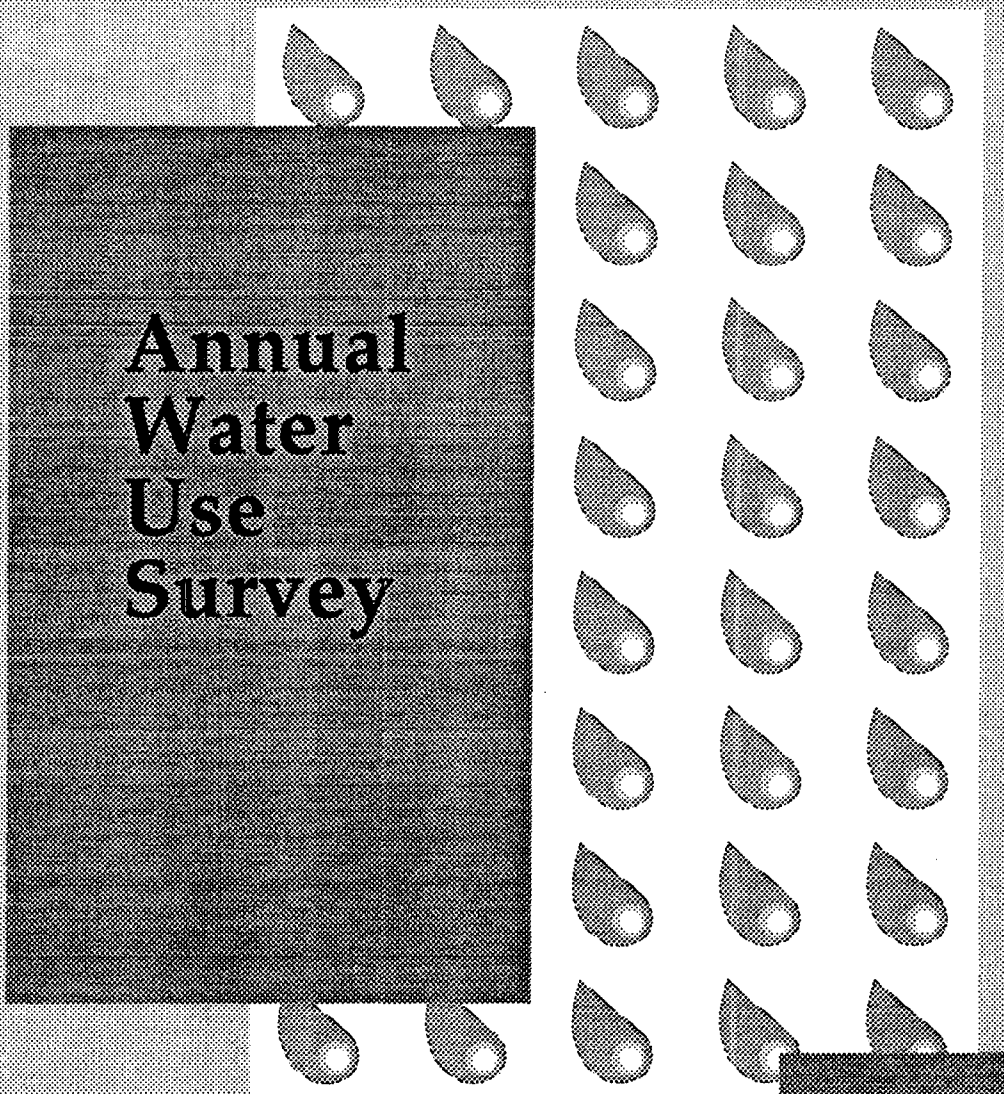
Technical Publication SJ 92-4



Annual Water Use Survey

1990

St. Johns River Water Management District

Technical Publication SJ92-4

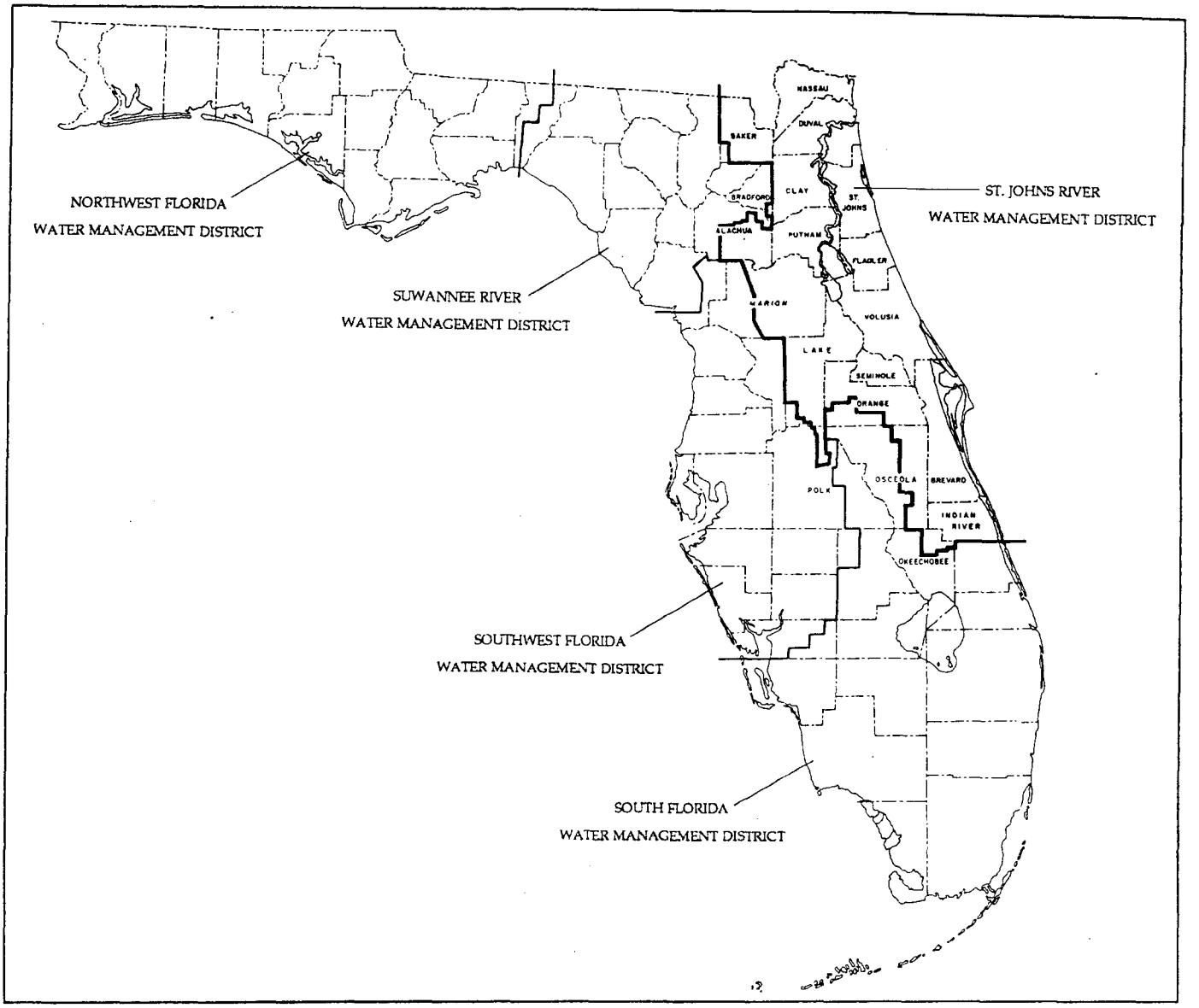
ANNUAL WATER USE SURVEY: 1990

by

Bruce L. Florence

St. Johns River Water Management District
Palatka, Florida

1992



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:

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EXECUTIVE SUMMARY

This report assesses water use in the St. Johns River Water Management District (SJRWMD) for 1990. 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 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 Water use values are the average annual quantities withdrawn and are rounded to the nearest 10,000 gallons (.01 mgd).

The total amount of water used in SJRWMD in 1990, including fresh and saline water, was 3,093.83 mgd. Of that total, 1,544.97 mgd, or nearly 50 percent, was fresh water. The total surface water use for SJRWMD was 2,007.86 mgd, of which 1,548.86 mgd was saline, and 459.00 mgd was fresh. The total amount of ground water withdrawn in SJRWMD was 1,085.97 mgd. All ground water was fresh water.

The largest use of fresh ground water was for public supply—427.90 mgd, or 39 percent of the total fresh ground water use in SJRWMD—followed closely by agricultural irrigation—379.38 mgd, or 35 percent of the total.

The largest use of fresh surface water was for agriculture—225.93, or 49 percent of the total fresh surface water use in SJRWMD. Most surface water used was saline water, used for thermoelectric power generation (1,503.76 mgd).

Brevard County had the largest total water use, at 1,228.42 mgd, because of large saline surface water withdrawals for thermoelectric power generation. Discounting saline surface water use, Volusia County had the highest total fresh water use, at 280.57 mgd, closely followed by Orange County, at 219.93 mgd.

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INTRODUCTION

This report assesses water use in the St. Johns River Water Management District (SJRWMD) for 1990. 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	(AL)	Nassau	(NS)
* Baker	(BK)	* Okeechobee	(OK)
* Bradford	(BF)	* Orange	(OR)
Brevard	(BV)	* Osceola	(OS)
Clay	(CL)	* Polk	(PK)
Duval	(DU)	* Putnam	(PT)
Flagler	(FL)	St. Johns	(SJ)
Indian River	(IR)	Seminole	(SM)
* Lake	(LK)	Volusia	(VL)
* Marion	(MR)		

* Counties partly in SJRWMD

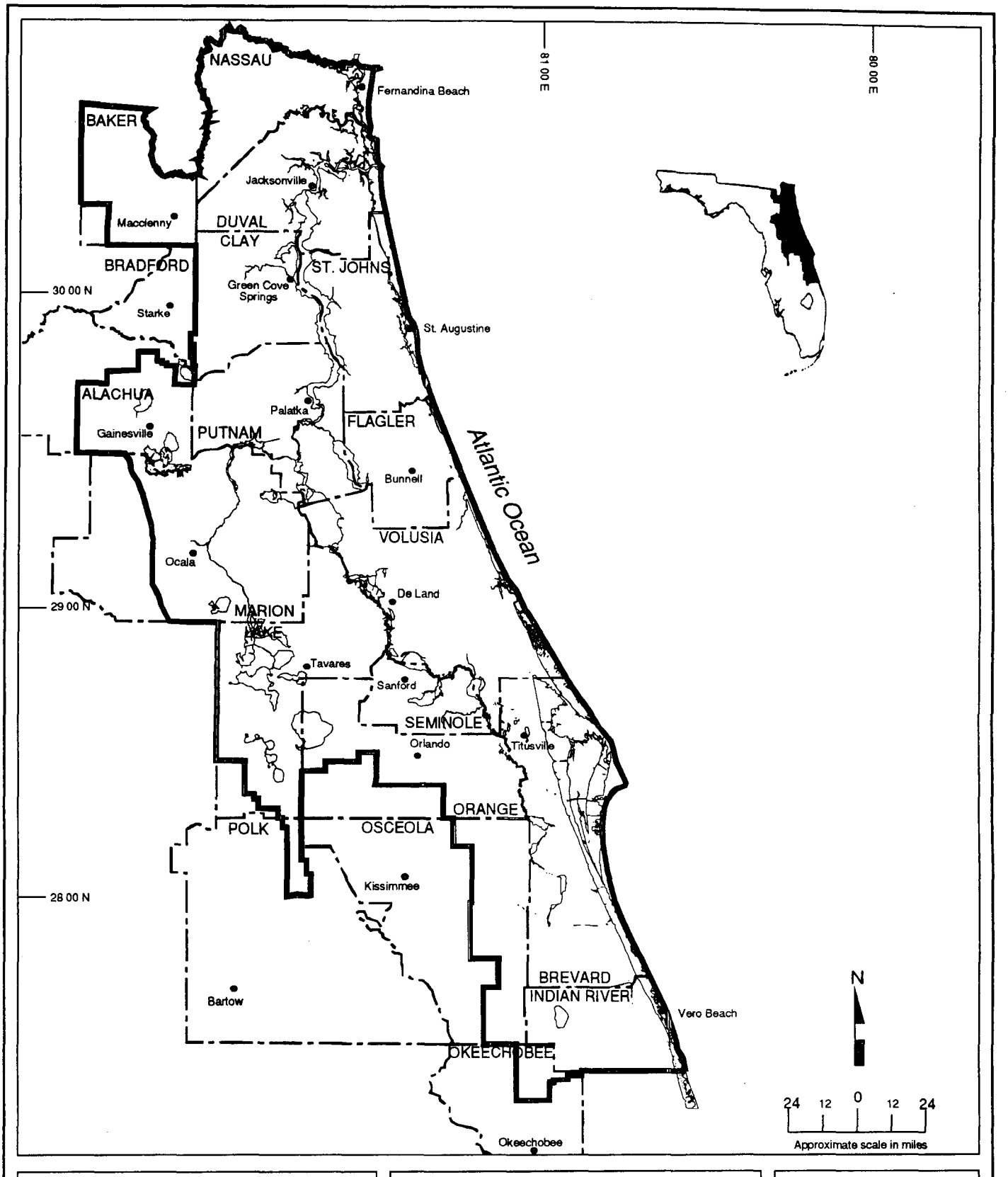

Figure 1.
St. Johns River Water Management District

LEGEND
- St. Johns River Water Management District boundary
- County boundary
- County seat location

WATER USE CATEGORIES

Water use information is reported for six categories of use:

- Public supply
- Domestic self-supply
- Commercial/industrial self-supply
- Agricultural irrigation
- Thermoelectric power generation
- Miscellaneous (abandoned artesian wells)

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 0.01 mgd 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 0.01 mgd.

The 197 public supply utilities included in this report served 2,665,791 people in 1990, or about 84 percent of the total population in SJRWMD (Table 1). 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. 1991, University of Florida 1991a) or from the average service connections reported in the utility records multiplied by the average number of people per household (University of Florida 1991b).

DOMESTIC SELF-SUPPLY

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

Table 1. Population in the St. Johns River Water Management District (SJRWMD), by county, 1990

County	County Population[a]	SJRWMD Population[b]	Percentage of County Population in SJRWMD[c]	Public Supply Population	Domestic Self-Supply Population
Alachua[d]	181,596	147,447	81%	129,332	18,115
Baker	18,486	17,562	95%	4,102	13,460
Bradford	22,515	1,688	7%	362	1,326
Brevard	398,978	398,978	100%	363,066	35,912
Clay	105,986	105,986	100%	75,297	30,689
Duval	672,971	672,971	100%	619,196	53,775
Flagler	28,701	28,701	100%	19,329	9,372
Indian River	90,208	90,208	100%	53,734	36,474
Lake	152,104	150,583	99%	103,785	46,798
Marion	194,833	152,595	78%	70,272	82,323
Nassau	43,941	43,941	100%	22,014	21,927
Okeechobee	29,627	445	2%	0	445
Orange	677,491	541,993	80%	523,650	18,343
Osceola	107,728	2,424	2%	0	2,424
Polk[e]	405,382	4,053	1%	545	3,508
Putnam	65,070	65,070	100%	22,543	42,527
St. Johns	83,829	83,829	100%	66,138	17,691
Seminole	287,529	287,529	100%	270,791	16,738
Volusia	370,712	370,712	100%	321,635	49,077
DISTRICT TOTALS	3,937,687	3,166,715		2,665,791	500,924

[a] Source: Shoemyen et al. 1991
[b] Source: Marella pers. com. 1992
[c] Percentages will be used to calculate population figures for future reports on annual water use.
[d] Prior to 1990, the SJRWMD population was increased to reflect use of water withdrawn in SJRWMD and used by residents of another district. However, in 1990, this practice was discontinued.
[e] Prior to 1990, the SJRWMD population was decreased to reflect use of water withdrawn from another district. However, in 1990, this practice was discontinued.

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. Small utilities and domestic wells are not inventoried, so water use in this category is estimated from population and per capita water use figures.

Populations are based initially on the 1990 census data. Since SJRWMD follows watershed boundaries and not county boundaries, some counties are only partially included in the District. SJRWMD population figures for these counties were estimated by Marella (pers. com. 1992) using data from each county planning department (Table 1). The percentage will be used to calculate population figures for future reports on annual water use.

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.

Only self-supplied facilities that used more than 0.01 mgd of ground or surface water were inventoried. In 1990, 45 commercial and 61 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 SJRWMD 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 categories assessed, and these are divided into four groups (Table 2):

- vegetables crops
- fruits crops
- field crops
- ornamentals and grasses

Miscellaneous agricultural water uses include livestock watering and lake augmentation for fish farming.

The acreage data are primarily supplied by the Institute of Food and Agricultural Sciences 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 1991a, 1991b, and 1991d). The Florida Crop and Livestock Reporting Service provides counts of

Table 2. 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	flowers & foliage
cucumbers	grapes	rice	woody ornamentals
peppers	peaches	sorghum	improved pasture
potatoes	pecans	soybeans	sod
tomatoes	strawberries	sugar cane	turf grass (golf)
sweet corn	watermelons	tobacco	turf grass (other)
watercress	miscellaneous fruits	wheat	
miscellaneous vegetables		miscellaneous grains	

Note: Livestock, fish farming, and aesthetic water uses (miscellaneous agricultural uses) are listed in the Appendix.

livestock, which are multiplied by a certain amount of water used per head (FDACS 1991c).

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 1991), 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 1991).

THERMOELECTRIC POWER GENERATION

The thermoelectric power generation category of water use consists of water used by power plants primarily for cooling. 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 1990, water use

data were collected for 12 self-supplied thermoelectric power plants.

MISCELLANEOUS (ABANDONED ARTESIAN WELLS)

The miscellaneous category of water use includes only water flowing from abandoned artesian wells. All abandoned artesian wells are known to be Floridan aquifer wells. 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 SJRWMD average for all wells of known flow is used. In 1990, the SJRWMD average for all wells of known flow was 0.12 mgd (Steele, pers. com. 1992).

In previous *Annual water use surveys,* the miscellaneous category of water use included estimates of water use for heat pump and air-conditioning units, small wells for lawn irrigation, and abandoned artesian well information, which was based on the fiscal year of October through September. The data on heat pumps, air-conditioning units, and lawn irrigation were old and incomplete. As it was not possible to update this data accurately, this part of the miscellaneous water use estimate has been dropped. Previous abandoned artesian well reports are dated by the year in which the fiscal year ends, i.e., October 1989 through September 1990 is the 1990 report. Comparisons between 1990 and other years will be made with the miscellaneous water use adjusted accordingly.

1990 Water Use by Source

Water can be withdrawn from surface waterbodies 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 1,000 mg/L or less of total dissolved solids (See Glossary). Fresh water includes both potable and nonpotable water. Section 17-3.091 *Florida Administrative Code* defines potable water as containing chlorides less than or equal to 250 mg/L and total dissolved solids less than or equal to 500 mg/L. 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 use in SJRWMD in 1990 was 3,093.83 mgd, of which 1,544.97 mgd was fresh water and 1,548.86 mgd was saline surface water (Table 3). These figures do not include reused wastewater (see Appendix).

The largest use of fresh ground water was for public supply—427.90 mgd (Table 4), or 39 percent (Figure 2) of the total—

Table 3. Total 1990 water use by county, St. Johns River Water Management District (in million gallons per day)

County	Fresh Water			Saline Water	Totals
	Ground	Surface	Total	Surface	
Alachua	35.56	0.18	35.74	0.00	35.74
Baker	7.08	2.20	9.28	0.00	9.28
Bradford	0.32	0.00	0.32	0.00	0.32
Brevard	150.38	26.64	177.02	1,051.40	1,228.42
Clay	25.95	0.44	26.39	0.00	26.39
Duval	155.39	1.40	156.79	358.09	514.88
Flagler	13.47	1.20	14.67	0.00	14.67
Indian River	84.82	117.73	202.55	137.97	340.52
Lake	84.70	12.63	97.33	0.00	97.33
Marion	37.60	1.39	38.99	0.00	38.99
Nassau	43.04	0.60	43.64	1.40	45.04
Okeechobee	9.92	0.25	10.17	0.00	10.17
Orange	159.90	60.03	219.93	0.00	219.93
Osceola	6.57	8.09	14.66	0.00	14.66
Polk	4.41	0.35	4.76	0.00	4.76
Putnam	64.89	19.33	84.22	0.00	84.22
St. Johns	53.31	1.39	54.70	0.00	54.70
Seminole	71.44	1.80	73.24	0.00	73.24
Volusia	77.22	203.35	280.57	0.00	280.57
DISTRICT TOTALS	1,085.97	459.00	1,544.97	1,548.86	3,093.83

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

Table 4. **Total 1990 water use by category (in million gallons per day), St. Johns River Water Management District**

Category	Fresh Water			Saline Water*
	Ground	Surface	Total	Surface
Public Supply	427.90	16.24	444.14	0.00
Domestic Self-Supply	83.86	0.00	83.86	0.00
Commercial/Industrial Self-Supply	127.38	10.27	137.65	45.10
Agricultural Irrigation	379.38	225.93	605.31	0.00
Thermoelectric Power Generation	6.75	206.56	213.31	1,503.76
Miscellaneous	60.70	0.00	60.70	0.00
TOTALS	1,085.97	459.00	1,544.97	1,548.86

* Saline water is all from surface water sources.
Note: 0.00 value means no pumpage was reported over 10,000 gallons per day.

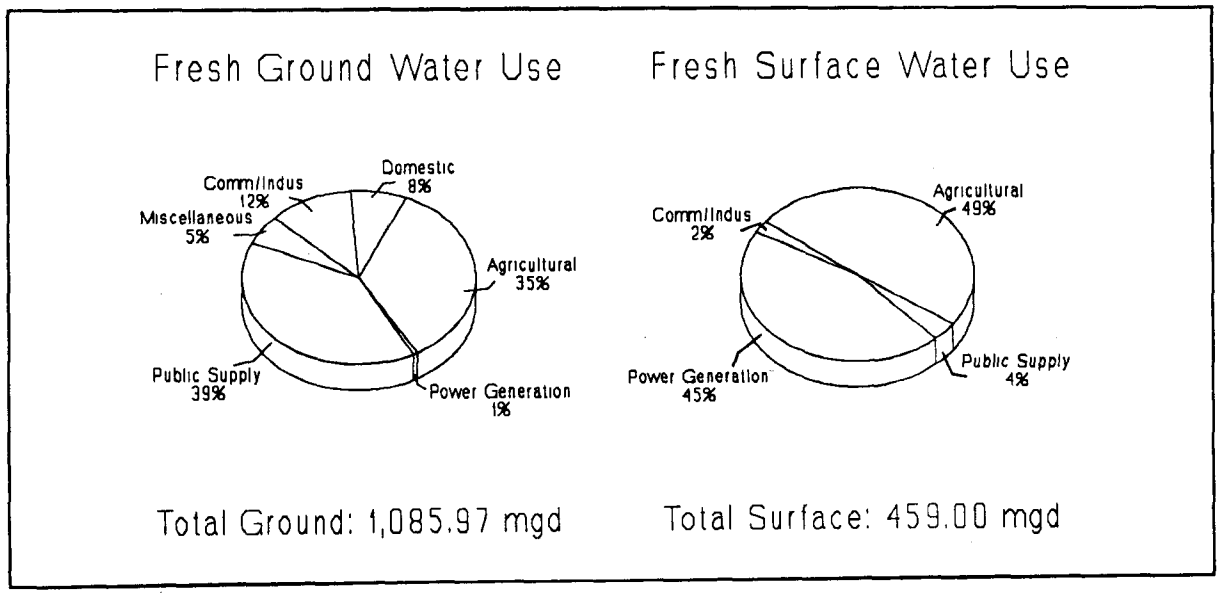

Figure 2. **Total Fresh Water Use, 1990.** *Most of the fresh water used in the St. Johns River Water Management District came from ground water sources. Surface water is used primarily for agricultural irrigation and thermoelectric power generation.*

followed by agricultural irrigation—379.38 mgd, or 35 percent of the total fresh ground water use in SJRWMD. The largest use of fresh surface water was for agricultural irrigation—225.93 mgd, or 49 percent of the total fresh surface water use in SJRWMD.

SURFACE WATER

In 1990, surface water accounted for a total of 2,007.86 mgd of water use (Table 3). This included water from both fresh and saline surface water sources. About 30 percent (459.00 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 (203.35 mgd) was Volusia County (Table 3). Most of this water was for thermoelectric power generation. Indian River County used 117.73 mgd of fresh surface water, all for agricultural irrigation. Water use in these two counties totaled 321.08 mgd, or 70 percent of the total fresh surface water use in SJRWMD in 1990.

The largest category of fresh surface water use was agricultural irrigation, which accounted for 225.93 mgd (Table 4), or 49 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 206.56 mgd, or 45 percent of the total. Fresh surface water withdrawn for public supply accounted for 16.24 mgd, or 4 percent of the total fresh surface water used. Commercial/industrial water use accounted for 10.27 mgd, or 2 percent of the total fresh surface water use in SJRWMD.

Saline Water

Total saline water use in SJRWMD in 1990 was 1,548.86 mgd (Tables 3 and 4). Saline surface water is primarily used in SJRWMD for thermoelectric power generation or for commercial/industrial plant operation (Table 4). 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—1,051.40 mgd (Table 3) for thermoelectric power generation at two plants:

- Florida Power and Light (536.93 mgd)
- Orlando Utilities Commission (514.47 mgd)

Duval County used 358.09 mgd (Table 3) of saline surface water for power generation and commercial purposes at four plants:

- Jacksonville Electric Authority (264.72 mgd)
- Eastport Power Plant (49.67 mgd)
- Seminole Kraft Corporation (41.40 mgd)
- Jacksonville Shipyard (2.30 mgd)

Indian River County used saline surface water at the Vero Beach Municipal Power Plant (137.97 mgd), and Nassau County used saline water at the ITT Rayonier paper mill (1.40 mgd).

GROUND WATER

In 1990, ground water accounted for a total of 1,085.97 mgd of water use (Table 3), or 70 percent of the total fresh water use in SJRWMD. All ground water withdrawals are fresh water.

The counties in SJRWMD using the most ground water were Orange, Duval, and Brevard (Table 3). Each of these counties used more than 100 mgd of ground water, for a total of 465.67 mgd for the three counties, or 43 percent of the total ground water use in SJRWMD in 1990.

The largest category of ground water use in 1990 in SJRWMD was public supply, which accounted for about 427.90 mgd (Table 4), or 39 percent of the total ground water use (Figure 2). The second largest category of ground water use was agricultural

irrigation, accounting for 379.38 mgd, or 35 percent of the total ground water use.

Commercial/industrial water use accounted for 127.38 mgd, or 12 percent of the total ground water use in SJRWMD in 1990; domestic self-supply for 83.86 mgd, or 8 percent of the total; miscellaneous uses for 60.70 mgd, or 5 percent of the total; and thermoelectric power generation for 6.75 mgd, or less than 1 percent of the total.

1990 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

The public supply category consists of water supplied by utilities to homes and industries. Total water use from ground and surface sources for public supply in 1990 was 444.14 mgd (Tables 4 and 5). All public supply water is fresh water and most of the water supplied in 1990 (96 percent) was ground water (Table 4). Fresh surface water (16.24 mgd) was used for public supply in Brevard County. Nearly all of the ground water used in SJRWMD for public supply was withdrawn from the Floridan aquifer. The public supply category of ground water use accounted for 39 percent of the total ground water use in SJRWMD in 1990 (Figure 2).

The figures in this report for fresh ground water use include a small amount of slightly saline ground water (4.71 mgd) 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.

Table 5. Public supply and domestic self-supply water use in the St. Johns River Water Management District (SJRWMD), by county, 1990

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	129,332	20.97	162	18,115	2.93
Baker	4,102	0.81	197	13,460	2.65
Bradford	362	0.04	121[a]	1,326	0.16
Brevard	363,066	51.31[b]	141	35,912	5.06
Clay	75,297	11.23	149[a]	30,689	4.57
Duval	619,196	96.32	156	53,775	8.39
Flagler	19,329	3.85	199	9,372	1.87
Indian River	53,734	13.17	245	36,474	8.94
Lake	103,785	20.67	199	46,798	9.31
Marion	70,272	11.56	165	82,323	13.58
Nassau	22,014	3.85	175	21,927	3.84
Okeechobee	0	0.00	165[c]	445	0.07
Orange	523,650	103.76[d]	198	18,343	3.63
Osceola	0	0.00	165[c]	2,424	0.40
Polk	545	0.06	110	3,508	0.39
Putnam	22,543	3.15	140	42,527	5.95
St. Johns	66,138	8.39	127	17,691	2.25
Seminole	270,791	50.79	188	16,738	3.15
Volusia	321,635	44.21	137	49,077	6.72
DISTRICT TOTALS	2,665,791	444.14	165[e]	500,924	83.86[f]

*million gallons per day
[a] See Appendix for Bradford and Clay counties
[b] 27.79 mgd withdrawn in Brevard County plus 23.52 mgd withdrawn in Orange County
[c] SJRWMD average per capita
[d] 127.28 mgd withdrawn in the SJRWMD part of Orange County minus 23.52 mgd used in Brevard County
[e] This total represents the average of county per capita for which data were available. It is not based on Districtwide totals.
[f] This is a total of the county domestic self-supply figures, not based on SJRWMD per capita

Per Capita

The average per capita water use in SJRWMD in 1990, based on the population served by public supply, was 165 gallons per day (Table 5).

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 5 and Figure 3), which represent, together, 36 percent of SJRWMD's water use population.

Water use for public supply withdrawn in Duval and Orange counties was 223.60 mgd, half of the public supply water use in SJRWMD in 1990. 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; 33.72 mgd was used in the South Florida Water Management District (Appendix). Some of the water withdrawn in Orange County (23.52 mgd) was also for the City of Cocoa's public supply system in Brevard County (Table 5).

The largest public supply utility in SJRWMD serves the City of Jacksonville in Duval County. This utility supplied its customers with 70.49 mgd in 1990 (see Appendix).

DOMESTIC SELF-SUPPLY

In 1990, an estimated 500,924 people used 83.86 mgd (Table 5) of domestic self-supplied water, or 8 percent of the total fresh ground water use in SJRWMD (Table 3). All of the domestic self-supplied water was assumed to be ground water.

Marion County had the largest self-supplied population of 82,323 people (Table 5). Duval County had the second largest, with 53,775 people, followed by Volusia County with 49,077 people.

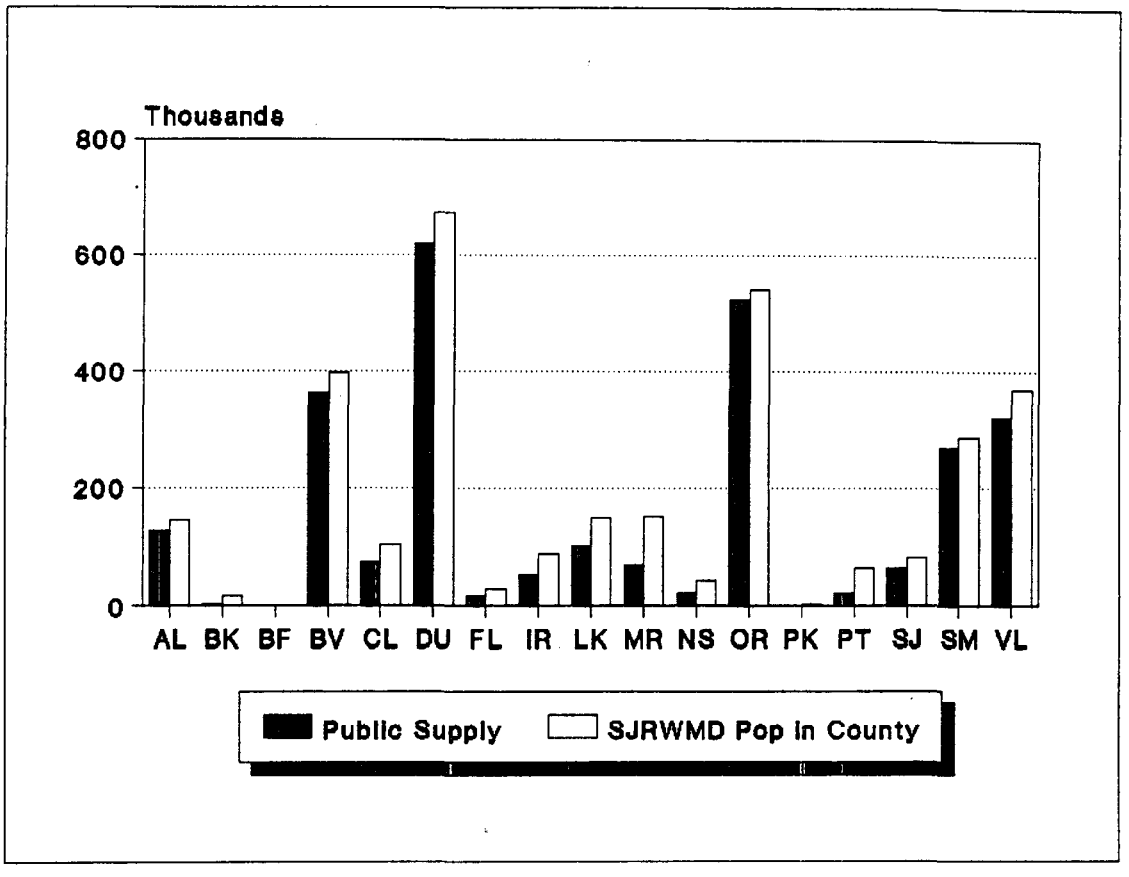

Figure 3. **Population Served by Public Supply in St. Johns River Water Management District (SJRWMD), 1990.** *The largest counties in SJRWMD are Duval, Orange, and Brevard. Okeechobee and Osceola counties do not have a public supply population.*

COMMERCIAL/INDUSTRIAL SELF-SUPPLY

The total self-supplied fresh water use in the commercial/industrial category was 137.65 mgd (Tables 4 and 6), or 9 percent of the total fresh water use in SJRWMD. Of this total, 127.38 mgd was ground water, and 10.27 mgd was surface water. In addition, 45.10 mgd of saline water was used in this category.

Table 6. **Commercial/industrial self-supply water use in St. Johns River Water Management District, by county, 1990 (in million gallons per day)**

County	Fresh Water			Saline Water
	Ground	Surface [a]	Total	Surface
Alachua	1.95	0.00	1.95	0.00
Baker	0.32	0.00	0.32	0.00
Bradford	0.00	0.00	0.00	0.00
Brevard	0.19	0.00	0.19	0.00
Clay	6.55	0.00	6.55	0.00
Duval	35.24	0.00	35.24	43.70
Flagler	0.25	0.00	0.25	0.00
Indian River	0.29	0.00	0.29	0.00
Lake	9.50	0.00	9.50	0.00
Marion	1.05	0.00	1.05	0.00
Nassau	32.71	0.00	32.71	1.40
Okeechobee	0.07	0.00	0.07	0.00
Orange	4.18	0.00	4.18	0.00
Osceola	0.00	0.00	0.00	0.00
Polk	0.30	0.00	0.30	0.00
Putnam	33.52	10.27	43.79	0.00
St. Johns	0.09	0.00	0.09	0.00
Seminole	0.49	0.00	0.49	0.00
Volusia	0.68	0.00	0.68	0.00
DISTRICT TOTALS	127.38	10.27	137.65	45.10

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

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

Most of the water used in this category supplied the pulp and paper industries in Putnam, Nassau, and Duval counties. In 1990, water use for pulp and paper production used 81.32 mgd of fresh ground water, 4.00 mgd of fresh surface water, and 42.80 mgd of saline surface water (see Appendix). The second largest water user in this category was mining, which accounted for 24.10 mgd of fresh water. Together, pulp and paper production and mining accounted for 109.42 mgd of fresh water, or 60 percent of the commercial/industrial self-supply water use in SJRWMD.

The largest amount of fresh water used for commercial/industrial self-supply (43.79 mgd) was in Putnam County (Table 6). Duval (35.24 mgd) and Nassau (32.71 mgd) counties also had significant amounts of fresh water use in this category. Eighty-one percent of the total fresh water used for commercial/industrial self-supply in SJRWMD, 111.74 mgd, was in these three 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 605.31 mgd, or 39 percent of the total fresh water use in SJRWMD in 1990 (Tables 4 and 7). Of this total, 379.38 mgd, or 63 percent of the total water use for agriculture, was ground water. It was assumed that most ground water used for agricultural irrigation came from the Floridan aquifer.

By Acreage and Crop

An estimated 920,984 acres were farmed in SJRWMD in 1990, of which 373,040 acres were irrigated (Appendix). Of the total acreage irrigated, 267,366 acres were irrigated by flood systems, 54,393 acres by sprinkler systems, and 51,281 acres by low pressure/low volume systems. The total amount of irrigated acres decreased from 396,270 acres in 1989—a net decrease of 23,230 acres (Florence 1991). A decrease in citrus acreage of 25,888 was offset by small acreage increase in other crops.

Table 7. **Agricultural irrigation water use in St. Johns River Water Management District, by county, 1990 (in million gallons per day)**

County	Fresh Water		Total
	Ground	Surface	
Alachua	9.42	0.18	9.60
Baker	3.30	2.20	5.50
Bradford	0.12	0.00	0.12
Brevard	100.78	10.40	111.18
Clay	3.00	0.44	3.44
Duval	9.53	1.40	10.93
Flagler	7.50	1.20	8.70
Indian River	50.84	117.73	168.57
Lake	43.66	12.63	56.29
Marion	9.66	1.39	11.05
Nassau	2.40	0.60	3.00
Okeechobee	9.78	0.25	10.03
Orange	24.44	60.03	84.47
Osceola	6.05	8.09	14.14
Polk	3.66	0.35	4.01
Putnam	20.48	1.35	21.83
St. Johns	40.54	1.39	41.93
Seminole	11.19	1.80	12.99
Volusia	23.03	4.50	27.53
DISTRICT TOTALS	379.38	225.93	605.31

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

The group of crops with the largest water use in 1990 was ornamentals and grasses, accounting for 234.25 mgd, or 39 percent of the agricultural water use (Figure 4). The breakdown follows:

- Improved pasture—122.32 mgd
- Golf course irrigation—35.01 mgd
- Woody ornamentals—25.24 mgd
- Ferns—22.42 mgd
- Sod farms—18.08 mgd
- Flowers and foliage—7.26 mgd
- Other turf grass—3.92 mgd

The largest water use for a single crop type was for citrus irrigation, which accounted for 184.07 mgd, or 30 percent of the total agricultural water use in SJRWMD (see Appendix). Irrigation of improved pasture land accounted for 122.32 mgd, or 20 percent of agricultural water use.

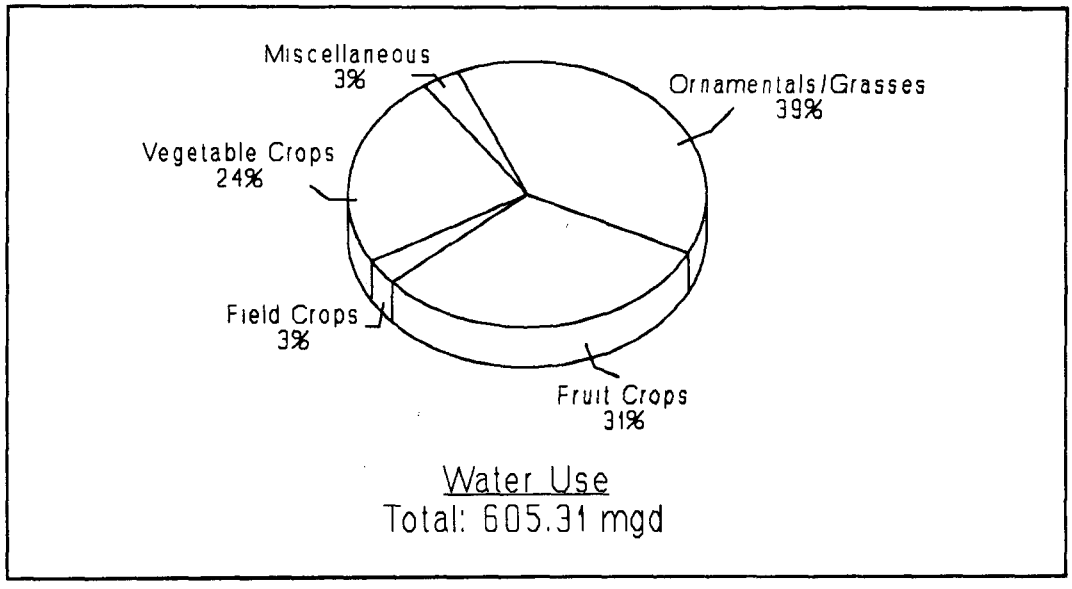

Figure 4. **1990 Water Use in the St. Johns River Water Management District for Five Crop Types.** *Ornamentals and grasses (which include improved pasture land) accounted for 39 percent of agricultural irrigation water use in 1990.*

By County

The largest water use for agriculture occurred in Indian River County: 168.57 mgd of fresh water (Table 7), or 28 percent of the total water use for irrigation in SJRWMD. Most of this amount, 117.73 mgd, was fresh surface water. The second largest water use for agriculture was in Brevard County: 111.18 mgd, most of which was ground water. Orange and Lake counties each used more than 50 mgd of ground and surface water combined, predominantly for sweet corn and citrus. These four counties together used 420.51 mgd, or 69 percent, of the total agricultural irrigation water use in SJRWMD in 1990.

THERMOELECTRIC POWER GENERATION

Total water use for the 12 self-supplied power plants accounted for 1,503.76 mgd of saline surface water, and 206.56 mgd of fresh surface water, and 6.75 mgd of fresh ground water (Table 8). The largest amount of saline water used for thermoelectric power generation was in Brevard County—1,051.40 mgd. The largest amount of fresh water use was in Volusia County—199.29 mgd.

MISCELLANEOUS (ABANDONED ARTESIAN WELLS)

Miscellaneous water use, which includes only water flowing from an estimated 471 abandoned artesian wells, totaled an estimated 60.704 mgd in SJRWMD (Table 9). The total known flow for 96 wells was 11.862 mgd. The estimated flow from an estimated 375 wells was 48.842 mgd.

The estimated flows are calculated by county, then summed for a SJRWMD total. The calculation is as follows:

1) Determine county average of known flow

2) Multiply result (average known flow) by the estimated number of wells of unknown flow

Table 8. Thermoelectric power generation water use in St. Johns River Water Management District, by county, 1990 (in million gallons per day)

County	Fresh Water			Saline Water
	Ground	Surface	Totals	Surface
Alachua	0.29	0.00	0.29	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	1,051.40
Clay	0.00	0.00	0.00	0.00
Duval	4.83	0.00	4.83	314.39
Flagler	0.00	0.00	0.00	0.00
Indian River	0.08	0.00	0.08	137.97
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	0.33	0.00	0.33	0.00
Osceola	0.00	0.00	0.00	0.00
Polk	0.00	0.00	0.00	0.00
Putnam	0.53	7.71	8.24	0.00
St. Johns	0.00	0.00	0.00	0.00
Seminole	0.00	0.00	0.00	0.00
Volusia	0.44	198.85	199.29	0.00
DISTRICT TOTALS	6.75	206.56	213.31	1,503.76

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

Table 9. Miscellaneous water use (abandoned artesian well inventory) in the St. Johns River Water Management District, by county, 1990 (in million gallons per day)

County	Number of Wells of Known Flow	Known Flow	Estimated Number of Wells of Unknown Flow	Estimated Flow	Total Estimated Flow
Alachua	0	0.000	0	0.000	0.000
Baker	0	0.000	0	0.000	0.000
Bradford	0	0.000	0	0.000	0.000
Brevard	50	7.500	167	25.050	32.550
Clay	0	0.000	5	0.600*	0.600
Duval	0	0.000	9	1.080*	1.080
Flagler	3	0.004	3	0.004	0.008
Indian River	2	1.000	21	10.500	11.500
Lake	0	0.000	13	1.560*	1.560
Marion	4	1.000	3	0.750	1.750
Nassau	0	0.000	2	0.240*	0.240
Okeechobee	0	0.000	0	0.000	0.000
Orange	1	0.020	1	0.020	0.040
Osceola	0	0.000	1	0.120*	0.120
Polk	0	0.000	0	0.000	0.000
Putnam	7	0.338	19	0.917	1.255
St. Johns	0	0.000	17	2.040*	2.040
Seminole	22	1.000	106	4.818	5.818
Volusia	7	1.000	8	1.143	2.143
DISTRICT TOTALS	96	11.862	375	48.842	60.704

* SJRWMD average (0.12 mgd) used for estimated flow.
Source: Steele (pers. com. 1992).

3) Combine the estimated unknown flow with the known flow for a county total

For counties with no wells of known flow, the average of all known flows in SJRWMD (0.12 mgd) was used.

All water was fresh ground water.

Since commencement of SJRWMD's Abandoned Artesian Well Plugging Program, in 1976, 1,311 abandoned artesian wells have been identified, of which 590 wells have been plugged or repaired by SJRWMD, 250 have been plugged or repaired by the well owner, and 471 are still flowing (Steele 1991). To date, an estimated 92 mgd of fresh water has been saved.

TRENDS

1980 TO 1990

Total fresh water use since 1980 has remained fairly constant (Figure 5 and Table 10). On the average, public supply water use has increased and agricultural irrigation water use has decreased, yielding a fairly constant total water use since 1980. In 1981, there was high water use (1,697.30 mgd). In 1982, there was low water use (1,258.97 mgd). Drought years were 1990 and 1981, with 39 in. and 41 in., respectively, of average rainfall (SJRWMD 1992). The wettest year, 1982, had 58 in. of average rainfall (SJRWMD 1992). Since 1980, the arithmetic mean of total fresh water use was 1,404 mgd. In 1990, water use was 1,544.97 mgd, about 10 percent above the mean.

The use of fresh water by source (ground or surface) has not followed overall trends as indicated above. The highest use of ground water was in 1981 (1,335.52 mgd), and the highest use of surface water was in 1990 (459.00 mgd). The lowest use of ground water was in 1980 (957.50 mgd), and the lowest use of surface water was in 1982 (273.70 mgd). Since 1980, the arithmetic mean of ground water and surface water usage was 1,054 mgd and 350 mgd, respectively. In 1990, the use of fresh surface water was about 30 percent above the mean, and use of fresh ground water was close to the mean.

Estimated population figures indicate a steady climb from 1980 through 1990. The estimated population in 1990 is about 39 percent greater than in 1980, while total water use has remained fairly constant.

Since 1980, some water use by category has fluctuated (Figure 6). Public supply water use has increased steadily. Water use for agricultural irrigation has declined due to freezes, improved irrigation, and seasonal rainfall. Water use for domestic self-

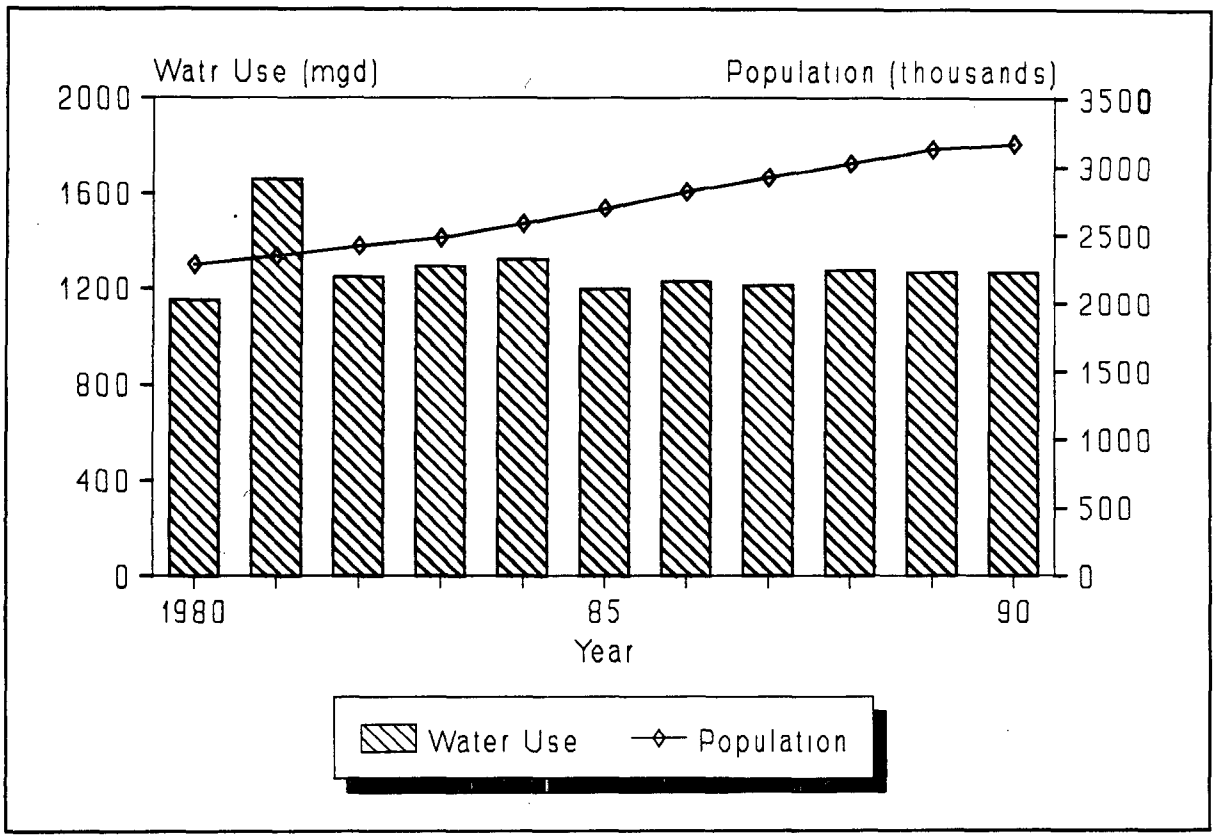

Figure 5. **Fresh Water Use and Population in the St. Johns River Water Management District from 1980 to 1990.** *Except for very high water use in 1981 (a drought year) and low water use in 1982 (a wet year), water use has remained constant, changing only slightly from year to year. Note, power generation and miscellaneous water uses are not included.*

supply and commercial/industrial self-supply have fluctuated little.

Water use for public supply was highest in 1990 (444.14 mgd) and lowest in 1982 (291.52 mgd). Since 1980, the arithmetic mean was 359 mgd. In 1990, the public supply category was about 24 percent above the mean. Water use for domestic self-supply was highest in 1989 (90.24 mgd) and lowest in 1985 (80.76 mgd).

Table 10. Comparisons of fresh water use (in million gallons per day) throughout the St. Johns River Water Management District (SJRWMD) from 1980 through 1990

Category	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989*	1990
SJRWMD Population	2,278,372	2,336,463	2,409,849	2,469,147	2,574,947	2,690,133	2,813,578	2,919,028	3,023,277	3,135,756	3,166,715
Water Source**											
Fresh Ground	957.50	1,335.52	985.27	986.85	1,066.24	990.04	1,003.12	1,012.03	1,054.55	1,119.32	1,085.97
Fresh Surface	317.06	361.78	273.70	311.95	290.01	363.76	379.62	353.47	379.15	360.47	459.00
Total	1,274.56	1,697.30	1,258.97	1,298.80	1,356.25	1,353.80	1,382.74	1,365.50	1,433.70	1,479.79	1,544.97
Public Supply	294.68	307.27	291.52	298.85	331.22	358.53	381.99	400.39	409.29	431.12	444.14
Domestic Self-Supply	85.37	89.80	88.20	80.99	87.72	80.76	82.33	85.71	86.73	90.24	83.86
Commercial/Industrial Self-supply	163.36	160.01	169.69	163.67	150.24	172.34	148.46	145.67	150.11	148.66	137.65
Agricultural Irrigation	607.68	1,099.81	698.77	748.45	753.90	584.68	617.97	581.24	630.92	600.09	605.31
Thermoelectric Power Generation	92.69	40.41	10.79	6.84	7.12	124.41	133.72	134.37	135.78	137.11	213.31
Abandoned Artesian Wells	30.78	0.00	0.00	0.00	26.05	33.08	18.27	18.12	20.87	56.60	60.70

* Abandoned artesian well data came from Steele 1992. As a result, the sum of water use by category will not match the total by water source.
**Excluding heat pump and air conditioning.

NOTE: Over the years, some of the methods have changed. Check each source before making detailed comparisons.

Sources: Marella 1983, 1984a, 1984b, 1985, 1986, 1987, 1988, and 1990; Florence 1990 and 1991; Steele 1992

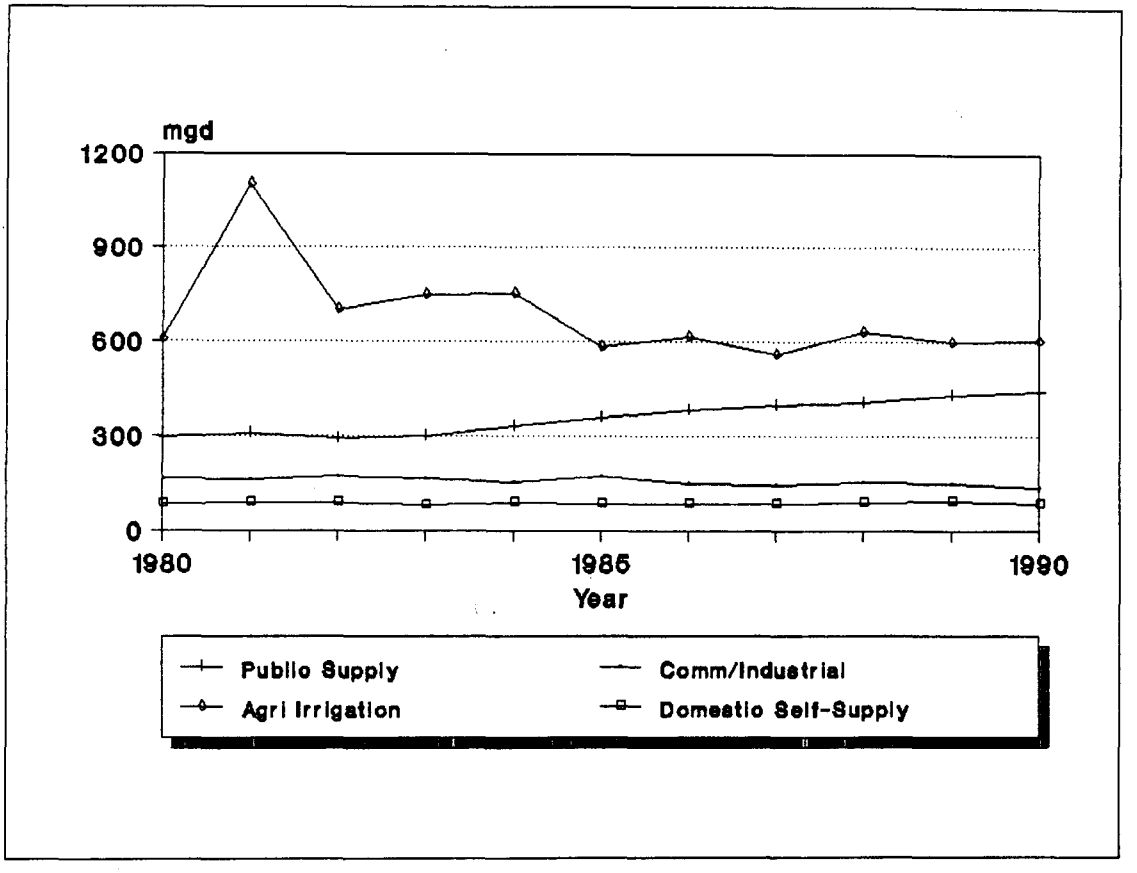

Figure 6. **Fresh Water Use in the St. Johns River Water Management District by Category from 1980 to 1990.** *Water use for agricultural irrigation has fluctuated from year to year in response to rainfall. Water use for public supply has increased steadily with increasing population and tourism.*

Since 1980, the arithmetic mean was 86 mgd. In 1990, the domestic self-supply category was close to the mean.

Water use for commercial/industrial self-supply was highest in 1985 (172.34 mgd) and lowest in 1990 (137.65 mgd). Since 1980, the arithmetic mean was 155 mgd. In 1990, the commercial/industrial self-supply category was about 11 percent below the mean.

Water use for agricultural irrigation was highest in 1981 (1,099.81 mgd), a drought year, and lowest in 1987 (581.24 mgd). Since 1980, the arithmetic mean was 684 mgd. In 1990, the agricultural irrigation category was about 12 percent below the mean.

Thermoelectric power generation and abandoned artesian well data are either incomplete or the methods for determining water use have varied. Therefore, comparisons of data would be inappropriate.

1989 TO 1990

From 1989 to 1990, total fresh water use in SJRWMD increased slightly, from 1,479.79 mgd to 1,544.97 mgd, or 4 percent. Fresh ground water use decreased, from 1,119.32 mgd to 1,085.97 mgd, or 3 percent. Fresh surface water increased, from 360.47 mgd to 459.00 mgd, or 27 percent. Saline surface water decreased from 1,640.53 mgd to 1,548.86 mgd, or 6 percent (Florence 1991; Table 4).

Four categories of fresh water increased from 1989 to 1990.

- Public supply increased 3 percent, from 431.12 mgd in 1989 to 444.14 mgd in 1990. A significant portion of the increase can be attributed to growing population (especially in urban centers) and switching to public supply systems by domestic self-suppliers (reducing domestic self-supply water use).

- Agricultural irrigation increased 1 percent, from 600.09 mgd in 1989 to 605.31 mgd in 1990 (no one crop received more water than another).

- Thermoelectric power generation increased 56 percent, from 137.11 mgd in 1989 to 213.31 mgd in 1990.

- Miscellaneous (abandoned artesian wells) increased 7 percent, from 56.60 mgd in 1989 (Steele, pers. com. 1992) to 60.70 mgd in 1990.

The remaining categories of fresh water decreased from 1989 to 1990.

- Domestic self-supply decreased 7 percent, from 90.24 mgd in 1989 to 83.86 mgd in 1990.

- Commercial/industrial decreased 7 percent, from 148.66 mgd in 1989 to 137.65 mgd in 1990. A significant portion of the decrease can be attributed to improved plant efficiencies, reuse of water, and recycling of water.

SEASONAL TRENDS

In 1990, total fresh water use was highest in April (Figure 7). Monthly trends in water use follow the trends in agricultural water use, which depend on rainfall and growing season. Consistently, March, April, and May are Florida's dry season and are peak crop irrigation months, so irrigation demand increases during these months (Figure 8). Demand for residential lawn irrigation also increases during these months because of seasonally dry conditions.

Public Supply

Public supply water use in SJRWMD in 1990 fluctuated from a low of 368.30 mgd in February to a high of 538.80 mgd in May (Figure 7 and 9). In August 1989, SJRWMD declared a Districtwide water shortage due to extremely low ground water levels in the Floridan aquifer. The water shortage continued throughout 1990.

Commercial/Industrial Self-Supply

Commercial/industrial self-supply water use in SJRWMD in 1990 varied little over the year—from a low of 127.10 mgd in June to a high of 147.20 mgd in January (Figure 10).

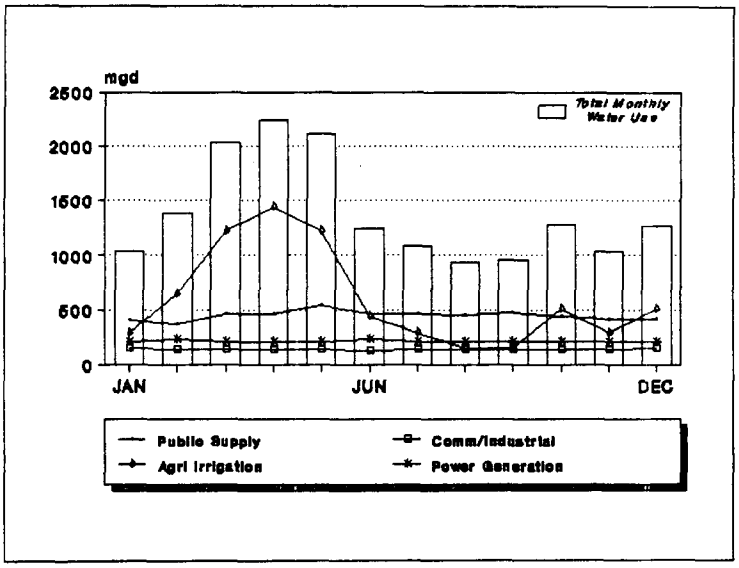

Figure 7. **Total Monthly Fresh Water Use and Fresh Water Use by Category in the St. Johns River Water Management District, 1990.** *Total monthly fluctuations in water use follow the fluctuations in agricultural irrigation.*

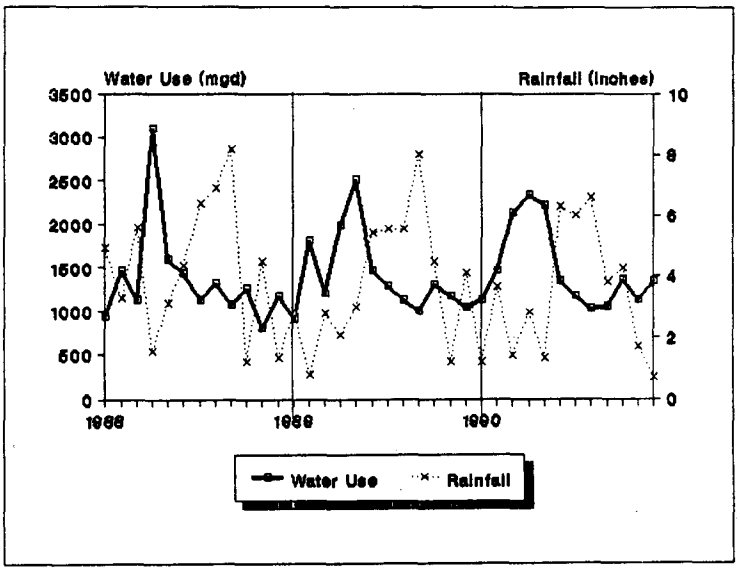

Figure 8. **Total Monthly Fresh Water Use Compared With Rainfall in the St. Johns River Water Management District, 1988-1990.** *Monthly fluctuations in water use are significantly affected by rainfall.*

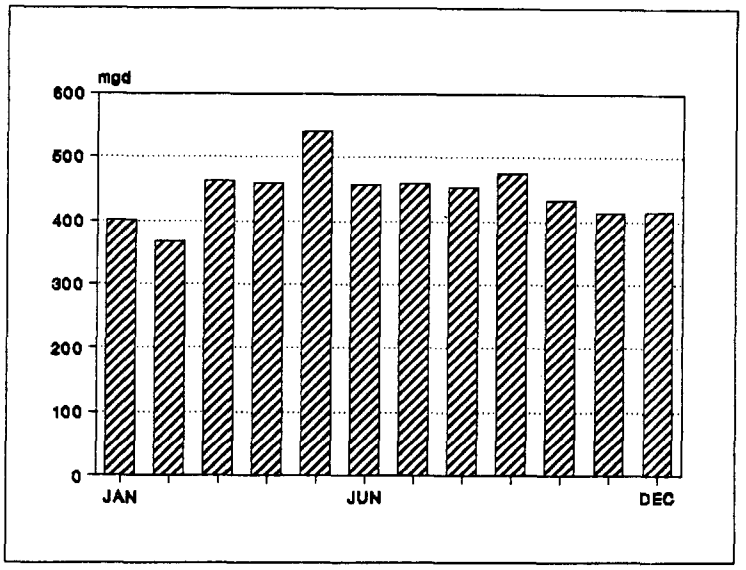

Figure 9. **Monthly Water Use for Public Supply in St. Johns River Water Management District, 1990.** *Demand for public supply water was highest in May due to record low rainfall and record high temperatures.*

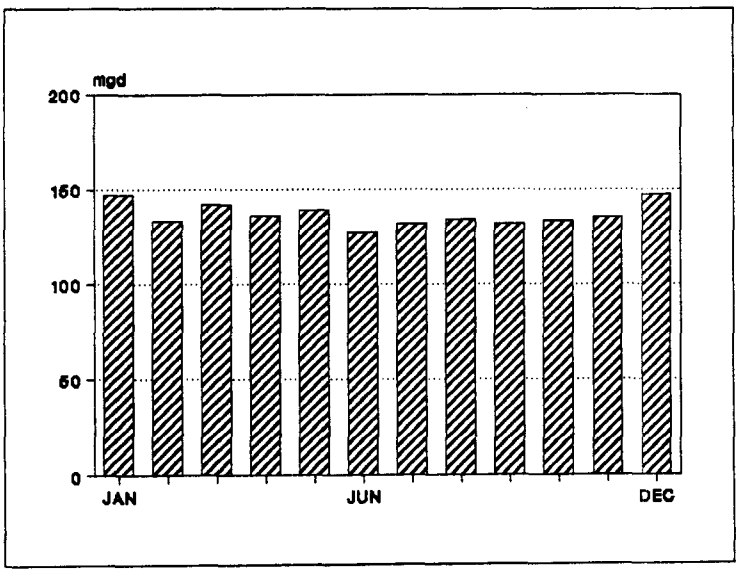

Figure 10. **Monthly Water Use for Commercial/Industrial Self-Supply in St. Johns River Water Management District, 1990.** *Commercial/industrial water use varies little over the year.*

Agricultural Irrigation

Agricultural water use in SJRWMD in 1990 fluctuated more seasonally than any other water use category—from a low of 145.30 mgd in August to a high of 1,452.70 mgd in April (Figure 11).

Thermoelectric Power Generation

Thermoelectric power generation water use in SJRWMD in 1990 fluctuated very little during the year—from a low of 208.00 mgd to a high of 234.00 mgd (Figure 12). Small fluctuations could be the result of power plant shutdowns for maintenance or increased power demands.

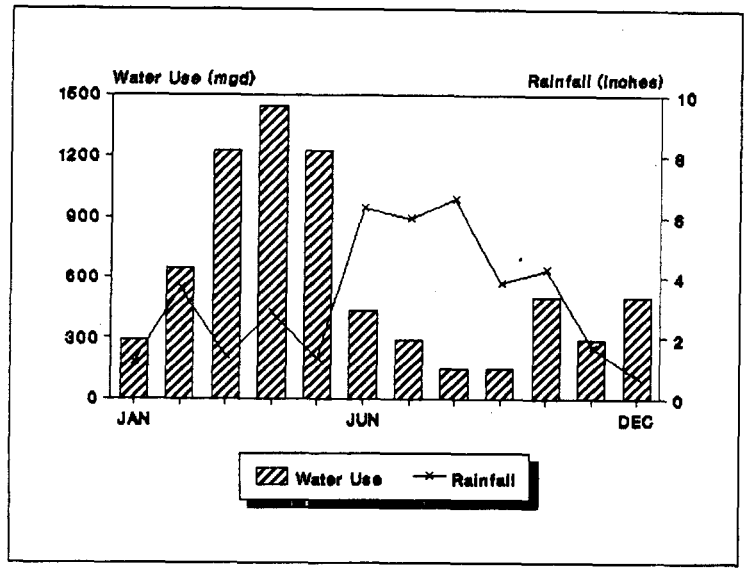

Figure 11. **Monthly Water Use for Agricultural Irrigation in St. Johns River Water Management District, 1990.** *Agricultural irrigation water use varies as rainfall varies.*

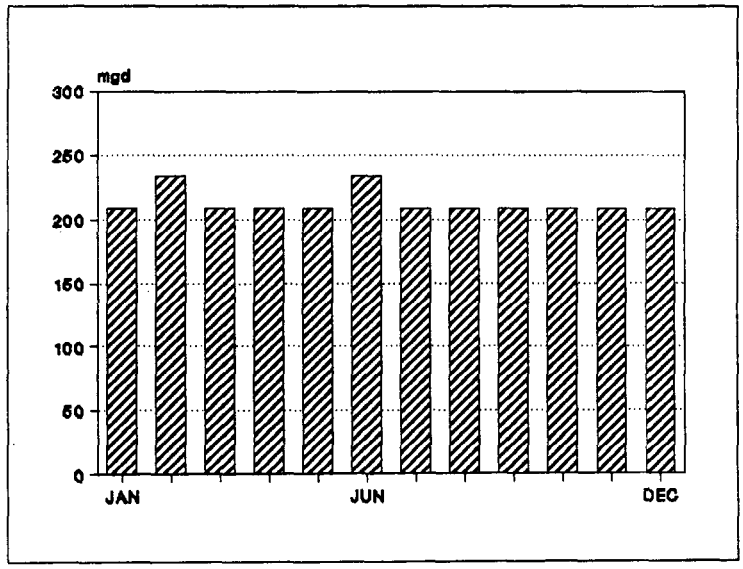

Figure 12. **Monthly Water Use for Thermoelectric Power Generation in St. Johns River Water Management District, 1990.** *Water use for power generation varies little over the year.*

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).

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 nonpotable water.

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 nonpotable, 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.

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: 1990 WATER USE BY COUNTY

This appendix presents the detailed water use data from which this report is constructed. SJRWMD totals are first presented for population, land area, water withdrawals by category, 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 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 - 1990

TOTAL POPULATION	12,937,926	
TOTAL LAND AREA	58,560	SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD) TOTALS:

POPULATION		
TOTAL	3,166,715	(24.48 percent of state)
PUBLIC SUPPLY	2,665,791	
SELF-SUPPLIED	500,924	
PER CAPITA	165	(SJRWMD Average)
LAND AREA	(ACRES)	
TOTAL AREA	7,900,060	12,344 SQ. MILES
FARMED	920,984	
IRRIGATED	373,040	

****

1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY (1)	427.90	16.24	444.14	0.00
DOMESTIC SELF-SUPPLY	83.86	0.00	83.86	0.00
COM/IND. SELF-SUPPLY	127.38	10.27	137.65	45.10
AGRICULTURAL IRR (2)	379.38	225.93	605.31	0.00
POWER GENERATION (3)	6.75	206.56	213.31	1,503.76
MISCELLANEOUS (4)	60.70	0.00	60.70	0.00
	1,085.97	459.00	1,544.97	1,548.86

TOTAL GROUND	1,085.97
TOTAL SURFACE	2,007.86
COUNTY TOTAL	3,093.83

(1) INCLUDES 4.71 mgd OF SLIGHTLY SALINE WATER WITHDRAWN FOR PUBLIC SUPPLY (250 to 1000 mg/l chlorides), OF WHICH 3.15 mgd IS TREATED THROUGH R/O, AND 1.56 mgd IS DILUTED WITH FRESH WATER. PRIOR TO 1986, THIS WATER WAS INCLUDED UNDER SALINE GROUND WATER.
(2) TOTALS DO NOT INCLUDE 33.15 mgd OF REUSE.
(3) TOTALS DO NOT INCLUDE 3.39 mgd OF REUSE.
(4) MISCELLANEOUS WATER USE ONLY INCLUDES THE ABANDONED ARTESIAN WELL INVENTORY.

TOTAL SJRWMD ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	5,995	5,495	3.99	0.04	0.00	4.03
CARROTS	15,550	13,650	2.50	12.90	0.00	15.40
CUCUMBERS	2,250	2,070	2.69	0.02	0.00	2.71
PEPPERS	530	530	0.82	0.00	0.00	0.82
POTATOES	29,800	29,800	38.93	0.00	0.00	38.93
TOMATOES	85	85	0.07	0.00	0.00	0.07
SWEET CORN	19,485	19,060	12.33	37.18	0.00	49.51
WATERCRESS	150	150	0.17	0.00	0.00	0.17
MISC. VEGETABLES	24,897	22,570	13.77	15.96	0.00	29.73
FRUIT CROPS						
BLUEBERRIES	733	631	0.69	0.00	0.00	0.69
CITRUS	104,819	99,051	79.19	104.88	11.38	184.07
GRAPES	148	145	0.23	0.00	0.00	0.23
PEACHES	105	105	0.18	0.00	0.00	0.18
PECANS	2,850	390	0.95	0.00	0.00	0.95
STRAWBERRIES	30	30	0.05	0.00	0.00	0.05
WATERMELLONS	4,415	4,025	3.64	0.04	0.00	3.68
MISC. FRUIT	395	285	0.29	0.00	0.00	0.29
FIELD CROPS						
FIELD CORN	18,880	9,680	7.07	3.13	0.00	10.20
PEANUTS	2,250	209	0.15	0.00	0.00	0.15
RICE	50	50	0.10	0.00	0.00	0.10
SORGHUM	5,500	2,150	2.77	0.25	0.00	3.02
SOYBEANS	4,800	2,700	3.66	0.17	0.00	3.83
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	168	120	0.04	0.07	0.00	0.11
WHEAT	1,350	1,000	1.17	0.00	0.00	1.17
MISC. GRAINS	10,184	300	0.17	0.17	0.00	0.34
ORNAMENTALS & GRASSES						
FERNS	7,520	7,114	18.65	3.77	0.00	22.42
FLOWERS & FOLIAGE	1,961	1,961	6.79	0.47	0.00	7.26
WOODY ORNAMENTALS	3,241	2,845	21.80	3.44	0.00	25.24
IMPROVED PASTURE	623,580	125,790	98.51	23.81	5.26	122.32
SOD	6,394	6,294	12.69	5.39	2.38	18.08
TURF GRASS (GOLF)	20,349	12,273	24.39	10.62	9.77	35.01
TURF GRASS (OTHER)	2,520	2,482	3.47	0.45	4.36	3.92
MISC. AGRICULTURAL						
LIVESTOCK	0	0	8.43	3.17	0.00	11.60
FISH FARMING	0	0	9.03	0.00	0.00	9.03
	920,984	373,040	379.38	225.93	33.15	605.31

SPRINKLER ACREAGE	54,393
LOW PRESSURE ACREAGE	51,281
FLOOD ACREAGE	267,366
TOTAL IRRIGATED ACREAGE	373,040

ALACHUA COUNTY DATA - 1990

TOTAL POPULATION	181,596
TOTAL LAND AREA	961 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	147,447	
PUBLIC SUPPLY	129,332	
SELF-SUPPLIED	18,115	
PER CAPITA	162	
LAND AREA	(ACRES)	
TOTAL AREA	308,480	482 SQ. MILES
FARMED	40,690	
IRRIGATED	5,323	

****

1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	20.97	0.00	20.97	0.00
DOMESTIC SELF-SUPPLY	2.93	0.00	2.93	0.00
COM/IND. SELF-SUPPLY	1.95	0.00	1.95	0.00
AGRICULTURAL IRR.	9.42	0.18	9.60	0.00
POWER GENERATION S-S	0.29	0.00	0.29	0.00
MISCELLANEOUS	0.00	0.00	0.00	0.00
	35.56	0.18	35.74	0.00

TOTAL GROUND	35.56
TOTAL SURFACE	0.18
COUNTY TOTAL	35.74

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

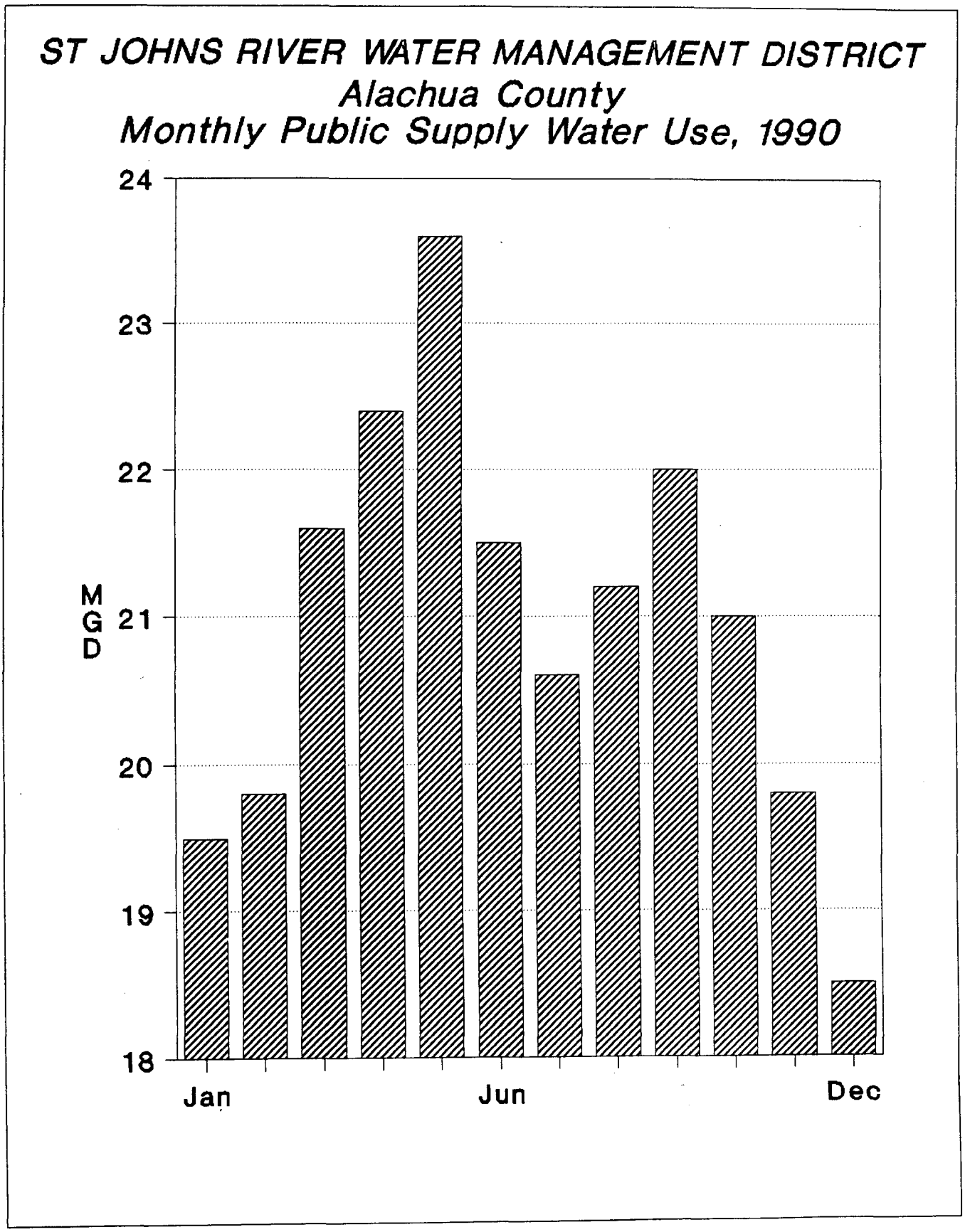
1990 INDIVIDUAL WATER USERS IN ALACHUA COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	GROUND	WITHDRAWAL SOURCE	SURFACE	WITHDRAWAL SOURCE
ARREDONDO VILLAGE/ESTATES	PUBLIC SUPPLY	1,675	0.11	FLORIDAN AQF	0.00	
GAINESVILLE REGIONAL UTILITIES	PUBLIC SUPPLY	123,790	20.32	FLORIDAN AQF	0.00	
HAWTHORNE - CITY OF	PUBLIC SUPPLY	1,305	0.24	FLORIDAN AQF	0.00	
KINCAID HILLS S/D	PUBLIC SUPPLY	1,000	0.10	FLORIDAN AQF	0.00	
MICANOPY - TOWN OF	PUBLIC SUPPLY	612	0.08	FLORIDAN AQF	0.00	
OAK PARK MHP	PUBLIC SUPPLY	620	0.09	FLORIDAN AQF	0.00	
WEST GATE MHP	PUBLIC SUPPLY	330	0.03	FLORIDAN AQF	0.00	
SUNLAND CENTER	INSTITUTIONAL		0.24	FLORIDAN AQF	0.00	
UNIVERSITY OF FLORIDA	INSTITUTIONAL		1.71	FLORIDAN AQF	0.00	
GAINESVILLE REGIONAL UTILITIES	POWER GEN.		0.29	FLORIDAN AQF	0.00	
	Public Supply	129,332				
	Ground	20.97				
	Surface	0.00				

ALACHUA COUNTY (SJRWMD) ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	0	0	0.00	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	300	300	0.65	0.00	0.00	0.65
PEPPERS	200	200	0.43	0.00	0.00	0.43
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	75	50	0.09	0.00	0.00	0.09
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	1,300	1,300	2.80	0.00	0.00	2.80
FRUIT CROPS						
BLUEBERRIES	385	350	0.40	0.00	0.00	0.40
CITRUS	0	0	0.00	0.00	0.00	0.00
GRAPES	30	30	0.05	0.00	0.00	0.05
PEACHES	15	15	0.03	0.00	0.00	0.03
PECANS	2,600	300	0.73	0.00	0.00	0.73
STRAWBERRIES	5	5	0.01	0.00	0.00	0.01
WATERMELLONS	1,000	1,000	0.88	0.00	0.00	0.88
MISC. FRUIT	90	80	0.07	0.00	0.00	0.07
FIELD CROPS						
FIELD CORN	1,200	100	0.07	0.00	0.00	0.07
PEANUTS	200	75	0.05	0.00	0.00	0.05
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00	0.00
SOYBEANS	2,000	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	200	0	0.00	0.00	0.00	0.00
MISC. GRAINS	1,500	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	0	0	0.00	0.00	0.00	0.00
FLOWERS & FOLIAGE	4	4	0.02	0.00	0.00	0.02
WOODY ORNAMENTALS	100	50	0.39	0.07	0.00	0.46
IMPROVED PASTURE	28,500	680	0.59	0.00	0.00	0.59
SOD	100	50	0.16	0.00	0.00	0.16
TURF GRASS (GOLF)	480	328	1.03	0.11	0.00	1.14
TURF GRASS (OTHER)	406	406	0.79	0.00	0.00	0.79
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.16	0.00	0.00	0.16
FISH FARMING	0	0	0.02	0.00	0.00	0.02
	40,690	5,323	9.42	0.18	0.00	9.60

SPRINKLER ACREAGE	4,793
LOW PRESSURE ACREAGE	480
FLOOD ACREAGE	50
TOTAL IRRIGATED ACREAGE	5,323


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Alachua County
Monthly Public Supply Water Use, 1990
MGD
24
23
22
21
20
19
18
Jan
Jun
Dec

BAKER COUNTY DATA - 1990

TOTAL POPULATION	18,486
TOTAL LAND AREA	588 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	17,562	
PUBLIC SUPPLY	4,102	
SELF-SUPPLIED	13,460	
PER CAPITA	197	
LAND AREA	(ACRES)	
TOTAL AREA	343,040	536 SQ. MILES
FARMED	14,921	
IRRIGATED	765	

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1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	0.81	0.00	0.81	0.00
DOMESTIC SELF-SUPPLY	2.65	0.00	2.65	0.00
COM/IND. SELF-SUPPLY	0.32	0.00	0.32	0.00
AGRICULTURAL IRR.	3.30	2.20	5.50	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.00	0.00	0.00	0.00
	7.08	2.20	9.28	0.00

TOTAL GROUND	7.08
TOTAL SURFACE	2.20
COUNTY TOTAL	9.28

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

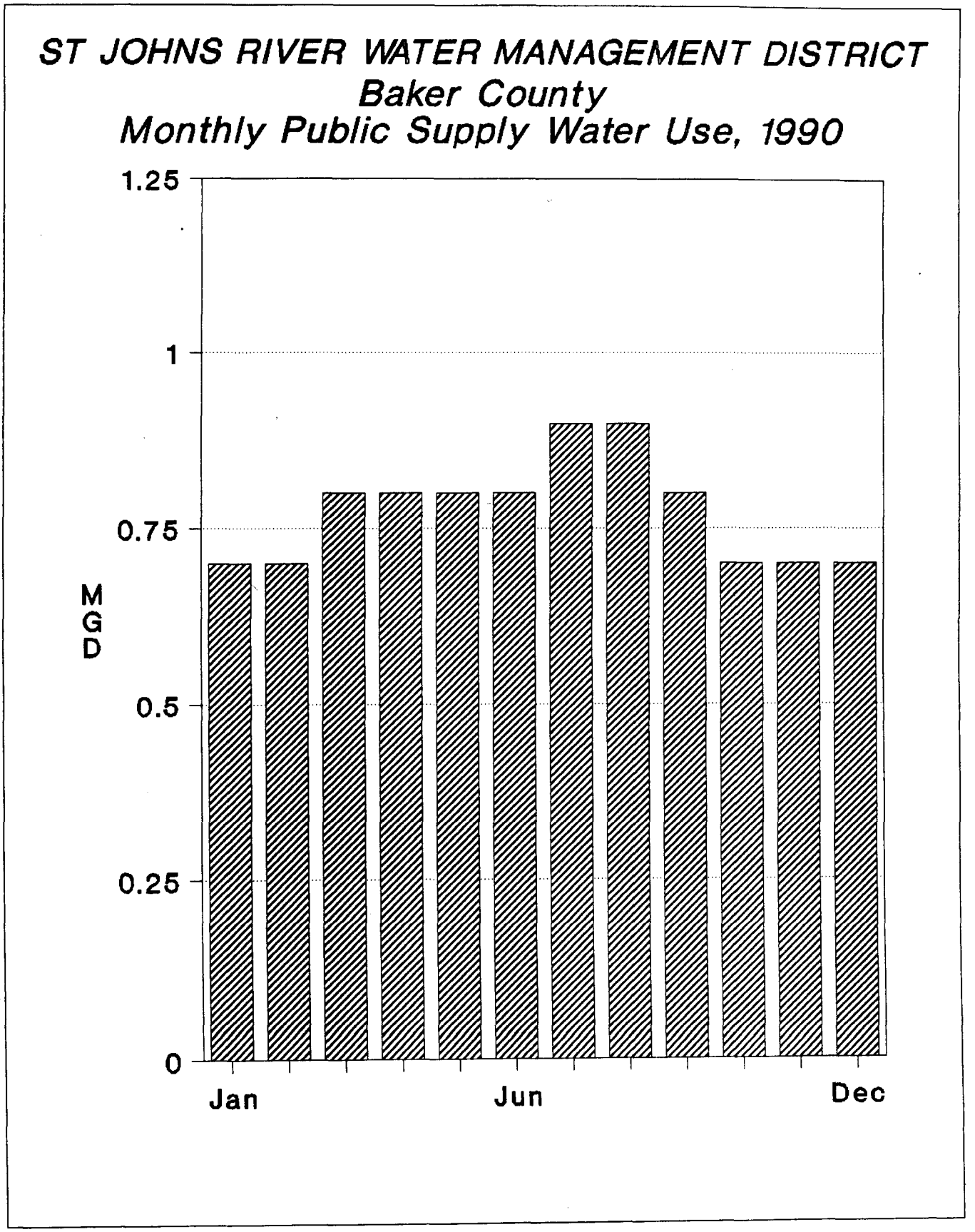
1990 INDIVIDUAL WATER USERS IN BAKER COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	WITHDRAWAL SOURCE	WITHDRAWAL SURFACE	WITHDRAWAL SOURCE
MACCLENNY - CITY OF	PUBLIC SUPPLY	3,966	0.79	FLORIDAN AQF	0.00	
MACCLENNY S/D	PUBLIC SUPPLY	136	0.02	FLORIDAN AQF	0.00	
WIREMILL INC.	INDUSTRIAL		0.14	FLORIDAN AQF	0.00	
NORTHEAST FLA. STATE HOSPITAL	INSTITUTIONAL		0.18	FLORIDAN AQF	0.00	
	Public Supply	4,102				
	Ground	0.81				
	Surface	0.00				

BAKER COUNTY (SJRWMD) ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	0	0	0.00	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	100	20	0.04	0.00	0.00	0.04
PEPPERS	25	25	0.05	0.00	0.00	0.05
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	100	0	0.00	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	522	100	0.22	0.00	0.00	0.22
FRUIT CROPS						
BLUEBERRIES	25	0	0.00	0.00	0.00	0.00
CITRUS	0	0	0.00	0.00	0.00	0.00
GRAPES	0	0	0.00	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	50	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	400	60	0.05	0.00	0.00	0.05
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	800	0	0.00	0.00	0.00	0.00
PEANUTS	50	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00	0.00
SOYBEANS	100	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	128	80	0.00	0.07	0.00	0.07
WHEAT	150	0	0.00	0.00	0.00	0.00
MISC. GRAINS	1,584	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	0	0	0.00	0.00	0.00	0.00
FLOWERS & FOLIAGE	0	0	0.00	0.00	0.00	0.00
WOODY ORNAMENTALS	763	420	2.32	1.54	0.00	3.86
IMPROVED PASTURE	10,000	0	0.00	0.00	0.00	0.00
SOD	0	0	0.00	0.00	0.00	0.00
TURF GRASS (GOLF)	124	60	0.21	0.00	0.00	0.21
TURF GRASS (OTHER)	0	0	0.00	0.00	0.00	0.00
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.41	0.59	0.00	1.00
FISH FARMING	0	0	0.00	0.00	0.00	0.00
	14,921	765	3.30	2.20	0.00	5.50

SPRINKLER ACREAGE	660
LOW PRESSURE ACREAGE	105
FLOOD ACREAGE	0
TOTAL IRRIGATED ACREAGE	765


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Baker County
Monthly Public Supply Water Use, 1990
1.25
1
0.75
0.5
0.25
0
MGD
Jan
Jun
Dec

BRADFORD COUNTY DATA - 1990

TOTAL POPULATION	22,515	
TOTAL LAND AREA	305	SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	1,688	
PUBLIC SUPPLY	362	
SELF-SUPPLIED	1,326	
PER CAPITA (1)	121	
LAND AREA	(ACRES)	
TOTAL AREA	3,840	6 SQ. MILES
FARMED	50	
IRRIGATED	40	

****

1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	0.04	0.00	0.04	0.00
DOMESTIC SELF-SUPPLY	0.16	0.00	0.16	0.00
COM/IND. SELF-SUPPLY	0.00	0.00	0.00	0.00
AGRICULTURAL IRR.	0.12	0.00	0.12	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.00	0.00	0.00	0.00
	0.32	0.00	0.32	0.00

TOTAL GROUND	0.32
TOTAL SURFACE	0.00
COUNTY TOTAL	0.32

(1) PER CAPITA CALCULATION WAS BASED ON WATER CONSUMED, NOT WITHDRAWN, IN THE COUNTY. SOME WATER WAS CONSUMED IN CLAY COUNTY BUT WITHDRAWN IN BRADFORD COUNTY (MOORE 1992).

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN BRADFORD COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	SOURCE	WITHDRAWAL SURFACE	SOURCE
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	362	0.04	FLORIDAN AQF	0.00	

BRADFORD COUNTY (SJRWMD) ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	0	0	0.00	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	0	0	0.00	0.00	0.00	0.00
FRUIT CROPS						
BLUEBERRIES	0	0	0.00	0.00	0.00	0.00
CITRUS	0	0	0.00	0.00	0.00	0.00
GRAPES	0	0	0.00	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	0	0	0.00	0.00	0.00	0.00
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	0	0	0.00	0.00	0.00	0.00
FLOWERS & FOLIAGE	0	0	0.00	0.00	0.00	0.00
WOODY ORNAMENTALS	0	0	0.00	0.00	0.00	0.00
IMPROVED PASTURE	0	0	0.00	0.00	0.00	0.00
SOD	0	0	0.00	0.00	0.00	0.00
TURF GRASS (GOLF)	40	30	0.10	0.00	0.00	0.10
TURF GRASS (OTHER)	10	10	0.02	0.00	0.00	0.02
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.00	0.00	0.00	0.00
FISH FARMING	0	0	0.00	0.00	0.00	0.00
	50	40	0.12	0.00	0.00	0.12

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

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BREVARD COUNTY DATA - 1990

TOTAL POPULATION	398,978
TOTAL LAND AREA	1,310 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	398,978	
PUBLIC SUPPLY	363,066	
SELF-SUPPLIED	35,912	
PER CAPITA	141	
LAND AREA	(ACRES)	
TOTAL AREA	636,800	1,310 SQ. MILES
FARMED	145,015	
IRRIGATED	100,037	

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1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY (1)(2)	11.55	16.24	27.79	0.00
DOMESTIC SELF-SUPPLY	5.06	0.00	5.06	0.00
COM/IND. SELF-SUPPLY	0.19	0.00	0.19	0.00
AGRICULTURAL IRR.	100.78	10.40	111.18	0.00
POWER GENERATION S-S	0.25	0.00	0.25	1,051.40
MISCELLANEOUS	32.55	0.00	32.55	0.00
	150.38	26.64	177.02	1,051.40

TOTAL GROUND	150.38
TOTAL SURFACE	1,078.04
COUNTY TOTAL	1,228.42

(1) INCLUDES 0.16 mgd OF SLIGHTLY SALINE WATER WITHDRAWN FOR PUBLIC SUPPLY (250 to 1000 mg/l chlorides), OF WHICH 0.14 mgd IS TREATED THROUGH R/O, AND 0.02 mgd IS DILUTED WITH FRESH WATER.
(2) DOES NOT INCLUDE 23.52 mgd OF WATER WITHDRAWN IN ORANGE COUNTY FOR PUBLIC SUPPLY USE IN BREVARD COUNTY.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN BREVARD COUNTY

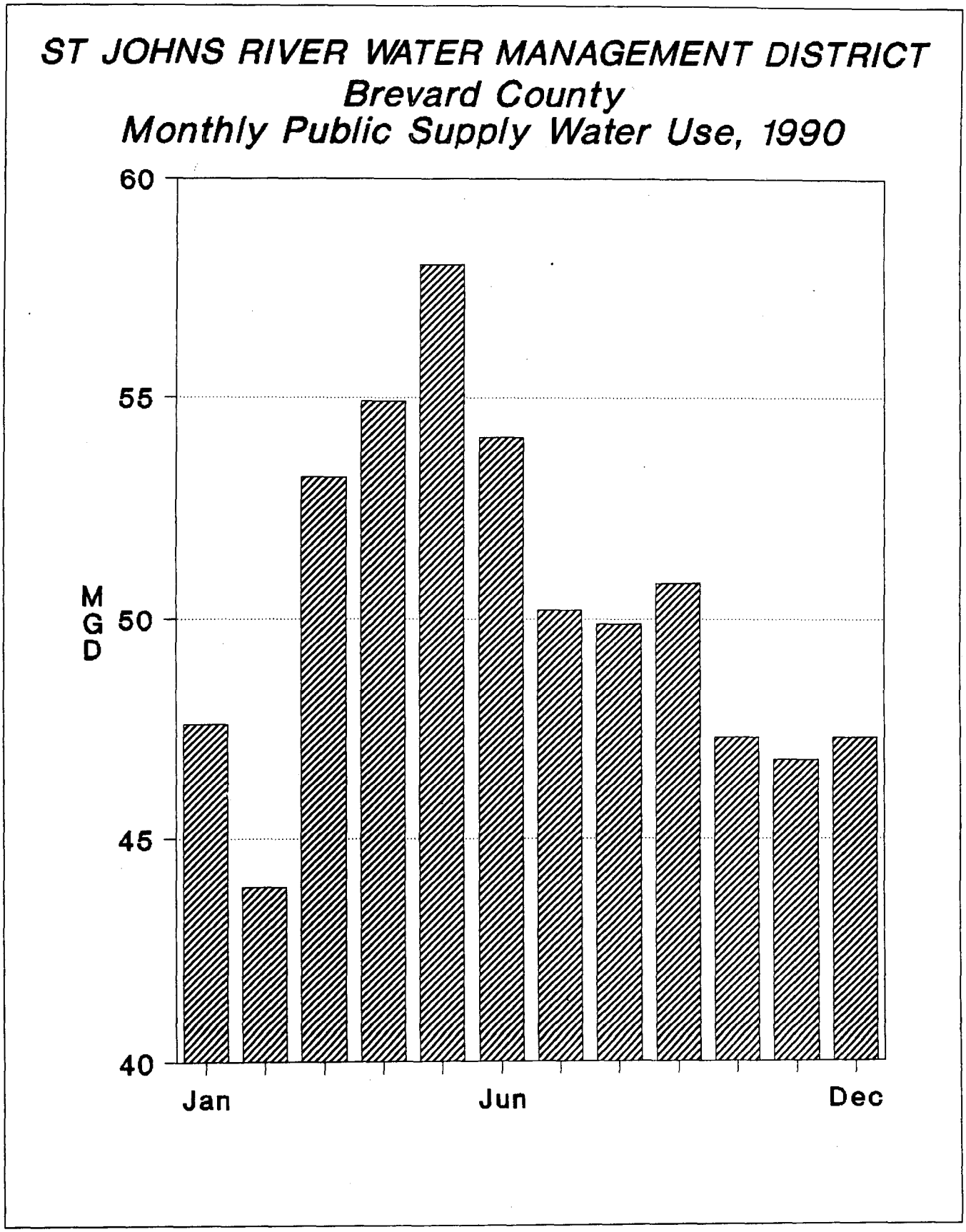
USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	SOURCE	WITHDRAWAL SURFACE	SOURCE
AQUARINA UTILITIES	PUBLIC SUPPLY	170	0.08	FL & R/O	0.00	
AVATAR (BAREFOOT BAY) UTILITY	PUBLIC SUPPLY	6,340	0.76	SURFICIAL AQF	0.00	
COCOA WATER UTILITY (a)	PUBLIC SUPPLY	139,672	23.52	FLORIDAN AQF	0.00	
GDU - PALM BAY	PUBLIC SUPPLY	33,500	4.38	SURF/FL AQF	0.00	
MELBOURNE - CITY OF	PUBLIC SUPPLY	136,490	0.00		16.24	LK WASHINGTON
N. BREVARD UTILITIES (MIMS)	PUBLIC SUPPLY	7,000	0.65	SURFICIAL AQF	0.00	
S. BREVARD UTILITIES (SUNNYLAND)	PUBLIC SUPPLY	500	0.06	FL & R/O	0.00	
TITUSVILLE - CITY OF	PUBLIC SUPPLY	39,394	5.62	FLORIDAN AQF	0.00	
HARRIS CORP.	INDUSTRIAL		0.09	SURFICIAL AQF	0.00	
UNION CARBIDE INC.	INDUSTRIAL		0.09	SURFICIAL AQF	0.00	
FLORIDA DOT - I95 REST FAC.	INSTITUTIONAL		0.01	SURFICIAL AQF	0.00	
FLORIDA POWER & LIGHT	POWER GEN.		0.15	SURFICIAL AQF	536.93	INDIAN RIVER *
ORLANDO UTILITIES	POWER GEN.		0.10	SURFICIAL AQF	514.47	INDIAN RIVER *
	Public Supply	363,066				
	Ground	35.07				
	Surface	16.24				

(a) WATER WITHDRAWN FROM ORANGE COUNTY
* SALINE WATER

BREVARD COUNTY ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	0	0	0.00	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	1,000	1,000	1.17	0.00	0.00	1.17
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	0	0	0.00	0.00	0.00	0.00
FRUIT CROPS						
BLUEBERRIES	0	0	0.00	0.00	0.00	0.00
CITRUS	10,519	5,750	6.98	2.72	0.00	9.70
GRAPES	0	0	0.00	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	200	200	0.23	0.04	0.00	0.27
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	2,500	2,500	2.78	0.00	0.00	2.78
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	1,800	1,800	2.51	0.00	0.00	2.51
SOYBEANS	2,500	2,500	3.49	0.00	0.00	3.49
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	1,000	1,000	1.17	0.00	0.00	1.17
MISC. GRAINS	0	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	1	1	0.01	0.00	0.00	0.01
FLOWERS & FOLIAGE	10	10	0.04	0.00	0.00	0.04
WOODY ORNAMENTALS	190	190	1.74	0.00	0.00	1.74
IMPROVED PASTURE	121,700	81,860	76.66	4.03	0.08	80.69
SOD	1,300	1,300	1.52	2.28	0.00	3.80
TURF GRASS (GOLF)	1,692	1,323	0.80	1.32	5.10	2.12
TURF GRASS (OTHER)	603	603	0.57	0.01	1.87	0.58
MISC. AGRICULTURAL						
LIVESTOCK	0	0	1.09	0.00	0.00	1.09
FISH FARMING	0	0	0.02	0.00	0.00	0.02
	145,015	100,037	100.78	10.40	7.05	111.18

SPRINKLER ACREAGE	3,177
LOW PRESSURE ACREAGE	3,500
FLOOD ACREAGE	93,360
TOTAL IRRIGATED ACREAGE	100,037


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Brevard County
Monthly Public Supply Water Use, 1990
60
55
50
45
40
MGD
Jan
Jun
Dec

CLAY COUNTY DATA - 1990

TOTAL POPULATION	105,986
TOTAL LAND AREA	644 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	105,986	
PUBLIC SUPPLY	75,297	
SELF-SUPPLIED	30,689	
PER CAPITA (1)	149	
LAND AREA	(ACRES)	
TOTAL AREA	411,520	644 SQ. MILES
FARMED	44,241	
IRRIGATED	749	

****

1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	11.23	0.00	11.23	0.00
DOMESTIC SELF-SUPPLY	4.57	0.00	4.57	0.00
COM/IND. SELF-SUPPLY	6.55	0.00	6.55	0.00
AGRICULTURAL IRR.	3.00	0.44	3.44	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.60	0.00	0.60	0.00
	25.95	0.44	26.39	0.00

TOTAL GROUND	25.95
TOTAL SURFACE	0.44
COUNTY TOTAL	26.39

(1) PER CAPITA CALCULATION WAS BASED ON WATER CONSUMED, NOT WITHDRAWN, IN THE COUNTY. SOME WATER WAS CONSUMED IN CLAY COUNTY BUT WITHDRAWN IN BRADFORD COUNTY (MOORE 1992).

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN CLAY COUNTY

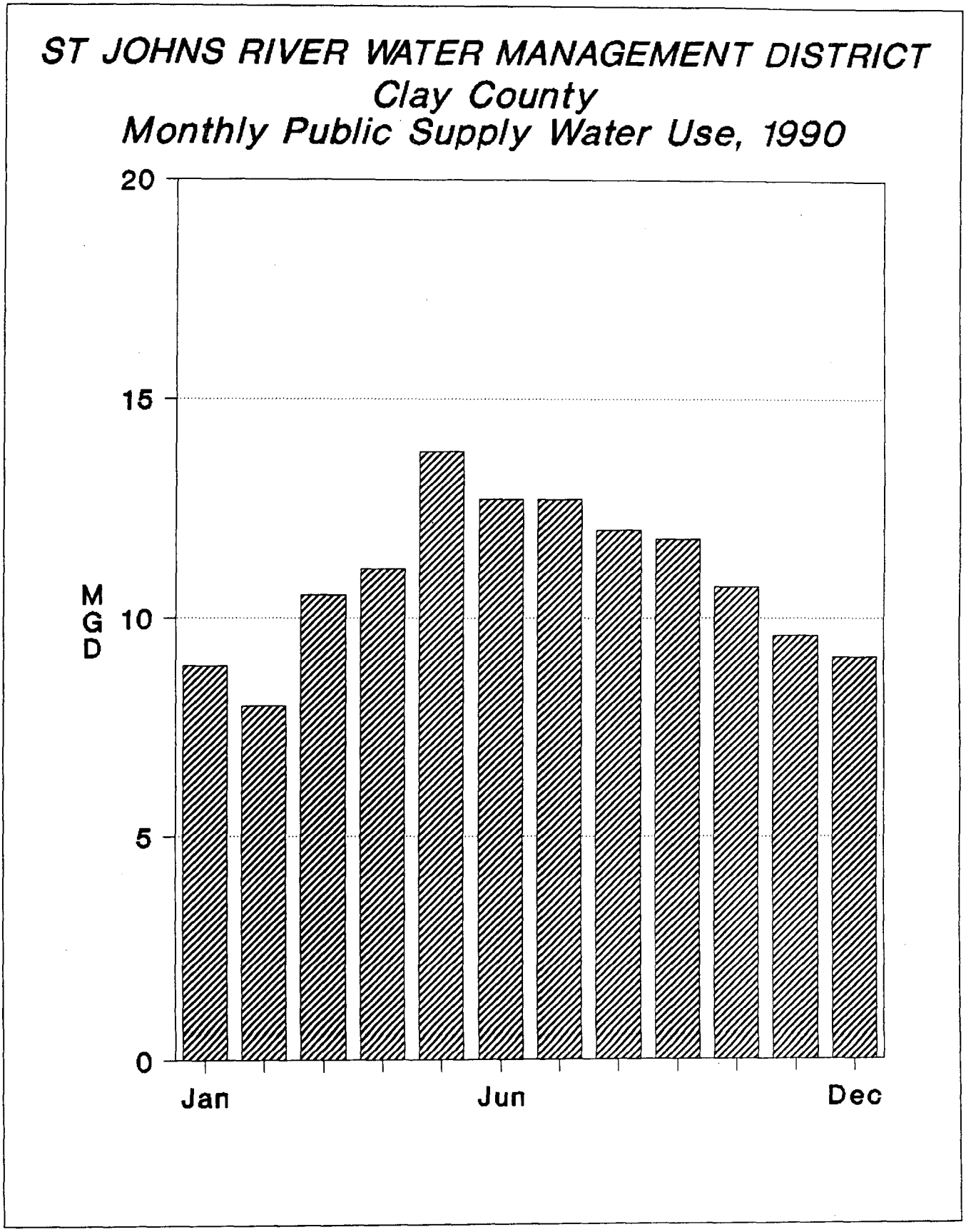
USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	SOURCE	WITHDRAWAL SURFACE	SOURCE
CLAY UTILITY CO.	PUBLIC SUPPLY	7,914	0.90	FLORIDAN AQF	0.00	
McRAE LANDING (DUVAL UTILITY)	PUBLIC SUPPLY	243	0.03	FLORIDAN AQF	0.00	
GREEN COVE SPRINGS - CITY OF	PUBLIC SUPPLY	4,497	0.83	FLORIDAN AQF	0.00	
KEYSTONE HEIGHTS - CITY OF	PUBLIC SUPPLY	2,774	0.34	FLORIDAN AQF	0.00	
KINGSLEY SERVICE CO.	PUBLIC SUPPLY	46,515	7.14	FLORIDAN AQF	0.00	
LAKE ASBURY UTILITIES	PUBLIC SUPPLY	1,673	0.23	FLORIDAN AQF	0.00	
MAGNOLIA SPRINGS UTILITIES	PUBLIC SUPPLY	858	0.16	FLORIDAN AQF	0.00	
ORANGE PARK - TOWN OF	PUBLIC SUPPLY	9,488	1.43	FLORIDAN AQF	0.00	
PENNY RETIREMENT COM.	PUBLIC SUPPLY	226	0.06	FLORIDAN AQF	0.00	
PENNY FARMS - TOWN OF	PUBLIC SUPPLY	609	0.04	FLORIDAN AQF	0.00	
THE RAVINES VILLAGE & RESORT	PUBLIC SUPPLY	500	0.07	FLORIDAN AQF	0.00	
ASSOCIATED MINERALS	INDUSTRIAL*		1.41	FLORIDAN AQF	0.00	
EI DUPONT DE NEMOURS MINERALS (a)	INDUSTRIAL*		2.36	FLORIDAN AQF	0.00	
FLORIDA ROCK - KEYSTONE MINE (a)	INDUSTRIAL*		1.93	FLORIDAN AQF	0.00	
J-M MANUFACTURING CO.	INDUSTRIAL		0.10	FLORIDAN AQF	0.00	
REYNOLDS INDUSTRIAL PARK	INDUSTRIAL		0.38	FLORIDAN AQF	0.00	
PARAMOUNT POULTRY	INDUSTRIAL		0.02	FLORIDAN AQF	0.00	
CAMP BLANDING MILITARY BASE	INSTITUTIONAL		0.35	FLORIDAN AQF	0.00	
	Public Supply	75,297				
	Ground	11.23				
	Surface	0.00				

(a) 1989 VALUES WERE USED BECAUSE THE ORGANIZATION HAD NOT CALCULATED 1990 DATA.
* MINING INDUSTRY

CLAY COUNTY ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	0	0	0.00	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	200	60	0.13	0.00	0.00	0.13
FRUIT CROPS						
BLUEBERRIES	15	13	0.02	0.00	0.00	0.02
CITRUS	0	0	0.00	0.00	0.00	0.00
GRAPES	0	0	0.00	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	500	0	0.00	0.00	0.00	0.00
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	2,800	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	0	0	0.00	0.00	0.00	0.00
FLOWERS & FOLIAGE	50	50	0.20	0.00	0.00	0.20
WOODY ORNAMENTALS	0	0	0.00	0.00	0.00	0.00
IMPROVED PASTURE	40,000	100	0.11	0.00	0.00	0.11
SOD	0	0	0.00	0.00	0.00	0.00
TURF GRASS (GOLF)	530	380	0.88	0.44	0.00	1.32
TURF GRASS (OTHER)	146	146	0.28	0.00	0.00	0.28
MISC. AGRICULTURAL						
LIVESTOCK	0	0	1.38	0.00	0.00	1.38
FISH FARMING	0	0	0.00	0.00	0.00	0.00
	44,241	749	3.00	0.44	0.00	3.44

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


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Clay County
Monthly Public Supply Water Use, 1990
20
15
10
5
0
MGD
Jan
Jun
Dec

DUVAL COUNTY DATA - 1990

TOTAL POPULATION	672,971
TOTAL LAND AREA	840 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	672,971	
PUBLIC SUPPLY	619,196	
SELF-SUPPLIED	53,775	
PER CAPITA	156	
LAND AREA	(ACRES)	
TOTAL AREA	537,600	840 SQ. MILES
FARMED	16,442	
IRRIGATED	2,965	

****

1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	96.32	0.00	96.32	0.00
DOMESTIC SELF-SUPPLY	8.39	0.00	8.39	0.00
COM/IND. SELF-SUPPLY	35.24	0.00	35.24	43.70
AGRICULTURAL IRR.	9.53	1.40	10.93	0.00
POWER GENERATION S-S	4.83	0.00	4.83	314.39
MISCELLANEOUS	1.08	0.00	1.08	0.00
	155.39	1.40	156.79	358.09

TOTAL GROUND	155.39
TOTAL SURFACE	359.49
COUNTY TOTAL	514.88

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN DUVAL COUNTY

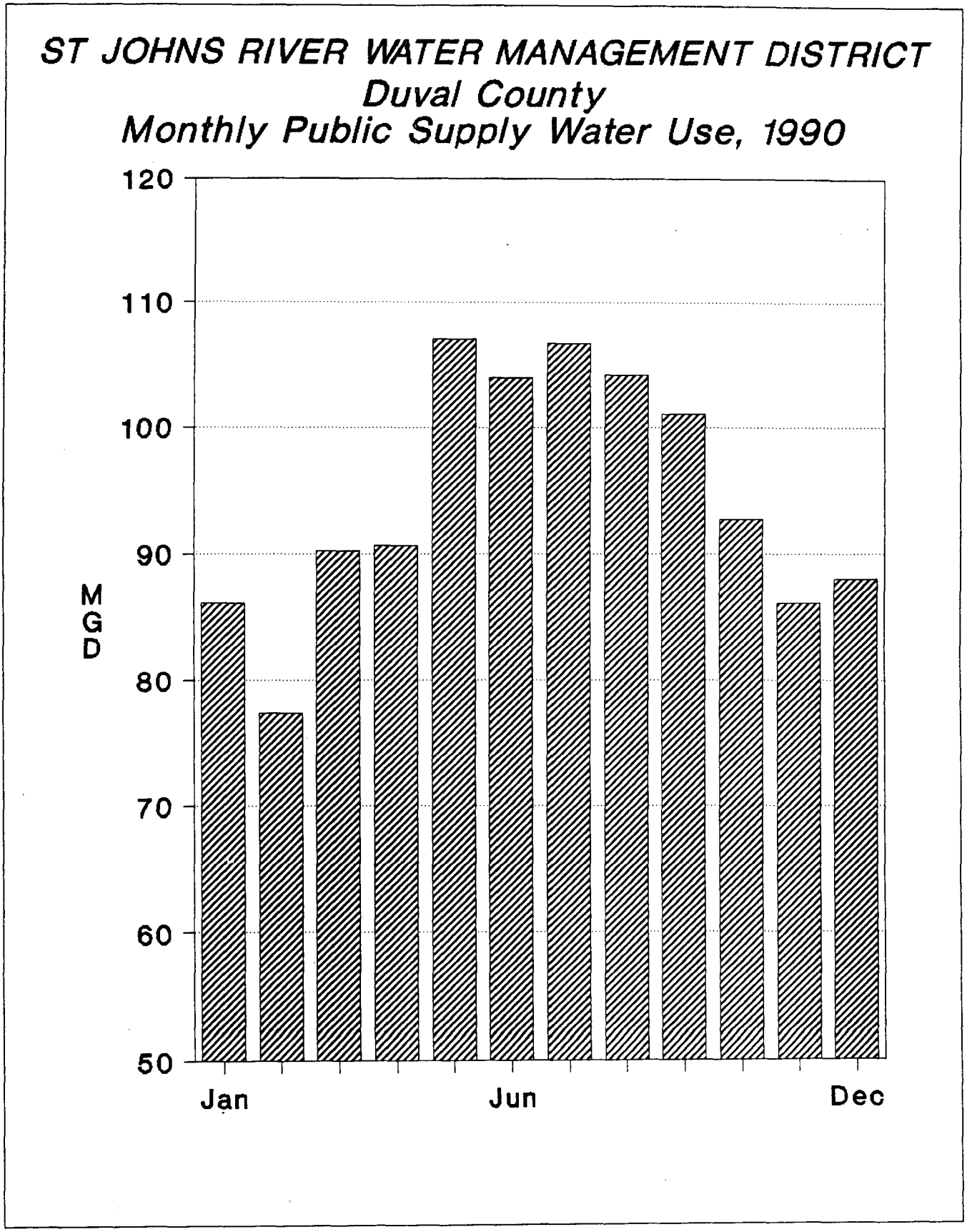
USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	GROUND	WITHDRAWAL SOURCE	SURFACE	WITHDRAWAL SOURCE
ATLANTIC BEACH - CITY OF	PUBLIC SUPPLY	13,747	2.65	FLORIDAN AQF	0.00	
BALDWIN - CITY OF	PUBLIC SUPPLY	1,450	0.21	FLORIDAN AQF	0.00	
BEAUCLERC UTILITIES	PUBLIC SUPPLY	6,670	0.65	FLORIDAN AQF	0.00	
CANAL UTILITIES	PUBLIC SUPPLY	7,734	2.08	FLORIDAN AQF	0.00	
COLONY MHP	PUBLIC SUPPLY	962	0.06	FLORIDAN AQF	0.00	
COMMERCIAL UTILITIES	PUBLIC SUPPLY	1,200	0.11	FLORIDAN AQF	0.00	
DUVAL UTILITY CO.	PUBLIC SUPPLY	252	0.05	FLORIDAN AQF	0.00	
HARBOR VIEW S/D	PUBLIC SUPPLY	2,100	0.19	FLORIDAN AQF	0.00	
JACKSONVILLE BEACH - CITY OF	PUBLIC SUPPLY	17,839	2.84	FLORIDAN AQF	0.00	
JACKSONVILLE - CITY OF	PUBLIC SUPPLY	441,515	70.49	FLORIDAN AQF	0.00	
JACKSONVILLE SUBURBAN UTILITIES	PUBLIC SUPPLY	78,158	9.93	FLORIDAN AQF	0.00	
LAMPLIGHTER MHP	PUBLIC SUPPLY	892	0.15	FLORIDAN AQF	0.00	
LONDONTOWNE APARTMENTS	PUBLIC SUPPLY	1,125	0.23	FLORIDAN AQF	0.00	
NEIGHBORHOOD UTILITIES	PUBLIC SUPPLY	543	0.04	FLORIDAN AQF	0.00	
NEPTUNE BEACH - CITY OF	PUBLIC SUPPLY	6,816	1.21	FLORIDAN AQF	0.00	
NORMANDY ESTATES MHP	PUBLIC SUPPLY	500	0.12	FLORIDAN AQF	0.00	
NORMANDY VILLAGE UTILITIES	PUBLIC SUPPLY	3,266	0.44	FLORIDAN AQF	0.00	
OAKS OF ATLANTIC BEACH	PUBLIC SUPPLY	825	0.10	FLORIDAN AQF	0.00	
ORTEGA UTILITIES	PUBLIC SUPPLY	4,423	1.02	FLORIDAN AQF	0.00	
REGENCY UTILITIES	PUBLIC SUPPLY	4,900	0.80	FLORIDAN AQF	0.00	
SPRINGTREE (SHADOWROCK UTIL)	PUBLIC SUPPLY	1,250	0.24	FLORIDAN AQF	0.00	
SOUTHERN GULF UTILITIES	PUBLIC SUPPLY	2,900	0.24	FLORIDAN AQF	0.00	
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	11,524	1.31	FLORIDAN AQF	0.00	
SOUTHSIDE UTILITIES	PUBLIC SUPPLY	8,605	1.16	FLORIDAN AQF	0.00	
CASTLETON BEVERAGE CO.	INDUSTRIAL		0.06	FLORIDAN AQF	0.00	
CELOTEX GYPSUM CO.	INDUSTRIAL		0.11	FLORIDAN AQF	0.00	
FLORIDA WIRE & CABLE CO.	INDUSTRIAL		0.01	FLORIDAN AQF	0.00	
GATE-MARINTIME INC.	INDUSTRIAL		0.09	FLORIDAN AQF	0.00	
SEMINOLE KRAFT PAPER CO.	INDUSTRIAL*		17.09	FLORIDAN AQF	41.40	ST JOHNS **
JACKSONVILLE PORT AUTHORITY	INDUSTRIAL		0.07	FLORIDAN AQF	0.00	
JACKSONVILLE SHIPYARD	INDUSTRIAL		0.20	FLORIDAN AQF	2.30	ST JOHNS **
JEFFERSON-SMURFIT INC. (ALTON)	INDUSTRIAL*		6.35	FLORIDAN AQF	0.00	
REICHOLD CHEMICAL CO.	INDUSTRIAL		0.15	FLORIDAN AQF	0.00	
SCM ORGANIC CHEMICAL CO.	INDUSTRIAL		1.95	FLORIDAN AQF	0.00	
SIMPLEX MAN. CO.	INDUSTRIAL		0.05	FLORIDAN AQF	0.00	
SWISHER & SON MAN. CO.	INDUSTRIAL		0.09	FLORIDAN AQF	0.00	
UNION CAMP INC.	INDUSTRIAL		2.75	FLORIDAN AQF	0.00	
U.S. GYPSUM	INDUSTRIAL		0.54	FLORIDAN AQF	0.00	
CECIL FIELD NAS	INSTITUTIONAL		0.63	FLORIDAN AQF	0.00	
DUVAL CORRECTIONAL FAC.	INSTITUTIONAL		0.02	FLORIDAN AQF	0.00	
FLORIDA DOT - I10 REST FAC.	INSTITUTIONAL		0.02	FLORIDAN AQF	0.00	
JACKSONVILLE INT. AIRPORT	INSTITUTIONAL		0.23	FLORIDAN AQF	0.00	
JACKSONVILLE NAS	INSTITUTIONAL		2.06	FLORIDAN AQF	0.00	
JACKSONVILLE UNIVERSITY	INSTITUTIONAL		0.50	FLORIDAN AQF	0.00	
JACKSONVILLE ZOO	INSTITUTIONAL		0.81	FLORIDAN AQF	0.00	
MAYPORT NAS	INSTITUTIONAL		1.46	FLORIDAN AQF	0.00	
JACKSONVILLE ELECTRIC AUTHORITY	POWER GEN.		1.36	FLORIDAN AQF	264.72	ST JOHNS **
SJR POWER PARK (EASTPORT)	POWER GEN.		3.47	FLORIDAN AQF	49.67	ST JOHNS **
	Public Supply	619,196				
	Ground	96.32				
	Surface	0.00				

* PULP & PAPER INDUSTRY
** THIS AREA OF THE ST. JOHNS RIVER IS SALINE WATER

DUVAL COUNTY ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	0	0	0.00	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	200	10	0.00	0.00	0.00	0.00
FRUIT CROPS						
BLUEBERRIES	18	13	0.01	0.00	0.00	0.01
CITRUS	0	0	0.00	0.00	0.00	0.00
GRAPES	10	7	0.01	0.00	0.00	0.01
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	200	0	0.00	0.00	0.00	0.00
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	0	0	0.00	0.00	0.00	0.00
FLOWERS & FOLIAGE	12	12	0.04	0.00	0.00	0.04
WOODY ORNAMENTALS	60	60	0.54	0.00	0.00	0.54
IMPROVED PASTURE	12,000	500	0.37	0.06	0.00	0.43
SOD	800	800	2.21	0.36	2.38	2.57
TURF GRASS (GOLF)	2,992	1,413	3.92	0.98	0.00	4.90
TURF GRASS (OTHER)	150	150	0.29	0.00	0.00	0.29
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.64	0.00	0.00	0.64
FISH FARMING	0	0	1.50	0.00	0.00	1.50
	16,442	2,965	9.53	1.40	2.38	10.93

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


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Duval County
Monthly Public Supply Water Use, 1990
120
110
100
90
80
70
60
50
MGD
Jan
Jun
Dec

FLAGLER COUNTY DATA - 1990

TOTAL POPULATION	28,701
TOTAL LAND AREA	504 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	28,701	
PUBLIC SUPPLY	19,329	
SELF-SUPPLIED	9,372	
PER CAPITA	199	
LAND AREA	(ACRES)	
TOTAL AREA	322,560	504 SQ. MILES
FARMED	24,420	
IRRIGATED	6,985	

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1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	3.85	0.00	3.85	0.00
DOMESTIC SELF-SUPPLY	1.87	0.00	1.87	0.00
COM/IND. SELF-SUPPLY	0.25	0.00	0.25	0.00
AGRICULTURAL IRR.	7.50	1.20	8.70	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.01	0.00	0.01	0.00
	13.47	1.20	14.67	0.00

TOTAL GROUND	13.47
TOTAL SURFACE	1.20
COUNTY TOTAL	14.67

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

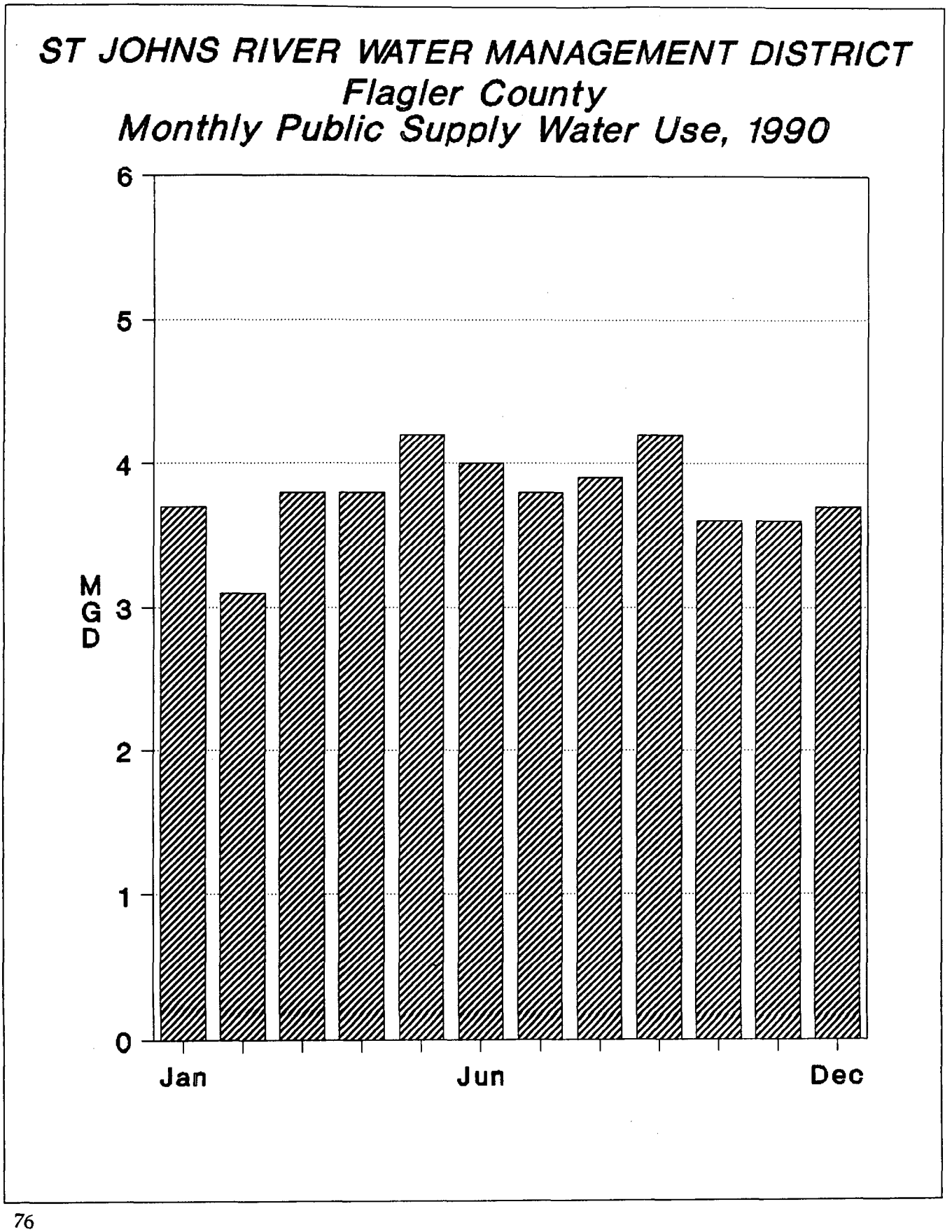
1990 INDIVIDUAL WATER USERS IN FLAGLER COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	SOURCE	WITHDRAWAL SURFACE	SOURCE
BEVERLY BEACH UTILITY	PUBLIC SUPPLY	312	0.03	FLORIDAN AQF	0.00	
BUNNELL - CITY OF	PUBLIC SUPPLY	1,873	0.33	FLORIDAN AQF	0.00	
FLAGLER BEACH - CITY OF	PUBLIC SUPPLY	3,820	0.57	FLORIDAN AQF	0.00	
PALM COAST UTILITIES	PUBLIC SUPPLY	13,000	2.87	FLORIDAN AQF	0.00	
PLANTATION BAY	PUBLIC SUPPLY	324	0.05	FLORIDAN AQF	0.00	
RINKER CEMENT	INDUSTRIAL		0.03	FLORIDAN AQF	0.00	
BULOW KOA	INSTITUTIONAL		0.09	FLORIDAN AQF	0.00	
BULOW STATE PARK	INSTITUTIONAL		0.07	FLORIDAN AQF	0.00	
HOLIDAY TRAVEL PARK	INSTITUTIONAL		0.01	FLORIDAN AQF	0.00	
MARINELAND	INSTITUTIONAL		0.05	FLORIDAN AQF	0.00	
	Public Supply	19,329				
	Ground	3.85				
	Surface	0.00				

FLAGLER COUNTY ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	2,000	2,000	1.14	0.00	0.00	1.14
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	2,200	2,200	2.85	0.00	0.00	2.85
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	1,000	1,000	1.75	0.00	0.00	1.75
FRUIT CROPS						
BLUEBERRIES	0	0	0.00	0.00	0.00	0.00
CITRUS	0	0	0.00	0.00	0.00	0.00
GRAPES	0	0	0.00	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	100	100	0.09	0.00	0.00	0.09
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	400	400	0.44	0.00	0.00	0.44
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	1,500	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	0	0	0.00	0.00	0.00	0.00
FLOWERS & FOLIAGE	0	0	0.00	0.00	0.00	0.00
WOODY ORNAMENTALS	5	5	0.05	0.00	0.00	0.05
IMPROVED PASTURE	16,580	695	0.53	0.00	0.30	0.53
SOD	200	150	0.48	0.00	0.00	0.48
TURF GRASS (GOLF)	362	362	0.15	1.07	0.03	1.22
TURF GRASS (OTHER)	73	73	0.01	0.13	0.00	0.14
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.01	0.00	0.00	0.01
FISH FARMING	0	0	0.00	0.00	0.00	0.00
	24,420	6,985	7.50	1.20	0.33	8.70

SPRINKLER ACREAGE	1,485
LOW PRESSURE ACREAGE	0
FLOOD ACREAGE	5,500
TOTAL IRRIGATED ACREAGE	6,985


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Flagler County
Monthly Public Supply Water Use, 1990
MGD
6
5
4
3
2
1
0
Jan
Jun
Dec

INDIAN RIVER COUNTY DATA - 1990

TOTAL POPULATION	90,208
TOTAL LAND AREA	549 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	90,208	
PUBLIC SUPPLY	53,734	
SELF-SUPPLIED	36,474	
PER CAPITA	245	
LAND AREA	(ACRES)	
TOTAL AREA	351,360	549 SQ. MILES
FARMED	137,300	
IRRIGATED	97,428	

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1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY (1)	13.17	0.00	13.17	0.00
DOMESTIC SELF-SUPPLY	8.94	0.00	8.94	0.00
COM/IND. SELF-SUPPLY	0.29	0.00	0.29	0.00
AGRICULTURAL IRR.	50.84	117.73	168.57	0.00
POWER GENERATION S-S	0.08	0.00	0.08	137.97
MISCELLANEOUS	11.50	0.00	11.50	0.00
	84.82	117.73	202.55	137.97

TOTAL GROUND	84.82
TOTAL SURFACE	255.70
COUNTY TOTAL	340.52

(1) INCLUDES 4.51 mgd OF SLIGHTLY SALINE WATER WITHDRAWN FOR PUBLIC SUPPLY (250 to 1000 mg/l chlorides), OF WHICH 2.97 mgd IS TREATED THROUGH R/O, AND 1.54 mgd IS DILUTED WITH FRESH WATER.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN INDIAN RIVER COUNTY

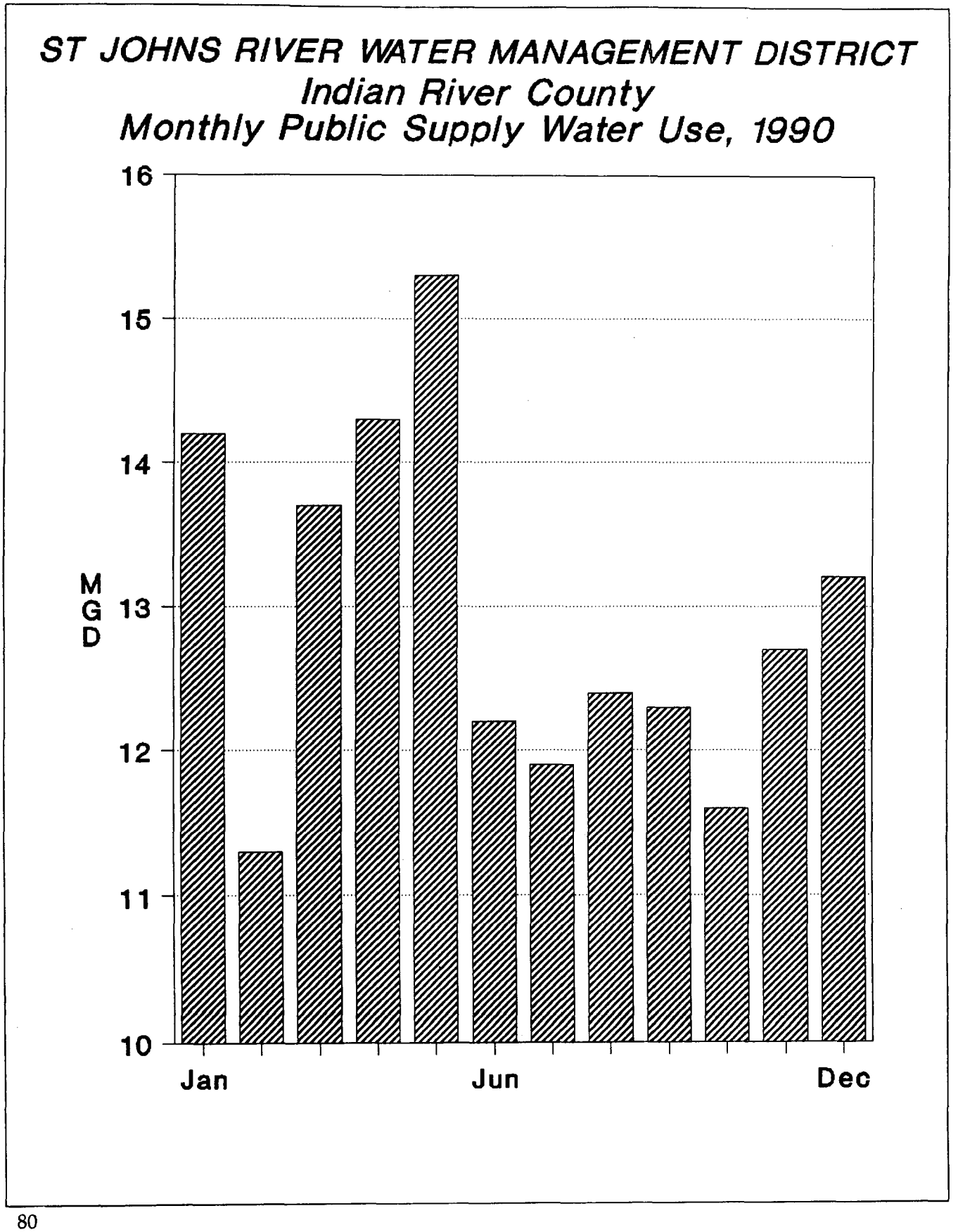
USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	WITHDRAWAL SOURCE	WITHDRAWAL SURFACE	WITHDRAWAL SOURCE
ASPEN/WHISPERING PALMS MHP	PUBLIC SUPPLY	1,334	0.08	FL & R/O	0.00	
GDU - SEBASTIAN HIGHLANDS	PUBLIC SUPPLY	2,502	0.31	FLORIDAN AQF	0.00	
HERITAGE VILLAGE	PUBLIC SUPPLY	654	0.06	FL & R/O	0.00	
HERON CAY	PUBLIC SUPPLY	588	0.04	FL & R/O	0.00	
INDIAN RIVER COUNTY UTILITIES (a)	PUBLIC SUPPLY	19,465	2.36	FL & R/O	0.00	
LAKEWOOD VILLAGE	PUBLIC SUPPLY	1,095	0.07	SURFICIAL AQF	0.00	
MARSH ISLAND UTILITIES	PUBLIC SUPPLY	382	0.02	FL & R/O	0.00	
NORTH BEACH UTILITIES	PUBLIC SUPPLY	1,890	0.32	FL & R/O	0.00	
PELICAN POINTE UTILITIES	PUBLIC SUPPLY	325	0.03	FLORIDAN AQF	0.00	
VERO BEACH - CITY OF	PUBLIC SUPPLY	24,067	9.79	SUR & FL AQF	0.00	
VILLAGE GREEN W/S	PUBLIC SUPPLY	1,432	0.09	FL & R/O	0.00	
FELLSMERE PACKING HOUSE	INDUSTRIAL		0.01	SURFICIAL AQF	0.00	
HERCULES INC.	INDUSTRIAL		0.12	SURFICIAL AQF	0.00	
OCEAN SPRAY PROCESSING PLANT	INDUSTRIAL		0.10	SUR & FL AQF	0.00	
INDIAN RIVER CORRECTIONAL FAC.	INSTITUTIONAL		0.03	SURFICIAL AQF	0.00	
SEBASTIAN MEDICAL CENTER	INSTITUTIONAL		0.03	SURFICIAL AQF	0.00	
VERO BEACH MUN. POWER PLANT	POWER GEN.		0.08	FLORIDAN AQF	137.97	INDIAN RIVER *
	Public Supply	53,734				
	Ground	13.17				
	Surface	0.00				

(a) VERO BEACH HIGHLANDS/SHORES AND BENT PINES INCLUDES INDIAN RIVER COUNTY UTILITIES.
* SALINE WATER

INDIAN RIVER COUNTY ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	150	150	0.12	0.00	0.00	0.12
CARROTS	50	50	0.06	0.00	0.00	0.06
CUCUMBERS	0	0	0.00	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	100	100	0.13	0.00	0.00	0.13
TOMATOES	10	10	0.01	0.00	0.00	0.01
SWEET CORN	650	650	0.85	0.84	0.00	1.69
WATERCRESS	150	150	0.17	0.00	0.00	0.17
MISC. VEGETABLES	2,020	2,020	1.14	1.14	0.00	2.28
FRUIT CROPS						
BLUEBERRIES	0	0	0.00	0.00	0.00	0.00
CITRUS	66,116	66,116	32.74	98.24	0.00	130.98
GRAPES	0	0	0.00	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00	0.00
STRAWBERRIES	20	20	0.03	0.00	0.00	0.03
WATERMELLONS	100	50	0.07	0.00	0.00	0.07
MISC. FRUIT	100	100	0.13	0.00	0.00	0.13
FIELD CROPS						
FIELD CORN	2,500	2,500	0.00	2.78	0.00	2.78
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	50	50	0.10	0.00	0.00	0.10
SORGHUM	0	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	300	300	0.17	0.17	0.00	0.34
ORNAMENTALS & GRASSES						
FERNS	0	0	0.00	0.00	0.00	0.00
FLOWERS & FOLIAGE	25	25	0.09	0.00	0.00	0.09
WOODY ORNAMENTALS	60	60	0.00	0.49	0.00	0.49
IMPROVED PASTURE	62,208	22,747	11.21	11.21	0.30	22.42
SOD	1,000	1,000	1.12	1.67	0.00	2.79
TURF GRASS (GOLF)	1,637	1,276	2.41	1.18	0.75	3.59
TURF GRASS (OTHER)	54	54	0.07	0.01	0.04	0.08
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.22	0.00	0.00	0.22
FISH FARMING	0	0	0.00	0.00	0.00	0.00
	137,300	97,428	50.84	117.73	1.09	168.57

SPRINKLER ACREAGE	2,040
LOW PRESSURE ACREAGE	27,034
FLOOD ACREAGE	68,354
TOTAL IRRIGATED ACREAGE	97,428


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Indian River County
Monthly Public Supply Water Use, 1990
MGD
16
15
14
13
12
11
10
Jan
Jun
Dec

LAKE COUNTY DATA - 1990

TOTAL POPULATION	152,104	
TOTAL LAND AREA	1,163	SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	150,583	
PUBLIC SUPPLY	103,785	
SELF-SUPPLIED	46,798	
PER CAPITA	199	
LAND AREA	(ACRES)	
TOTAL AREA	677,760	1,059 SQ. MILES
FARMED	79,429	
IRRIGATED	28,843	

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1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	20.67	0.00	20.67	0.00
DOMESTIC SELF-SUPPLY	9.31	0.00	9.31	0.00
COM/IND. SELF-SUPPLY	9.50	0.00	9.50	0.00
AGRICULTURAL IRR.	43.66	12.63	56.29	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	1.56	0.00	1.56	0.00
	84.70	12.63	97.33	0.00

TOTAL GROUND	84.70
TOTAL SURFACE	12.63
COUNTY TOTAL	97.33

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN LAKE COUNTY

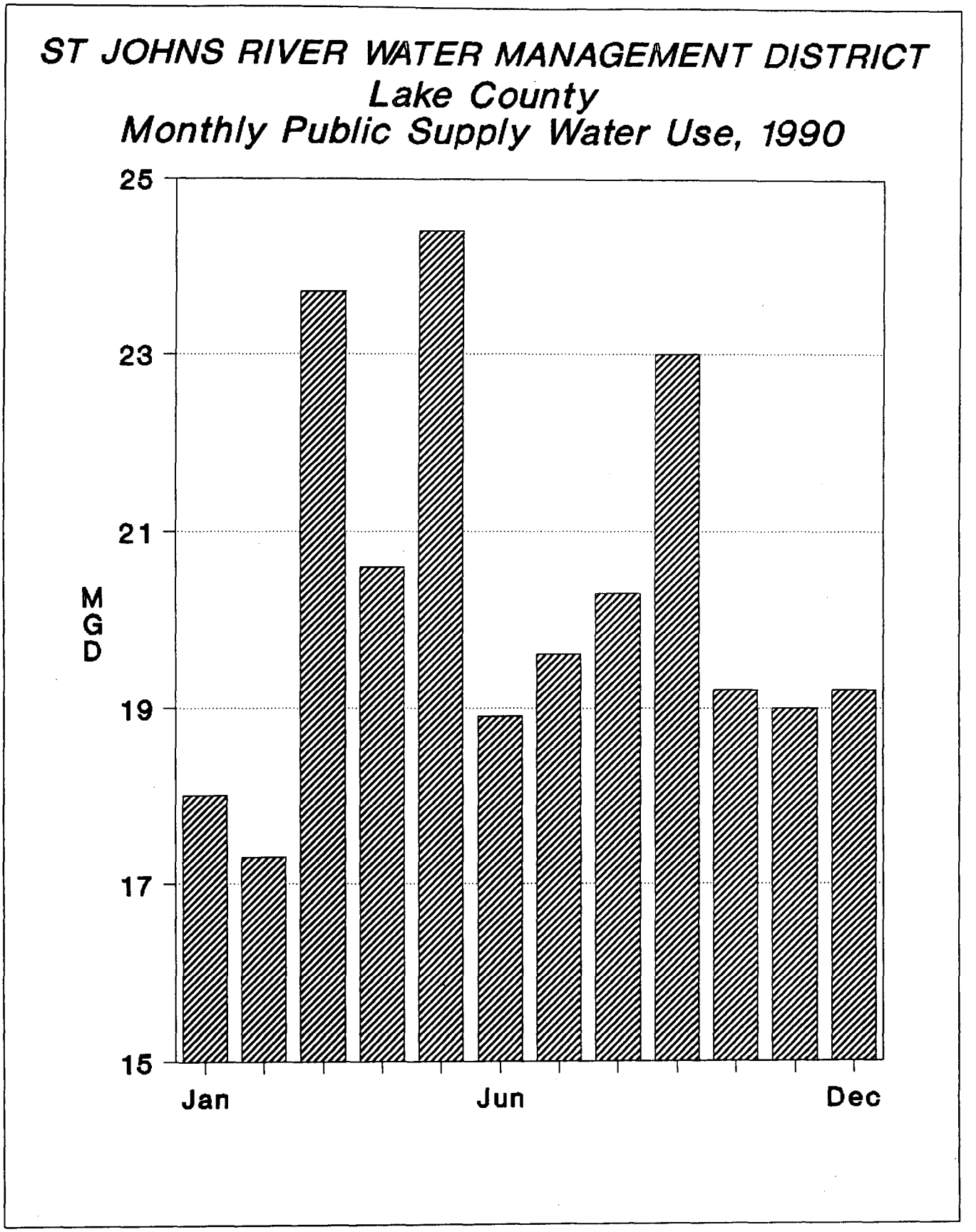
USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	WITHDRAWAL SOURCE	WITHDRAWAL SURFACE	WITHDRAWAL SOURCE
ASTOR/ASTOR PARK WATER ASSOC.	PUBLIC SUPPLY	3,000	0.27	FLORIDAN AQF	0.00	
BRITTANY ESTATES	PUBLIC SUPPLY	315	0.07	FLORIDAN AQF	0.00	
CLERMONT - CITY OF	PUBLIC SUPPLY	6,910	1.52	FLORIDAN AQF	0.00	
DEANZA - MID FLORIDA LAKES	PUBLIC SUPPLY	2,698	0.68	FLORIDAN AQF	0.00	
EUSTIS - CITY OF	PUBLIC SUPPLY	18,105	2.82	FLORIDAN AQF	0.00	
FRUITLAND PARK - CITY OF	PUBLIC SUPPLY	2,754	0.42	FLORIDAN AQF	0.00	
GROVELAND - CITY OF	PUBLIC SUPPLY	2,300	0.29	FLORIDAN AQF	0.00	
HAWTHORNE S/D	PUBLIC SUPPLY	2,885	0.49	FLORIDAN AQF	0.00	
HOWEY-IN-THE-HILLS - TOWN OF	PUBLIC SUPPLY	724	0.24	FLORIDAN AQF	0.00	
LAKEVIEW TERRACE CENTER	PUBLIC SUPPLY	300	0.04	FLORIDAN AQF	0.00	
LEESBURG - CITY OF	PUBLIC SUPPLY	19,897	4.17	FLORIDAN AQF	0.00	
MASCOTTE - TOWN OF	PUBLIC SUPPLY	1,764	0.20	FLORIDAN AQF	0.00	
MINNEOLA - CITY OF	PUBLIC SUPPLY	1,528	0.22	FLORIDAN AQF	0.00	
MOLAKAI PARK WATER SYSTEM	PUBLIC SUPPLY	550	0.04	FLORIDAN AQF	0.00	
MONTVERDE - TOWN OF	PUBLIC SUPPLY	667	0.12	FLORIDAN AQF	0.00	
MOUNT DORA - CITY OF	PUBLIC SUPPLY	12,347	2.82	FLORIDAN AQF	0.00	
ORANGE BLOSSOM GARDENS MHP	PUBLIC SUPPLY	9,714	2.52	FLORIDAN AQF	0.00	
SILVER LAKE ESTATES (a)	PUBLIC SUPPLY	2,020	0.83	FLORIDAN AQF	0.00	
SOUTH UMATILLA W.A.	PUBLIC SUPPLY	375	0.06	FLORIDAN AQF	0.00	
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	2,646	0.22	FLORIDAN AQF	0.00	
SUNLAKE ESTATES	PUBLIC SUPPLY	576	0.31	FLORIDAN AQF	0.00	
TAVARES - CITY OF	PUBLIC SUPPLY	7,383	1.40	FLORIDAN AQF	0.00	
UMATILLA - CITY OF	PUBLIC SUPPLY	2,559	0.49	FLORIDAN AQF	0.00	
UTILITIES INC. OF FLORIDA	PUBLIC SUPPLY	558	0.16	FLORIDAN AQF	0.00	
WATER OAK ESTATES	PUBLIC SUPPLY	1,210	0.27	FLORIDAN AQF	0.00	
B & W CANNING - GROVELAND PLANT	INDUSTRIAL		0.04	FLORIDAN AQF	0.00	
COCA COLA - LEESBURG PLANT	INDUSTRIAL		1.59	FLORIDAN AQF	0.00	
EUSTIS SAND CO.	INDUSTRIAL*		0.70	FLORIDAN AQF	0.00	
FLORIDA CRUSHED STONE - TULLEY (b)	INDUSTRIAL*		2.19	FLORIDAN AQF	0.00	
FLORIDA ROCK - LAKE CO. MINE (c)	INDUSTRIAL*		0.00	FLORIDAN AQF	0.00	
GOLDEM GEM - UMATILLA PLANT	INDUSTRIAL		2.88	FLORIDAN AQF	0.00	
SILVER SAND CO. - CLERMONT MINE	INDUSTRIAL*		1.32	FLORIDAN AQF	0.00	
SILVER SPRINGS CITRUS PLANT	INDUSTRIAL		0.64	FLORIDAN AQF	0.00	
SUNDOR BRANDS PROC. CO.	INDUSTRIAL		0.01	FLORIDAN AQF	0.00	
LAKE COUNTY UTIL (SUNSHINE PK)	COMMERCIAL		0.04	FLORIDAN AQF	0.00	
GROVELAND ACADAMY	INSTITUTIONAL		0.01	FLORIDAN AQF	0.00	
LAKE CORRECTION FAC.	INSTITUTIONAL		0.08	FLORIDAN AQF	0.00	
	Public Supply	103,785				
	Ground	20.67				
	Surface	0.00				

(a) SILVER LAKE ESTATES OPERATED BY SOUTHERN STATES UTILITIES.
(b) DATA ESTIMATED USING 1989 VALUES.
(c) FLORIDA ROCK HAD NO PUMPAGE FOR 1990.
* MINING INDUSTRY

LAKE COUNTY (SJRWMD) ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	150	150	0.04	0.04	0.00	0.08
CARROTS	2,000	2,000	1.13	1.13	0.00	2.26
CUCUMBERS	60	60	0.02	0.02	0.00	0.04
PEPPERS	25	25	0.02	0.00	0.00	0.02
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	5,000	5,000	7.81	5.20	0.00	13.01
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	1,250	1,250	0.77	0.51	0.00	1.28
FRUIT CROPS						
BLUEBERRIES	55	55	0.06	0.00	0.00	0.06
CITRUS	14,054	14,054	19.38	2.90	4.55	22.28
GRAPES	54	54	0.08	0.00	0.00	0.08
PEACHES	10	10	0.01	0.00	0.00	0.01
PECANS	80	80	0.19	0.00	0.00	0.19
STRAWBERRIES	5	5	0.01	0.00	0.00	0.01
WATERMELLONS	800	800	0.71	0.00	0.00	0.71
MISC. FRUIT	5	5	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	2,000	500	0.22	0.22	0.00	0.44
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	300	150	0.09	0.08	0.00	0.17
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	550	550	1.45	0.08	0.00	1.53
FLOWERS & FOLIAGE	120	120	0.43	0.00	0.00	0.43
WOODY ORNAMENTALS	950	950	7.84	0.41	0.00	8.25
IMPROVED PASTURE	50,000	1,886	1.67	0.07	4.58	1.74
SOD	250	250	0.11	0.71	0.00	0.82
TURF GRASS (GOLF)	1,591	769	1.23	1.01	0.00	2.24
TURF GRASS (OTHER)	120	120	0.16	0.03	0.00	0.19
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.23	0.22	0.00	0.45
FISH FARMING	0	0	0.00	0.00	0.00	0.00
	79,429	28,843	43.66	12.63	9.13	56.29

SPRINKLER ACREAGE	7,937
LOW PRESSURE ACREAGE	12,556
FLOOD ACREAGE	8,350
TOTAL IRRIGATED ACREAGE	28,843


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Lake County
Monthly Public Supply Water Use, 1990
25
23
21
19
17
15
MGD
Jan
Jun
Dec

MARION COUNTY DATA - 1990

TOTAL POPULATION	194,833	
TOTAL LAND AREA	1,652	SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	152,595	
PUBLIC SUPPLY	70,272	
SELF-SUPPLIED	82,323	
PER CAPITA	165	
LAND AREA	(ACRES)	
TOTAL AREA	764,160	1,194 SQ. MILES
FARMED	72,516	
IRRIGATED	6,040	

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1990 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	13.58	0.00	13.58	0.00
COM/IND. SELF-SUPPLY	1.05	0.00	1.05	0.00
AGRICULTURAL IRR.	9.66	1.39	11.05	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	1.75	0.00	1.75	0.00
	37.60	1.39	38.99	0.00

TOTAL GROUND	37.60
TOTAL SURFACE	1.39
COUNTY TOTAL	38.99

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN MARION COUNTY

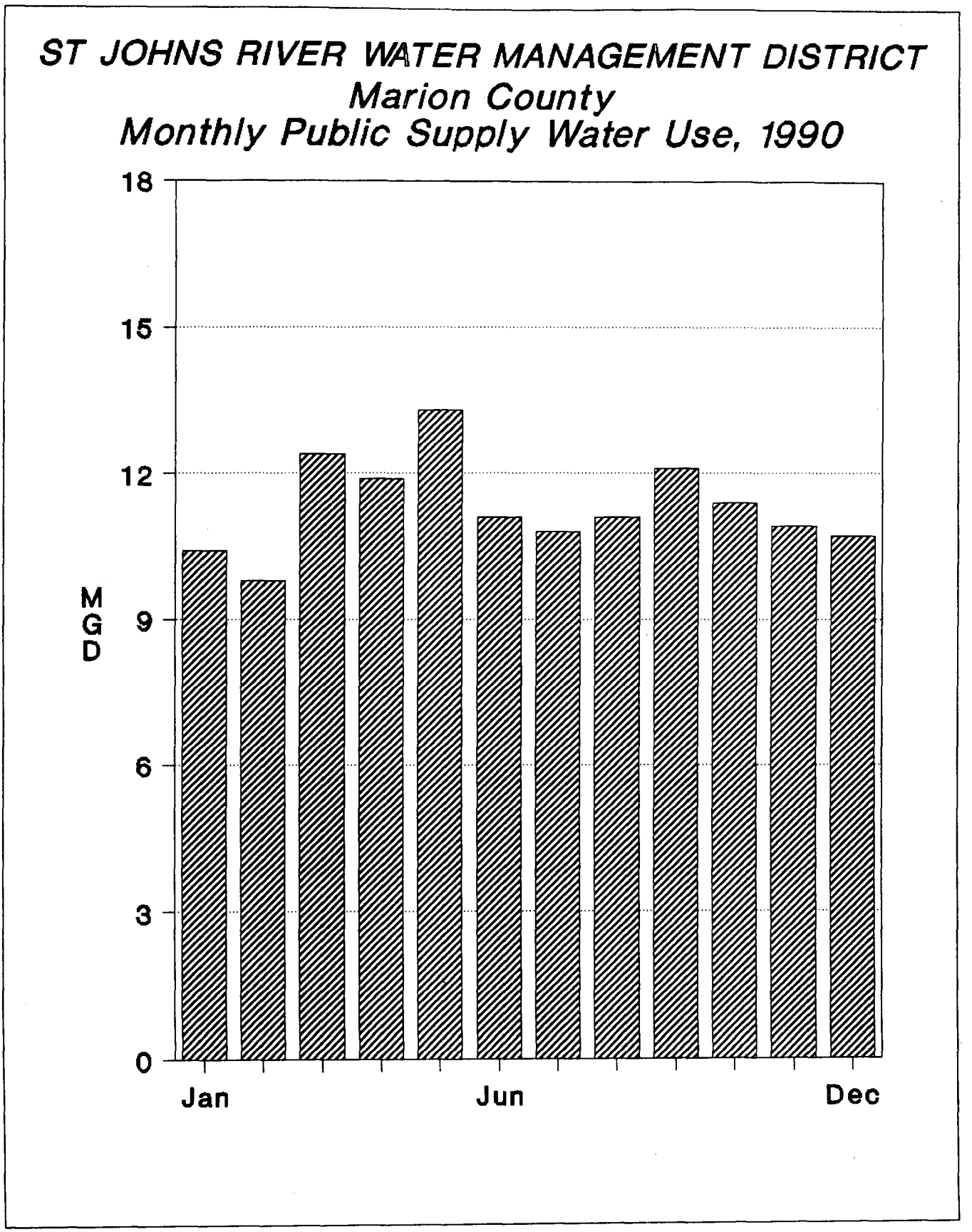
USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	SOURCE	WITHDRAWAL SURFACE	SOURCE
BELLEVIEW - CITY OF	PUBLIC SUPPLY	4,802	0.53	FLORIDAN AQF	0.00	
GDU - SILVER SPRINGS SHORES	PUBLIC SUPPLY	10,579	1.12	FLORIDAN AQF	0.00	
MACO DEVELOPMENT CO.	PUBLIC SUPPLY	530	0.11	FLORIDAN AQF	0.00	
MARION UTILITIES	PUBLIC SUPPLY	3,248	0.37	FLORIDAN AQF	0.00	
McINTOSH - CITY OF	PUBLIC SUPPLY	411	0.09	FLORIDAN AQF	0.00	
OCALA - CITY OF	PUBLIC SUPPLY	42,045	8.24	FLORIDAN AQF	0.00	
OCALA EAST VILLAS	PUBLIC SUPPLY	593	0.13	FLORIDAN AQF	0.00	
OCALA OAKS UTILITIES	PUBLIC SUPPLY	1,981	0.26	FLORIDAN AQF	0.00	
SUNSHINE UTILITIES	PUBLIC SUPPLY	3,711	0.43	FLORIDAN AQF	0.00	
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	1,239	0.16	FLORIDAN AQF	0.00	
TRADEWINDS UTILITIES	PUBLIC SUPPLY	850	0.09	FLORIDAN AQF	0.00	
WOODS & LAKES	PUBLIC SUPPLY	283	0.03	FLORIDAN AQF	0.00	
CERTIFIED GROCERS INC.	INDUSTRIAL		0.03	FLORIDAN AQF	0.00	
FLORIDA ROCK - MARION MINE (a)	INDUSTRIAL*		0.37	FLORIDAN AQF	0.00	
GOLDEN FLAKE INC - OCALA PLANT	INDUSTRIAL		0.07	FLORIDAN AQF	0.00	
HCA - GRANT CENTER HOSPITAL	INSTITUTIONAL		0.01	FLORIDAN AQF	0.00	
MARION CORRECTIONAL FAC.	INSTITUTIONAL		0.21	FLORIDAN AQF	0.00	
OCALA JAI-ALAI	INSTITUTIONAL		0.01	FLORIDAN AQF	0.00	
SIERRA BEACH MOTEL	INSTITUTIONAL		0.01	FLORIDAN AQF	0.00	
SILVER SPRINGS INC.	INSTITUTIONAL		0.34	FLORIDAN AQF	0.00	
	Public Supply	70,272				
	Ground	11.56				
	Surface	0.00				

(a) 1989 VALUES WERE USED BECAUSE THE ORGANIZATION HAD NOT CALCULATED 1990 DATA.
* MINING INDUSTRY

MARION COUNTY (SJRWMD) ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	0	0	0.00	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	70	70	0.15	0.00	0.00	0.15
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	50	50	0.09	0.00	0.00	0.09
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	1,700	940	2.03	0.00	0.00	2.03
FRUIT CROPS						
BLUEBERRIES	70	70	0.08	0.00	0.00	0.08
CITRUS	577	577	0.91	0.06	0.00	0.97
GRAPES	20	20	0.03	0.00	0.00	0.03
PEACHES	10	10	0.02	0.00	0.00	0.02
PECANS	10	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	1,450	1,450	1.29	0.00	0.00	1.29
MISC. FRUIT	200	100	0.09	0.00	0.00	0.09
FIELD CROPS						
FIELD CORN	3,000	350	0.15	0.11	0.00	0.26
PEANUTS	2,000	134	0.10	0.00	0.00	0.10
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	300	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	1,500	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	20	20	0.04	0.02	0.00	0.06
FLOWERS & FOLIAGE	14	14	0.06	0.00	0.00	0.06
WOODY ORNAMENTALS	52	52	0.39	0.09	0.00	0.48
IMPROVED PASTURE	59,230	940	0.49	0.33	0.00	0.82
SOD	660	660	2.12	0.00	0.00	2.12
TURF GRASS (GOLF)	1,500	500	1.00	0.73	0.25	1.73
TURF GRASS (OTHER)	83	83	0.16	0.00	0.00	0.16
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.46	0.05	0.00	0.51
FISH FARMING	0	0	0.00	0.00	0.00	0.00
	72,516	6,040	9.66	1.39	0.25	11.05

SPRINKLER ACREAGE	6,020
LOW PRESSURE ACREAGE	20
FLOOD ACREAGE	0
TOTAL IRRIGATED ACREAGE	6,040


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Marion County
Monthly Public Supply Water Use, 1990
18
15
12
9
6
3
0
MGD
Jan
Jun
Dec

NASSAU COUNTY DATA - 1990

TOTAL POPULATION	43,941	
TOTAL LAND AREA	671	SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	43,941	
PUBLIC SUPPLY	22,014	
SELF-SUPPLIED	21,927	
PER CAPITA	175	
LAND AREA	(ACRES)	
TOTAL AREA	429,440	671 SQ. MILES
FARMED	7,406	
IRRIGATED	770	

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1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	3.85	0.00	3.85	0.00
DOMESTIC SELF-SUPPLY	3.84	0.00	3.84	0.00
COM/IND. SELF-SUPPLY	32.71	0.00	32.71	1.40
AGRICULTURAL IRR.	2.40	0.60	3.00	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.24	0.00	0.24	0.00
	43.04	0.60	43.64	1.40

TOTAL GROUND	43.04
TOTAL SURFACE	2.00
COUNTY TOTAL	45.04

NASSAU

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN NASSAU COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	SOURCE	WITHDRAWAL SURFACE	SOURCE
CALLAHAN - TOWN OF	PUBLIC SUPPLY	1,295	0.15	FLORIDAN AQF	0.00	
EASTWOOD OAKS	PUBLIC SUPPLY	365	0.03	FLORIDAN AQF	0.00	
FERNANDINA BEACH - CITY OF	PUBLIC SUPPLY	12,738	2.65	FLORIDAN AQF	0.00	
HILLIARD - TOWN OF	PUBLIC SUPPLY	2,082	0.25	FLORIDAN AQF	0.00	
MARSH COVE APT.	PUBLIC SUPPLY	268	0.04	FLORIDAN AQF	0.00	
SOUTHERN STATES UT. (AMELIA IS.)	PUBLIC SUPPLY	5,266	0.73	FLORIDAN AQF	0.00	
CONTAINER CORP. OF AMERICA	INDUSTRIAL*		14.65	FLORIDAN AQF	0.00	
ITT RAYONIER INC.	INDUSTRIAL*		18.00	FLORIDAN AQF	1.40	AMELIA RIVER
TERMINAL PAPER CO.	INDUSTRIAL*		0.01	FLORIDAN AQF	0.00	
FLORIDA DOT - I95 WELCOME CENTER	INSTITUTIONAL		0.03	FLORIDAN AQF	0.00	
NASSAU CORRECTIONAL FAC.	INSTITUTIONAL		0.02	FLORIDAN AQF	0.00	
	Public Supply	22,014				
	Ground	3.85				
	Surface	0.00				

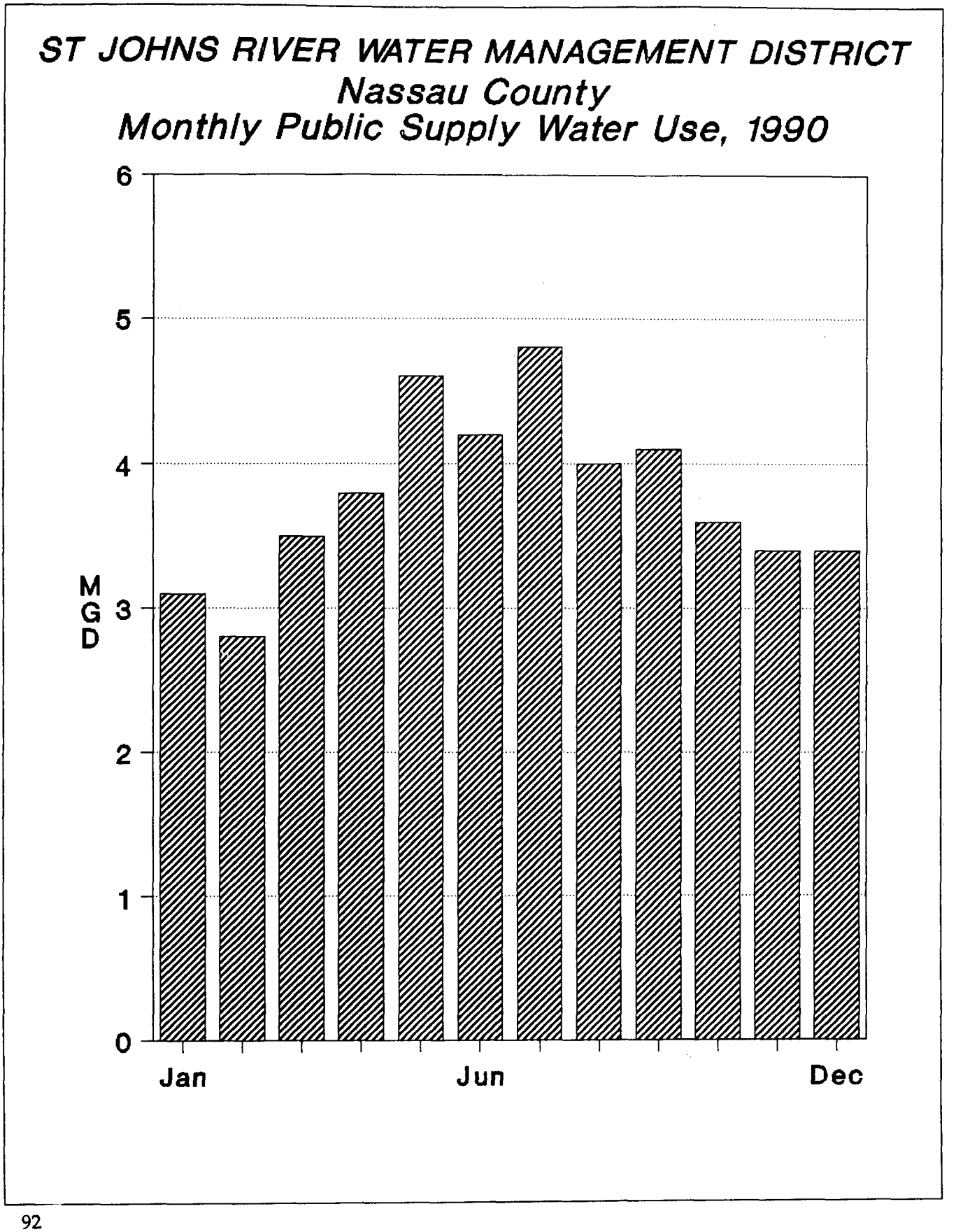
* PULP & PAPER INDUSTRY

NASSAU COUNTY

ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	0	0	0.00	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	100	50	0.11	0.00	0.00	0.11
FRUIT CROPS						
BLUEBERRIES	30	15	0.02	0.00	0.00	0.02
CITRUS	0	0	0.00	0.00	0.00	0.00
GRAPES	0	0	0.00	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	500	50	0.04	0.00	0.00	0.04
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	1,000	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	40	40	0.04	0.00	0.00	0.04
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	0	0	0.00	0.00	0.00	0.00
FLOWERS & FOLIAGE	20	20	0.08	0.00	0.00	0.08
WOODY ORNAMENTALS	3	0	0.00	0.00	0.00	0.00
IMPROVED PASTURE	5,000	0	0.00	0.00	0.00	0.00
SOD	0	0	0.00	0.00	0.00	0.00
TURF GRASS (GOLF)	645	565	1.69	0.27	0.30	1.96
TURF GRASS (OTHER)	68	30	0.06	0.00	0.00	0.06
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.34	0.33	0.00	0.67
FISH FARMING	0	0	0.02	0.00	0.00	0.02
	7,406	770	2.40	0.60	0.30	3.00

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


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Nassau County
Monthly Public Supply Water Use, 1990
6
5
4
3
2
1
0
MGD
Jan
Jun
Dec

OKEECHOBEE COUNTY DATA - 1990

TOTAL POPULATION	29,627	
TOTAL LAND AREA	780	SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	445	
PUBLIC SUPPLY	0	
SELF-SUPPLIED	445	
PER CAPITA (1)	165	
LAND AREA	(ACRES)	
TOTAL AREA	65,920	103 SQ. MILES
FARMED	24,468	
IRRIGATED	7,250	

****

1990 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	0.07	0.00	0.07	0.00
AGRICULTURAL IRR.	9.78	0.25	10.03	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.00	0.00	0.00	0.00
	9.92	0.25	10.17	0.00

TOTAL GROUND	9.92
TOTAL SURFACE	0.25
COUNTY TOTAL	10.17

(1) USED SJRWMD AVERAGE PER CAPITA.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN OKEECHOBEE COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	SOURCE	WITHDRAWAL SURFACE	SOURCE
FLORIDA DOT - FT. DRUM PLAZA	INSTITUTIONAL		0.07	FLORIDAN AQF	0.00	

OKEECHOBEE COUNTY (SJRWMD) ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	0	0	0.00	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	0	0	0.00	0.00	0.00	0.00
FRUIT CROPS						
BLUEBERRIES	0	0	0.00	0.00	0.00	0.00
CITRUS	4,468	4,468	6.54	0.00	0.00	6.54
GRAPES	0	0	0.00	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	0	0	0.00	0.00	0.00	0.00
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	0	0	0.00	0.00	0.00	0.00
FLOWERS & FOLIAGE	0	0	0.00	0.00	0.00	0.00
WOODY ORNAMENTALS	0	0	0.00	0.00	0.00	0.00
IMPROVED PASTURE	20,000	2,782	2.56	0.00	0.00	2.56
SOD	0	0	0.00	0.00	0.00	0.00
TURF GRASS (GOLF)	0	0	0.00	0.00	0.00	0.00
TURF GRASS (OTHER)	0	0	0.00	0.00	0.00	0.00
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.50	0.25	0.00	0.75
FISH FARMING	0	0	0.18	0.00	0.00	0.18
	24,468	7,250	9.78	0.25	0.00	10.03

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

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ORANGE COUNTY DATA - 1990

TOTAL POPULATION	677,491
TOTAL LAND AREA	1,003 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	541,993	
PUBLIC SUPPLY	523,650	
SELF-SUPPLIED	18,343	
PER CAPITA	198	
LAND AREA	(ACRES)	
TOTAL AREA	476,160	744 SQ. MILES
FARMED	69,714	
IRRIGATED	47,958	

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1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY (1)	127.28	0.00	127.28	0.00
DOMESTIC SELF-SUPPLY	3.63	0.00	3.63	0.00
COM/IND. SELF-SUPPLY	4.18	0.00	4.18	0.00
AGRICULTURAL IRR.	24.44	60.03	84.47	0.00
POWER GENERATION S-S	0.33	0.00	0.33	0.00
MISCELLANEOUS	0.04	0.00	0.04	0.00
	159.90	60.03	219.93	0.00

TOTAL GROUND	159.90
TOTAL SURFACE	60.03
COUNTY TOTAL	219.93

(1) INCLUDES 23.52 mgd of WATER WITHDRAWN IN ORANGE COUNTY FOR PUBLIC SUPPLY USE IN BREVARD COUNTY.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN ORANGE COUNTY

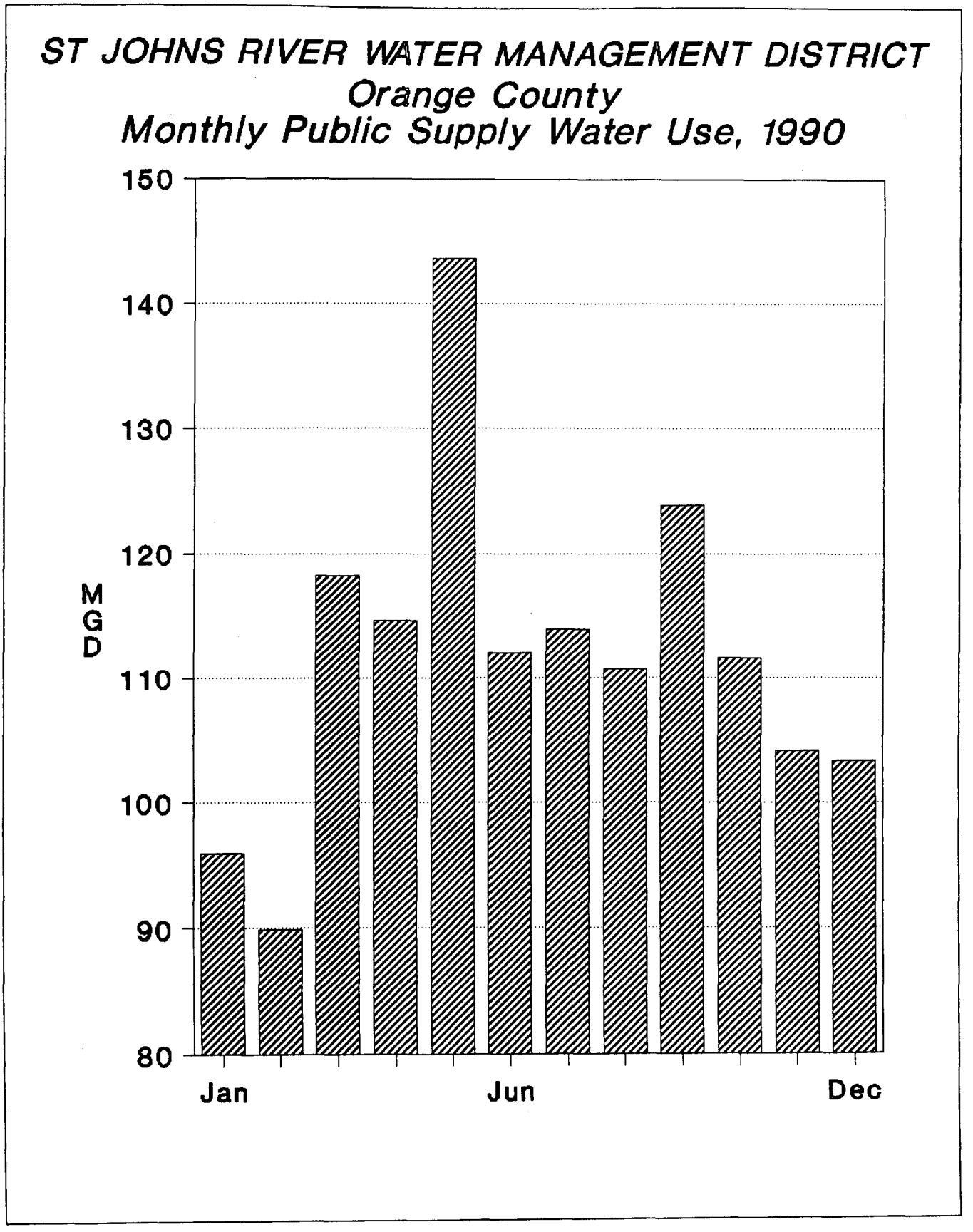
USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	SOURCE	SURFACE	WITHDRAWAL SOURCE
APOPKA - CITY OF	PUBLIC SUPPLY	23,250	5.29	FLORIDAN AQF	0.00	
EATONVILLE - TOWN OF	PUBLIC SUPPLY	2,170	0.69	FLORIDAN AQF	0.00	
ECON UTILITIES - WEDGEFIELD	PUBLIC SUPPLY	1,229	0.16	FLORIDAN AQF	0.00	
MAITLAND - CITY OF	PUBLIC SUPPLY	9,110	3.16	FLORIDAN AQF	0.00	
OAKLAND - TOWN OF	PUBLIC SUPPLY	700	0.11	FLORIDAN AQF	0.00	
OCOEE - CITY OF	PUBLIC SUPPLY	12,778	2.69	FLORIDAN AQF	0.00	
ORANGE COUNTY PUBLIC UTILITIES (a)	PUBLIC SUPPLY	96,089	27.76	FLORIDAN AQF	0.00	
-- SJRWMD PORTION OF OCPU		78,068	18.88		0.00	
ORLANDO UTILITIES COMMISSION (a)	PUBLIC SUPPLY	399,720	79.28	FLORIDAN AQF	0.00	
-- SJRWMD PORTION OF OUC		289,797	54.44		0.00	
ROCK SPRINGS MHP	PUBLIC SUPPLY	1,240	0.24	FLORIDAN AQF	0.00	
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	6,631	1.00	FLORIDAN AQF	0.00	
STARLIGHT RANCH MHP	PUBLIC SUPPLY	1,560	0.18	FLORIDAN AQF	0.00	
TANGERINE - TOWN OF	PUBLIC SUPPLY	428	0.14	FLORIDAN AQF	0.00	
UTILITIES INC. OF FLORIDA	PUBLIC SUPPLY	1,103	0.10	FLORIDAN AQF	0.00	
WINTER GARDEN - CITY OF	PUBLIC SUPPLY	12,140	1.78	FLORIDAN AQF	0.00	
WINTER PARK - CITY OF	PUBLIC SUPPLY	80,214	13.62	FLORIDAN AQF	0.00	
ZELLWOOD STATION UTILITIES	PUBLIC SUPPLY	2,332	0.96	FLORIDAN AQF	0.00	
ZELLWOOD WATER ASSOC.	PUBLIC SUPPLY	900	0.33	FLORIDAN AQF	0.00	
COCA COLA - PLYMOUTH PLANT	INDUSTRIAL		0.11	FLORIDAN AQF	0.00	
LUST & LONG PRECOOLER CO.	INDUSTRIAL		0.08	FLORIDAN AQF	0.00	
RALSTON PURINA - ZELLWOOD FARMS	INDUSTRIAL		0.17	FLORIDAN AQF	0.00	
SOUTHERN FRUIT DISTRIBUTORS	INDUSTRIAL		(b)	FLORIDAN AQF	0.00	
WINTER GARDEN CITRUS PLANT	INDUSTRIAL		2.54	FLORIDAN AQF	0.00	
SUN RESORT INC.	INSTITUTIONAL		0.36	FLORIDAN AQF	0.00	
UNIVERSITY OF CENTRAL FLORIDA	INSTITUTIONAL		0.92	FLORIDAN AQF	0.00	
OUC - STANTON PLANT	POWER GEN.		0.33	FLORIDAN AQF	3.39	RETENTION (c)
	Public Supply	523,650				
	Ground	103.76 (d)				
	Surface	0.00				

(a) WATER ALSO USED IN SOUTH FLORIDA WATER MANAGEMENT DISTRICT.
(b) 1990 WITHDRAWAL WAS LESS THAN 0.01 MGD.
(c) WASTEWATER TREATMENT PLANT DISCHARGE SUPPLIES RETENTION POND WITH WATER. THIS SURFACE WATER IS CONSIDERED REUSE.
(d) DOES NOT INCLUDE THE WATER WITHDRAWN (23.52 mgd) FOR PUBLIC SUPPLY USE IN BREVARD COUNTY.

ORANGE COUNTY (SJRWMD) ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	1,200	800	0.64	0.00	0.00	0.64
CARROTS	13,500	11,600	1.31	11.77	0.00	13.08
CUCUMBERS	1,020	1,020	1.15	0.00	0.00	1.15
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	75	75	0.06	0.00	0.00	0.06
SWEET CORN	13,600	13,300	3.46	31.14	0.00	34.60
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	14,100	14,100	1.59	14.31	0.00	15.90
FRUIT CROPS						
BLUEBERRIES	0	0	0.00	0.00	0.00	0.00
CITRUS	3,596	3,596	5.25	0.58	6.83	5.83
GRAPES	0	0	0.00	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	150	150	0.13	0.00	0.00	0.13
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	200	200	0.15	0.00	0.00	0.15
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	200	200	0.17	0.17	0.00	0.34
SOYBEANS	200	200	0.17	0.17	0.00	0.34
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	40	40	0.11	0.00	0.00	0.11
FLOWERS & FOLIAGE	581	581	1.88	0.47	0.00	2.35
WOODY ORNAMENTALS	576	576	4.72	0.52	0.00	5.24
IMPROVED PASTURE	18,562	0	0.00	0.00	0.00	0.00
SOD	200	200	0.33	0.37	0.00	0.70
TURF GRASS (GOLF)	1,533	939	2.30	0.44	0.19	2.74
TURF GRASS (OTHER)	381	381	0.53	0.09	0.76	0.62
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.37	0.00	0.00	0.37
FISH FARMING	0	0	0.12	0.00	0.00	0.12
	69,714	47,958	24.44	60.03	7.78	84.47

SPRINKLER ACREAGE	4,625
LOW PRESSURE ACREAGE	1,913
FLOOD ACREAGE	41,420
TOTAL IRRIGATED ACREAGE	47,958


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Orange County
Monthly Public Supply Water Use, 1990
150
140
130
120
110
100
90
80
MGD
Jan
Jun
Dec

OSCEOLA COUNTY DATA - 1990

TOTAL POPULATION	107,728
TOTAL LAND AREA	1,467 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	2,424	
PUBLIC SUPPLY	0	
SELF-SUPPLIED	2,424	
PER CAPITA (1)	165	
LAND AREA	(ACRES)	
TOTAL AREA	346,880	542 SQ. MILES
FARMED	126,800	
IRRIGATED	12,180	

****

1990 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	0.40	0.00	0.40	0.00
COM/IND. SELF-SUPPLY	0.00	0.00	0.00	0.00
AGRICULTURAL IRR.	6.05	8.09	14.14	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.12	0.00	0.12	0.00
	6.57	8.09	14.66	0.00

TOTAL GROUND	6.57
TOTAL SURFACE	8.09
COUNTY TOTAL	14.66

(1) USED SJRWMD AVERAGE PER CAPITA.

OSCEOLA COUNTY (SJRWMD) ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	0	0	0.00	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	0	0	0.00	0.00	0.00	0.00
FRUIT CROPS						
BLUEBERRIES	0	0	0.00	0.00	0.00	0.00
CITRUS	1,000	1,000	2.00	0.00	0.00	2.00
GRAPES	0	0	0.00	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	0	0	0.00	0.00	0.00	0.00
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	0	0	0.00	0.00	0.00	0.00
FLOWERS & FOLIAGE	0	0	0.00	0.00	0.00	0.00
WOODY ORNAMENTALS	0	0	0.00	0.00	0.00	0.00
IMPROVED PASTURE	125,800	11,180	2.26	8.03	0.00	10.29
SOD	0	0	0.00	0.00	0.00	0.00
TURF GRASS (GOLF)	0	0	0.00	0.00	0.00	0.00
TURF GRASS (OTHER)	0	0	0.00	0.00	0.00	0.00
MISC. AGRICULTURAL						
LIVESTOCK	0	0	1.79	0.06	0.00	1.85
FISH FARMING	0	0	0.00	0.00	0.00	0.00
	126,800	12,180	6.05	8.09	0.00	14.14

SPRINKLER ACREAGE	100
LOW PRESSURE ACREAGE	180
FLOOD ACREAGE	11,900
TOTAL IRRIGATED ACREAGE	12,180

POLK COUNTY DATA - 1990

TOTAL POPULATION	405,382	
TOTAL LAND AREA	2,048	SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	4,053	
PUBLIC SUPPLY	545	
SELF-SUPPLIED	3,508	
PER CAPITA	110	
LAND AREA	(ACRES)	
TOTAL AREA	40,320	63 SQ. MILES
FARMED	7,727	
IRRIGATED	2,501	

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1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	0.06	0.00	0.06	0.00
DOMESTIC SELF-SUPPLY	0.39	0.00	0.39	0.00
COM/IND. SELF-SUPPLY	0.30	0.00	0.30	0.00
AGRICULTURAL IRR.	3.66	0.35	4.01	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	0.00	0.00	0.00	0.00
	4.41	0.35	4.76	0.00

TOTAL GROUND	4.41
TOTAL SURFACE	0.35
COUNTY TOTAL	4.76

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN POLK COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	SOURCE	WITHDRAWAL SURFACE	SOURCE
EMERALD ACRES	PUBLIC SUPPLY	80	0.01	FLORIDAN AQF	0.00	
PCU - POLO DAVENPORT	PUBLIC SUPPLY	465	0.05	FLORIDAN AQF	0.00	
B.C. COOK & SONS CITRUS PLANT	INDUSTRIAL		0.02	FLORIDAN AQF	0.00	
HORIZON'S END RESORT	INSTITUTIONAL		0.04	FLORIDAN AQF	0.00	
OAK HARBOUR CAMPGROUND	INSTITUTIONAL		0.02	FLORIDAN AQF	0.00	
OUTDOOR RESORTS OF ORLANDO	INSTITUTIONAL		0.22	FLORIDAN AQF	0.00	
	Public Supply	545				
	Ground	0.06				
	Surface	0.00				

POLK COUNTY (SJRWMD) ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	0	0	0.00	0.00	0.00	0.00
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	0	0	0.00	0.00	0.00	0.00
FRUIT CROPS						
BLUEBERRIES	0	0	0.00	0.00	0.00	0.00
CITRUS	2,172	1,846	2.76	0.31	0.00	3.07
GRAPES	0	0	0.00	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	1,000	500	0.37	0.00	0.00	0.37
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	0	0	0.00	0.00	0.00	0.00
FLOWERS & FOLIAGE	5	5	0.02	0.00	0.00	0.02
WOODY ORNAMENTALS	50	50	0.46	0.00	0.00	0.46
IMPROVED PASTURE	4,500	100	0.05	0.04	0.00	0.09
SOD	0	0	0.00	0.00	0.00	0.00
TURF GRASS (GOLF)	0	0	0.00	0.00	0.00	0.00
TURF GRASS (OTHER)	0	0	0.00	0.00	0.00	0.00
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.00	0.00	0.00	0.00
FISH FARMING	0	0	0.00	0.00	0.00	0.00
	7,727	2,501	3.66	0.35	0.00	4.01

SPRINKLER ACREAGE	2,201
LOW PRESSURE ACREAGE	200
FLOOD ACREAGE	100
TOTAL IRRIGATED ACREAGE	2,501

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PUTNAM COUNTY DATA - 1990

TOTAL POPULATION	65,070
TOTAL LAND AREA	879 SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	65,070	
PUBLIC SUPPLY	22,543	
SELF-SUPPLIED	42,527	
PER CAPITA	140	
LAND AREA	(ACRES)	
TOTAL AREA	652,460 (1)	879 SQ. MILES
FARMED	50,866	
IRRIGATED	10,007	

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1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	3.15	0.00	3.15	0.00
DOMESTIC SELF-SUPPLY	5.95	0.00	5.95	0.00
COM/IND. SELF-SUPPLY	33.52	10.27	43.79	0.00
AGRICULTURAL IRR.	20.48	1.35	21.83	0.00
POWER GENERATION S-S	0.53	7.71	8.24	0.00
MISCELLANEOUS	1.26	0.00	1.26	0.00
	64.89	19.33	84.22	0.00

TOTAL GROUND	64.89
TOTAL SURFACE	19.33
COUNTY TOTAL	84.22

(1) APPROXIMATELY 100 ACRES OF PUTNAM COUNTY IS LOCATED IN THE SUWANNEE RIVER WATER MANAGEMENT DISTRICT.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN PUTNAM COUNTY

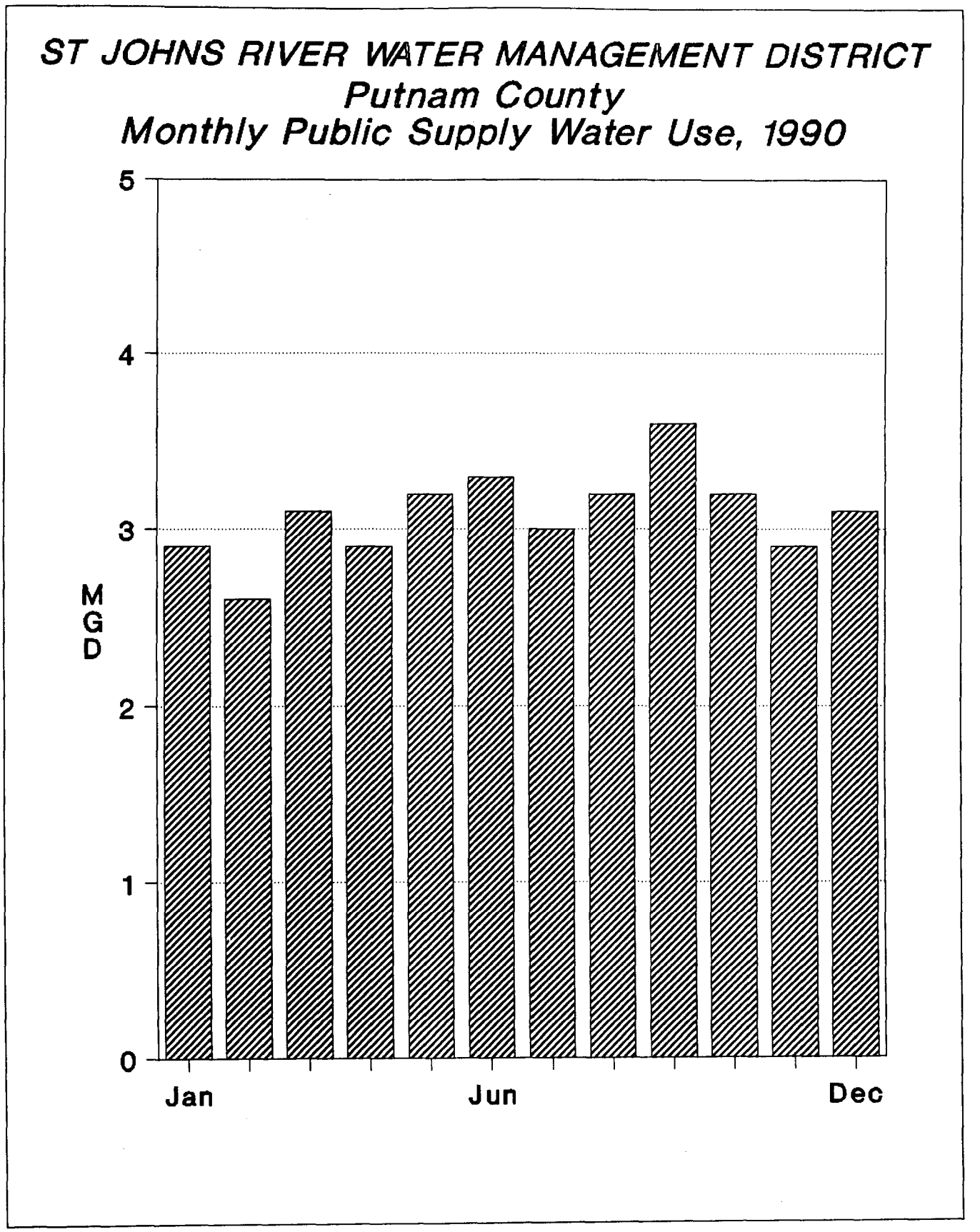
USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	WITHDRAWAL SOURCE	WITHDRAWAL SURFACE	WITHDRAWAL SOURCE
CRESCENT - CITY OF	PUBLIC SUPPLY	2,485	0.34	FLORIDAN AQF	0.00	
INTERLACHEN - TOWN OF	PUBLIC SUPPLY	1,160	0.08	FLORIDAN AQF	0.00	
LAKE COMO WATER ASSOCIATION	PUBLIC SUPPLY	322	0.02	FLORIDAN AQF	0.00	
MELROSE - TOWN OF	PUBLIC SUPPLY	893	0.09	FLORIDAN AQF	0.00	
PALATKA - CITY OF	PUBLIC SUPPLY	14,460	2.42	FLORIDAN AQF	0.00	
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	3,223	0.20	FLORIDAN AQF	0.00	
FELDSPAR CORP. - EDGAR MINE	INDUSTRIAL*		5.23	FLORIDAN AQF	1.99	
FLORIDA ROCK - GRANDIN MINE	INDUSTRIAL*		2.51	FLORIDAN AQF	0.00	
FLORIDA ROCK - KEUKA MINE	INDUSTRIAL*		0.51	FLORIDAN AQF	4.28	
GEORGIA PACIFIC - PALATKA PLANT	INDUSTRIAL**		25.21		4.00	SIMMS/ETONIA
GEORGIA PACIFIC - HAWTHORNE PLANT	INDUSTRIAL**		0.01	FLORIDAN AQF	0.00	
PUTNAM CORRECTIONAL FAC.	INSTITUTIONAL		0.05	FLORIDAN AQF	0.00	
FLORIDA POWER & LIGHT - PUTNAM	POWER GEN.		0.14		1.52	ST JOHNS @
SEMINOLE ELECTRIC CORP.	POWER GEN.		0.39		6.19	ST JOHNS @
	Public Supply	22,543				
	Ground	3.15				
	Surface	0.00				

* MINING INDUSTRY
** PULP & PAPER INDUSTRY
@ THIS AREA OF THE ST. JOHNS RIVER IS FRESH WATER

PUTNAM COUNTY ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	800	800	0.79	0.00	0.00	0.79
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	5,500	5,500	7.55	0.00	0.00	7.55
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	200	200	0.43	0.00	0.00	0.43
FRUIT CROPS						
BLUEBERRIES	100	80	0.06	0.00	0.00	0.06
CITRUS	95	46	0.08	0.00	0.00	0.08
GRAPES	10	10	0.02	0.00	0.00	0.02
PEACHES	70	70	0.12	0.00	0.00	0.12
PECANS	100	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	200	200	0.18	0.00	0.00	0.18
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	2,000	500	0.54	0.02	0.00	0.56
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	400	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	2,500	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	1,100	1,100	4.52	1.13	0.00	5.65
FLOWERS & FOLIAGE	250	250	0.45	0.00	0.00	0.45
WOODY ORNAMENTALS	100	100	0.92	0.00	0.00	0.92
IMPROVED PASTURE	37,000	830	0.69	0.04	0.00	0.73
SOD	220	220	0.71	0.00	0.00	0.71
TURF GRASS (GOLF)	196	76	0.26	0.00	0.00	0.26
TURF GRASS (OTHER)	25	25	0.05	0.00	0.00	0.05
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.25	0.16	0.00	0.41
FISH FARMING	0	0	2.86	0.00	0.00	2.86
	50,866	10,007	20.48	1.35	0.00	21.83

SPRINKLER ACREAGE	2,677
LOW PRESSURE ACREAGE	80
FLOOD ACREAGE	7,250
TOTAL IRRIGATED ACREAGE	10,007


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Putnam County
Monthly Public Supply Water Use, 1990
MGD
5
4
3
2
1
0
Jan
Jun
Dec

ST. JOHNS COUNTY DATA - 1990

TOTAL POPULATION	83,829	
TOTAL LAND AREA	660	SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	83,829	
PUBLIC SUPPLY	66,138	
SELF-SUPPLIED	17,691	
PER CAPITA	127	
LAND AREA	(ACRES)	
TOTAL AREA	422,400	660 SQ. MILES
FARMED	31,402	
IRRIGATED	26,721	

****

1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	8.39	0.00	8.39	0.00
DOMESTIC SELF-SUPPLY	2.25	0.00	2.25	0.00
COM/IND. SELF-SUPPLY	0.09	0.00	0.09	0.00
AGRICULTURAL IRR.	40.54	1.39	41.93	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	2.04	0.00	2.04	0.00
	53.31	1.39	54.70	0.00

TOTAL GROUND	53.31
TOTAL SURFACE	1.39
COUNTY TOTAL	54.70

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN ST. JOHNS COUNTY

USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	SOURCE	WITHDRAWAL SURFACE	SOURCE
ANASTASIA/MAINLAND WATER SYSTEM	PUBLIC SUPPLY	17,949	2.17	SURF/FL AQF	0.00	
FOUNTAIN CONDOMINIUMS	PUBLIC SUPPLY	392	0.04	FLORIDAN AQF	0.00	
FRUIT COVE OAKS S/D	PUBLIC SUPPLY	450	0.06	FLORIDAN AQF	0.00	
GDU - JULINGTON CREEK S/D	PUBLIC SUPPLY	276	0.04	FLORIDAN AQF	0.00	
HASTINGS - CITY OF	PUBLIC SUPPLY	595	0.11	SURF/FL AQF	0.00	
INTERCOASTAL UTILITIES	PUBLIC SUPPLY	3,755	0.72	FLORIDAN AQF	0.00	
NORTH BEACH WATER SYSTEM	PUBLIC SUPPLY	1,244	0.21	FLORIDAN AQF	0.00	
PALM VALLEY WATER SYSTEM	PUBLIC SUPPLY	459	0.12	FLORIDAN AQF	0.00	
PONCE DeLEON UT.- GOODWIN BEACH	PUBLIC SUPPLY	360	0.05	FLORIDAN AQF	0.00	
PONTE VEDRA UTILITIES	PUBLIC SUPPLY	4,263	0.84	FLORIDAN AQF	0.00	
ST. AUGUSTINE - CITY OF	PUBLIC SUPPLY	18,457	1.83	SURF/FL AQF	0.00	
ST. AUGUSTINE SHORES UTILITIES	PUBLIC SUPPLY	5,463	0.38	SURFICIAL AQF	0.00	
ST. JOHNS FOREST (CR 210)	PUBLIC SUPPLY	(a)	0.01	FLORIDAN AQF	0.00	
ST. JOHNS NORTH UTILITY	PUBLIC SUPPLY	381	0.08	FLORIDAN AQF	0.00	
ST. JOHNS SERVICE CO.	PUBLIC SUPPLY	10,878	1.55	FLORIDAN AQF	0.00	
S. PONTE VEDRA BEACH UTILITIES	PUBLIC SUPPLY	718	0.08	FLORIDAN AQF	0.00	
SSU - REMINGTON FOREST	PUBLIC SUPPLY	98	0.02	FLORIDAN AQF	0.00	
WESLEY MANOR WATER SYSTEM	PUBLIC SUPPLY	400	0.08	FLORIDAN AQF	0.00	
BORDON/WISE POTATO CHIP PLANT	INDUSTRIAL		0.02	FLORIDAN AQF	0.00	
G & M UNION 76 TRUCK STOP	COMMERCIAL		0.02	FLORIDAN AQF	0.00	
FLORIDA DOT - I95 REST FAC.	INSTITUTIONAL		0.04	FLORIDAN AQF	0.00	
KOA CAMPGROUND	INSTITUTIONAL		0.01	FLORIDAN AQF	0.00	
	Public Supply	66,138				
	Ground	8.39				
	Surface	0.00				

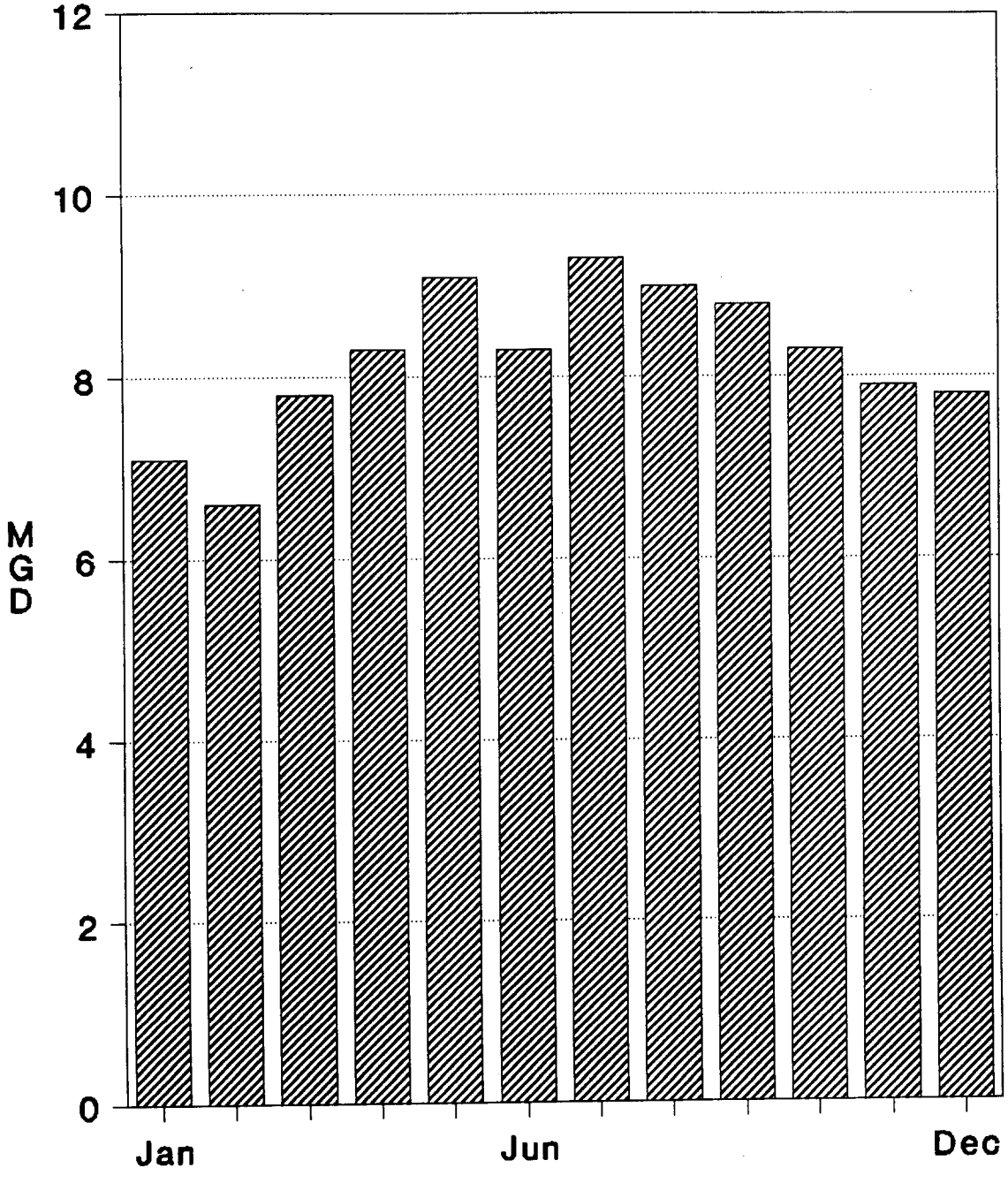
(a) NEW HOUSING DEVELOPMENT, POPULATION UNKNOWN IN 1990.

ST. JOHNS COUNTY ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	1,000	1,000	0.79	0.00	0.00	0.79
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	0	0	0.00	0.00	0.00	0.00
PEPPERS	0	0	0.00	0.00	0.00	0.00
POTATOES	21,000	21,000	27.23	0.00	0.00	27.23
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	500	500	1.62	0.00	0.00	1.62
FRUIT CROPS						
BLUEBERRIES	20	20	0.02	0.00	0.00	0.02
CITRUS	0	0	0.00	0.00	0.00	0.00
GRAPES	10	10	0.02	0.00	0.00	0.02
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	2,000	2,000	2.22	0.00	0.00	2.22
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	0	0	0.00	0.00	0.00	0.00
FLOWERS & FOLIAGE	25	25	0.08	0.00	0.00	0.08
WOODY ORNAMENTALS	75	75	0.69	0.00	0.00	0.69
IMPROVED PASTURE	5,500	1,000	0.87	0.00	0.00	0.87
SOD	60	60	0.19	0.00	0.00	0.19
TURF GRASS (GOLF)	1,192	1,011	2.21	1.29	0.98	3.50
TURF GRASS (OTHER)	20	20	0.04	0.00	0.01	0.04
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.25	0.10	0.00	0.35
FISH FARMING	0	0	4.31	0.00	0.00	4.31
	31,402	26,721	40.54	1.39	0.99	41.93

SPRINKLER ACREAGE	1,166
LOW PRESSURE ACREAGE	55
FLOOD ACREAGE	25,500
TOTAL IRRIGATED ACREAGE	26,721

ST JOHNS RIVER WATER MANAGEMENT DISTRICT
St Johns County
Monthly Public Supply Water Use, 1990



SEMINOLE COUNTY DATA - 1990

TOTAL POPULATION	287,529	
TOTAL LAND AREA	352	SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	287,529	
PUBLIC SUPPLY	270,791	
SELF-SUPPLIED	16,738	
PER CAPITA	188	
LAND AREA	(ACRES)	
TOTAL AREA	225,280	352 SQ. MILES
FARMED	14,310	
IRRIGATED	6,198	

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1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY	50.79	0.00	50.79	0.00
DOMESTIC SELF-SUPPLY	3.15	0.00	3.15	0.00
COM/IND. SELF-SUPPLY	0.49	0.00	0.49	0.00
AGRICULTURAL IRR.	11.19	1.80	12.99	0.00
POWER GENERATION S-S	0.00	0.00	0.00	0.00
MISCELLANEOUS	5.82	0.00	5.82	0.00
	71.44	1.80	73.24	0.00

TOTAL GROUND	71.44
TOTAL SURFACE	1.80
COUNTY TOTAL	73.24

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN SEMINOLE COUNTY

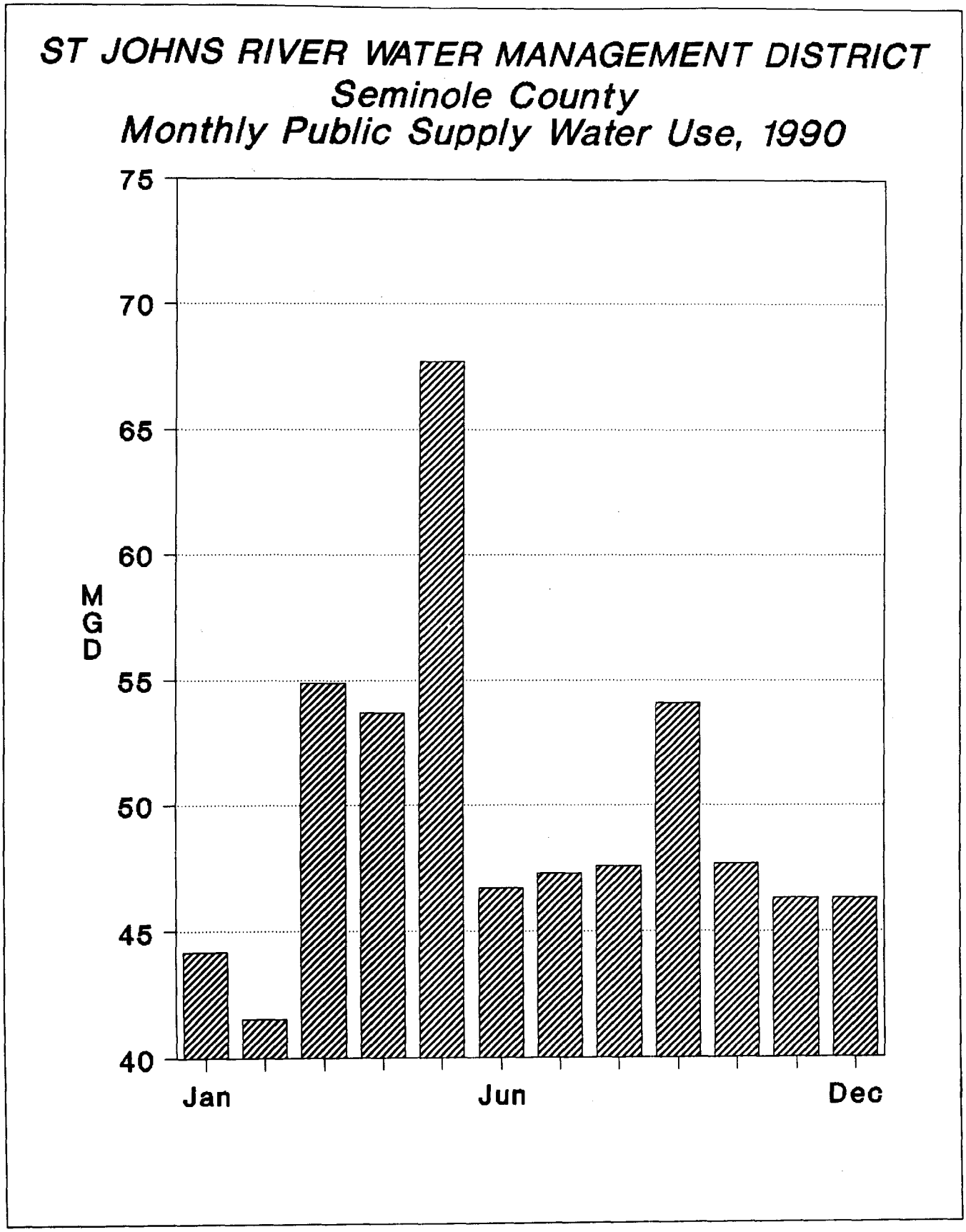
USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	SOURCE	WITHDRAWAL SURFACE	SOURCE
ALTAMONTE SPRINGS - CITY OF	PUBLIC SUPPLY	34,879	8.00	FLORIDAN AQF	0.00	
CASSELBERRY - CITY OF	PUBLIC SUPPLY	46,464	5.98	FLORIDAN AQF	0.00	
INDIAN CREEK - SEMINOLE PINES	PUBLIC SUPPLY	277	0.06	FLORIDAN AQF	0.00	
LAKE HARNEY WATER ASSOC.	PUBLIC SUPPLY	449	0.03	FLORIDAN AQF	0.00	
LAKE MARY - CITY OF	PUBLIC SUPPLY	5,929	1.14	FLORIDAN AQF	0.00	
LONGWOOD - CITY OF	PUBLIC SUPPLY	13,316	2.21	FLORIDAN AQF	0.00	
LUTHERN HAVEN WATER SYSTEM	PUBLIC SUPPLY	435	0.04	FLORIDAN AQF	0.00	
MULLET LAKE WATER ASSOC.	PUBLIC SUPPLY	550	0.04	FLORIDAN AQF	0.00	
OVIEDO - CITY OF	PUBLIC SUPPLY	11,114	1.99	FLORIDAN AQF	0.00	
PALM VENTURES MHP	PUBLIC SUPPLY	687	0.16	FLORIDAN AQF	0.00	
SANFORD - CITY OF	PUBLIC SUPPLY	32,063	5.63	FLORIDAN AQF	0.00	
SANLANDO UTILITIES	PUBLIC SUPPLY	39,113	10.43	FLORIDAN AQF	0.00	
SEMINOLE COUNTY WATER & SEWER	PUBLIC SUPPLY	41,754	9.15	FLORIDAN AQF	0.00	
SOUTHERN STATES UTILITIES	PUBLIC SUPPLY	9,615	1.43	FLORIDAN AQF	0.00	
UTILITIES INC. OF FLORIDA	PUBLIC SUPPLY	10,905	0.90	FLORIDAN AQF	0.00	
WINTER SPRINGS - CITY OF (a)	PUBLIC SUPPLY	23,241	3.60	FLORIDAN AQF	0.00	
DEEP SOUTH PROCESSING PLANT	INDUSTRIAL		0.23	FLORIDAN AQF	0.00	
I-4 INDUSTRIAL PARK	INDUSTRIAL		0.17	FLORIDAN AQF	0.00	
UNITED TECHNOLOGY (STROMBERG)	INDUSTRIAL		0.05	FLORIDAN AQF	0.00	
IRON BRIDGE FAC.	INSTITUTIONAL		0.02	FLORIDAN AQF	0.00	
LAKE SYLVAN PARK - SCW&S	INSTITUTIONAL		0.02	FLORIDAN AQF	0.00	
	Public Supply	270,791				
	Ground	50.79				
	Surface	0.00				

(a) THE CITY OF WINTER SPRINGS INCLUDES SEMINOLE UTILITIES (ACQUIRED DURING 1990).

SEMINOLE COUNTY ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	400	300	0.24	0.00	0.00	0.24
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	400	300	0.34	0.00	0.00	0.34
PEPPERS	200	200	0.23	0.00	0.00	0.23
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	10	10	0.03	0.00	0.00	0.03
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	1,105	900	1.02	0.00	0.00	1.02
FRUIT CROPS						
BLUEBERRIES	5	5	0.01	0.00	0.00	0.01
CITRUS	1,024	1,024	1.69	0.00	0.00	1.69
GRAPES	0	0	0.00	0.00	0.00	0.00
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	0	0	0.00	0.00	0.00	0.00
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	15	15	0.01	0.00	0.00	0.01
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	80	80	0.09	0.00	0.00	0.09
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	20	20	0.10	0.00	0.00	0.10
FLOWERS & FOLIAGE	560	560	2.23	0.00	0.00	2.23
WOODY ORNAMENTALS	160	160	0.98	0.19	0.00	1.17
IMPROVED PASTURE	7,000	490	0.45	0.00	0.00	0.45
SOD	320	320	0.75	0.00	0.00	0.75
TURF GRASS (GOLF)	2,875	1,678	2.73	0.69	1.47	3.42
TURF GRASS (OTHER)	136	136	0.21	0.01	1.68	0.22
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.08	0.91	0.00	0.99
FISH FARMING	0	0	0.00	0.00	0.00	0.00
	14,310	6,198	11.19	1.80	3.15	12.99

SPRINKLER ACREAGE	4,007
LOW PRESSURE ACREAGE	356
FLOOD ACREAGE	1,835
TOTAL IRRIGATED ACREAGE	6,198


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Seminole County
Monthly Public Supply Water Use, 1990
75
70
65
60
55
50
45
40
MGD
Jan
Jun
Dec

VOLUSIA COUNTY DATA - 1990

TOTAL POPULATION	370,712	
TOTAL LAND AREA	1,207	SQ. MILES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

POPULATION		
TOTAL	370,712	
PUBLIC SUPPLY	321,635	
SELF-SUPPLIED	49,077	
PER CAPITA	137	
LAND AREA	(ACRES)	
TOTAL AREA	772,480	1,207 SQ. MILES
FARMED	13,267	
IRRIGATED	10,280	

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1990 WATER WITHDRAWALS (mgd) by CATEGORY

	FRESH WATER			SALINE WATER
	GROUND	SURFACE	TOTAL	SURFACE
PUBLIC SUPPLY (1)	44.21	0.00	44.21	0.00
DOMESTIC SELF-SUPPLY	6.72	0.00	6.72	0.00
COM/IND. SELF-SUPPLY	0.68	0.00	0.68	0.00
AGRICULTURAL IRR.	23.03	4.50	27.53	0.00
POWER GENERATION S-S	0.44	198.85	199.29	0.00
MISCELLANEOUS	2.14	0.00	2.14	0.00
	77.22	203.35	280.57	0.00

TOTAL GROUND	77.22
TOTAL SURFACE	203.35
COUNTY TOTAL	280.57

(1) INCLUDES 0.04 mgd OF SLIGHTLY SALINE WATER WITHDRAWN (250 to 1000 mg/l chlorides) AND TREATED THROUGH R/O FOR PUBLIC SUPPLY USE.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

1990 INDIVIDUAL WATER USERS IN VOLUSIA COUNTY

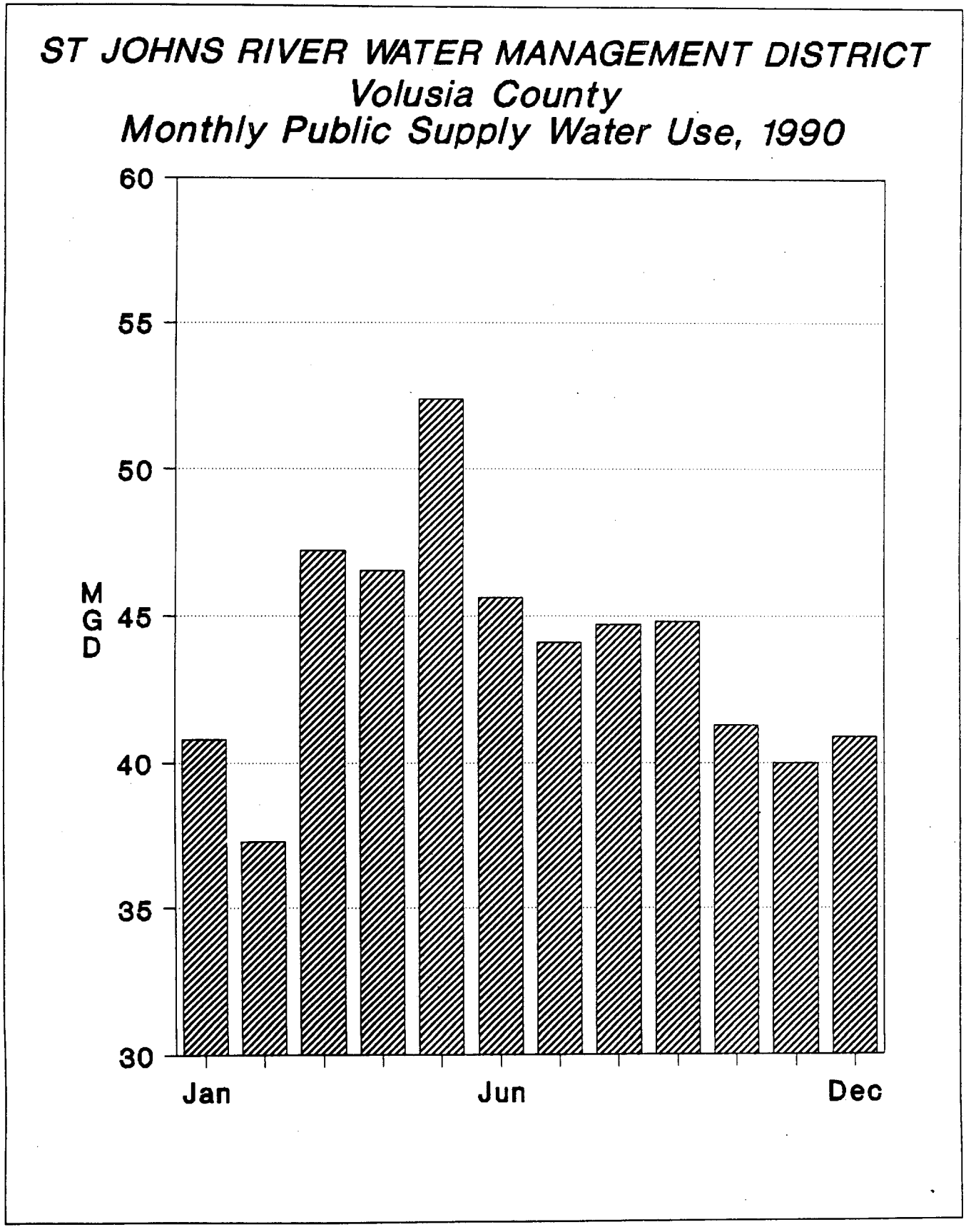
USER UTILITY/FACILITY	USE TYPE	POPULATION SERVED	WITHDRAWAL GROUND	SOURCE	SURFACE	WITHDRAWAL SOURCE
CASSADAGA WATER ASSOC.	PUBLIC SUPPLY	273	0.02	FLORIDAN AQF	0.00	
DAYTONA BEACH - CITY OF	PUBLIC SUPPLY	80,003	12.11	FLORIDAN AQF	0.00	
DELAND - CITY OF	PUBLIC SUPPLY	32,966	3.70	FLORIDAN AQF	0.00	
EDGEWATER - CITY OF	PUBLIC SUPPLY	15,337	1.65	FLORIDAN AQF	0.00	
HACIENDA DEL RIO	PUBLIC SUPPLY	606	0.06	FLORIDAN AQF	0.00	
HALIFAX PLANTATION	PUBLIC SUPPLY	210	0.04	FLORIDAN AQF	0.00	
HIGHLAND COUNTRY ESTATES	PUBLIC SUPPLY	671	0.26	FLORIDAN AQF	0.00	
HOLLY HILL - CITY OF	PUBLIC SUPPLY	11,141	1.07	FLORIDAN AQF	0.00	
JOHN KNOX VILLAGE	PUBLIC SUPPLY	700	0.07	FLORIDAN AQF	0.00	
KINGSTON SHORES WATER ASSOC.	PUBLIC SUPPLY	250	0.02	FLO & R/O	0.00	
LAKE BERESFORD WATER ASSOC.	PUBLIC SUPPLY	986	0.18	FLORIDAN AQF	0.00	
LAKE HELEN - CITY OF	PUBLIC SUPPLY	2,344	0.23	FLORIDAN AQF	0.00	
NEW SMYRNA BEACH - CITY OF	PUBLIC SUPPLY	27,751	4.12	FLORIDAN AQF	0.00	
ORANGE CITY COUNTRY VILLAGE	PUBLIC SUPPLY	1,340	0.20	FLORIDAN AQF	0.00	
ORANGE CITY	PUBLIC SUPPLY	5,347	0.64	FLORIDAN AQF	0.00	
ORMOND BEACH - CITY OF	PUBLIC SUPPLY	45,678	4.76	FLORIDAN AQF	0.00	
PIERSON - TOWN OF	PUBLIC SUPPLY	650	0.04	FLORIDAN AQF	0.00	
PORT ORANGE - CITY OF	PUBLIC SUPPLY	42,802	4.81	FLORIDAN AQF	0.00	
SOUTH WATER FRONT PARK	PUBLIC SUPPLY	610	0.02	FLO & R/O	0.00	
SSU - DELTONA UTILITIES	PUBLIC SUPPLY	42,416	8.95	FLORIDAN AQF	0.00	
SSU - SUGAR MILL	PUBLIC SUPPLY	1,347	0.12	FLORIDAN AQF	0.00	
TERRA MARIE VILLAGE W/S	PUBLIC SUPPLY	200	0.02	FLORIDAN AQF	0.00	
TOMOKA VIEW WATER WORKS	PUBLIC SUPPLY	387	0.05	FLORIDAN AQF	0.00	
TYMBER CREEK UTILITIES	PUBLIC SUPPLY	792	0.10	FLORIDAN AQF	0.00	
VOLUSIA COUNTY UTILITIES	PUBLIC SUPPLY	6,828	0.97	FLORIDAN AQF	0.00	
ARDMORE FARMS	INDUSTRIAL		0.02	FLORIDAN AQF	0.00	
HARMAC MANUFACTURING CO.	INDUSTRIAL		0.01	FLORIDAN AQF	0.00	
SHERWOOD MEDICAL MAN. CO.	INDUSTRIAL		0.18	FLORIDAN AQF	0.00	
SPARTON ELECTRONICS	INDUSTRIAL		0.01	FLORIDAN AQF	0.00	
T.G. LEE - ORANGE CITY	INDUSTRIAL		0.04	FLORIDAN AQF	0.00	
FLORIDA DNR - STATE PARK FAC.	INSTITUTIONAL		0.01	FLORIDAN AQF	0.00	
FLORIDA DOC - TOMOKA STATE FAC.	INSTITUTIONAL		0.20	FLORIDAN AQF	0.00	
FLORIDA DOT - I95 REST FAC.	INSTITUTIONAL		0.01	FLORIDAN AQF	0.00	
KAMPERS KOVE KOA	INSTITUTIONAL		0.02	FLORIDAN AQF	0.00	
VOLUSIA COUNTY GOV. COMPLEX	INSTITUTIONAL		0.18	FLORIDAN AQF	0.00	
FLORIDA POWER & LIGHT - SANFORD	POWER GEN.		0.33		84.84	ST JOHNS *
FLORIDA POWER CORP. - LK. MONROE	POWER GEN.		0.09		114.01	LK MONROE **
FLORIDA POWER CORP. - DEBARY	POWER GEN.		0.02	FLORIDAN AQF	0.00	
	Public Supply	321,635				
	gw	44.21				
	sw	0.00				

* THIS AREA OF THE ST. JOHNS RIVER IS FRESH WATER
** FRESH WATER

VOLUSIA COUNTY ACREAGE AND WATER USE BY CROP FOR 1990

	TOTAL ACRES		WATER USE IN MGD			
	FARMED	IRRIGATED	GROUND	SURFACE	REUSE	TOTAL
VEGETABLE CROPS						
CABBAGE	295	295	0.23	0.00	0.00	0.23
CARROTS	0	0	0.00	0.00	0.00	0.00
CUCUMBERS	300	300	0.34	0.00	0.00	0.34
PEPPERS	80	80	0.09	0.00	0.00	0.09
POTATOES	0	0	0.00	0.00	0.00	0.00
TOMATOES	0	0	0.00	0.00	0.00	0.00
SWEET CORN	0	0	0.00	0.00	0.00	0.00
WATERCRESS	0	0	0.00	0.00	0.00	0.00
MISC. VEGETABLES	700	140	0.16	0.00	0.00	0.16
FRUIT CROPS						
BLUEBERRIES	10	10	0.01	0.00	0.00	0.01
CITRUS	1,198	574	0.86	0.07	0.00	0.93
GRAPES	14	14	0.02	0.00	0.00	0.02
PEACHES	0	0	0.00	0.00	0.00	0.00
PECANS	10	10	0.03	0.00	0.00	0.03
STRAWBERRIES	0	0	0.00	0.00	0.00	0.00
WATERMELLONS	0	0	0.00	0.00	0.00	0.00
MISC. FRUIT	0	0	0.00	0.00	0.00	0.00
FIELD CROPS						
FIELD CORN	0	0	0.00	0.00	0.00	0.00
PEANUTS	0	0	0.00	0.00	0.00	0.00
RICE	0	0	0.00	0.00	0.00	0.00
SORGHUM	0	0	0.00	0.00	0.00	0.00
SOYBEANS	0	0	0.00	0.00	0.00	0.00
SUGAR CANE	0	0	0.00	0.00	0.00	0.00
TOBACCO	0	0	0.00	0.00	0.00	0.00
WHEAT	0	0	0.00	0.00	0.00	0.00
MISC. GRAINS	0	0	0.00	0.00	0.00	0.00
ORNAMENTALS & GRASSES						
FERNS	5,789	5,383	12.42	2.54	0.00	14.96
FLOWERS & FOLIAGE	285	285	1.17	0.00	0.00	1.17
WOODY ORNAMENTALS	97	97	0.76	0.13	0.00	0.89
IMPROVED PASTURE	0	0	0.00	0.00	0.00	0.00
SOD	1,284	1,284	2.99	0.00	0.00	2.99
TURF GRASS (GOLF)	2,960	1,563	3.47	1.09	0.70	4.56
TURF GRASS (OTHER)	245	245	0.23	0.17	0.00	0.40
MISC. AGRICULTURAL						
LIVESTOCK	0	0	0.25	0.50	0.00	0.75
FISH FARMING	0	0	0.00	0.00	0.00	0.00
	13,267	10,280	23.03	4.50	0.70	27.53

SPRINKLER ACREAGE	9,168
LOW PRESSURE ACREAGE	297
FLOOD ACREAGE	815
TOTAL IRRIGATED ACREAGE	10,280


ST JOHNS RIVER WATER MANAGEMENT DISTRICT
Volusia County
Monthly Public Supply Water Use, 1990
60
55
50
45
40
35
30
MGD
Jan
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St. Johns River Water Management District
P. O. Box 1429
Palatka, Florida 32178-1429
(904) 329-4500 Fax: (904) 329-4290