

PRINCIPAL USES OF FRESHWATER IN FLORIDA, 1975

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INTRODUCTION

As a result of Florida's rapid and continuing growth in population and industry, the demand for water for municipal, industrial, and agricultural supply has increased. Information about the extent of available water resources and the present rate of consumption are needed for planning and effective management of Florida's water resources to meet water needs of the future. In 1975, the U.S. Geological Survey and State water management agencies jointly conducted a detailed inventory of water use throughout the State to provide a data base to aid in predicting future water needs. This map portrays some of the information collected, including a generalized display of rates of water use by the counties of the State and the principal purposes for which the water is used. Total water use, in millions of gallons per day, for all uses by counties is shown in the table.

CATEGORIES OF WATER USE

Five categories of water use were established:

Municipal.—All water delivered to a public-water system regardless of the purpose for which the water was used. Water supplied for commercial, agricultural, and industrial use from public-supply pipelines was included under municipal water use. All water systems meeting the following criteria were included: Towns with population greater than 5,000; County Seats; systems meeting wholly or partly with surface water (rivers, lakes); systems using desalination; other self-supplied systems such as residential subdivisions, mobile-home communities, and small rural communities.

Self-supplied industrial.—All industries not supplied from municipal pipelines. Also in this category were self-supplied institutions such as universities, military installations, hospitals, and prisons.

Thermoelectric Power Generation.—All water used for cooling. Most thermoelectric power plants in Florida are located on the coast and use mostly brackish or saline surface water; with a few exceptions, only small amounts of freshwater are used for cooling.

Irrigation.—All water used for growing crops except that supplied from public supply pipelines. Estimates were based on the amounts of water diverted from its source. First, the number of acres of each irrigated crop was determined. Then the source of irrigation supply was determined and an estimate made of the amount of water supplied. This estimate was based on the number of irrigation applications during the year, electric power records, and pump ratings. Optimum application rates as recommended by agricultural agencies for specific crops were not used in this survey. Also included were golf courses and nurseries.

Rural.—Refers to the difference between total county population and population served by all municipal supplies in the county. A per capita water-use rate of 100 gal/d was used. Livestock population was also estimated and a local per capita water-use rate was determined. Includes self-supplied dairies.

WITHDRAWAL AND CONSUMPTION

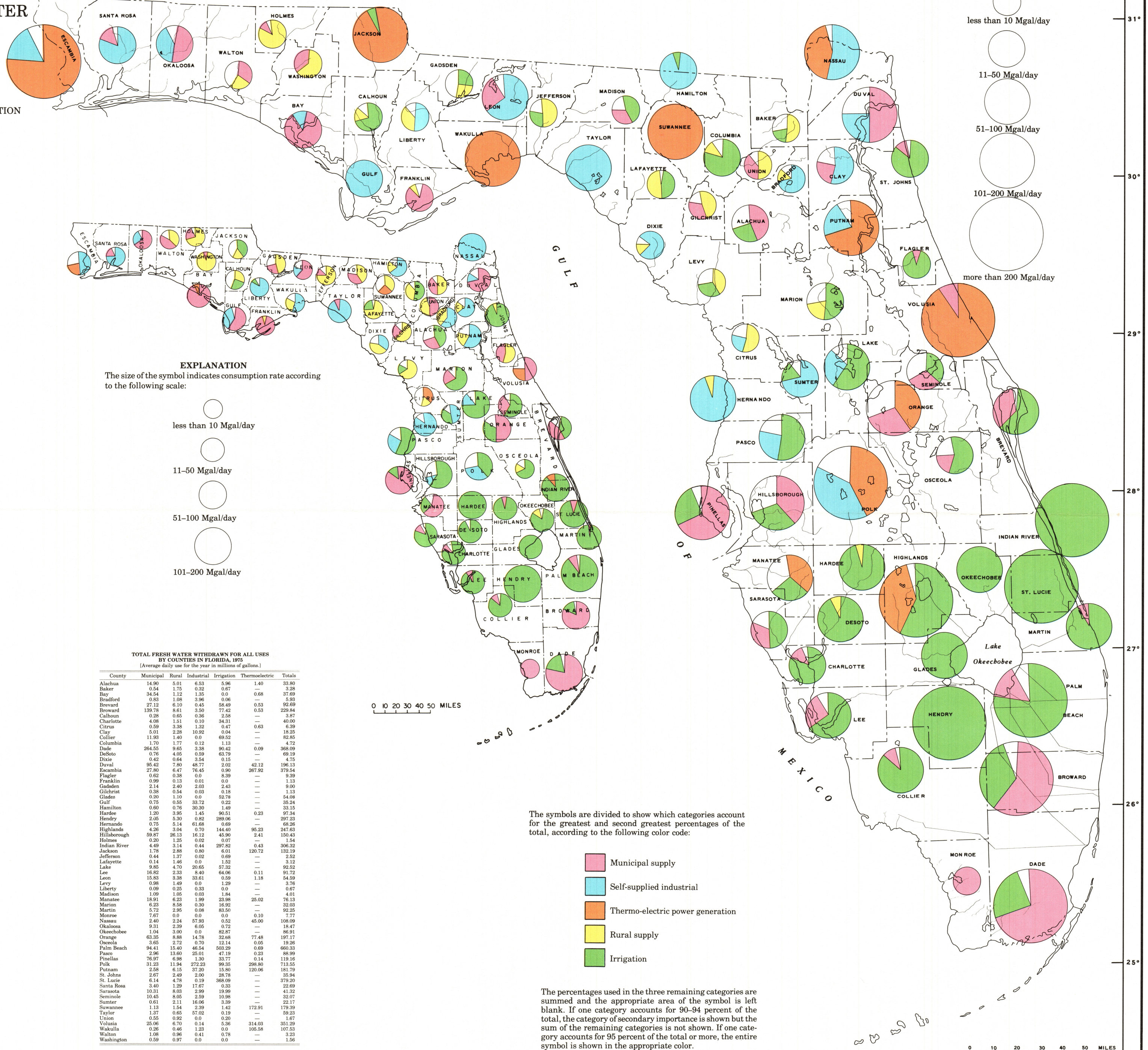
Following the terminology defined by Murray and Reeves (1972), *freshwater* is defined as water with less than 1,000 mg/L of dissolved solids. *Withdrawal* use is defined as the quantity of water withdrawn from its source. Water may be lost during conveyance or may be returned to the stream or aquifer after use. *Consumptive use* is the quantity of water evaporated, transpired by plants, incorporated into a product, or consumed by man and livestock. Some industrial users and thermoelectric power generators may withdraw large quantities of water for processing or cooling but may return most of the water to its source, thereby consuming very little of it. On the other hand, in rural areas, it is assumed that 80 percent of water withdrawn for domestic supply was consumed and 100 percent of water withdrawn for use by livestock was consumed.

The large map shows, by means of symbols, the quantity of freshwater withdrawn from natural sources in each county in Florida in 1975. The symbols are divided to show the water-use categories which account for the largest and second largest percentages of the total withdrawal. The smaller map shows the quantity of water consumed in each county in 1975. On this map, the symbols also indicate the two categories which account for the largest percentages of the total consumptive use.

These maps give a general overview of freshwater use in Florida; a detailed tabulation and discussion of withdrawal and consumption for each county in Florida is being prepared by the U.S. Geological Survey (Leach, 1978).

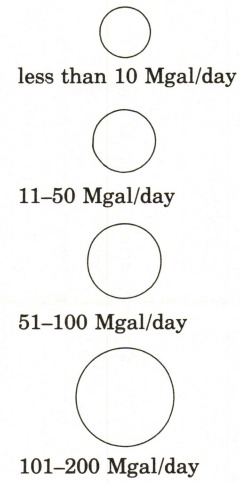
REFERENCES

- Leach, S. D.
1978 Source, use, and disposition of water in Florida, 1975: U.S. Geol. Survey, Water Resources Inv. 78-17.
Murray, C. R., and Reeves, E. B.
1972 Estimated use of water in the United States in 1970: U.S. Geol. Survey Circ. 676, 37 p.



EXPLANATION

The size of the symbol indicates consumption rate according to the following scale:



TOTAL FRESH WATER WITHDRAWN FOR ALL USES BY COUNTIES IN FLORIDA, 1975

[Average daily use for the year in millions of gallons.]

County	Municipal	Rural	Industrial	Irrigation	Thermoelectric	Totals
Alachua	14.90	5.01	6.53	5.96	1.40	33.80
Baker	0.54	1.75	0.32	0.67	—	2.28
Bay	24.54	1.12	1.35	0.0	0.68	27.69
Bradford	0.83	1.08	3.96	0.06	—	5.93
Brevard	27.12	6.10	0.45	58.49	0.53	92.69
Broward	139.78	8.61	5.50	77.42	0.53	229.84
Calhoun	0.28	0.65	0.36	2.58	—	3.87
Charlotte	4.08	1.51	0.10	34.31	—	40.00
Citrus	0.59	3.38	1.32	0.47	0.63	6.39
Clay	5.01	2.28	10.92	0.04	—	18.25
Collier	11.80	1.40	0.0	69.82	—	82.82
Columbia	1.70	1.77	0.12	1.13	—	4.72
Dade	264.55	9.65	3.38	90.42	0.09	368.09
DeSoto	0.76	4.05	0.59	63.79	—	69.19
Dixie	0.42	0.64	0.54	0.15	—	1.75
Duval	95.42	7.80	48.77	2.02	42.12	196.13
Escambia	27.80	6.47	76.45	0.90	287.92	379.54
Flagler	0.62	0.38	0.0	5.39	—	6.39
Franklin	0.99	0.13	0.01	0.0	—	1.13
Gadsden	2.14	2.40	0.03	2.43	—	9.00
Glades	0.38	0.54	0.03	0.18	—	1.13
Glenn	0.30	1.10	0.0	52.78	—	54.08
Gulf	0.75	0.55	39.72	0.22	—	39.24
Hamilton	0.60	0.76	30.30	1.49	—	33.15
Hardee	1.20	3.95	1.45	90.51	0.23	97.34
Hendry	2.05	5.30	0.82	289.06	—	297.23
Hernando	0.75	5.14	61.68	0.69	—	68.26
Highlands	4.26	3.04	0.70	144.40	95.23	247.63
Hillsborough	59.87	26.13	16.12	45.90	2.41	150.43
Holmes	0.20	1.25	0.02	0.07	—	1.54
Indian River	4.49	3.14	0.44	297.82	0.43	306.32
Jackson	1.78	2.88	0.80	6.01	120.72	132.19
Jefferson	0.44	1.27	0.02	0.69	—	2.42
Lafayette	0.14	1.46	0.0	1.52	—	3.12
Lake	9.85	4.70	20.65	57.22	—	92.52
Lee	16.82	2.33	8.40	64.06	0.11	91.72
Leon	15.83	3.38	35.61	0.59	1.18	54.59
Levy	0.98	1.49	0.0	1.29	—	3.76
Liberty	0.09	0.25	0.33	0.0	—	0.67
Madison	0.09	1.05	0.03	0.84	—	1.01
Manatee	18.91	6.23	1.99	23.98	25.02	76.13
Marion	6.23	8.58	0.30	16.92	—	32.03
Martin	5.72	2.95	0.08	83.50	—	92.25
Monroe	7.67	0.0	0.0	0.0	0.10	7.77
Nassau	5.40	2.34	57.93	0.52	45.00	106.09
Okaloosa	9.31	2.39	6.05	0.72	—	18.47
Okeechobee	1.04	3.00	0.0	—	—	4.04
Orange	63.35	8.88	14.78	32.88	77.48	197.17
Osceola	3.65	2.72	0.70	12.14	0.05	19.26
Palm Beach	94.41	15.40	46.54	500.29	0.69	660.33
Pasco	2.96	13.60	25.01	47.19	0.23	88.99
Pinellas	76.97	6.98	1.30	33.77	0.14	119.16
Polk	31.23	11.94	272.23	99.35	298.80	713.55
Putnam	2.58	6.15	37.20	15.80	120.06	181.79
St. Johns	2.67	2.49	2.00	28.78	—	35.94
St. Lucie	6.14	4.78	0.19	368.09	—	379.20
Santa Rosa	2.40	1.29	17.67	0.35	—	22.69
Sarasota	10.31	8.03	2.99	19.99	—	41.32
Seminole	10.45	8.05	2.59	10.98	—	32.07
Sumter	0.61	2.11	16.06	3.39	—	22.17
Suwannee	1.13	1.54	2.39	1.42	172.91	179.39
Taylor	1.37	0.55	57.02	0.19	—	59.23
Union	0.55	0.92	0.0	0.20	—	1.67
Volusia	25.06	6.70	0.14	5.36	314.03	351.29
Wakulla	0.26	0.46	1.23	0.0	106.58	107.53
Walton	1.08	0.96	0.41	0.78	—	3.23
Washington	0.59	0.97	0.0	0.0	—	1.56