

# Water Supply Planning in Florida

Louis C. Burney, Tom Swihart, and Janet G. Llewellyn

Water supply-related problems exist to varying degrees in all regions of Florida. For some areas, the prospects for cheap, easily developed, clean new sources of water no longer exist. Adequate sources can be developed for such areas, but usually at higher costs than in the past. As the state's population and economic activity expand, competition for finite water resources is a growing source of conflict between the needs of natural systems and agricultural, industrial, and urban interests. These increasing water scarcity problems are compounded by the continuing risk that existing and potential new supplies may experience contamination from a variety of sources, such as septic tanks, municipal landfills, industrial wastes, and agricultural practices. Given these circumstances, the need for comprehensive regional water supply planning has emerged as a priority state issue.

In 1997, the Florida Legislature enacted Chapter 97-160, Laws of Florida, substantially revising Florida's primary water law, Chapter 373, Florida Statutes. The new law clarified water supply responsibilities by directing the five water management districts to establish water supply planning regions, conduct district-wide assessments of the adequacy of existing and reasonably anticipated water supply sources, and initiate regional water supply planning for those planning regions where existing or reasonably anticipated water supply sources are determined inadequate to meet 20-year projected needs. The water management districts were also assigned the primary responsibility for conducting water resource development, while primary responsibility for water supply development was assigned to local governments, regional water supply authorities, and private utilities. The new legislation, section 373.0361 (5), Florida Statutes, also requires DEP to submit an annual report to the governor and legislature on the status of regional water supply planning.

## Water Use in Florida

No state east of the Mississippi River consumes more fresh

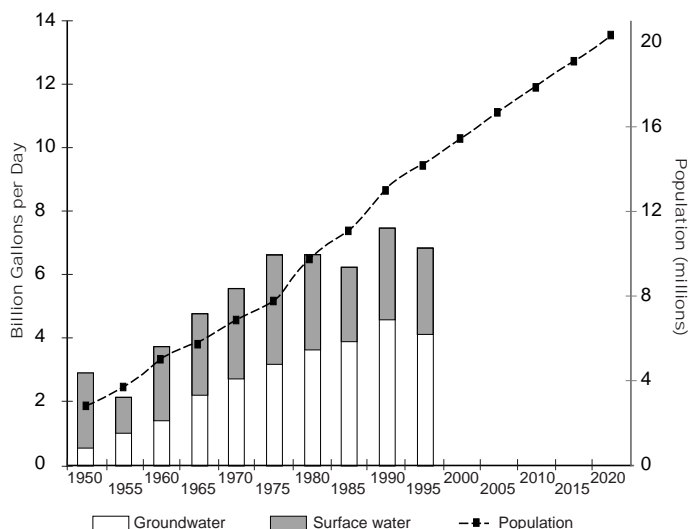


Figure 1. Total Fresh Water Withdrawals and Population

water than Florida. As indicated in Figure 1, Floridians withdrew about 7.1 billion gallons of fresh water per day in 1995, slightly more than double the amount withdrawn in 1950 when records of statewide water use began. Although it appears that Florida's total fresh

water withdrawals have increased less over the last two decades than the rate of population growth, there is little evidence to suggest that the trend will continue. The state's population is projected to steadily increase to about 20.3 million by 2020, placing further demands on water resources that are already stressed in certain areas.

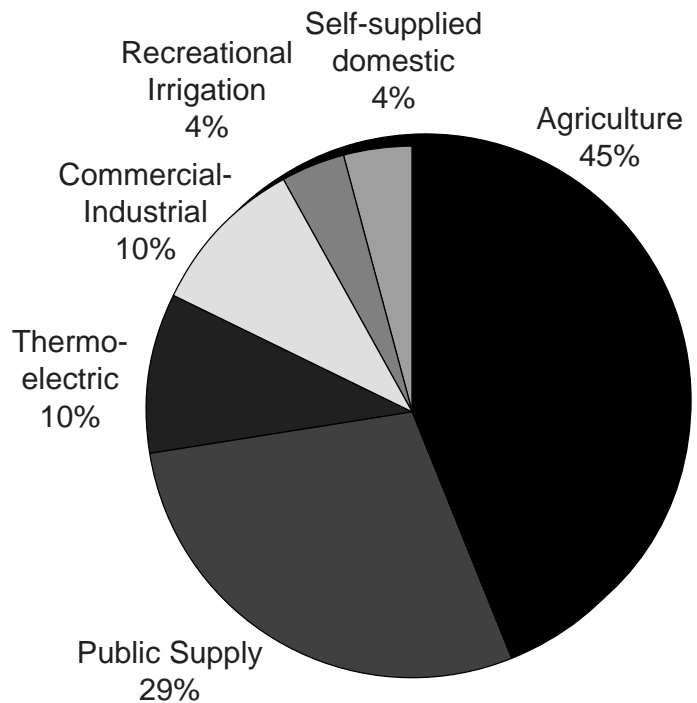


Figure 2. Fresh Water Withdrawals by Category: 1995

The largest single use of fresh water is agriculture, followed by public supply, thermoelectric power plants, self-supplied commercial-industrial uses, and self-supplied domestic uses. As indicated in Figure 2, agricultural irrigation accounted for about 45 percent of the total 1995 fresh water use, compared to about 29 percent for public water supplies. About sixty-one percent of total fresh water used in 1995 was from ground water sources. About 13.2 million (over 90%) of Florida's 14.2 million residents rely on groundwater for drinking water (11.2 million for public supply systems and 2 million from self-supply).

Water use varies widely around the state. As indicated by Figure 3, greatest withdrawals occur in the South Florida Water Management District, while the lowest withdrawals occur in the Suwannee River Water Management District. These trends reflect geographic differences in population and economic activities.

## Water Supply Assessments, Planning Regions and Plan Development

District-wide water supply assessments are underway or have been completed by each water management district, and a total of 17 water supply planning regions have been established statewide. A planning horizon of 2020 was chosen for both regional water supply assessments and water supply plans. The SJRWMD is developing a single water supply plan encompassing the entire district. Three regional water supply plans are currently under development in SWFWMD. In SWFWMD, a water supply plan for the

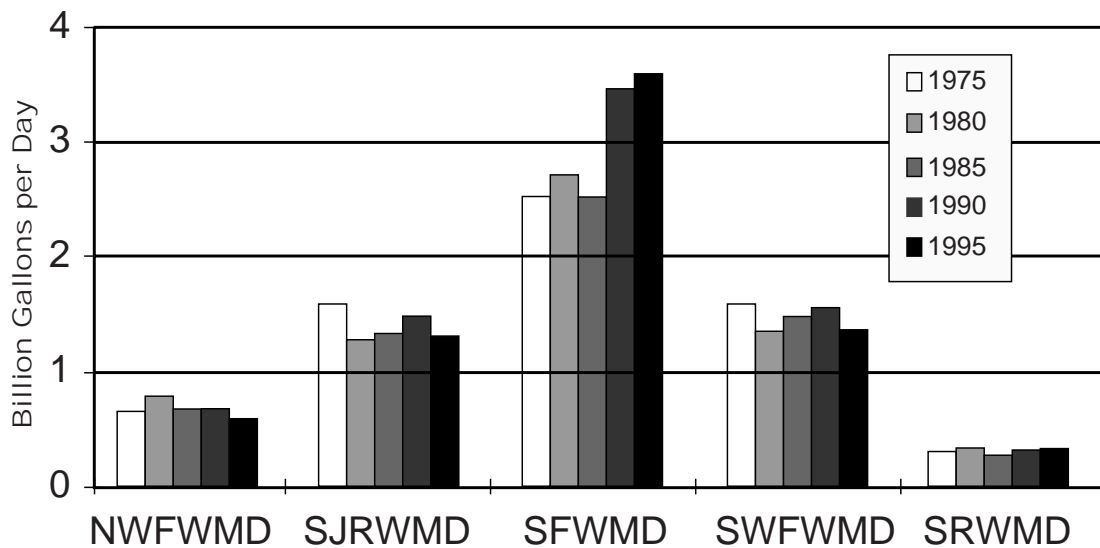


Figure 3. Total Fresh Water Withdrawals by Water Management District (1975-1995)

Lower West Coast Planning Region was completed in 1994. This plan must be revised to comply with the new statutory requirements. In February 1998, SFWMD completed a water supply plan for the Upper East Coast Planning Region that complies with the new statutory requirements. In March 1998, SFWMD approved an Interim Plan for the Lower East Coast Planning Region, but its finalization must await completion of the Comprehensive Review Study (Restudy) of the Central and Southern Florida Project. As soon as practicable, all regional water supply plans initiated or

completed prior to July 1, 1997 will be revised to conform to requirements of the 1997 amendments.

#### Summary of Legislative Requirements and Progress to Date

WMD	Planning Regions Established	Assessments Completed	Plans Initiated	Plans Completed
NFWMD	7	7		
SRWMD	1	1		
SJRWMD	1	1	1	
SWFWMD	4	4	3	
SFWMD	4	4	3	1

#### Budget Considerations

The water management districts' budgets are not currently structured to easily separate out the costs specifically for "water resource" and "water supply" development projects as required by the 1997 amendments. During the development of regional water supply plans, and in working with the governor's office to formulate a comprehensive budget review process, the districts will develop the capability to separate out the costs for these two activities as required by statute. The total estimated funds budgeted for WMD activities related to water resource development and water supply development during Fiscal Year 1997-98 are approximately \$241 million.

#### Prospects

Under Florida's current system of water management, water resources are managed for multiple public purposes. To be effective, water supply solutions must be tailored to the needs of particular geographic areas, and consider the full range of potential water supply options. Regional water supply planning, implemented within the context of comprehensive water resource planning, presents a monumental challenge for Florida, but its success is critical to meeting the future water needs of Florida's growing population while ensuring long-term sustainability of the state's water resources and related natural systems.

*The authors are with the Office of Water Policy, Florida Department of Environmental Protection*