



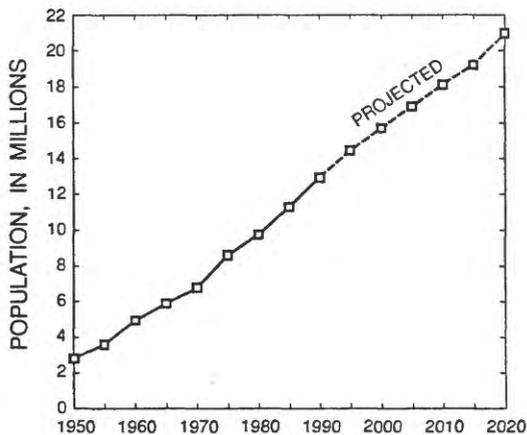
WATER FACT SHEET

U.S. GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR

WATER WITHDRAWALS IN FLORIDA DURING 1990, WITH TRENDS FROM 1950 TO 1990

BACKGROUND

Florida's water resources are one of the State's most valued assets. The State is underlain virtually everywhere by aquifers capable of yielding large quantities of freshwater to wells. Surface-water resources also are ample and include 1,700 streams and rivers and 7,800 freshwater lakes. These resources provide the water for natural and human needs in Florida. The reliance on water is increasing because of the State's growth in population, tourism, and agriculture. Population totals compiled by the U.S. Bureau of Census indicate that in 1990, Florida's population was 12.94 million and that the State ranked fourth in the nation behind California, New York, and Texas. This is an increase of 370 percent (10.17 million) from the 1950 population of 2.77 million, and a 33 percent (3.19 million) increase from the 1980 population of 9.75 million. Florida's population is projected to surpass 15 million by the year 2000, and 20 million by the year 2020. Tourism, which has always been an important part of Florida's economy, is expected to continue to grow and place increasing demands on the water resources. An estimated 41 million tourists visited Florida during 1990. Agriculture, another important part of the economy, relies heavily on the State's water resources for irrigation of citrus, sugar cane, and vegetable crops. Florida was among the nations top ten states in agricultural production in 1990.



Scientific knowledge of the State's water resources is vital to the support of Florida's population, tourism, and agriculture. The amount of water available to support the demand may ultimately determine the future of growth in Florida. As part of a continuing water-use project, the U.S. Geological Survey (USGS), in

cooperation with the Florida Department of Environmental Regulation, determined the quantity of water used in Florida during 1990. Water-use data were collected and compiled by the USGS, the Northwest Florida Water Management District, the St. Johns River Water Management District, the South Florida Water Management District, the Southwest Florida Water Management District, and the Suwannee River Water Management District.

TOTAL WATER WITHDRAWN

The total amount of water withdrawn in Florida in 1990, was 17,897 million gallons per day, of which 7,531 million gallons per day was freshwater (42 percent), and 10,366 million gallons per day was saline (58 percent). Ground water accounted for 62 percent of the freshwater withdrawals (4,664 million gallons per day), and surface water accounted for the remaining 38 percent (2,867 million gallons per day). Surface water accounted for more than 99 percent of the saline withdrawals (10,317 million gallons per day). The Floridan aquifer system, which underlies most of the State, supplied 60 percent of the State's ground-water withdrawals. Surface-water canals, mostly from Lake Okeechobee, supply large amounts of freshwater for use in South Florida. This area is intensively irrigated for sugarcane, vegetables, and citrus and accounted for 55 percent of the State's surface-water withdrawals during 1990.



WATER USE BY CATEGORY

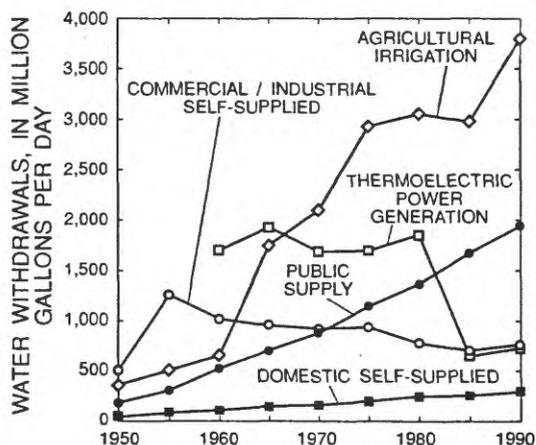
Water-use data for 1990 were collected and compiled in Florida for the following categories; public supply, self-supplied domestic, self-supplied commercial/industrial, agricultural irrigation, and thermoelectric-power generation. Agricultural irrigation accounted for the majority of fresh ground- and surface-water withdrawals in 1990. Withdrawals for agricultural irrigation totaled 3,805 million gallons per day, of which nearly 53 percent was ground water, and 47 percent surface water. An additional 170 million gallons per day of reclaimed waste water was used for irrigation purposes during 1990. Withdrawals for public supply in 1990 totaled 1,925 million gallons per day, of which 88 percent was ground-water sources, and 12 percent surface water sources. Nearly 87 percent of Florida's resident population (11.23 million) relies on public supply for their drinking water needs. The remaining 1.71 million residents are on self-supplied systems or are served by small water suppliers not inventoried.

Freshwater withdrawals in Florida by category, 1990
(all values in million gallons per day)

Category	Ground water	Surface water	Total water use
Public supply	1,699	226	1,925
Domestic self-supplied	299	0	299
Commercial/industrial	631	139	770
Agricultural Irrigation	2,012	1,793	3,805
Thermoelectric power generation	23	709	732
State totals	4,664	2,867	7,531

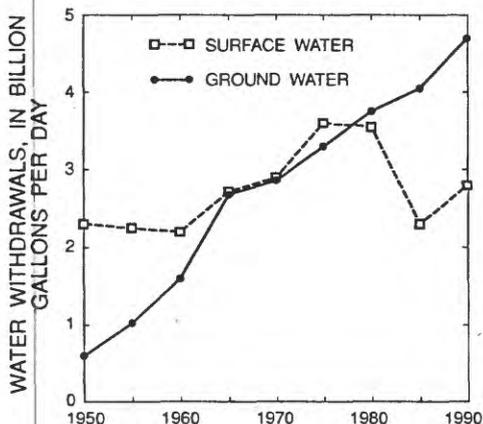
WATER-USE TRENDS

Statewide water-use estimates have been compiled for Florida every five years since 1950, however, variations in historical water-use values are sometimes difficult to interpret because of differences in data-collection techniques and sources of information over the years. Total freshwater withdrawals in Florida increased from 2,820 million gallons per day in 1950 to 7,531 million gallons per day in 1990 (167 percent). However, since 1980, water withdrawals have increased only 3 percent. Water withdrawals for public supply and agricultural irrigation increased dramatically between 1950 and 1990. Water withdrawals for public supply and self-supplied domestic use increased in response to the increases in population between 1950 and 1990. Water used for agricultural irrigation increased sharply in the 1960's and 1970's, but leveled-off during the 1980's. Water withdrawals for self-supplied commercial/industrial use have declined since the mid-1950's, probably as a result of an increase in water-use efficiency at several large



plants and the conversion from self-supplied to public-supplied water at many plants. A large decrease in the amount of water withdrawn (primarily surface water) for thermoelectric-power generation, occurred because many power plants began recycling water for cooling purposes during the early 1980's.

The dependency on ground water as the primary source of water supply in Florida continues to increase. Nearly 62 percent of the total water withdrawn in 1990 was from ground-water sources, compared to 51 percent in 1980, and 21 percent in 1950. Furthermore, in 1990, nearly 90 percent of the residents using public water supply systems (10.0 million people) depended on ground water, as did the 1.71 million residents using self-supplied domestic water systems.



Because of Florida's increasing demand on the State's water resources, information regarding the amount of water withdrawn, where it is used, and current trends are needed. This information will assist water managers in planning for Florida's future water needs.

SELECTED REFERENCES

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Additional information on water use, and trends in water use in Florida can be obtained from:

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