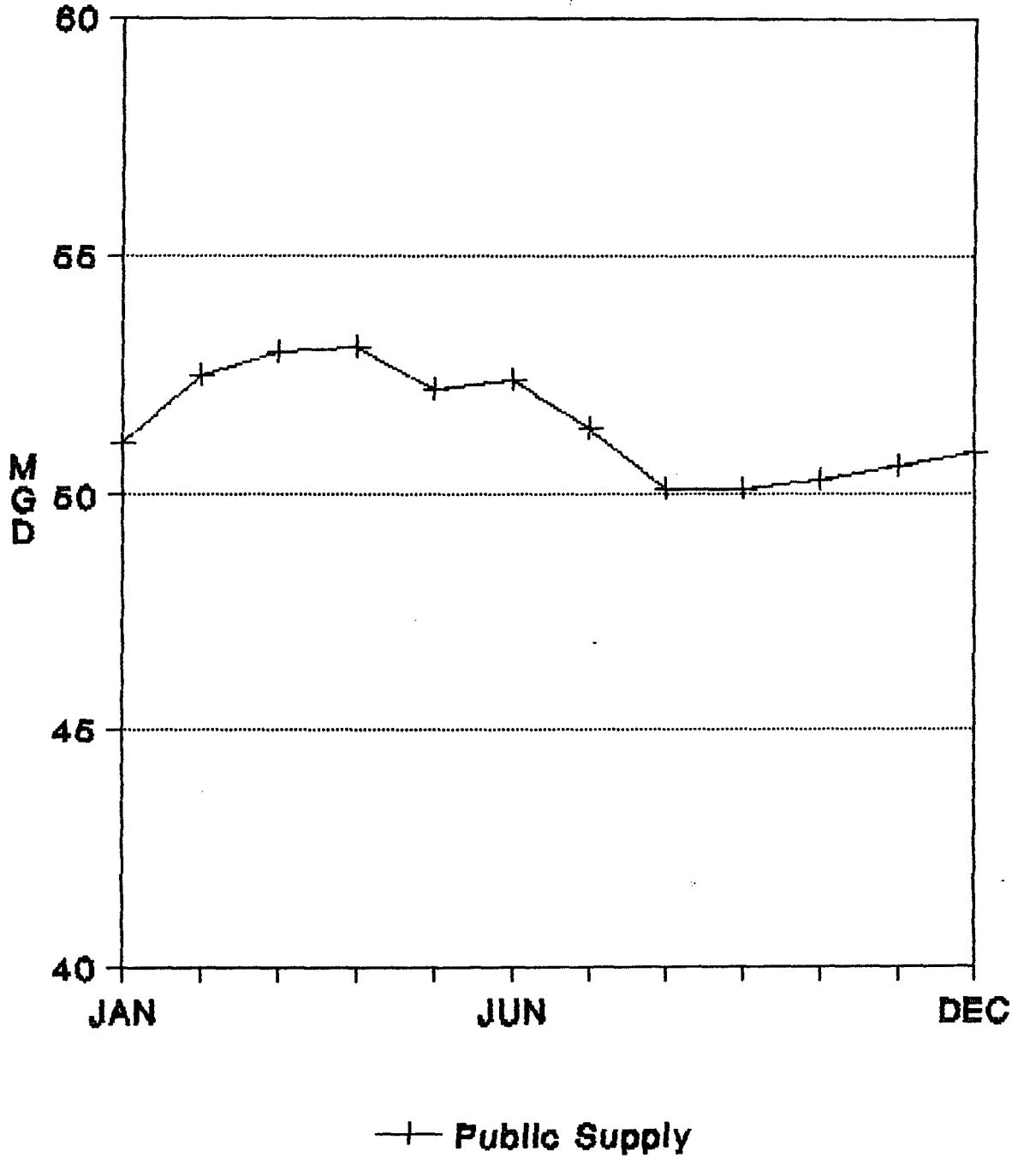
	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY (1)(2)	11.29	15.49	26.78	0.00
DOMESTIC SELF-SUPPLY	6.99	0.00	6.99	0.00
COM/IND. SELF-SUPPLY	0.19	0.00	0.19	0.00
AGRICULTURAL IRR.	91.63	10.86	102.49	0.00
POWER GENERATION S-S	0.25	0.00	0.25	1,058.49
MISCELLANEOUS	67.39	0.00	67.39	0.00
	177.74	26.35	204.09	1,058.49

TOTAL GROUND	177.74
TOTAL SURFACE	1,084.84
COUNTY TOTAL	1,262.58

(1) INCLUDES 0.16 mgd of SLIGHTLY SALINE GROUND WATER (250 to 1000 mg/l chlorides) USED IN R/O OR DILUTED FOR PUBLIC SUPPLY USE.

(2) DOES NOT INCLUDE 24.86 mgd of WATER WITHDRAWN IN ORANGE COUNTY FOR PUBLIC SUPPLY USE IN BREVARD COUNTY.

FRESH WATER USE
Brevard County, 1989



includes 24.86 mgd withdrawn in Orange County for public supply use in Brevard County

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN BREVARD COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
AQUARINA UTILITIES	PUBLIC SUPPLY	170	0.097	0.000	FLORIDAN AQF. (R/O)
AVATAR (BAREFOOT BAY) UTILITY	PUBLIC SUPPLY	6,038	0.653	0.000	SURFICIAL AQF
COCOA WATER UTILITY	PUBLIC SUPPLY	134,339	24.857	0.000	FLORIDAN AQF.
GDU - PALM BAY	PUBLIC SUPPLY	31,503	4.153	0.000	SURFICIAL & FLORIDAN AQF.
MELBOURNE - CITY OF	PUBLIC SUPPLY	133,290	0.000	15.485	LAKE WASHINGTON
N. BREVARD UTILITIES (MIMS)	PUBLIC SUPPLY	6,500	0.614	0.000	SURFICIAL AQF.
S. BREVARD UTILITIES (SUNNYLAND)	PUBLIC SUPPLY	500	0.057	0.000	FLORIDAN AQF. (R/O)
TITUSVILLE - CITY OF	PUBLIC SUPPLY	42,963	5.715	0.000	FLORIDAN AQF.
FLORIDA DOT - I95 REST FAC.	INSTITUTIONAL		0.011	0.000	SURFICIAL AQF.
FLORIDA POWER & LIGHT	POWER GEN.		0.152	591.479	SURFICIAL AQF. & INDIAN RIVER
HARRIS CORP.	INDUSTRIAL		0.088	0.000	SURFICIAL AQF.
ORLANDO UTILITIES	POWER GEN.		0.098	467.011	SURFICIAL AQF. & INDIAN RIVER
UNION CARBIDE INC.	INDUSTRIAL		0.092	0.000	SURFICIAL AQF.

BREVARD COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	0	0	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	1,000	1,000	1.24	0.00	1.24
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	0	0	0.00	0.00	0.00
FRUIT CROPS					
BLUEBERRIES	0	0	0.00	0.00	0.00
CITRUS	11,641	5,750	8.78	3.41	12.19
GRAPES	0	0	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	200	200	0.09	0.02	0.11
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	2,500	2,500	4.97	0.00	4.97
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	1,800	1,800	2.51	0.00	2.51
SOYBEANS	2,500	2,500	3.49	0.00	3.49
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	1,000	1,000	1.17	0.00	1.17
MISC. GRAINS	0	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	1	1	0.01	0.00	0.01
FLOWERS & FOLIAGE	10	10	0.04	0.00	0.04
WOODY ORNAMENTALS	190	190	1.74	0.00	1.74
IMPROVED PASTURE	121,700	81,860	63.00	3.32	66.32
SOD	1,300	1,300	0.98	1.47	2.45
TURF GRASS (GOLF)	1,692	1,323	1.61	2.62	4.23
TURF GRASS (OTHER)	373	373	0.89	0.02	0.91
MISC. AGRICULTURAL					
LIVESTOCK	0	0	1.09	0.00	1.09
FISH FARMING	0	0	0.02	0.00	0.02
	145,987	99,807	91.63	10.86	102.49

SPRINKLER ACREAGE	2,947
LOW PRESSURE ACREAGE	3,500
FLOOD ACREAGE	93,360
TOTAL IRRIGATED ACREAGE	99,807

CLAY COUNTY DATA - 1989

TOTAL POPULATION	102,796
TOTAL LAND AREA	644 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	102,796	
WATER USE	102,796	
PUBLIC SUPPLY	73,673	
SELF-SUPPLIED	29,123	
PER CAPITA	139	
LAND AREA	(ACRES)	
TOTAL AREA	411,520	644 SQ. MILES
FARMED	44,241	
IRRIGATED	749	

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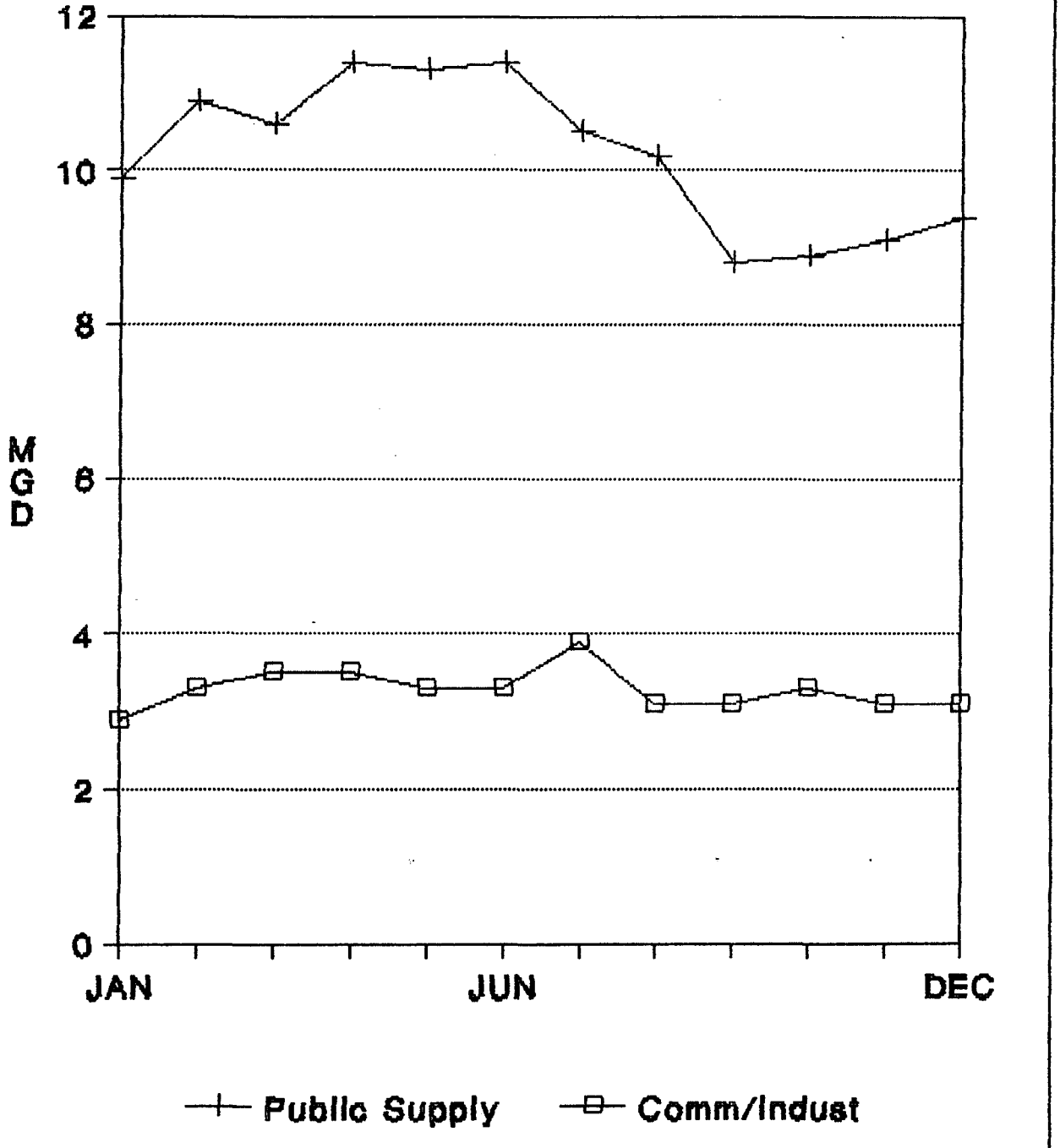
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	10.23	0.00	10.23	0.00
DOMESTIC SELF-SUPPLY	4.05	0.00	4.05	0.00
COM/IND. SELF-SUPPLY	7.03	0.00	7.03	0.00
AGRICULTURAL IRR.	2.59	0.26	2.85	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.60	0.00	0.60	0.00
	24.50	0.26	24.76	0.00

TOTAL GROUND	24.50
TOTAL SURFACE	0.26
COUNTY TOTAL	24.76

FRESH WATER USE
Clay County, 1989



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN CLAY COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
CLAY UTILITY CO.	PUBLIC SUPPLY	7,653	0.927	0.000	FLORIDAN AQF.
DUVAL UTILITY CO.	PUBLIC SUPPLY	260	0.023	0.000	FLORIDAN AQF.
GREEN COVE SPRINGS - CITY OF	PUBLIC SUPPLY	4,535	0.792	0.000	FLORIDAN AQF.
KEYSTONE HEIGHTS - CITY OF	PUBLIC SUPPLY	2,697	0.413	0.000	FLORIDAN AQF.
KINGSLEY SERVICE CO.	PUBLIC SUPPLY	45,212	6.142	0.000	FLORIDAN AQF.
LAKE ASBURY UTILITIES	PUBLIC SUPPLY	1,656	0.191	0.000	FLORIDAN AQF.
MAGNOLIA SPRINGS UTILITIES	PUBLIC SUPPLY	858	0.147	0.000	FLORIDAN AQF.
ORANGE PARK - TOWN OF	PUBLIC SUPPLY	9,619	1.428	0.000	FLORIDAN AQF.
PENNY RETIREMENT COM.	PUBLIC SUPPLY	226	0.069	0.000	FLORIDAN AQF.
PENNY FARMS - TOWN OF	PUBLIC SUPPLY	457	0.035	0.000	FLORIDAN AQF.
THE RAVINES VILLAGE & RESORT	PUBLIC SUPPLY	500	0.058	0.000	FLORIDAN AQF.
ASSOCIATED MINERALS	INDUSTRIAL		1.759	0.000	FLORIDAN AQF.
CAMP BLANDING MILITARY BASE	INSTITUTIONAL		0.464	0.000	FLORIDAN AQF.
E.I. DUPONT DE NEMOURS MINERALS	INDUSTRIAL		2.363	0.000	FLORIDAN AQF.
FLORIDA ROCK - KEYSTONE MINE	INDUSTRIAL		1.934	0.000	FLORIDAN AQF.
J-M MANUFACTURING CO.	INDUSTRIAL		0.105	0.000	FLORIDAN AQF.
REYNOLDS INDUSTRIAL PARK	INDUSTRIAL		0.398	0.000	FLORIDAN AQF.

CLAY COUNTY ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	0	0	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	200	60	0.03	0.00	0.03
FRUIT CROPS					
BLUEBERRIES	15	13	0.02	0.00	0.02
CITRUS	0	0	0.00	0.00	0.00
GRAPES	0	0	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	500	0	0.00	0.00	0.00
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	2,800	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	0	0	0.00	0.00	0.00
FLOWERS & FOLIAGE	50	50	0.20	0.00	0.20
WOODY ORNAMENTALS	0	0	0.00	0.00	0.00
IMPROVED PASTURE	40,000	100	0.11	0.00	0.11
SOD	0	0	0.00	0.00	0.00
TURF GRASS (GOLF)	530	300	0.52	0.26	0.78
TURF GRASS (OTHER)	146	146	0.33	0.00	0.33
MISC. AGRICULTURAL					
LIVESTOCK	0	0	1.38	0.00	1.38
FISH FARMING	0	0	0.00	0.00	0.00
	44,241	749	2.59	0.26	2.85

SPRINKLER ACREAGE	636
LOW PRESSURE ACREAGE	3
FLOOD ACREAGE	110
TOTAL IRRIGATED ACREAGE	749

DUVAL COUNTY DATA - 1989

TOTAL POPULATION	686,337
TOTAL LAND AREA	840 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	686,337	
WATER USE	686,337	
PUBLIC SUPPLY	600,898	
SELF-SUPPLIED	85,439	
PER CAPITA	157	
LAND AREA	(ACRES)	
TOTAL AREA	537,600	840 SQ. MILES
FARMED	16,442	
IRRIGATED	2,965	

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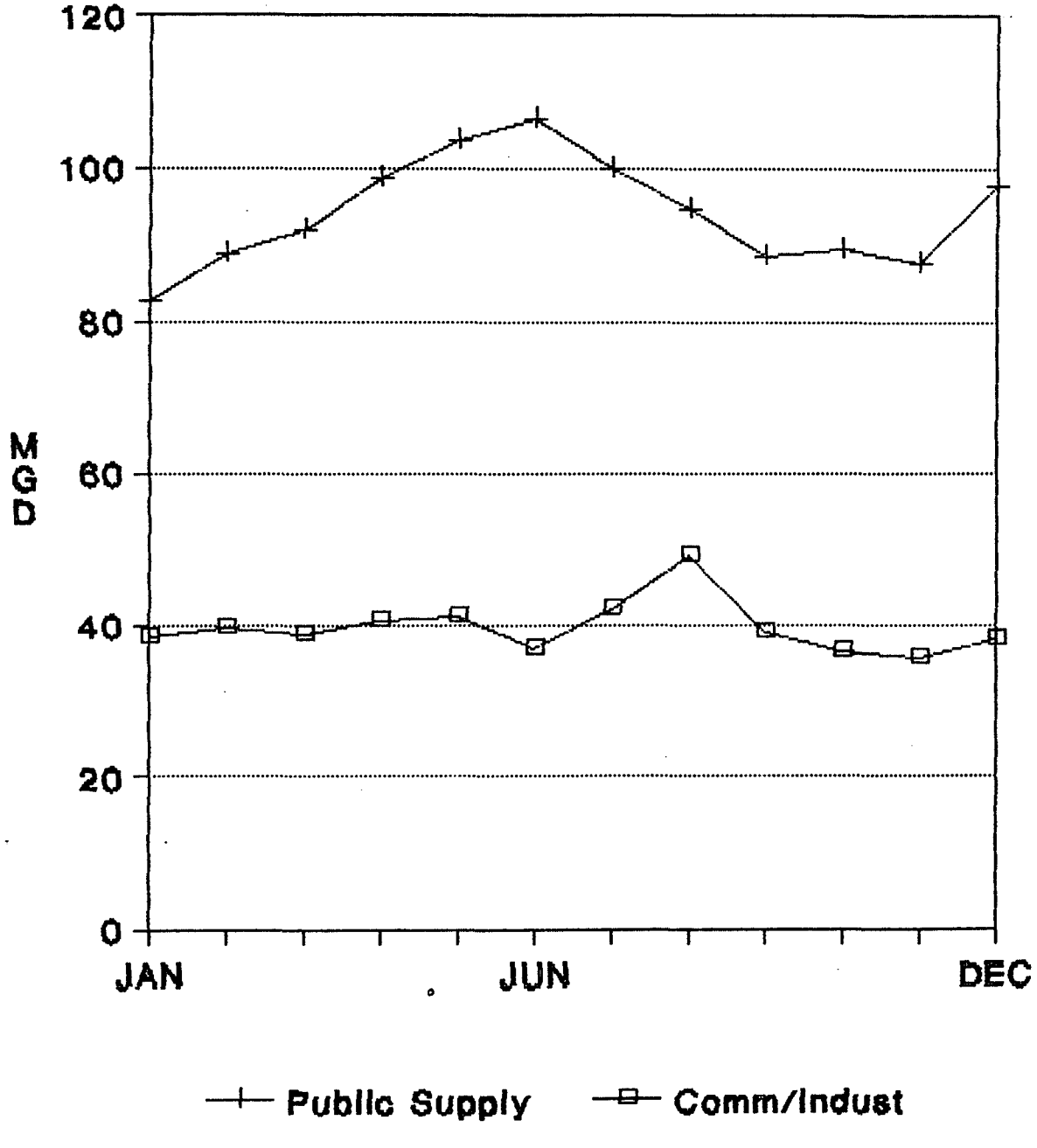
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	94.07	0.00	94.07	0.00
DOMESTIC SELF-SUPPLY	13.41	0.00	13.41	0.00
COM/IND. SELF-SUPPLY	39.89	0.00	39.89	43.85
AGRICULTURAL IRR.	9.22	1.02	10.24	0.00
POWER GENERATION S-S	4.44	0.00	4.44	399.33
MISCELLANEOUS	6.71	0.00	6.71	0.00
	167.74	1.02	168.76	443.18

TOTAL GROUND	167.74
TOTAL SURFACE	444.20
	611.94

FRESH WATER USE
Duval County, 1989



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN DUVAL COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
ATLANTIC BEACH - CITY OF	PUBLIC SUPPLY	13,529	2.640	0.000	FLORIDAN AQF.
BEAUCLERC UTILITIES	PUBLIC SUPPLY	6,670	0.685	0.000	FLORIDAN AQF.
BALDWIN - CITY OF	PUBLIC SUPPLY	1,772	0.223	0.000	FLORIDAN AQF.
CANAL UTILITIES	PUBLIC SUPPLY	7,000	1.863	0.000	FLORIDAN AQF.
COLONY MHP	PUBLIC SUPPLY	962	0.049	0.000	FLORIDAN AQF.
COMMERCIAL UTILITIES	PUBLIC SUPPLY	1,200	0.104	0.000	FLORIDAN AQF.
DUVAL UTILITY CO.	PUBLIC SUPPLY	2,090	0.146	0.000	FLORIDAN AQF.
HARBOR VIEW S/D	PUBLIC SUPPLY	2,100	0.203	0.000	FLORIDAN AQF.
JACKSONVILLE BEACH - CITY OF	PUBLIC SUPPLY	19,200	3.131	0.000	FLORIDAN AQF.
JACKSONVILLE - CITY OF (1)	PUBLIC SUPPLY	424,534	68.153	0.000	FLORIDAN AQF.
JACKSONVILLE SUBURBAN UTILITIES	PUBLIC SUPPLY	76,625	9.727	0.000	FLORIDAN AQF.
LAMPLIGHTER MHP	PUBLIC SUPPLY	730	0.137	0.000	FLORIDAN AQF.
LONDONTOWNE APARTMENTS	PUBLIC SUPPLY	1,125	0.284	0.000	FLORIDAN AQF.
NEIGHBORHOOD UTILITIES	PUBLIC SUPPLY	543	0.051	0.000	FLORIDAN AQF.
NEPTUNE BEACH - CITY OF	PUBLIC SUPPLY	6,497	1.124	0.000	FLORIDAN AQF.
NORMANDY ESTATES MHP	PUBLIC SUPPLY	500	0.138	0.000	FLORIDAN AQF.
NORMANDY VILLAGE UTILITIES	PUBLIC SUPPLY	2,878	0.419	0.000	FLORIDAN AQF.
ORTEGA UTILITIES	PUBLIC SUPPLY	4,423	1.041	0.000	FLORIDAN AQF.
REGENCY UTILITIES	PUBLIC SUPPLY	4,900	0.751	0.000	FLORIDAN AQF.
SHADOWROCK UTILITIES	PUBLIC SUPPLY	1,250	0.148	0.000	FLORIDAN AQF.
SOUTHERN GULF UTILITIES	PUBLIC SUPPLY	2,900	0.199	0.000	FLORIDAN AQF.
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	10,800	1.539	0.000	FLORIDAN AQF.
SOUTHSIDE UTILITIES	PUBLIC SUPPLY	7,895	1.184	0.000	FLORIDAN AQF.
OAKS OF ATLANTIC BEACH	PUBLIC SUPPLY	775	0.129	0.000	FLORIDAN AQF.
CASTLETON BEVERAGE CO.	INDUSTRIAL		0.098	0.000	FLORIDAN AQF.
CECIL FIELD NAS	INSTITUTIONAL		0.961	0.000	FLORIDAN AQF.
CELOTEX GYPSUM CO.	INDUSTRIAL		0.089	0.000	FLORIDAN AQF.
DUVAL CORRECTIONAL FAC.	INSTITUTIONAL		0.017	0.000	FLORIDAN AQF.
EASTPORT POWER PLANT	POWER GEN.		2.818	39.495	FLORIDAN AQF.
FLORIDA DOT - I10 REST FAC.	INSTITUTIONAL		0.012	0.000	FLORIDAN AQF.
FLORIDA WIRE & CABLE CO.	INDUSTRIAL		0.013	0.000	FLORIDAN AQF.
GATE-MARINTIME INC.	INDUSTRIAL		0.089	0.000	FLORIDAN AQF.
JACKSONVILLE ELECTIC AUTHORITY	POWER GEN.		1.626	359.835	FLORIDAN AQF. & ST. JOHNS RIVER
JACKSONVILLE INT. AIRPORT	INSTITUTIONAL		0.225	0.000	FLORIDAN AQF.
SEMINOLE KRAFT PAPER CO.	INDUSTRIAL		17.472	41.537	FLORIDAN AQF. & ST. JOHNS RIVER
JACKSONVILLE NAS	INSTITUTIONAL		2.515	0.000	FLORIDAN AQF.
JACKSONVILLE PORT AUTHORITY	INDUSTRIAL		0.094	0.000	FLORIDAN AQF.
JACKSONVILLE SHIPYARD	INDUSTRIAL		0.213	2.311	FLORIDAN AQF. & ST. JOHNS RIVER
JACKSONVILLE UNIVERSITY	INSTITUTIONAL		0.452	0.000	FLORIDAN AQF.
JACKSONVILLE ZOO	INSTITUTIONAL		0.809	0.000	FLORIDAN AQF.
JEFFERSON-SMURFIT INC. (ALTON)	INDUSTRIAL		8.105	0.000	FLORIDAN AQF.
MAYPORT NAS	INSTITUTIONAL		2.683	0.000	FLORIDAN AQF.
REICHOLD CHEMICAL CO.	INDUSTRIAL		0.174	0.000	FLORIDAN AQF.
SCM ORGANIC CHEMICAL CO.	INDUSTRIAL		1.947	0.000	FLORIDAN AQF.
SIMPLEX MAN. CO.	INDUSTRIAL		0.054	0.000	FLORIDAN AQF.
SWISHER & SON MAN. CO.	INDUSTRIAL		0.107	0.000	FLORIDAN AQF.
UNION CAMP INC.	INDUSTRIAL		3.291	0.000	FLORIDAN AQF.
U.S. GYPSUM	INDUSTRIAL		0.470	0.000	FLORIDAN AQF.

(1) INCLUDES ARGYLE FOREST, MANDERIN, and MAYPORT.

DUVAL COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	0	0	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	200	10	0.00	0.00	0.00
FRUIT CROPS					
BLUEBERRIES	18	13	0.01	0.00	0.01
CITRUS	0	0	0.00	0.00	0.00
GRAPES	10	7	0.01	0.00	0.01
PEACHES	0	0	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	200	0	0.00	0.00	0.00
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	0	0	0.00	0.00	0.00
FLOWERS & FOLIAGE	12	12	0.04	0.00	0.04
WOODY ORNAMENTALS	60	60	0.54	0.00	0.54
IMPROVED PASTURE	12,000	500	0.52	0.09	0.61
SOD	800	800	1.11	0.18	1.29
TURF GRASS (GOLF)	2,992	1,413	3.01	0.75	3.76
TURF GRASS (OTHER)	150	150	0.34	0.00	0.34
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.64	0.00	0.64
AESTHETICS/WILDLIFE	0	0	3.00	0.00	3.00
	16,442	2,965	9.22	1.02	10.24

SPRINKLER ACREAGE	2,891
LOW PRESSURE ACREAGE	34
FLOOD ACREAGE	40
TOTAL IRRIGATED ACREAGE	2,965

FLAGLER COUNTY DATA - 1989

TOTAL POPULATION	23,911
TOTAL LAND AREA	504 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	23,911	
WATER USE	23,911	
PUBLIC SUPPLY	19,487	
SELF-SUPPLIED	4,424	
PER CAPITA	171	
LAND AREA	(ACRES)	
TOTAL AREA	322,560	504 SQ. MILES
FARMED	24,340	
IRRIGATED	6,785	

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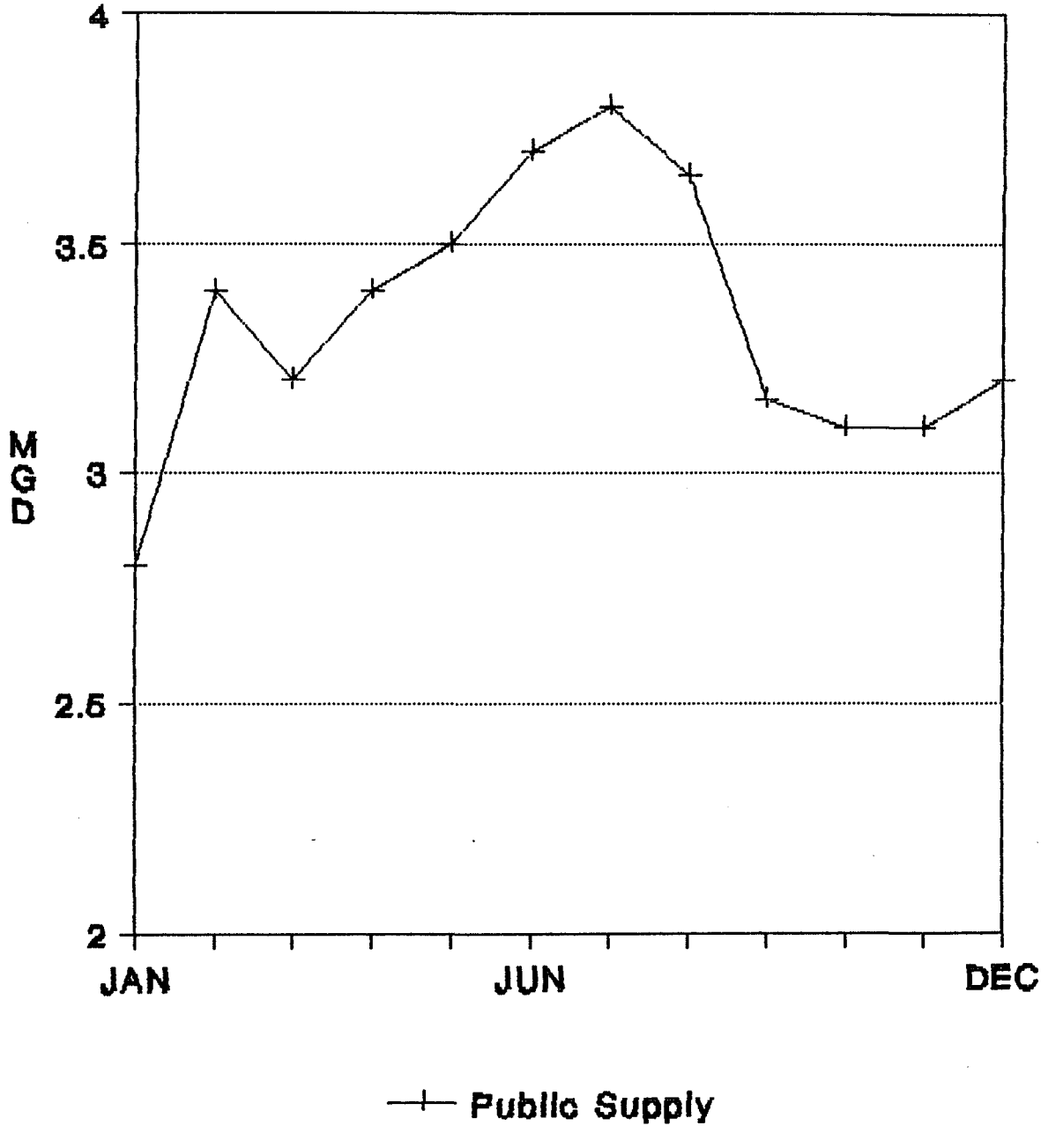
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	3.34	0.00	3.34	0.00
DOMESTIC SELF-SUPPLY	0.76	0.00	0.76	0.00
COM/IND. SELF-SUPPLY	0.16	0.00	0.16	0.00
AGRICULTURAL IRR.	6.76	0.96	7.72	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.01	0.00	0.01	0.00
	11.03	0.96	11.99	0.00

TOTAL GROUND	11.03
TOTAL SURFACE	0.96
COUNTY TOTAL	11.99

FRESH WATER USE
Flagler County, 1989



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN FLAGLER COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
BEVERLY BEACH UTILITY	PUBLIC SUPPLY	445	0.026	0.000	FLORIDAN AQF.
BUNNELL - CITY OF	PUBLIC SUPPLY	2,153	0.322	0.000	FLORIDAN AQF.
FLAGLER BEACH - CITY OF	PUBLIC SUPPLY	3,565	0.486	0.000	FLORIDAN AQF.
PALM COAST UTILITIES	PUBLIC SUPPLY	13,000	2.437	0.000	FLORIDAN AQF.
PLANTATION BAY	PUBLIC SUPPLY	324	0.067	0.000	FLORIDAN AQF.
BULOW KOA	INSTITUTIONAL		0.072	0.000	FLORIDAN AQF.
HOLIDAY TRAVEL PARK	INSTITUTIONAL		0.010	0.000	FLORIDAN AQF.
MARINELAND	INSTITUTIONAL		0.042	0.000	FLORIDAN AQF.
RINKER CEMENT	INDUSTRIAL		0.033	0.000	FLORIDAN AQF.

FLAGLER COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	2,000	1,000	1.14	0.00	1.14
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	2,200	2,200	3.02	0.00	3.02
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	1,000	1,000	1.12	0.00	1.12
FRUIT CROPS					
BLUEBERRIES	0	0	0.00	0.00	0.00
CITRUS	0	0	0.00	0.00	0.00
GRAPES	0	0	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	100	100	0.07	0.00	0.07
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	400	400	0.39	0.00	0.39
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	1,500	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	0	0	0.00	0.00	0.00
FLOWERS & FOLIAGE	0	0	0.00	0.00	0.00
WOODY ORNAMENTALS	5	5	0.05	0.00	0.05
IMPROVED PASTURE	16,500	695	0.56	0.00	0.56
SOD	200	150	0.28	0.00	0.28
TURF GRASS (GOLF)	362	362	0.11	0.80	0.91
TURF GRASS (OTHER)	73	73	0.01	0.16	0.17
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.01	0.00	0.01
FISH FARMING	0	0	0.00	0.00	0.00
	24,340	6,785	6.76	0.96	7.72

SPRINKLER ACREAGE	2,385
LOW PRESSURE ACREAGE	0
FLOOD ACREAGE	4,400
TOTAL IRRIGATED ACREAGE	6,785

INDIAN RIVER COUNTY DATA - 1989

TOTAL POPULATION	91,375
TOTAL LAND AREA	549 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	91,375	
WATER USE	91,375	
PUBLIC SUPPLY	52,251	
SELF-SUPPLIED	39,124	
PER CAPITA	263	
LAND AREA	(ACRES)	
TOTAL AREA	351,360	549 SQ. MILES
FARMED	136,346	
IRRIGATED	96,474	

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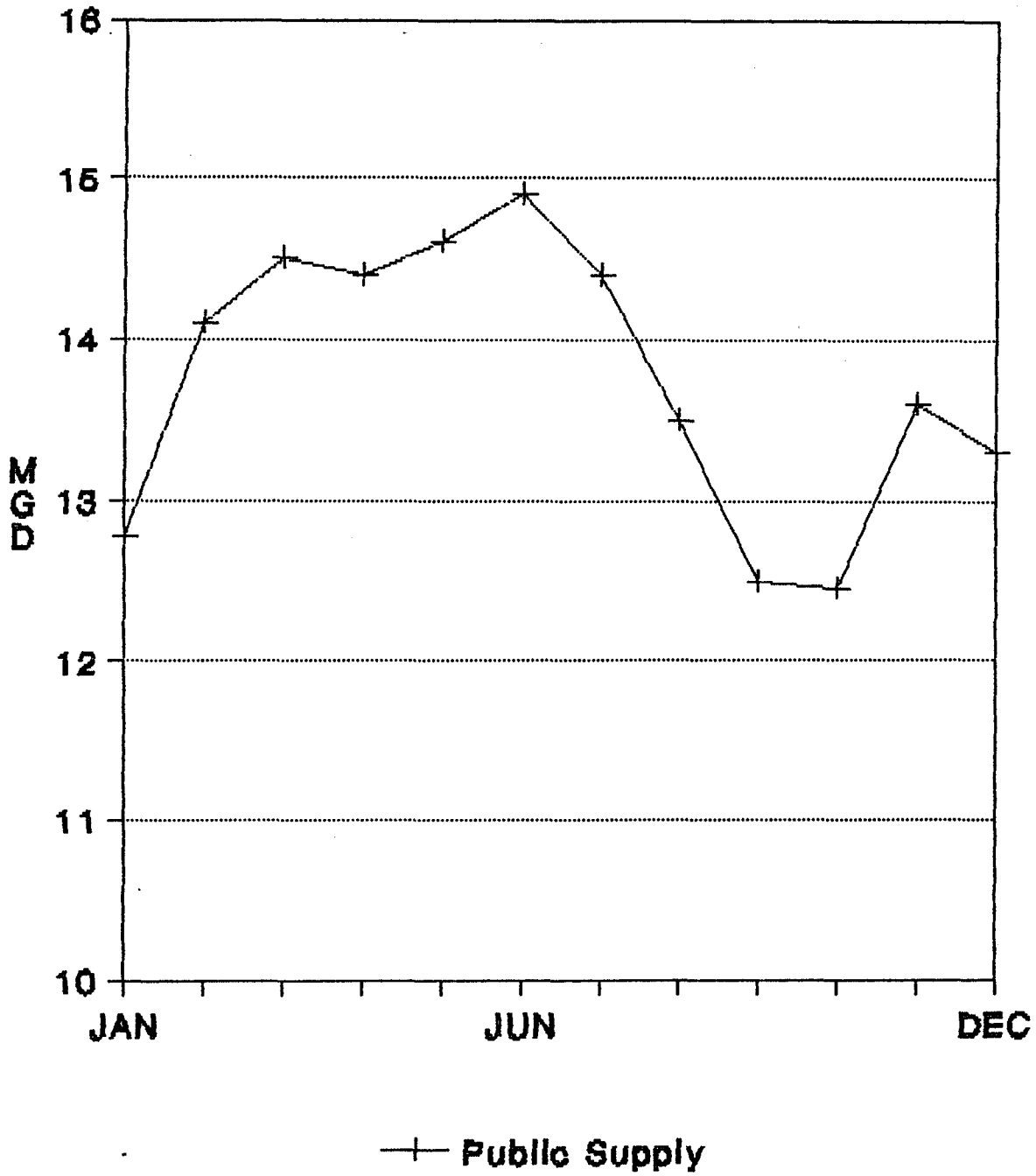
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY (1)	13.74	0.00	13.74	0.00
DOMESTIC SELF-SUPPLY	10.29	0.00	10.29	0.00
COM/IND. SELF-SUPPLY	0.31	0.00	0.31	0.00
AGRICULTURAL IRR.	46.54	107.36	153.90	0.00
POWER GENERATION S-S	0.00	0.00	0.00	137.46
MISCELLANEOUS	12.50	0.00	12.50	0.00
	83.46	107.36	190.82	137.46

TOTAL GROUND	83.46
TOTAL SURFACE	244.82
COUNTY TOTAL	328.28

(1) INCLUDES 2.77 mgd of SLIGHTLY SALINE GROUND WATER (250 to 1000 mg/l chlorides) USED IN R/O OR DILUTED FOR PUBLIC SUPPLY USE.

FRESH WATER USE
Indian River County, 1989



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN INDIAN RIVER COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
BENT PINES UTILITIES	PUBLIC SUPPLY	400	0.030	0.000	SURFICIAL AQF.
GDU - VERO HIGHLANDS/SHORES	PUBLIC SUPPLY	2,328	0.000	0.000	INDIAN RIVER CO. UTILITIES
GDU - SEBASTIAN HIGHLANDS	PUBLIC SUPPLY	2,392	0.288	0.000	FLORIDAN AQF.
HERITAGE VILLAGE	PUBLIC SUPPLY	654	0.068	0.000	FLORIDAN AQF. (R/O)
INDIAN RIVER COUNTY UTILITIES	PUBLIC SUPPLY	16,610	2.030	0.000	FLORIDAN AQF. (R/O)
LAKEWOOD VILLAGE	PUBLIC SUPPLY	1,095	0.112	0.000	SURFICIAL AQF.
MARSH ISLAND UTILITIES	PUBLIC SUPPLY	88	0.012	0.000	FLORIDAN AQF. (R/0)
NORTH BEACH UTILITIES	PUBLIC SUPPLY	1,392	0.345	0.000	FLORIDAN AQF. (R/O)
PELICAN POINTE UYILITIES	PUBLIC SUPPLY	380	0.033	0.000	FLORIDAN AQF.
VERO BEACH - CITY OF	PUBLIC SUPPLY	24,780	10.535	0.000	SURFICIAL AQF. & FLORIDAN AQF.
VILLAGE GREEN MHP	PUBLIC SUPPLY	1,432	0.194	0.000	FLORIDAN AQF. (R/O)
WHISPERING PALMS MHP	PUBLIC SUPPLY	700	0.090	0.000	FLORIDAN AQF. (R/O)
HERCULES INC.	INDUSTRIAL		0.139	0.000	SURFICIAL AQF.
INDIAN RIVER CORRECTIONAL FAC.	INSTITUTIONAL		0.034	0.000	SURFICIAL AQF.
OCEAN SPRAY PROCESSING PLANT	INDUSTRIAL		0.104	0.000	SURFICIAL & FLORIDAN AQF.
SEBASTIAN MEDICAL CENTER	INSTITUTIONAL		0.031	0.000	SURFICIAL AQF.
VERO BEACH MUN. POWER PLANT	POWER GEN.		0.083	137.460	FLORIDAN AQF. & INDIAN RIVER

INDIAN RIVER COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	150	150	0.12	0.00	0.12
CARROTS	50	50	0.05	0.00	0.05
CUCUMBERS	0	0	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	100	100	0.14	0.00	0.14
TOMATOES	10	10	0.01	0.00	0.01
SWEET CORN	650	650	0.83	0.82	1.65
WATERCRESS	150	150	1.67	0.00	1.67
MISC. VEGETABLES	2,020	2,020	1.02	1.01	2.03
FRUIT CROPS					
BLUEBERRIES	0	0	0.00	0.00	0.00
CITRUS	65,162	65,162	29.47	88.41	117.88
GRAPES	0	0	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00
STRAWBERRIES	20	20	0.03	0.00	0.03
WATERMELLONS	100	50	0.03	0.00	0.03
MISC. FRUIT	100	100	0.10	0.00	0.10
FIELD CROPS					
FIELD CORN	2,500	2,500	0.00	4.97	4.97
PEANUTS	0	0	0.00	0.00	0.00
RICE	50	50	0.10	0.00	0.10
SORGHUM	0	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	300	300	0.17	0.17	0.34
ORNAMENTALS & GRASSES					
FERNS	0	0	0.00	0.00	0.00
FLOWERS & FOLIAGE	25	25	0.09	0.00	0.09
WOODY ORNAMENTALS	60	60	0.00	0.49	0.49
IMPROVED PASTURE	62,208	22,747	9.22	9.21	18.43
SOD	1,000	1,000	0.72	1.08	1.80
TURF GRASS (GOLF)	1,637	1,276	2.43	1.19	3.62
TURF GRASS (OTHER)	54	54	0.12	0.01	0.13
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.22	0.00	0.22
FISH FARMING	0	0	0.00	0.00	0.00
	136,346	96,474	46.54	107.36	153.90

SPRINKLER ACREAGE	2,055
LOW PRESSURE ACREAGE	27,050
FLOOD ACREAGE	67,369
TOTAL IRRIGATED ACREAGE	96,474

LAKE COUNTY DATA - 1989

TOTAL POPULATION	146,333
TOTAL LAND AREA	1,163 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	143,406	
WATER USE	143,406	
PUBLIC SUPPLY	99,305	
SELF-SUPPLIED	44,101	
PER CAPITA	209	
LAND AREA	(ACRES)	
TOTAL AREA	677,760	1,059 SQ. MILES
FARMED	91,203	
IRRIGATED	39,369	

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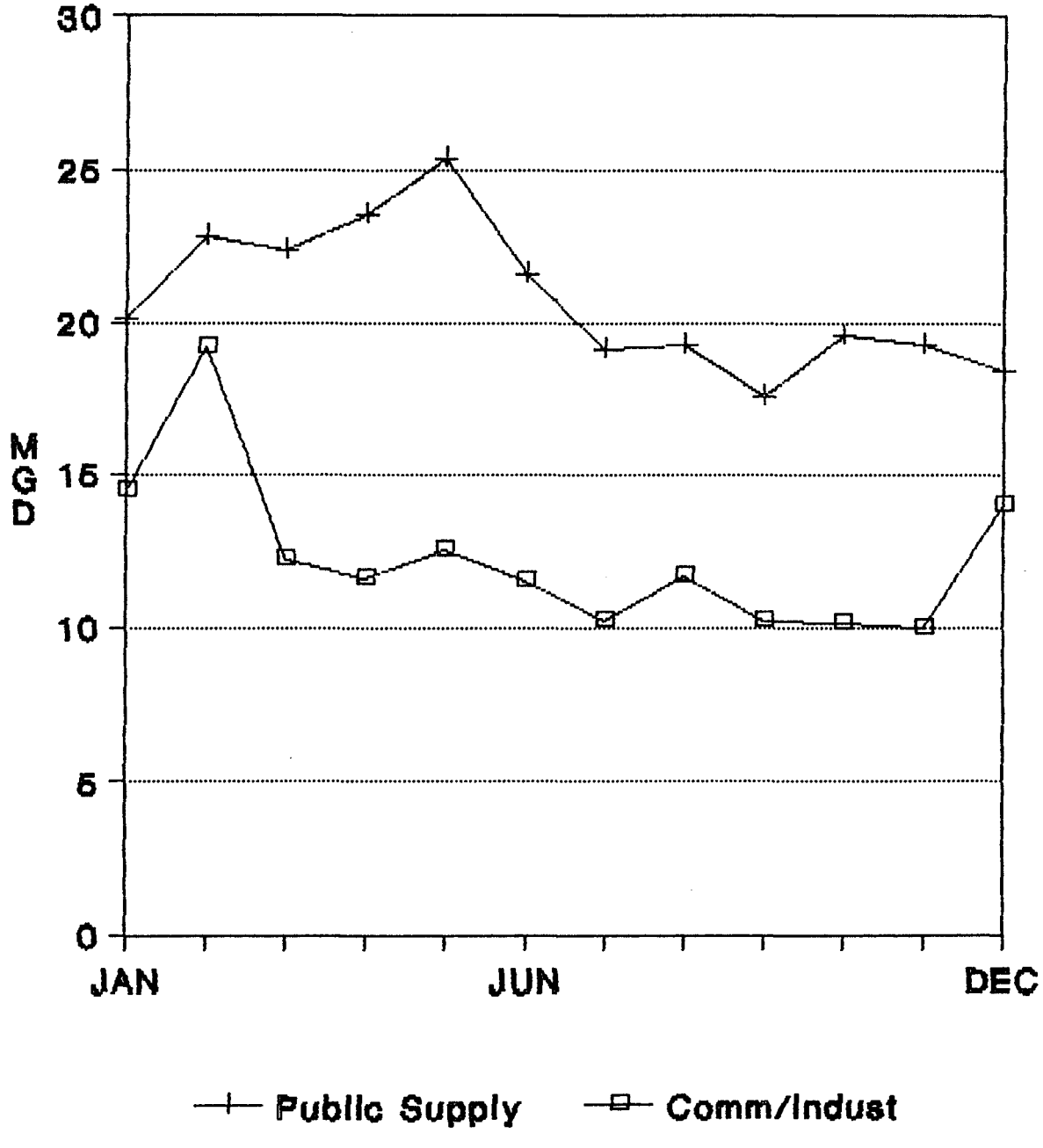
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	20.76	0.00	20.76	0.00
DOMESTIC SELF-SUPPLY	9.22	0.00	9.22	0.00
COM/IND. SELF-SUPPLY	12.29	0.00	12.29	0.00
AGRICULTURAL IRR.	52.41	13.26	65.67	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	1.56	0.00	1.56	0.00
	96.24	13.26	109.50	0.00

TOTAL GROUND	96.24
TOTAL SURFACE	13.26
COUNTY TOTAL	109.50

FRESH WATER USE
Lake County, 1989



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN LAKE COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
ASTOR/ASTOR PARK WATER ASSOC.	PUBLIC SUPPLY	3,000	0.247	0.000	FLORIDAN AQF.
BRITTANY ESTATES	PUBLIC SUPPLY	212	0.057	0.000	FLORIDAN AQF.
CLERMONT - CITY OF	PUBLIC SUPPLY	6,642	2.061	0.000	FLORIDAN AQF.
DEANZA - MID FLORIDA LAKES	PUBLIC SUPPLY	2,698	0.710	0.000	FLORIDAN AQF.
EUSTIS - CITY OF	PUBLIC SUPPLY	17,764	2.963	0.000	FLORIDAN AQF.
FRUITLAND PARK - CITY OF	PUBLIC SUPPLY	2,775	0.420	0.000	FLORIDAN AQF.
GROVELAND - CITY OF	PUBLIC SUPPLY	2,251	0.604	0.000	FLORIDAN AQF.
HAWTHORNE S/D	PUBLIC SUPPLY	2,850	0.456	0.000	FLORIDAN AQF.
HOWEY-IN-THE-HILLS - TOWN OF	PUBLIC SUPPLY	638	0.281	0.000	FLORIDAN AQF.
LAKE COUNTY UTILITIES	PUBLIC SUPPLY	550	0.065	0.000	FLORIDAN AQF.
LAKEVIEW TERRACE CENTER	PUBLIC SUPPLY	300	0.037	0.000	FLORIDAN AQF.
LEESBURG - CITY OF	PUBLIC SUPPLY	21,896	4.366	0.000	FLORIDAN AQF.
MASCOTTE - TOWN OF	PUBLIC SUPPLY	1,755	0.203	0.000	FLORIDAN AQF.
MINNEOLA - CITY OF	PUBLIC SUPPLY	1,438	0.212	0.000	FLORIDAN AQF.
MOLAKAI PARK WATER SYSTEM	PUBLIC SUPPLY	550	0.037	0.000	FLORIDAN AQF.
MONTVERDE - TOWN OF	PUBLIC SUPPLY	530	0.117	0.000	FLORIDAN AQF.
MOUNT DORA - CITY OF	PUBLIC SUPPLY	9,600	2.852	0.000	FLORIDAN AQF.
ORANGE BLOSSOM GARDENS MHP	PUBLIC SUPPLY	7,247	1.883	0.000	FLORIDAN AQF.
SILVER LAKE ESTATES UTILITY	PUBLIC SUPPLY	1,542	0.754	0.000	FLORIDAN AQF.
SOUTH UMATILLA W.A.	PUBLIC SUPPLY	375	0.063	0.000	FLORIDAN AQF.
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	2,625	0.222	0.000	FLORIDAN AQF.
SUNLAKE ESTATES	PUBLIC SUPPLY	600	0.145	0.000	FLORIDAN AQF.
TRAVARES - CITY OF	PUBLIC SUPPLY	7,403	1.136	0.000	FLORIDAN AQF.
UMATILLA - CITY OF	PUBLIC SUPPLY	2,545	0.491	0.000	FLORIDAN AQF.
UTILITIES INC. OF FLORIDA	PUBLIC SUPPLY	370	0.127	0.000	FLORIDAN AQF.
WATER OAK ESTATES	PUBLIC SUPPLY	1,149	0.246	0.000	FLORIDAN AQF.
B & W CANNING - GROVELAND PLANT	INDUSTRIAL		0.156	0.000	FLORIDAN AQF.
COCA COLA - LEESBURG PLANT	INDUSTRIAL		1.775	0.000	FLORIDAN AQF.
EUSTIS SAND CO.	INDUSTRIAL		0.690	0.000	FLORIDAN AQF.
FLORIDA CHRUSED STONE - TULLEY	INDUSTRIAL		2.185	0.000	FLORIDAN AQF.
FLORIDA ROCK - LAKE CO. MINE	INDUSTRIAL		0.163	0.000	FLORIDAN AQF.
GOLDEN GEM - UMATILLA PLANT	INDUSTRIAL		5.055	0.000	FLORIDAN AQF.
GROVELAND ACADAMY	INSTITUTIONAL		0.011	0.000	FLORIDAN AQF.
LAKE CORRECTION FAC.	INSTITUTIONAL		0.107	0.000	FLORIDAN AQF.
SILVER SAND CO. - CLERMONT MINE	INDUSTRIAL		1.337	0.000	FLORIDAN AQF.
SILVER SPRINGS CITRUS PLANT	INDUSTRIAL		0.800	0.000	FLORIDAN AQF.
SUNDOR BRANDS PROC. CO.	INDUSTRIAL		0.013	0.000	FLORIDAN AQF.

LAKE (SJR) COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	150	150	0.04	0.04	0.08
CARROTS	2,000	2,000	0.54	0.54	1.08
CUCUMBERS	60	60	0.02	0.02	0.04
PEPPERS	25	25	0.02	0.00	0.02
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	5,000	5,000	7.60	5.07	12.67
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	1,250	1,250	0.73	0.48	1.21
FRUIT CROPS					
BLUEBERRIES	55	55	0.06	0.00	0.06
CITRUS	26,228	25,000	27.91	4.17	32.08
GRAPES	54	54	0.08	0.00	0.08
PEACHES	10	10	0.01	0.00	0.01
PECANS	80	80	0.19	0.00	0.19
STRAWBERRIES	5	5	0.01	0.00	0.01
WATERMELLONS	400	380	0.23	0.00	0.23
MISC. FRUIT	5	5	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	2,000	500	0.41	0.41	0.82
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	300	150	0.09	0.08	0.17
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	550	550	2.69	0.14	2.83
FLOWERS & FOLIAGE	120	120	0.43	0.00	0.43
WOODY ORNAMENTALS	950	950	7.84	0.41	8.25
IMPROVED PASTURE	50,000	1,886	1.85	0.08	1.93
SOD	250	250	0.10	0.66	0.76
TURF GRASS (GOLF)	1,591	769	1.09	0.90	1.99
TURF GRASS (OTHER)	120	120	0.24	0.04	0.28
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.23	0.22	0.45
FISH FARMING	0	0	0.00	0.00	0.00
	91,283	39,369	52.41	13.26	65.67

SPRINKLER ACREAGE	12,740
LOW PRESSURE ACREAGE	18,279
FLOOD ACREAGE	8,350
TOTAL IRRIGATED ACREAGE	39,369

MARION COUNTY DATA - 1989

TOTAL POPULATION	190,742
TOTAL LAND AREA	1,652 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	152,594	
WATER USE	152,594	
PUBLIC SUPPLY	73,205	
SELF-SUPPLIED	79,389	
PER CAPITA	158	
LAND AREA	(ACRES)	
TOTAL AREA	764,160	1,194 SQ. MILES
FARMED	74,989	
IRRIGATED	7,803	

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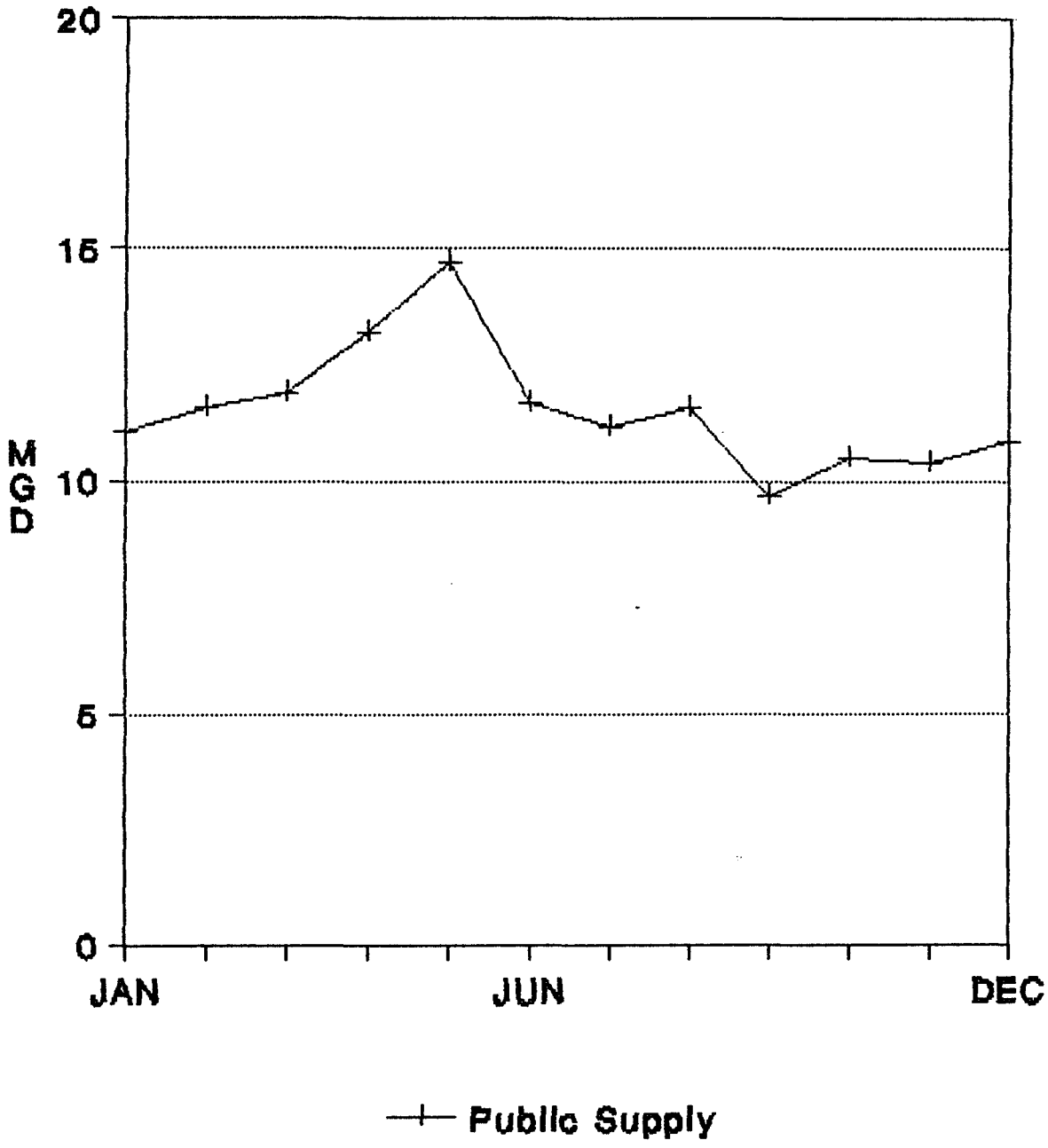
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	11.56	0.00	11.56	0.00
DOMESTIC SELF-SUPPLY	12.54	0.00	12.54	0.00
COM/IND. SELF-SUPPLY	1.02	0.00	1.02	0.00
AGRICULTURAL IRR.	8.83	1.26	10.09	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	2.75	0.00	2.75	0.00
	36.70	1.26	37.96	0.00

TOTAL GROUND	36.70
TOTAL SURFACE	1.26
COUNTY TOTAL	37.96

FRESH WATER USE
Marion County, 1989



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN MARION COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
BELLEVIEW - CITY OF	PUBLIC SUPPLY	4,680	0.522	0.000	FLORIDAN AQF.
GDU - SILVER SPRINGS SHORES	PUBLIC SUPPLY	10,172	1.237	0.000	FLORIDAN AQF.
MACO DEVELOPMENT CO.	PUBLIC SUPPLY	530	0.121	0.000	FLORIDAN AQF.
MARION UTILITIES	PUBLIC SUPPLY	3,037	0.346	0.000	FLORIDAN AQF.
McINTOSH - CITY OF	PUBLIC SUPPLY	530	0.112	0.000	FLORIDAN AQF.
OCALA - CITY OF	PUBLIC SUPPLY	45,814	8.214	0.000	FLORIDAN AQF.
OCALA EAST VILLAS	PUBLIC SUPPLY	580	0.106	0.000	FLORIDAN AQF.
OCALA OAKS UTILITIES	PUBLIC SUPPLY	2,005	0.270	0.000	FLORIDAN AQF.
SUNSHINE UTILITIES	PUBLIC SUPPLY	3,732	0.406	0.000	FLORIDAN AQF.
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	1,275	0.175	0.000	FLORIDAN AQF.
TRADEWINDS UTILITIES	PUBLIC SUPPLY	850	0.058	0.000	FLORIDAN AQF.
CERTIFIED GROCERS INC.	INDUSTRIAL		0.037	0.000	FLORIDAN AQF.
FLORIDA ROCK - MARION MINE	INDUSTRIAL		0.371	0.000	FLORIDAN AQF.
GOLDEN FLAKE INC - OCALA PLANT	INDUSTRIAL		(a)	0.000	FLORIDAN AQF.
HCA - GRANT CENTER HOSPITAL	INSTITUTIONAL		0.010	0.000	FLORIDAN AQF.
H.S. CAMP & SONS INC.	INDUSTRIAL		0.002	0.000	FLORIDAN AQF.
MARION CORRECTIONAL FAC.	INSTITUTIONAL		0.236	0.000	FLORIDAN AQF.
SILVER SPRINGS INC.	INSTITUTIONAL		0.360	0.000	FLORIDAN AQF.

(a) DATA NOT AVAILABLE

MARION (SJR) COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	0	0	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	70	70	0.06	0.00	0.06
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	50	50	0.06	0.00	0.06
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	1,700	940	0.84	0.00	0.84
FRUIT CROPS					
BLUEBERRIES	70	70	0.08	0.00	0.08
CITRUS	2,000	1,500	1.90	0.12	2.02
GRAPES	70	60	0.10	0.00	0.10
PEACHES	10	10	0.02	0.00	0.02
PECANS	10	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	1,450	1,350	0.94	0.00	0.94
MISC. FRUIT	1,200	1,000	0.69	0.00	0.69
FIELD CROPS					
FIELD CORN	3,000	350	0.18	0.13	0.31
PEANUTS	2,000	134	0.10	0.00	0.10
RICE	0	0	0.00	0.00	0.00
SORGHUM	300	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	1,500	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	20	20	0.07	0.03	0.10
FLOWERS & FOLIAGE	14	14	0.06	0.00	0.06
WOODY ORNAMENTALS	52	52	0.39	0.09	0.48
IMPROVED PASTURE	59,230	940	0.51	0.34	0.85
SOD	660	660	1.50	0.00	1.50
TURF GRASS (GOLF)	1,500	500	0.68	0.50	1.18
TURF GRASS (OTHER)	83	83	0.19	0.00	0.19
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.46	0.05	0.51
FISH FARMING	0	0	0.00	0.00	0.00
	74,989	7,803	8.83	1.26	10.09

SPRINKLER ACREAGE	6,983
LOW PRESSURE ACREAGE	820
FLOOD ACREAGE	0
TOTAL IRRIGATED ACREAGE	7,803

NASSAU COUNTY DATA - 1989

TOTAL POPULATION	47,863
TOTAL LAND AREA	671 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	47,863	
WATER USE	47,863	
PUBLIC SUPPLY	22,327	
SELF-SUPPLIED	25,536	
PER CAPITA	161	
LAND AREA	(ACRES)	
TOTAL AREA	429,440	671 SQ. MILES
FARMED	7,406	
IRRIGATED	770	

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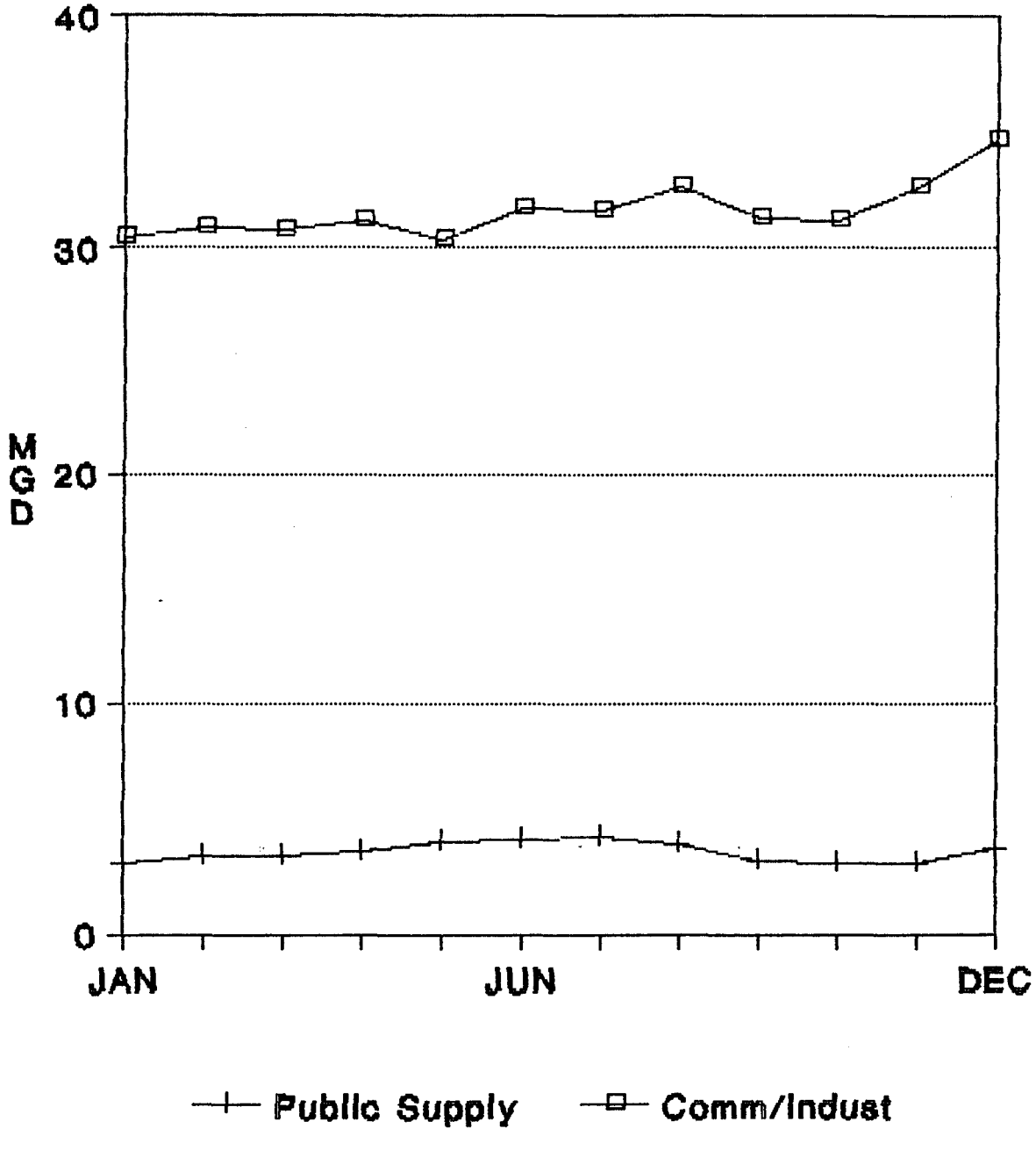
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	3.59	0.00	3.59	0.00
DOMESTIC SELF-SUPPLY	4.11	0.00	4.11	0.00
COM/IND. SELF-SUPPLY	31.64	0.00	31.64	1.40
AGRICULTURAL IRR.	1.66	0.49	2.15	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.24	0.00	0.24	0.00
	41.24	0.49	41.73	1.40

TOTAL GROUND	41.24
TOTAL SURFACE	1.89
COUNTY TOTAL	43.13

FRESH WATER USE
Nassau County, 1989



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN NASSAU COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
CALLAHAN - TOWN OF	PUBLIC SUPPLY	1,352	0.150	0.000	FLORIDAN AQF.
EASTWOOD OAKS	PUBLIC SUPPLY	365	0.026	0.000	FLORIDAN AQF.
FERNANDINA BEACH - CITY OF	PUBLIC SUPPLY	12,858	2.626	0.000	FLORIDAN AQF.
HILLIARD - TOWN OF	PUBLIC SUPPLY	2,240	0.165	0.000	FLORIDAN AQF.
MARSH COVE APT.	PUBLIC SUPPLY	200	0.023	0.000	FLORIDAN AQF.
SOUTHERN STATES UT. (AMELIA IS.)	PUBLIC SUPPLY	5,312	0.604	0.000	FLORIDAN AQF.
CONTAINER CORP. OF AMERICA	INDUSTRIAL		13.976	0.000	FLORIDAN AQF.
ITT RAYONIER INC.	INDUSTRIAL		17.627	1.400	FLORIDAN AQF. & AMELIA RIVER
FLORIDA DOT - I95 WELCOME CENTER	INSTITUTIONAL		0.026	0.000	FLORIDAN AQF.
NASSAU CORRECTIONAL FAC.	INSTITUTIONAL		0.013	0.000	FLORIDAN AQF.
TERMINAL PAPER CO.	INDUSTRIAL		0.002	0.000	FLORIDAN AQF.

NASSAU COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	0	0	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	100	50	0.04	0.00	0.04
FRUIT CROPS					
BLUEBERRIES	30	15	0.02	0.00	0.02
CITRUS	0	0	0.00	0.00	0.00
GRAPES	0	0	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	500	50	0.06	0.00	0.06
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	1,000	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	40	40	0.04	0.00	0.04
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	0	0	0.00	0.00	0.00
FLOWERS & FOLIAGE	20	20	0.08	0.00	0.08
WOODY ORNAMENTALS	3	0	0.00	0.00	0.00
IMPROVED PASTURE	5,000	0	0.00	0.00	0.00
SOD	0	0	0.00	0.00	0.00
TURF GRASS (GOLF)	645	565	0.99	0.16	1.15
TURF GRASS (OTHER)	68	30	0.07	0.00	0.07
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.34	0.33	0.67
FISH FARMING	0	0	0.02	0.00	0.02
	7,406	770	1.66	0.49	2.15

SPRINKLER ACREAGE	770
LOW PRESSURE ACREAGE	0
FLOOD ACREAGE	0
TOTAL IRRIGATED ACREAGE	770

OKEECHOBEE COUNTY DATA - 1989

TOTAL POPULATION	29,941
TOTAL LAND AREA	780 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	449	
WATER USE	0	
PUBLIC SUPPLY	0	
SELF-SUPPLIED	449	
PER CAPITA	166 (1)	
LAND AREA	(ACRES)	
TOTAL AREA	65,920	103 SQ. MILES
FARMED	24,468	
IRRIGATED	7,250	

1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	0.00	0.00	0.00	0.00
DOMESTIC SELF-SUPPLY	0.07	0.00	0.07	0.00
COM/IND. SELF-SUPPLY	0.05	0.00	0.05	0.00
AGRICULTURAL IRR.	9.82	0.25	10.07	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.00	0.00	0.00	0.00
	9.94	0.25	10.19	0.00

TOTAL GROUND	9.94
TOTAL SURFACE	0.25
COUNTY TOTAL	10.19

(1) USED SJRWMD AVERAGE PER CAPITA.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN OKEECHOBEE COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
FLORIDA DOT - FT. DRUM PLAZA	INSTITUTIONAL		0.052	0.000	FLORIDAN AQF.

OKEECHOBEE (SJR) COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	0	0	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	0	0	0.00	0.00	0.00
FRUIT CROPS					
BLUEBERRIES	0	0	0.00	0.00	0.00
CITRUS	4,468	4,468	6.89	0.00	6.89
GRAPES	0	0	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	0	0	0.00	0.00	0.00
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	0	0	0.00	0.00	0.00
FLOWERS & FOLIAGE	0	0	0.00	0.00	0.00
WOODY ORNAMENTALS	0	0	0.00	0.00	0.00
IMPROVED PASTURE	20,000	2,782	2.25	0.00	2.25
SOD	0	0	0.00	0.00	0.00
TURF GRASS (GOLF)	0	0	0.00	0.00	0.00
TURF GRASS (OTHER)	0	0	0.00	0.00	0.00
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.50	0.25	0.75
FISH FARMING	0	0	0.18	0.00	0.18
	24,468	7,250	9.82	0.25	10.07

SPRINKLER ACREAGE	0
LOW PRESSURE ACREAGE	4,468
FLOOD ACREAGE	2,782
TOTAL IRRIGATED ACREAGE	7,250

ORANGE COUNTY DATA - 1989

TOTAL POPULATION	653,982
TOTAL LAND AREA	1,003 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	532,995	
WATER USE	532,995	
PUBLIC SUPPLY	507,388	
SELF-SUPPLIED	25,607	
PER CAPITA	192	
LAND AREA	(ACRES)	
TOTAL AREA	476,160	744 SQ. MILES
FARMED	79,348	
IRRIGATED	57,592	

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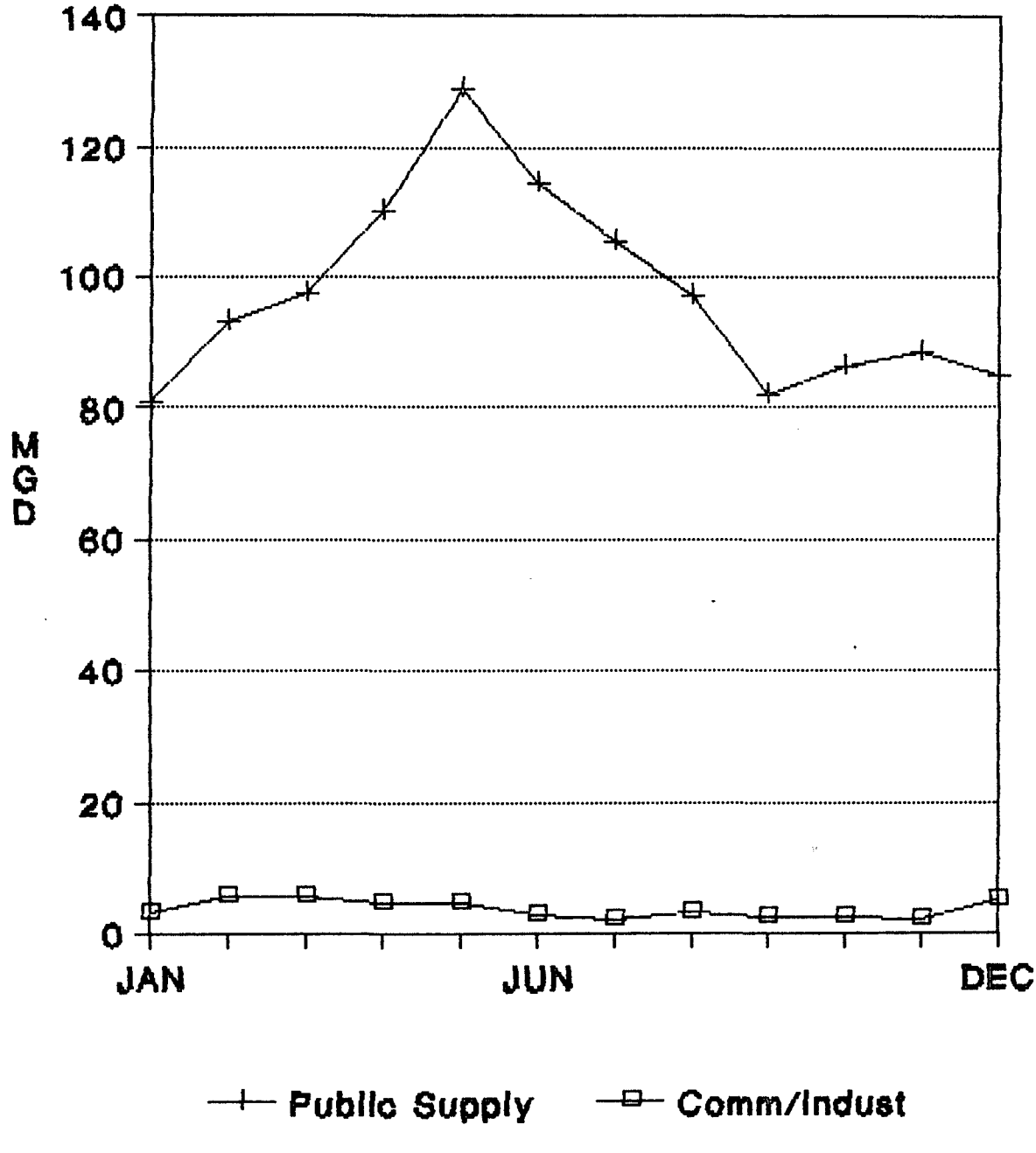
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY (1)	122.38	0.00	122.38	0.00
DOMESTIC SELF-SUPPLY	4.92	0.00	4.92	0.00
COM/IND. SELF-SUPPLY	4.01	0.00	4.01	0.00
AGRICULTURAL IRR.	33.24	52.78	86.02	0.00
POWER GENERATION S-S	0.39	0.00	0.39	0.00
MISCELLANEOUS	0.88	0.00	0.88	0.00
	165.82	52.78	218.60	0.00

TOTAL GROUND	165.82
TOTAL SURFACE	52.78
COUNTY TOTAL	218.60

(1) INCLUDES 24.86 mgd of WATER WITHDRAWN IN ORANGE COUNTY FOR PUBLIC SUPPLY USE IN BREVARD COUNTY.

FRESH WATER USE
Orange County, 1989



does not include 24.86 mgd withdrawn
for public supply use in Brevard County

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN ORANGE COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	SURFACE	WITHDRAWAL SOURCE
APOPKA - CITY OF	PUBLIC SUPPLY	22,200	4.759	0.000	FLORIDAN AQF.
EATONVILLE - TOWN OF	PUBLIC SUPPLY	2,705	0.667	0.000	FLORIDAN AQF.
ECON UTILITIES - WEDGEFIELD	PUBLIC SUPPLY	974	0.130	0.000	FLORIDAN AQF.
MAITLAND - CITY OF	PUBLIC SUPPLY	9,363	3.002	0.000	FLORIDAN AQF.
OAKLAND - TOWN OF	PUBLIC SUPPLY	742	0.117	0.000	FLORIDAN AQF.
OCOEE - CITY OF	PUBLIC SUPPLY	11,822	2.507	0.000	FLORIDAN AQF.
ORANGE COUNTY PUBLIC UTILITIES (1)	PUBLIC SUPPLY	91,557	24.610	0.000	FLORIDAN AQF.
SJRWMD PORTION OF OCPU		74,162	17.550	0.000	
ORLANDO UTILITIES COMMISSION (1)	PUBLIC SUPPLY	385,849	74.967	0.000	FLORIDAN AQF.
SJRWMD PORTION OF OUC		279,741	51.030	0.000	
ROCK SPRINGS MHP	PUBLIC SUPPLY	1,240	0.239	0.000	FLORIDAN AQF.
SHADOW HILLS MHP	PUBLIC SUPPLY	1,280	0.139	0.000	FLORIDAN AQF.
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	6,407	0.959	0.000	FLORIDAN AQF.
STARLIGHT RANCH MHP	PUBLIC SUPPLY	1,560	0.177	0.000	FLORIDAN AQF.
TANGERINE - TOWN OF	PUBLIC SUPPLY	421	0.139	0.000	FLORIDAN AQF.
UTILITIES INC. OF FLORIDA	PUBLIC SUPPLY	1,103	0.098	0.000	FLORIDAN AQF.
WINTER GARDEN - CITY OF	PUBLIC SUPPLY	11,262	1.828	0.000	FLORIDAN AQF.
WINTER PARK - CITY OF	PUBLIC SUPPLY	79,357	13.051	0.000	FLORIDAN AQF.
ZELLWOOD STATION UTILITIES	PUBLIC SUPPLY	2,149	0.932	0.000	FLORIDAN AQF.
ZELLWOOD WATER ASSOC.	PUBLIC SUPPLY	900	0.184	0.000	FLORIDAN AQF.
COCA COLA - PLYMOUTH PLANT	INDUSTRIAL		0.154	0.000	FLORIDAN AQF.
LUST & LONG PRECOOLER CO.	INDUSTRIAL		0.111	0.000	FLORIDAN AQF.
OUC - STANTON PLANT	POWER GEN.		0.394	1.224	FLORIDAN AQF. & RETENTION POND (2)
RALSTON PURINA - ZELLWOOD FARMS	INDUSTRIAL		0.151	0.000	FLORIDAN AQF.
SOUTHERN FRUIT DISTIBUTORS	INDUSTRIAL		0.065	0.000	FLORIDAN AQF.
SUN RESORT INC.	INSTITUTIONAL		0.220	0.000	FLORIDAN AQF.
UNIVERSITY OF CENTRAL FLORIDA	INSTITUTIONAL		0.831	0.000	FLORIDAN AQF.
WINTER GARDEN CITRUS PLANT	INDUSTRIAL		2.474	0.000	FLORIDAN AQF.

(1) THESE UTILITIES ARE PARTLY IN SJRWMD AND ANOTHER DISTRICT. THE WATER USED BY THE POPULATION SERVED IS WITHDRAWN IN BOTH DISTRICTS.

(2) RETENTION POND IS SUPPLIED WATER FROM WASTEWATER TREATMENT PLANT DISCHARGE. THIS SURFACE WATER IS CONSIDERED REUSE.

ORANGE (SJR) COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	1,200	800	0.64	0.00	0.64
CARROTS	13,500	11,600	0.55	4.96	5.51
CUCUMBERS	1,020	1,020	1.10	0.00	1.10
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	75	75	0.10	0.00	0.10
SWEET CORN	13,600	13,300	3.37	30.32	33.69
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	14,100	14,100	1.52	13.67	15.19
FRUIT CROPS					
BLUEBERRIES	0	0	0.00	0.00	0.00
CITRUS	13,230	13,230	14.66	1.63	16.29
GRAPES	0	0	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	150	150	0.09	0.00	0.09
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	200	200	0.13	0.00	0.13
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	200	200	0.17	0.17	0.34
SOYBEANS	200	200	0.17	0.17	0.34
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	40	40	0.21	0.00	0.21
FLOWERS & FOLIAGE	581	581	1.88	0.47	2.35
WOODY ORNAMENTALS	576	576	4.72	0.52	5.24
IMPROVED PASTURE	18,562	0	0.00	0.00	0.00
SOD	200	200	0.27	0.31	0.58
TURF GRASS (GOLF)	1,533	939	2.41	0.43	2.84
TURF GRASS (OTHER)	381	381	0.76	0.13	0.89
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.37	0.00	0.37
FISH FARMING	0	0	0.12	0.00	0.12
	79,348	57,592	33.24	52.78	86.02

SPRINKLER ACREAGE	9,442
LOW PRESSURE ACREAGE	6,730
FLOOD ACREAGE	41,420

TOTAL IRRIGATED ACREAGE	57,592

OSCEOLA COUNTY DATA - 1989

TOTAL POPULATION	97,605
TOTAL LAND AREA	1,467 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	488	
WATER USE	0	
PUBLIC SUPPLY	0	
SELF-SUPPLIED	488	
PER CAPITA	166 (1)	
LAND AREA	(ACRES)	
TOTAL AREA	346,880	542 SQ. MILES
FARMED	126,950	
IRRIGATED	12,330	

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1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	0.00	0.00	0.00	0.00
DOMESTIC SELF-SUPPLY	0.08	0.00	0.08	0.00
COM/IND. SELF-SUPPLY	0.00	0.00	0.00	0.00
AGRICULTURAL IRR.	6.62	7.13	13.75	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.12	0.00	0.12	0.00
	6.82	7.13	13.95	0.00

TOTAL GROUND	6.82
TOTAL SURFACE	7.13
COUNTY TOTAL	13.95

(1) USED SJRWMD AVERAGE PER CAPITA.

OSCEOLA (SJR) COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	0	0	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	0	0	0.00	0.00	0.00
FRUIT CROPS					
BLUEBERRIES	0	0	0.00	0.00	0.00
CITRUS	1,150	1,150	2.84	0.00	2.84
GRAPES	0	0	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	0	0	0.00	0.00	0.00
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	0	0	0.00	0.00	0.00
FLOWERS & FOLIAGE	0	0	0.00	0.00	0.00
WOODY ORNAMENTALS	0	0	0.00	0.00	0.00
IMPROVED PASTURE	125,800	11,180	1.99	7.07	9.06
SOD	0	0	0.00	0.00	0.00
TURF GRASS (GOLF)	0	0	0.00	0.00	0.00
TURF GRASS (OTHER)	0	0	0.00	0.00	0.00
MISC. AGRICULTURAL					
LIVESTOCK	0	0	1.79	0.06	1.85
FISH FARMING	0	0	0.00	0.00	0.00
	126,950	12,330	6.62	7.13	13.75

SPRINKLER ACREAGE	150
LOW PRESSURE ACREAGE	230
FLOOD ACREAGE	11,950
TOTAL IRRIGATED ACREAGE	12,330

POLK COUNTY DATA - 1989

TOTAL POPULATION	410,863
TOTAL LAND AREA	2,048 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	6,163	
WATER USE	3,013 (1)	
PUBLIC SUPPLY	850	
SELF-SUPPLIED	2,163	
PER CAPITA	141	
LAND AREA	(ACRES)	
TOTAL AREA	40,320	63 SQ. MILES
FARMED	15,985	
IRRIGATED	7,385	

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1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	0.12	0.00	0.12	0.00
DOMESTIC SELF-SUPPLY	0.30	0.00	0.30	0.00
COM/IND. SELF-SUPPLY	0.02	0.00	0.02	0.00
AGRICULTURAL IRR.	11.08	1.14	12.22	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.00	0.00	0.00	0.00
	11.52	1.14	12.66	0.00

TOTAL GROUND	11.52
TOTAL SURFACE	1.14
COUNTY TOTAL	12.66

(1) DOES NOT INCLUDE 3,150 POPULATION SERVED BY PUBLIC SUPPLY IN THE SOUTHWEST WATER MANAGEMENT DISTRICT (SWFWMD) WHO LIVE IN SJRWMD.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN POLK COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
OAK HARBOR S/D	PUBLIC SUPPLY	450	0.041	0.000	FLORIDAN AQF.
POLK COUNTY UTILITIES	PUBLIC SUPPLY	400	0.074	0.000	FLORIDAN AQF.
B.C. COOK & SONS CITRUS PLANT	INDUSTRIAL		0.016	0.000	FLORIDAN AQF.

POLK (SJR) COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	0	0	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	0	0	0.00	0.00	0.00
FRUIT CROPS					
BLUEBERRIES	0	0	0.00	0.00	0.00
CITRUS	10,430	6,730	9.90	1.10	11.00
GRAPES	0	0	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	1,000	500	0.66	0.00	0.66
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	0	0	0.00	0.00	0.00
FLOWERS & FOLIAGE	5	5	0.02	0.00	0.02
WOODY ORNAMENTALS	50	50	0.46	0.00	0.46
IMPROVED PASTURE	4,500	100	0.04	0.04	0.08
SOD	0	0	0.00	0.00	0.00
TURF GRASS (GOLF)	0	0	0.00	0.00	0.00
TURF GRASS (OTHER)	0	0	0.00	0.00	0.00
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.00	0.00	0.00
FISH FARMING	0	0	0.00	0.00	0.00
	15,985	7,385	11.08	1.14	12.22

SPRINKLER ACREAGE	6,540
LOW PRESSURE ACREAGE	745
FLOOD ACREAGE	100
TOTAL IRRIGATED ACREAGE	7,385

PUTNAM COUNTY DATA - 1989

TOTAL POPULATION	62,828
TOTAL LAND AREA	879 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	62,828	
WATER USE	62,828	
PUBLIC SUPPLY	22,096	
SELF-SUPPLIED	40,732	
PER CAPITA	153	
LAND AREA	(ACRES)	
TOTAL AREA	652,460 (1)	879 SQ. MILES
FARMED	50,566	
IRRIGATED	9,707	

****

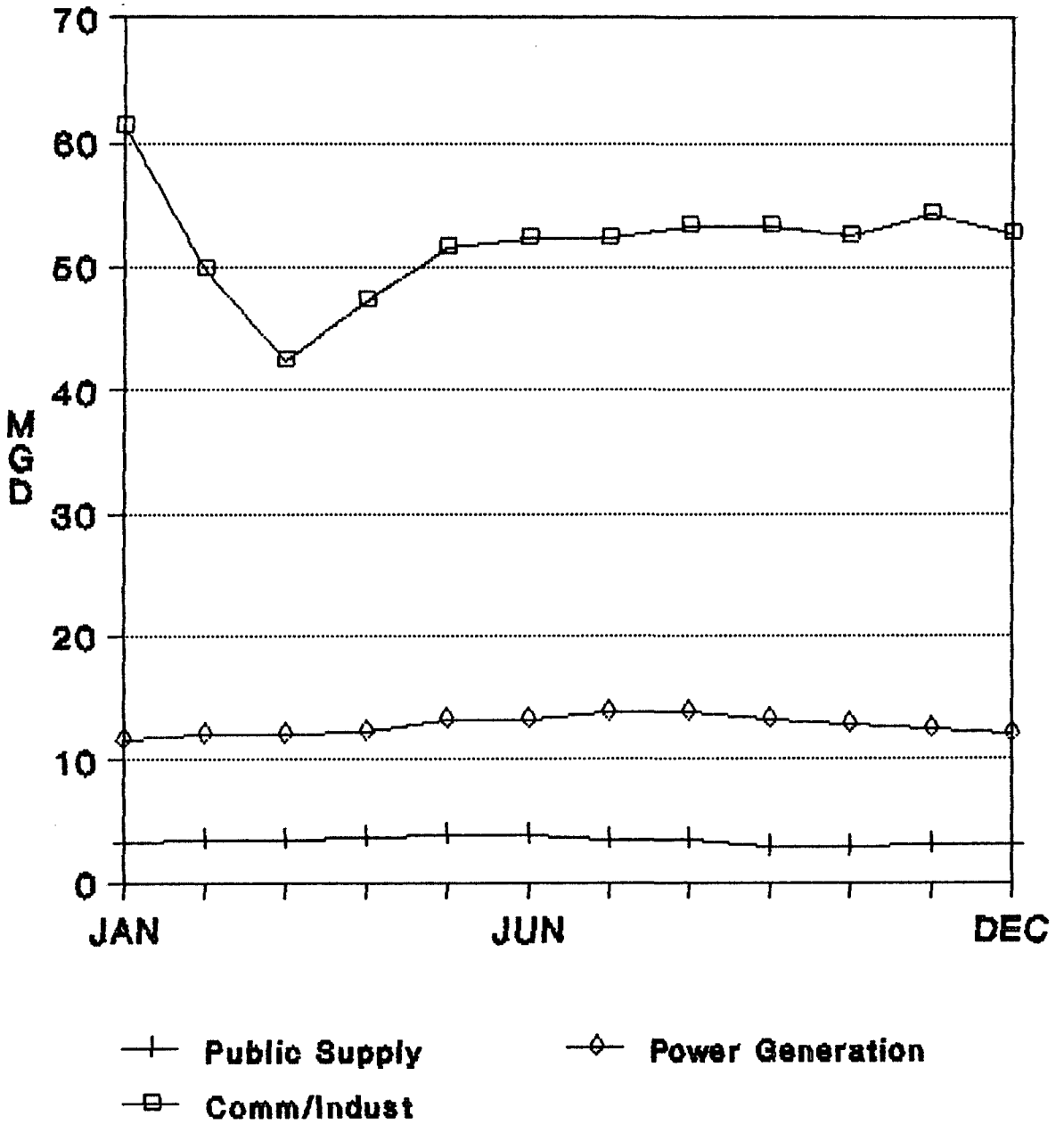
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	3.38	0.00	3.38	0.00
DOMESTIC SELF-SUPPLY	6.23	0.00	6.23	0.00
COM/IND. SELF-SUPPLY	43.74	4.01	47.75	0.00
AGRICULTURAL IRR.	19.37	1.37	20.74	0.00
POWER GENERATION S-S	0.45	12.31	12.76	0.00
MISCELLANEOUS	3.90	0.00	3.90	0.00
	77.07	17.69	94.76	0.00

TOTAL GROUND	77.07
TOTAL SURFACE	17.69
COUNTY TOTAL	94.76

(1) APPROXIMATELY 100 ACRES OF PUTNAM COUNTY IS LOCATED IN SRWMD.

FRESH WATER USE
Putnam County, 1989



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN PUTNAM COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	SURFACE	WITHDRAWAL SOURCE
CRESCENT - CITY OF	PUBLIC SUPPLY	2,465	0.355	0.000	FLORIDAN AQF.
INTERLACHEN - TOWN OF	PUBLIC SUPPLY	1,131	0.074	0.000	FLORIDAN AQF.
LAKE COMO WATER ASSOCIATION	PUBLIC SUPPLY	325	0.017	0.000	FLORIDAN AQF.
MELROSE - TOWN OF	PUBLIC SUPPLY	787	0.079	0.000	FLORIDAN AQF.
PALATKA - CITY OF	PUBLIC SUPPLY	14,264	2.650	0.000	FLORIDAN AQF.
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	3,124	0.200	0.000	FLORIDAN AQF.
FELDSPAR CORP. - EDGAR MINE	INDUSTRIAL		8.005	0.000	FLORIDAN AQF.
FLORIDA POWER & LIGHT - PUTNAM	POWER GEN.		0.111	2.083	FLORIDAN AQF. & ST. JOHNS RIVER
FLORIDA ROCK - GRANDIN MINE	INDUSTRIAL		2.589	0.000	FLORIDAN AQF.
FLORIDA ROCK - KEUKA MINE	INDUSTRIAL		0.776	0.000	FLORIDAN AQF.
GEORGIA PACIFIC - PALATKA PLANT	INDUSTRIAL		32.057	4.011	FLORIDAN AQF. & SIMMS/ETONIA CREEK
GEORGIA PACIFIC - HAWTHORNE PLANT	INDUSTRIAL		0.190	0.000	FLORIDAN AQF.
PUTNAM CORRECTIONAL FAC.	INSTITUTIONAL		0.059	0.000	FLORIDAN AQF.
SEMINOLE ELECTRIC CORP.	POWER GEN.		0.337	10.220	FLORIDAN AQF. & ST. JOHNS RIVER

PUTNAM COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	1,000	1,000	0.79	0.00	0.79
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	5,000	5,000	6.87	0.00	6.87
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	200	200	0.27	0.00	0.27
FRUIT CROPS					
BLUEBERRIES	100	80	0.06	0.00	0.06
CITRUS	95	46	0.06	0.00	0.06
GRAPES	10	10	0.02	0.00	0.02
PEACHES	70	70	0.12	0.00	0.12
PECANS	100	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	200	200	0.14	0.00	0.14
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	2,000	500	0.46	0.02	0.48
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	400	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	2,500	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	1,100	1,100	4.52	1.13	5.65
FLOWERS & FOLIAGE	250	250	0.45	0.00	0.45
WOODY ORNAMENTALS	100	100	0.92	0.00	0.92
IMPROVED PASTURE	37,000	830	0.96	0.06	1.02
SOD	220	220	0.36	0.00	0.36
TURF GRASS (GOLF)	196	76	0.20	0.00	0.20
TURF GRASS (OTHER)	25	25	0.06	0.00	0.06
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.25	0.16	0.41
FISH FARMING	0	0	2.86	0.00	2.86
	50,566	9,707	19.37	1.37	20.74

SPRINKLER ACREAGE	2,677
LOW PRESSURE ACREAGE	80
FLOOD ACREAGE	6,950
TOTAL IRRIGATED ACREAGE	9,707

ST. JOHNS COUNTY DATA - 1989

TOTAL POPULATION	84,389
TOTAL LAND AREA	660 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	84,389	
WATER USE	84,389	
PUBLIC SUPPLY	66,474	
SELF-SUPPLIED	17,915	
PER CAPITA	117	
LAND AREA	(ACRES)	
TOTAL AREA	422,400	660 SQ. MILES
FARMED	30,462	
IRRIGATED	25,781	

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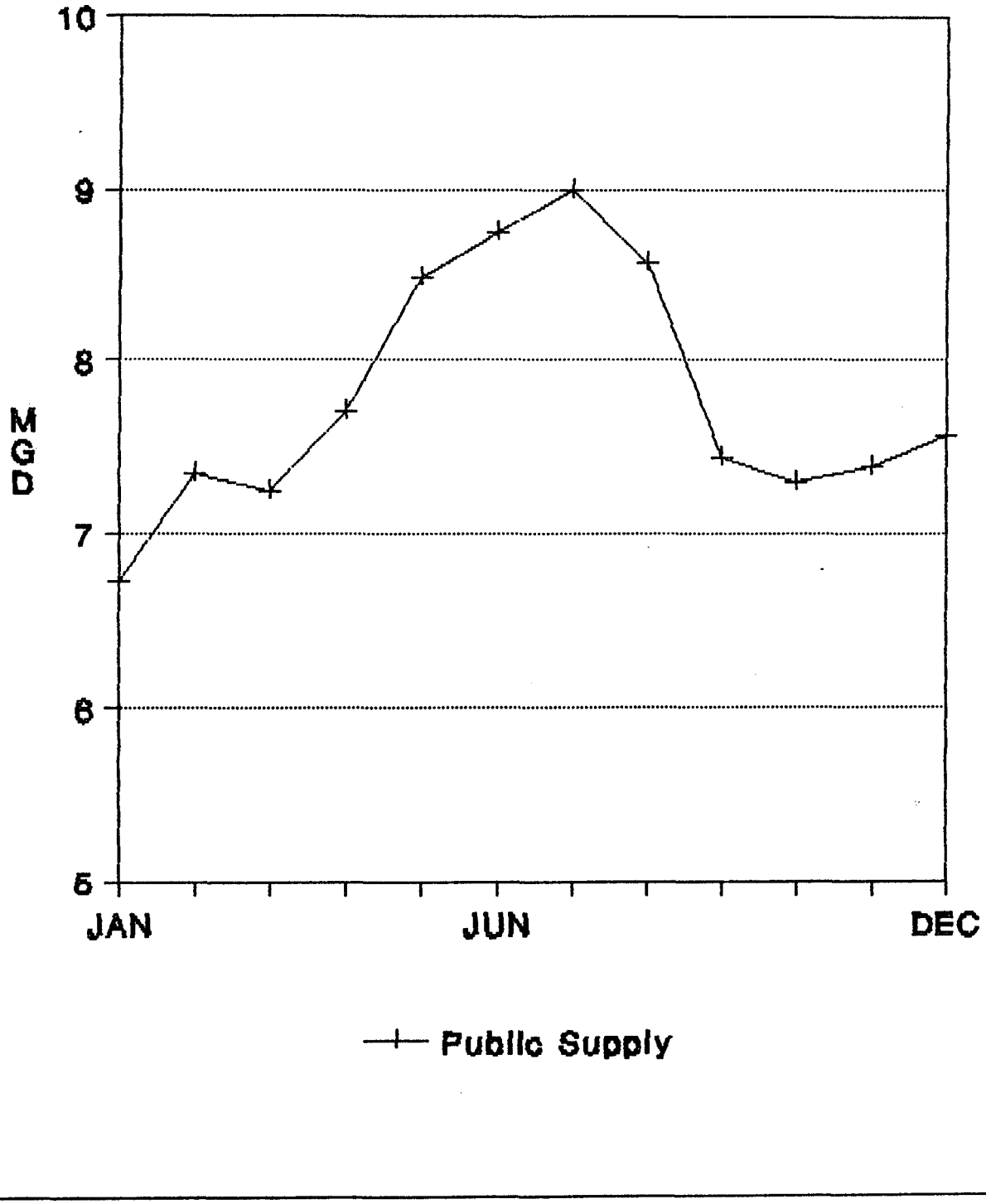
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	7.79	0.00	7.79	0.00
DOMESTIC SELF-SUPPLY	2.10	0.00	2.10	0.00
COM/IND. SELF-SUPPLY	0.05	0.00	0.05	0.00
AGRICULTURAL IRR.	37.71	1.10	38.81	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	2.13	0.00	2.13	0.00
	49.78	1.10	50.88	0.00

TOTAL GROUND	49.78
TOTAL SURFACE	1.10
COUNTY TOTAL	50.88

FRESH WATER USE
St. Johns County, 1989



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN ST. JOHNS COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
ANASTASIA/MAINLAND WATER SYSTEM	PUBLIC SUPPLY	17,416	2.014	0.000	SURFICIAL & FLORIDAN AQF.
FOUNTAIN CONDOMINIUMS	PUBLIC SUPPLY	392	0.042	0.000	FLORIDAN AQF.
FRUIT COVE OAKS S/D	PUBLIC SUPPLY	450	0.062	0.000	FLORIDAN AQF.
GDU - JULINGTON CREEK S/D	PUBLIC SUPPLY	226	0.047	0.000	FLORIDAN AQF.
HASTINGS - CITY OF	PUBLIC SUPPLY	610	0.070	0.000	SURFICIAL & FLORIDAN AQF.
INTERCOASTAL UTILITIES	PUBLIC SUPPLY	3,434	0.586	0.000	FLORIDAN AQF.
NORTH BEACH WATER SYSTEM	PUBLIC SUPPLY	1,167	0.196	0.000	FLORIDAN AQF.
PALM VALLEY WATER SYSTEM	PUBLIC SUPPLY	439	0.121	0.000	FLORIDAN AQF.
PONCE DeLEON UT.- GOODWIN BEACH	PUBLIC SUPPLY	320	0.034	0.000	FLORIDAN AQF.
PONTE VEDRA UTILITIES	PUBLIC SUPPLY	7,427	0.868	0.000	FLORIDAN AQF.
S. PONTE VEDRA BEACH UTILITIES	PUBLIC SUPPLY	834	0.180	0.000	FLORIDAN AQF.
ST. AUGUSTINE - CITY OF	PUBLIC SUPPLY	17,557	1.744	0.000	SURFICIAL & FLORIDAN AQF.
ST. AUGUSTINE SHORES UTILITIES	PUBLIC SUPPLY	5,800	0.410	0.000	SURFICIAL AQF.
ST. JOHNS NORTH UTILITY	PUBLIC SUPPLY	391	0.114	0.000	FLORIDAN AQF.
ST. JOHNS SERVICE CO.	PUBLIC SUPPLY	9,611	1.231	0.000	FLORIDAN AQF.
WESLEY MANOR WATER SYSTEM	PUBLIC SUPPLY	400	0.070	0.000	FLORIDAN AQF.
BORDON/WISE POTATO CHIP PLANT	INDUSTRIAL		0.017	0.000	FLORIDAN AQF.
FLORIDA DOT - I95 REST FAC.	INSTITUTIONAL		0.014	0.000	FLORIDAN AQF.
G & M UNION 76 TRUCK STOP	COMMERCIAL		0.017	0.000	FLORIDAN AQF.

ST. JOHNS COUNTY ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	1,000	1,000	0.79	0.00	0.79
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00
POTATOES	20,000	20,000	27.47	0.00	27.47
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	500	500	0.67	0.00	0.67
FRUIT CROPS					
BLUEBERRIES	20	20	0.02	0.00	0.02
CITRUS	0	0	0.00	0.00	0.00
GRAPES	10	10	0.02	0.00	0.02
PEACHES	0	0	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	2,000	2,000	1.93	0.00	1.93
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	0	0	0.00	0.00	0.00
FLOWERS & FOLIAGE	25	25	0.08	0.00	0.08
WOODY ORNAMENTALS	75	75	0.69	0.00	0.69
IMPROVED PASTURE	5,500	1,000	1.05	0.00	1.05
SOD	120	120	0.19	0.00	0.19
TURF GRASS (GOLF)	1,192	1,011	1.69	1.00	2.69
TURF GRASS (OTHER)	20	20	0.05	0.00	0.05
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.25	0.10	0.35
FISH FARMING	0	0	2.81	0.00	2.81
	30,462	25,781	37.71	1.10	38.81

SPRINKLER ACREAGE	1,226
LOW PRESSURE ACREAGE	55
FLOOD ACREAGE	24,500
TOTAL IRRIGATED ACREAGE	25,781

SEMINOLE COUNTY DATA - 1989

TOTAL POPULATION	281,049
TOTAL LAND AREA	352 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	281,049	
WATER USE	281,049	
PUBLIC SUPPLY	254,182	
SELF-SUPPLIED	26,867	
PER CAPITA	186	
LAND AREA	(ACRES)	
TOTAL AREA	225,280	352 SQ. MILES
FARMED	14,566	
IRRIGATED	6,554	

****

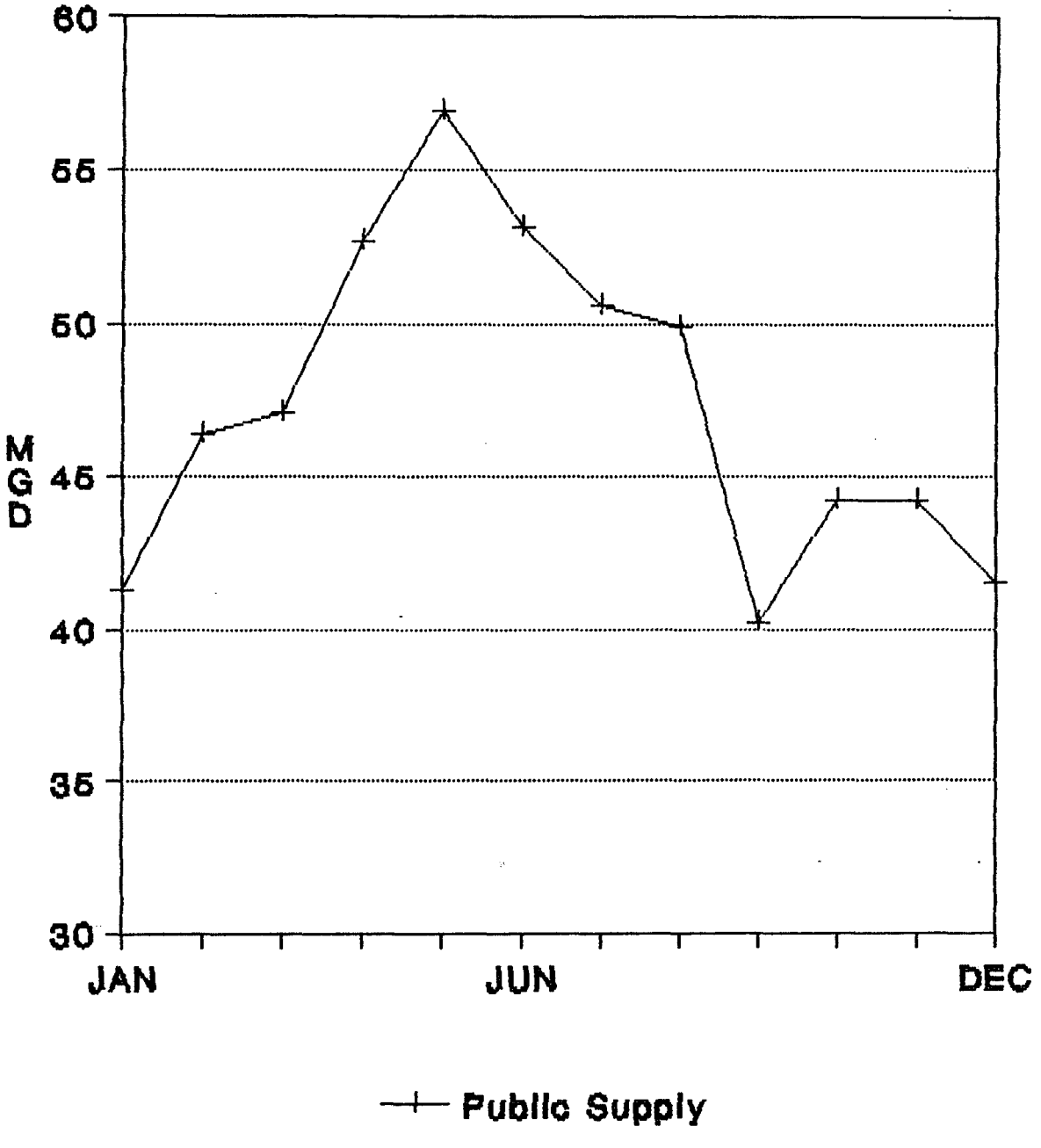
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	47.39	0.00	47.39	0.00
DOMESTIC SELF-SUPPLY	5.00	0.00	5.00	0.00
COM/IND. SELF-SUPPLY	0.53	0.00	0.53	0.00
AGRICULTURAL IRR.	12.70	2.12	14.82	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	6.82	0.00	6.82	0.00
	72.44	2.12	74.56	0.00

TOTAL GROUND	72.44
TOTAL SURFACE	2.12

COUNTY TOTAL	74.56

FRESH WATER USE
Seminole County, 1989



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN SEMINOLE COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
ALTAMONTE SPRINGS - CITY OF	PUBLIC SUPPLY	37,502	8.475	0.000	FLORIDAN AQF.
CASSELBERRY - CITY OF	PUBLIC SUPPLY	46,679	6.061	0.000	FLORIDAN AQF.
CENTRAL FIVE UTILITIES INC.	PUBLIC SUPPLY	(a)	0.000	0.000	FLORIDAN AQF.
INDIAN CREEK - SEMINOLE PINES	PUBLIC SUPPLY	260	0.050	0.000	FLORIDAN AQF.
LAKE HARNEY WATER ASSOC.	PUBLIC SUPPLY	440	0.035	0.000	FLORIDAN AQF.
LAKE MARY - CITY OF	PUBLIC SUPPLY	(b)	0.000	0.000	
LONGWOOD - CITY OF	PUBLIC SUPPLY	13,948	2.478	0.000	FLORIDAN AQF.
LUTHERN HAVEN WATER SYSTEM	PUBLIC SUPPLY	435	0.040	0.000	FLORIDAN AQF.
MULLET LAKE WATER ASSOC.	PUBLIC SUPPLY	550	0.034	0.000	FLORIDAN AQF.
OVIEDO - CITY OF	PUBLIC SUPPLY	8,844	1.468	0.000	FLORIDAN AQF.
PALM VENTURES MHP	PUBLIC SUPPLY	687	0.164	0.000	FLORIDAN AQF.
SANFORD - CITY OF	PUBLIC SUPPLY	30,649	5.863	0.000	FLORIDAN AQF.
SANLANDO UTILITIES	PUBLIC SUPPLY	37,025	9.672	0.000	FLORIDAN AQF.
SEMINOLE COUNTY WATER & SEWER	PUBLIC SUPPLY	35,754	7.744	0.000	FLORIDAN AQF.
SEMINOLE UTILITIES INC.	PUBLIC SUPPLY	9,142	1.850	0.000	FLORIDAN AQF.
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	9,561	1.418	0.000	FLORIDAN AQF.
UTILITIES INC. OF FLORIDA	PUBLIC SUPPLY	9,004	0.892	0.000	FLORIDAN AQF.
WINTER SPRINGS - CITY OF	PUBLIC SUPPLY	13,702	1.146	0.000	FLORIDAN AQF.
DEEP SOUTH PROCESSING PLANT	INDUSTRIAL		0.300	0.000	FLORIDAN AQF.
I-4 INDUSTRIAL PARK	INDUSTRIAL		0.153	0.000	FLORIDAN AQF.
IRON BRIDGE FAC.	INSTITUTIONAL		0.022	0.000	FLORIDAN AQF.
LAKE SYLVAN PARK - SCW&S	INSTITUTIONAL		0.012	0.000	FLORIDAN AQF.
UNITED TECHNOLOGY (STROMBERG)	INDUSTRIAL		0.043	0.000	FLORIDAN AQF.

(a) CENTRAL FIVE UTILITIES HAVE MERGED WITH THE CITY OF CASSELBERRY.
(b) DATA NOT AVAILABLE

SEMINOLE COUNTY — ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	400	300	0.24	0.00	0.24
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	400	400	0.42	0.00	0.42
PEPPERS	40	40	0.04	0.00	0.04
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	10	10	0.03	0.00	0.03
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	1,105	900	0.95	0.00	0.95
FRUIT CROPS					
BLUEBERRIES	5	5	0.01	0.00	0.01
CITRUS	1,440	1,440	1.80	0.00	1.80
GRAPES	0	0	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	15	15	0.01	0.00	0.01
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	80	80	0.16	0.00	0.16
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	20	20	0.10	0.00	0.10
FLOWERS & FOLIAGE	560	560	2.23	0.00	2.23
WOODY ORNAMENTALS	160	160	0.98	0.19	1.17
IMPROVED PASTURE	7,000	490	0.66	0.00	0.66
SOD	320	320	0.62	0.00	0.62
TURF GRASS (GOLF)	2,875	1,678	4.06	1.01	5.07
TURF GRASS (OTHER)	136	136	0.31	0.01	0.32
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.08	0.91	0.99
FISH FARMING	0	0	0.00	0.00	0.00
	14,566	6,554	12.70	2.12	14.82

SPRINKLER ACREAGE	4,324
LOW PRESSURE ACREAGE	455
FLOOD ACREAGE	1,775
TOTAL IRRIGATED ACREAGE	6,554

VOLUSIA COUNTY DATA - 1989

TOTAL POPULATION	360,049
TOTAL LAND AREA	1,207 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL SJRWMD	360,049	
WATER USE	360,049	
PUBLIC SUPPLY	320,322	
SELF-SUPPLIED	39,727	
PER CAPITA	136	
LAND AREA	(ACRES)	
TOTAL AREA	772,480	1,207 SQ. MILES
FARMED	13,540	
IRRIGATED	9,961	

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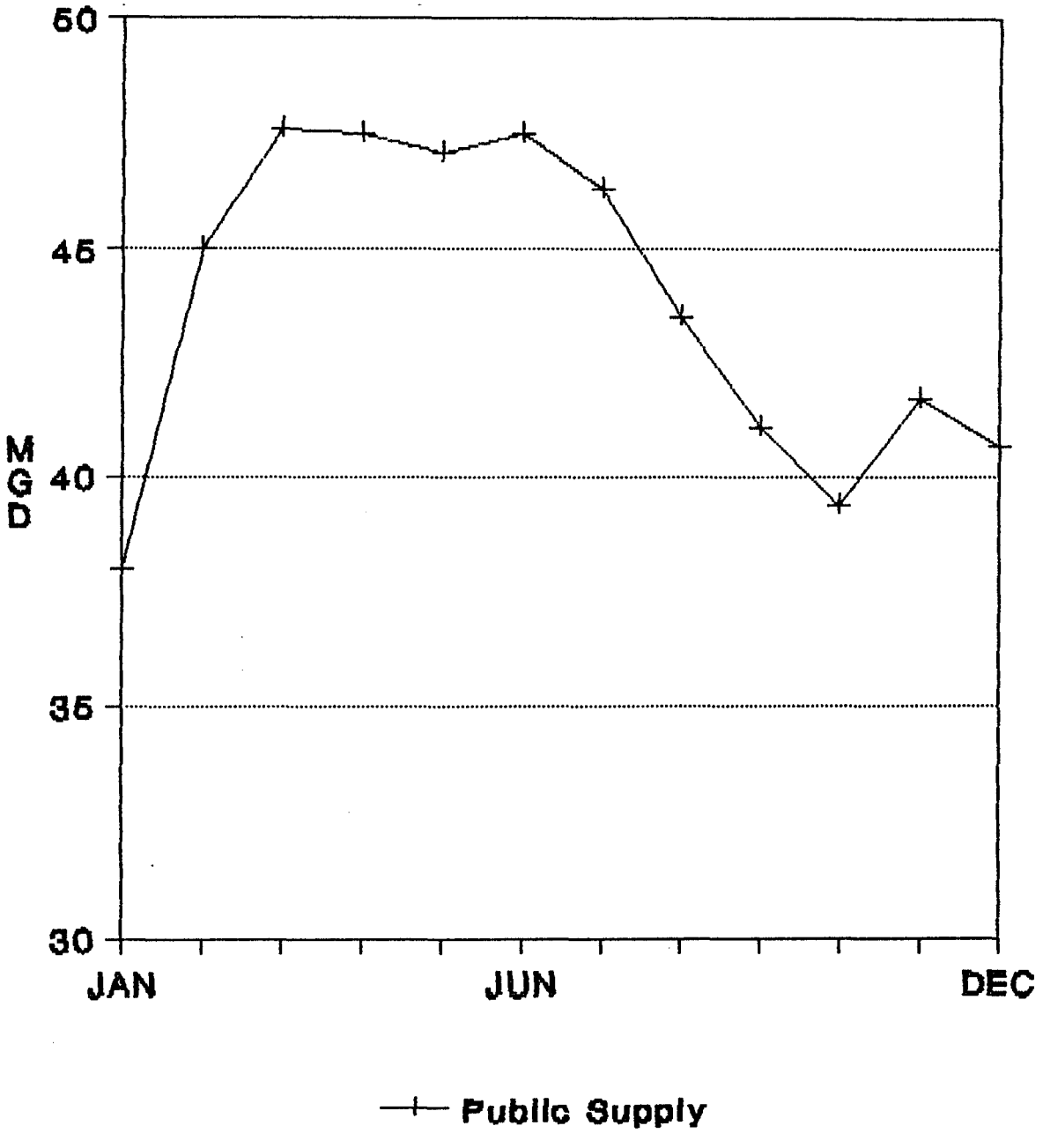
1989 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY (1)	43.68	0.00	43.68	0.00
DOMESTIC SELF-SUPPLY	5.40	0.00	5.40	0.00
COM/IND. SELF-SUPPLY	0.83	0.00	0.83	0.00
AGRICULTURAL IRR.	31.07	6.31	37.38	0.00
POWER GENERATION S-S	0.43	118.64	119.07	0.00
MISCELLANEOUS	9.37	0.00	9.37	0.00
	90.78	124.95	215.73	0.00

TOTAL GROUND	90.78
TOTAL SURFACE	124.95
COUNTY TOTAL	215.73

(1) INCLUDES 0.04 mgd of SLIGHTLY SALINE GROUND WATER (250 to 1000 mg/l chlorides) USED IN R/O OR DILUTED FOR PUBLIC SUPPLY USE.

FRESH WATER USE
Volusia County, 1989



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1989 INDIVIDUAL WATER USERS IN VOLUSIA COUNTY

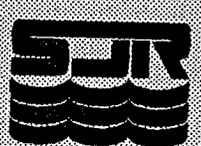
USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL (mgd) GROUND	WITHDRAWAL (mgd) SURFACE	WITHDRAWAL SOURCE
CASSADAGA WATER ASSOC.	PUBLIC SUPPLY	270	0.023	0.000	FLORIDAN AQF.
DAYTONA BEACH - CITY OF	PUBLIC SUPPLY	83,203	12.809	0.000	FLORIDAN AQF.
DELAND - CITY OF	PUBLIC SUPPLY	38,453	5.260	0.000	FLORIDAN AQF.
DELTONA UTILITIES	PUBLIC SUPPLY	39,885	7.381	0.000	FLORIDAN AQF.
EDGEWATER - CITY OF	PUBLIC SUPPLY	13,313	1.590	0.000	FLORIDAN AQF.
HIGHLAND COUNTRY ESTATES	PUBLIC SUPPLY	564	0.031	0.000	FLORIDAN AQF.
HOLLY HILL - CITY OF	PUBLIC SUPPLY	11,625	1.058	0.000	FLORIDAN AQF.
JOHN KNOX VILLAGE	PUBLIC SUPPLY	700	0.078	0.000	FLORIDAN AQF.
KINGSTON SHORES WATER ASSOC.	PUBLIC SUPPLY	250	0.022	0.000	FLORIDAN AQF. (R/O)
LAKE BERESFORD WATER ASSOC.	PUBLIC SUPPLY	945	0.181	0.000	FLORIDAN AQF.
LAKE HELEN - CITY OF	PUBLIC SUPPLY	2,474	0.245	0.000	FLORIDAN AQF.
NEW SMYRNA BEACH - CITY OF	PUBLIC SUPPLY	26,663	3.874	0.000	FLORIDAN AQF.
ORANGE CITY COUNTRY VILLAGE	PUBLIC SUPPLY	1,400	0.213	0.000	FLORIDAN AQF.
ORANGE CITY	PUBLIC SUPPLY	4,181	0.563	0.000	FLORIDAN AQF.
ORMOND BEACH - CITY OF	PUBLIC SUPPLY	42,964	4.686	0.000	FLORIDAN AQF.
PORT ORANGE - CITY OF	PUBLIC SUPPLY	41,214	4.542	0.000	FLORIDAN AQF.
SPRUCE CREEK UTILITIES	PUBLIC SUPPLY	1,845	0.221	0.000	FLORIDAN AQF.
TERRA MARIE VILLAGE W.A.	PUBLIC SUPPLY	200	0.016	0.000	FLORIDAN AQF.
TOMOKA WATER ASSOC.	PUBLIC SUPPLY	346	0.039	0.000	FLORIDAN AQF.
SUGAR MILL UTILITY CO.	PUBLIC SUPPLY	1,231	0.119	0.000	FLORIDAN AQF.
TYMBER CREEK UTILITIES	PUBLIC SUPPLY	736	0.099	0.000	FLORIDAN AQF.
VOLUSIA COUNTY WATER DEPT.	PUBLIC SUPPLY	7,860	0.630	0.000	FLORIDAN AQF.
ARDMORE FARMS	INDUSTRIAL		0.016	0.000	FLORIDAN AQF.
FLORIDA DNR - STATE PARK FAC.	INSTITUTIONAL		0.021	0.000	FLORIDAN AQF.
FLORIDA DOT - I95 REST FAC.	INSTITUTIONAL		0.010	0.000	FLORIDAN AQF.
FLORIDA POWER & LIGHT - SANFORD	POWER GEN.		0.333	2.635	FLORIDAN AQF. & ST. JOHNS RIVER
FLORIDA POWER CORP.- LK.MONROE	POWER GEN.		0.094	116.000	FLORIDAN AQF. & LAKE MONROE
HARMAC MANUFACTURING CO.	INDUSTRIAL		0.009	0.000	FLORIDAN AQF.
KAMPERS KOVE KOA	INSTITUTIONAL		0.039	0.000	FLORIDAN AQF.
ORANGE CITY INDUSTRIAL PARK	INDUSTRIAL		(a)	0.000	VOLUSIA COUNTY WATER DEPT.
SHERWOOD MEDICAL MAN. CO.	INDUSTRIAL		0.183	0.000	FLORIDAN AQF.
T.G. LEE - LIFESTYLE DIV.	INDUSTRIAL		0.081	0.000	FLORIDAN AQF.
TOMOKA STATE FACILITY (FDOC)	INSTITUTIONAL		0.237	0.000	FLORIDAN AQF.
VOLUSIA COUNTY AGRICULTURAL CEN.	INSTITUTIONAL		0.019	0.000	FLORIDAN AQF.
VOLUSIA COUNTY GOV. COMPLEX	INSTITUTIONAL		0.213	0.000	FLORIDAN AQF.

(a) DATA NOT AVAILABLE

VOLUSIA COUNTY ACREAGE AND WATER USE BY CROP FOR 1989

	TOTAL ACRES FARMED	TOTAL ACRES IRRIGATED	WATER USE IN MGD GROUND	WATER USE IN MGD SURFACE	WATER USE IN MGD TOTAL
VEGETABLE CROPS					
CABBAGE	295	295	0.23	0.00	0.23
CARROTS	0	0	0.00	0.00	0.00
CUCUMBERS	300	300	0.33	0.00	0.33
PEPPERS	60	60	0.07	0.00	0.07
POTATOES	0	0	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00
MISC. VEGETABLES	700	140	0.15	0.00	0.15
FRUIT CROPS					
BLUEBERRIES	10	10	0.01	0.00	0.01
CITRUS	1,491	574	0.64	0.06	0.70
GRAPES	14	14	0.02	0.00	0.02
PEACHES	0	0	0.00	0.00	0.00
PECANS	10	10	0.03	0.00	0.03
STRAWBERRIES	0	0	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00
FIELD CROPS					
FIELD CORN	0	0	0.00	0.00	0.00
PEANUTS	0	0	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00
ORNAMENTALS & GRASSES					
FERNS	5,789	5,084	21.68	4.44	26.12
FLOWERS & FOLIAGE	285	285	1.17	0.00	1.17
WOODY ORNAMENTALS	97	97	0.76	0.13	0.89
IMPROVED PASTURE	0	0	0.00	0.00	0.00
SOD	1,284	1,284	2.41	0.00	2.41
TURF GRASS (GOLF)	2,960	1,563	2.98	0.94	3.92
TURF GRASS (OTHER)	245	245	0.34	0.24	0.58
MISC. AGRICULTURAL					
LIVESTOCK	0	0	0.25	0.50	0.75
FISH FARMING	0	0	0.00	0.00	0.00
	13,540	9,961	31.07	6.31	37.38

SPRINKLER ACREAGE	8,869
LOW PRESSURE ACREAGE	297
FLOOD ACREAGE	795
TOTAL IRRIGATED ACREAGE	9,961



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