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Water Withdrawals, Use, Discharge, and Trends in Florida, 1995

U.S. GEOLOGICAL SURVEY
Water-Resources Investigations Report 99-4002

Prepared in cooperation with the
FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

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By RICHARD L. MARELLA

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Tallahassee, Florida
1999

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CONVERSION FACTORS, ABBREVIATIONS AND ACRONYMS

Multiply	By	To obtain
acre	4,047	square meter
acre	0.00156	square mile
square mile	2.59	square kilometer
gallons per day (gal/d)	3.785	liters per day
gigawatthour (GWh)	1,000	megawatthour
gigawatthour (GWh)	1,000,000	kilowatthour
million gallons per day (Mgal/d)	0.003785	million cubic meters per day
acre feet	0.325851	million gallons (Mgal)

FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection (formerly FDER)
FDER	Florida Department of Environmental Regulation
IFAS	Institute of Food and Agricultural Science (University of Florida)
NRCS	Natural Resources Conservation Service (Department of Agriculture)
NWFWMD	Northwest Florida Water Management District
SJRWMD	St. Johns River Water Management District
SFWMD	South Florida Water Management District
SWFWMD	Southwest Florida Water Management District
SRWMD	Suwannee River Water Management District
USGS	U.S. Geological Survey
WRD	Water Resources Division

GLOSSARY

Advanced wastewater treatment. -- Any treatment of sewage that goes beyond the secondary or biological water treatment stage and includes the removal of nutrients, such as phosphorus and nitrogen and a high percentage of suspended solids. This treatment is more stringent than secondary treatment, and requires an 85 percent reduction in conventional pollutant concentrations or a significant reduction in non-conventional pollutants (U.S. Environmental Protection Agency, 1997, written commun.).

Agriculture water use.--Includes water used for agricultural irrigation and nonirrigation purposes. Irrigation water use includes the artificial application of water on lands to assist in the growing of crops, plants, and pasture, or to maintain vegetative growth in recreational lands, parks, and golf courses. Nonirrigation water use includes water used for livestock, fish farming, and other farm needs. Livestock water use includes water used for stock watering, feedlots, and dairy operations.

Commercial water use.--Water for motels, hotels, restaurants, office buildings, commercial facilities and civilian and military institutions. The water may be obtained from a public supply or may be self-supplied.

Community water system.--A public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents (Florida Department of Environmental Regulation, 1990a).

Consumptive use.--That part of water withdrawn that is evaporated, transpired, incorporated into products or crops, consumed by humans or livestock, or otherwise removed from the immediate water environment. Sometimes called water consumed or water depleted.

Cooling pond.--Usually a manmade water body used by power plants or large industrial plants that enables the facility to recirculate once-through cooling water. The water levels in the pond are usually maintained by rainfall or augmented by pumping (withdrawal of) water from another source (fresh, saline, or reclaimed).

Cooling tower.--A large tower or stack that is used for heat exchange of once-through cooling water generated by steam condensers. Hot water from the plant is sprayed into the top of the tower and exchanges heat with the passing air as it falls. The water is then collected at the bottom of the tower and used again. A small amount of water is lost (consumed) through evaporation in this process. See cooling water or once-through cooling.

Cooling water.--Water used for cooling purposes by electric generators, steam condensers, large machinery or products at power or industrial plants. Water used for cooling purposes can be either fresh, saline, or reclaimed and may be used only once or recirculated multiple times. See cooling pond or once-through cooling water.

Desalination.--The removal of salts from water. Desalination is primarily used for public-supply water to ensure that it meets Florida Department of Environmental Protection secondary drinking standards. The three primary types of desalination used in Florida are: (1) distillation, (2) electrodialysis processes, and (3) reverse osmosis processes (Buros, 1989, South Florida Water Management District, 1990). The reverse osmosis processes are the most commonly used in Florida followed by electrodialysis (Dykes and Conlon, 1989). In addition to these three desalination processes, many public suppliers also dilute or blend brackish or saline water with fresher water to produce potable water. Also see reverse osmosis.

Dewatering.--The deliberate attempt to lower the ground-water level in or below land surface for selected purposes such as agricultural, construction, mining or other activities. For mining operation, dewatering usually is accomplished by pumping the water out of the ground and discharging to a surface-water body. However, some dewatering involves gravity feeding water from the surficial aquifer into a deeper aquifer (usually the Floridan aquifer system) through recharge wells (Campbell,

1986). In Florida, this discharge usually requires a permit from the Florida Department of Environmental Protection.

Domestic wastewater facility.--Facilities that receive or dispose of wastewater derived principally from residential dwellings, business or commercial buildings, institutions, and the like (Florida Department of Environmental Regulation, 1991). Can also include some wastewater derived from industrial facilities. May also be referred to as a municipal wastewater facility.

Domestic water use.--Water for normal household purposes, such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens. Also called residential water use. The water can be obtained from a public supply or be self-supplied.

Effluent.--Water that flows out of a wastewater treatment facility or other works used for the purpose of treating, stabilizing, or holding waste.

Flood irrigation.-- Irrigation systems that control the water table with lateral supply ditches. These include open field ditch systems (furrows), semi-closed conveyance systems, subsurface conduit systems, crown flood systems, and continuous flood systems. Also includes seepage or subsurface irrigation systems. The efficiencies of these flood irrigation systems range from 20 to 80 percent (Smajstrla and others, 1988), however, an average of 60 percent is commonly used for estimating water requirements. May also be referred to as subsurface irrigation.

Freshwater.--Water that contains less than 1,000 milligrams per liter (mg/L) of dissolved solids; generally, more than 500 mg/L is considered undesirable for drinking and many industrial uses. Generally, freshwater is considered potable.

Gigawatthour (GWh).--A measure of electricity, one billion watthours.

Ground water.--Specifically, that part of the subsurface water that is in the saturated zone (a zone in which all voids are filled with water).

Ground-water disposal.--Wastewater that is disposed of through the ground either by injection or seepage. This includes the following discharge methods; absorption beds, injection wells, drainfields, percolation ponds, rapid infiltration basins, spray fields, and land application systems (Marella, 1994). Land application systems or reuse systems are considered a ground-water disposal as treated wastewater used to irrigate is generally intended to filter down through the soil.

Hydroelectric power water use.--The use of water in the generation of electricity at plants where the turbine generators are driven by falling water. This is considered an instream use of water.

Industrial wastewater facility.--Facilities that produce, treat or dispose of wastewater not otherwise defined as a domestic wastewater; includes the runoff and leachate from areas that receive pollutants associated with industrial or commercial storage, handling, or processing (Florida Department of Environmental Regulation, 1991).

Industrial water use.--Water used for industrial purposes such as fabricating, processing, washing, and cooling, and includes such industries as steel, chemical and allied products, paper and allied products, mining, and petroleum refining. The water can be obtained from a public supply or be self-supplied.

Instream use.--Water use taking place within a stream channel for such purposes as hydroelectric power generation, navigation, water-quality improvement, fish and wildlife propagation, and recreation. Sometimes called nonwithdrawal use or in-channel use.

Micro-irrigation.--Irrigation systems that apply water directly to, or very near, the soil surface, either above the ground or into the air, in discrete drops, continuous drops, small streams, mist, or sprays. These include drip systems, spray systems, jet systems, and bubbler systems. Also referred to as drip, low pressure or low volume irrigation. The efficiencies of these micro-irrigation systems range from 75 to 95 percent (Smajstrla and others, 1988), however, an average of 80 percent is commonly used for estimating water requirements.

Mining water use.--Water used for the extraction of minerals and liquids. Mining also includes water used for milling (such as crushing, screening, washing, and flotation), environmental purposes (such as dust control and wetland restoration or maintenance), material conveyance, dewatering, and domestic uses on the premises. Generally, most of the water used at a mining operation is self-supplied.

Navigational water use.--Water utilized as a means of commercial (and sometimes recreational) transportation. Includes water used to lift a vessel in a lock, or maintain a navigable channel level. Navigational water use is considered a nonconsumptive instream use of water and is generally not measured.

Net water use.--Water withdrawals plus or minus water transfers. In most counties, the net water use and water withdrawals are equal. However, in counties involved in water transfers (imports and exports), the net water use represents the actual amount of water used regardless of the amount of water withdrawn. In Florida, water transfers are mostly found in the public supply category. Also see water transfers.

Non-Community water system.--A public water system which provides piped water for human consumption to at least 15 service connections or which serves at least 25 individuals at least 60 days out of the year but which is not a community water system. The difference between a community water system and a non-community water system is that the former serves inhabitants whereas the latter serves transients or non-residents who other wise do not inhabit the building served by the system. (Florida Department of Environmental Regulation, 1990a).

Non-Transient Non-Community water system.--A public water system that is not a community water system and that regularly serves at least 25 of the same persons over a 6 month period. (Florida Department of Environmental Regulation, 1990a).

Once-through cooling water.--Water (fresh or saline) that is withdrawn from a river, stream or other water body (manmade or natural), or a well, that is passed through a steam condenser one time, and then returned to the river or stream or other water body some distance from the intake (Hughes, 1975). Once-through cooling water is used to exchange the heat from the steam condensers to the cooler water. This method of cooling is commonly used in power production throughout Florida, and usually results in no consumption.

Offstream use.--Water withdrawn or diverted from a ground- or surface-water source for public-water supply, industry, irrigation, livestock, thermoelectric power generation, and other uses. Sometimes called off-channel use or withdrawal use.

Other water use.--Water used in Florida for such purposes as heating, cooling, irrigation (public-supplied only), lake augmentation, and other nonspecific uses. The water can be obtained from a public supply or be self-supplied.

Per capita use.--The average amount of water used per person during a standard time period, generally per day.

Potable water.-- Water that meets the quality standards set by the Florida Department of Environmental Protection. Potable water is considered safe for human consumption and is often referred to as drinking water. In Florida, chloride and dissolved-solids concentrations in potable water must be less than or equal to 250 and 500 mg/L, respectively. Freshwater that exceeds these chloride and dissolved solids limits is often referred to as slightly saline, brackish, or nonpotable water and is either diluted with fresher water or treated through a desalination process to meet potable-water standards for public supply.

Primary wastewater treatment.--First step in wastewater treatment where screens and sedimentation tanks are used to remove most materials that float or settle. Primary treatment removes about 30 percent of carbonaceous biochemical oxygen demand from domestic sewage (U.S. Environmental Protection Agency, 1997, written commun.).

Public supply.--Water withdrawn by public or private water suppliers and delivered to users who do not supply their own water. Water suppliers provide water for a variety of uses, such as domestic, commercial, industrial, thermoelectric power (domestic

and cooling purposes), and public-water use. According to the Florida Department of Environmental Protection, any water system that serves more than 25 people or has 15 year-round service connections is considered a community public supplier (Florida Department of Environmental Regulation, 1990a). For this report, public supply includes those systems that serve more than 400 people or use more than 10,000 gallons per day.

Public-water use.--Water supplied from a public-water supply and used for such purposes as firefighting, street washing, and municipal parks and swimming pools. Public-water use also includes system water losses (water lost to leakage) and unusable water discharged from desalination or lime-softening facilities. Also referred to as utility-water use.

Reclaimed water.--Water that has received at least secondary treatment and is reused after leaving a wastewater treatment facility.

Recycled water.--Water that is used more than one time before it passes back into the natural hydrological system or is discharged into a wastewater system. Also referred to as recirculated water.

Resident population.--The number of persons who live in a State who consider the State their permanent place of residence. College students, military personnel, and inmates of penal institutions are counted as permanent residents. According to this definition, tourist and seasonal or part-time residents are considered nonresident population.

Residential water use.--See domestic water use.

Reuse system.--The deliberate application of reclaimed water for a beneficial or other useful purpose. Reuse may encompass landscape irrigation (such as golf courses, cemeteries, highway medians, parks, playgrounds, school yards, nurseries, and residential properties), agricultural irrigation (such as food and fruit crops, wholesale nurseries, sod farms and pasture grass), aesthetic uses, ground-water recharge, environmental enhancement of surface water and wetland restoration, fire protection, and other useful purposes.

Reverse osmosis.--The process of removing salts from water using a membrane. With reverse osmosis, the product water passes through a fine membrane that the salts are unable to pass through, and the salt waste (brine) is removed and disposed. This differs from electrodialysis where the salts are extracted from the feedwater by using a membrane with an electrical current to separate the ions. During electrodialysis the positive ions flow through one membrane, while the negative ions flow through a different membrane, leaving freshwater as the end product. In this report, reverse osmosis includes any water treated through both reverse osmosis and electrodialysis and any water diluted or blended with fresher water that was used to obtain potable water. Also see desalination.

Saline water.--Water that contains more than 1,000 mg/L of dissolved solids.

Secondary wastewater treatment.--The second step in most domestic wastewater treatment systems in which bacteria consume the organic parts of the waste. This treatment removes floating and settleable solids and about 90 percent of the oxygen-demanding substances and suspended solids. Disinfection is the final stage of secondary treatment (U.S. Environmental Protection Agency, 1997, written commun.).

Self-supplied water.--Water withdrawn from a ground- or surface-water source by a user and not obtained from a public supply.

Settling pond.--A holding pond for wastewater where heavier particles sink to the bottom for removal and disposal.

Sprinkler irrigation.--A pressurized irrigation system where water is distributed through pipes to the field and applied through a variety of sprinkler heads or nozzles. Pressure is used to spread water droplets above the crop canopy to simulate a rainfall (Izuno and Haman, 1987). These systems include portable and traveling guns, solid or permanent fixtures (overhead or pop ups), center pivots, and periodic moving systems. Also referred to as overhead irrigation. The efficiencies of these sprinkler

irrigation systems range from 15 to 85 percent (Smajstrla and others, 1988), however, an average of 70 percent is commonly used for estimating water requirements.

Surface-water disposal.-- Refers to the release of reclaimed water or treated effluent directly into a surface water body (including marshes or wetlands). This does not include water discharged into ponds for holding or percolation purposes (Marella, 1994).

Tail-water runoff.--Unused irrigation water or rain water that is collected at the base or end of an irrigated system or field in a ditch or impoundment. This water may be reused again for irrigation purposes, be left to evaporate, percolate into the ground, receive treatment, and (or) be discharged to surface-water bodies.

Thermoelectric power.--Electrical power generated by using fossil fuel (coal, oil, natural gas or biomass), geothermal, or nuclear energy.

Thermoelectric power water use.--Water used in the process of the generation of electric power. The majority of water used for this category is for cooling purposes (much of which is used for once-through cooling). Water is also used for boiler makeup or domestic purposes throughout the plant. Boiler makeup water and water used for domestic purposes are generally obtained from public supply, however, for plants located in remote areas, this water can be self-supplied. Cooling water is generally self-supplied, although some smaller plants use public-supply water for cooling purposes.

Treated (wastewater) effluent.--Water that has received primary, secondary, or advanced treatment and is released from a wastewater facility after treatment.

Wastewater.--A combination of liquid and water-carried pollutants from residential or commercial buildings, industrial plants, and institutions. Wastewater may include any ground water, surface runoff, or leachate that may be present in the system.

Water transfer.--Artificial conveyance of water from one area to another across a political or hydrological boundary. This is referred to as an import or export of water from one basin or county to another.

Water use.--1) In a restrictive sence, the term refers to water that is actually used for a specific purpose such as domestic use, irrigation, or industial processing. 2) More broadly, water use pertains to human’s interaction with and influence on the hydrologic cycle, and includes elements such as water withdrawals, deliveries, consumptive use, wastewater releases, reclaimed wastewater, return flow and instream use.

Withdrawal.--Water removed from the ground or diverted from a surface-water source.The amount of water withdrawn may not equal the amount of water used due to water transfers or the recirculation or recycling of the same water. For example, a power plant may use the same water multiple times but withdraw a significantly different amount.

Water Withdrawals, Use, Discharge, and Trends in Florida, 1995

By Richard L. Marella

Abstract

In 1995, the total amount of water withdrawn in Florida was nearly 18,200 million gallons per day (Mgal/d), of which 60 percent was saline and 40 percent was freshwater. Ground water accounted for 60 percent of freshwater withdrawals and surface water accounted for the remaining 40 percent. Ninety-three percent of the 14.15 million people in Florida relied on ground water for their drinking water needs in 1995. Almost all (99.9 percent) saline water withdrawals were from surface water.

Public supply accounted for 43 percent of ground water withdrawn in 1995, followed by agricultural self-supplied (35 percent), commercial-industrial self-supplied (including mining) (10 percent), domestic self-supplied (7 percent), recreational irrigation (4.5 percent), and power generation (0.5 percent). Agricultural self-supplied accounted for 60 percent of fresh surface water withdrawn in 1995, followed by power generation (21 percent), commercial-industrial self-supplied (9 percent), public supply (7 percent), and recreational irrigation (3 percent). Almost all of saline water withdrawn was used for power generation.

The largest amount of freshwater was withdrawn in Palm Beach County and the largest amount of saline water was withdrawn in Hillsborough County. Significant withdrawals (more than 200 Mgal/d) of fresh ground water occurred in Dade, Broward, Polk, Orange, and Palm Beach Counties. Significant withdrawals (more than 200 Mgal/d) of fresh surface water occurred in Palm Beach, Hendry, and St. Lucie Counties. The South Florida Water Management District accounted for the largest amount of freshwater withdrawn (nearly 50 percent).

About 57 percent of the total ground water withdrawn was from the Floridan aquifer system; 20 percent was from the Biscayne aquifer. Most of the surface water used in Florida was from managed and maintained canal systems or large water bodies. Major sources of fresh surface water include the Caloosahatchee River, Deer Point Lake, Hillsborough River, Lake Apopka, Lake Okeechobee and associated canals, and the St. Johns River.

Freshwater withdrawals increased nearly 29 percent in Florida between 1970 and 1995. Ground-water withdrawals increased 56 percent, and surface-water withdrawals increased 2 percent during this period. Between 1990 and 1995, freshwater withdrawals decreased 5 percent. Fresh ground-water withdrawals decreased 7 percent, and fresh surface-water withdrawals decreased 1 percent during this period. Saline water withdrawals increased 13 percent between 1970 and 1995, and increased 6 percent between 1990 and 1995.

An estimated 39 percent of the freshwater withdrawn in Florida was consumed; the remaining 61 percent was returned for use again. Wastewater discharged from the 615 treatment facilities inventoried in 1995 totaled 1,836 Mgal/d, of which 84 percent was from domestic wastewater facilities and the remaining 16 percent was from industrial facilities. Domestic wastewater discharge increased 37 percent between 1985 and 1995, while industrial wastewater discharge increased 7 percent during this period.

INTRODUCTION

Water resources are one of Florida's most valued assets. The State has more than 1,700 streams and rivers and 7,800 freshwater lakes, and is underlain virtually everywhere by aquifers capable of yielding significant quantities of freshwater to wells. These water resources provide for human and environmental needs. However, the resources are finite and growth in population, tourism, and agriculture are placing an increasing demand on them.

The population of Florida in 1995 totaled nearly 14.15 million (University of Florida, 1996), ranking fourth in the Nation (U.S. Bureau of the Census, 1997). This represents an increase of about 411 percent from the 1950 population of 2.77 million (Dietrich, 1978), and a 9 percent increase from the 1990 population of 12.94 million (Smith, 1991) (fig. 1). Florida's population is projected to reach nearly 16 million by the year 2000, and 20 million by the year 2020 (Smith and Nogle, 1997) (fig. 1). In addition to the resident population in Florida, an estimated 41 million people visited the State in 1995 (Florida Department of Commerce, 1996). Freshwater is vital for Florida's permanent and seasonal residents and demands will continue to increase.

The agricultural sector in Florida also depends heavily on the State's water resources. In 1995, Florida accounted for more than 80 percent of the total citrus produced in the United States. Florida's agricultural production ranked among the top ten States in the Nation for 1995 (University of Florida, 1997) and should continue to flourish because of the subtropical climate and demands from the growing population. Information on the amount of water required to support future agricultural growth is needed.

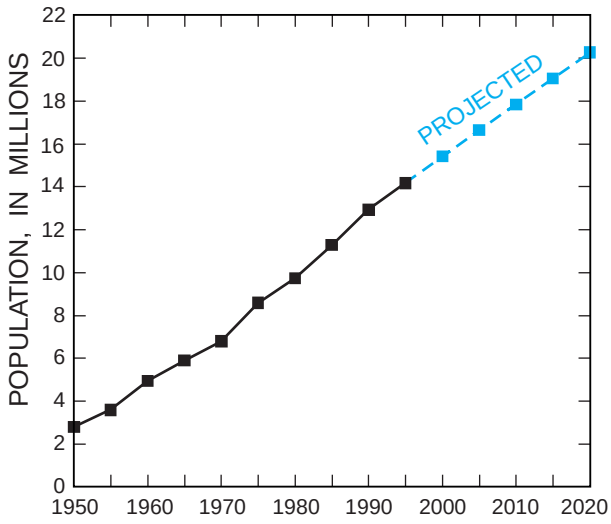

Figure 1. Historical and projected population of Florida, 1950-2020 (From Dietrich, 1978; University of Florida, 1997; and Smith and Nogle, 1997).

To provide accurate statistics on water use and trends, the U.S. Geological Survey (USGS), in cooperation with the Florida Department of Environmental Protection (FDEP) and the Northwest Florida, St. Johns River, South Florida, Southwest Florida, and Suwannee River Water Management Districts, estimate water use in Florida at 5-year intervals. Water-use estimates for 1995 are presented in this report.

Purpose and Scope

This report summarizes the quantities of water withdrawn, consumed, and discharged in 1995, and indicates trends in water use. Overall, the report provides a basis for estimating water budgets and projecting future water needs. Data are presented on water withdrawals in Florida for each of the following water use categories: public supply, domestic self-supplied, commercial-industrial self-supplied (including mining uses), agricultural self-supplied (including irrigation and nonirrigation uses), recreational irrigation, and power generation. Information concerning instream (nonwithdrawal) water use such as navigation, water-based recreation, propagation of fish and wildlife, and dilution and conveyance of liquid or solid waste is not included. The only instream use of water presented in this report is for hydroelectric power generation.

Within each category, withdrawal data are presented by source (ground or surface water), and where sufficient data are available, seasonal and historical patterns of water use are described. Data also are presented by county and water management district (fig. 2) for each water use category. Information about specific public-supply water systems and domestic and industrial wastewater facilities is included in the appendixes (apps. 1 and 2). In prior years, this detailed information was presented in separate reports.

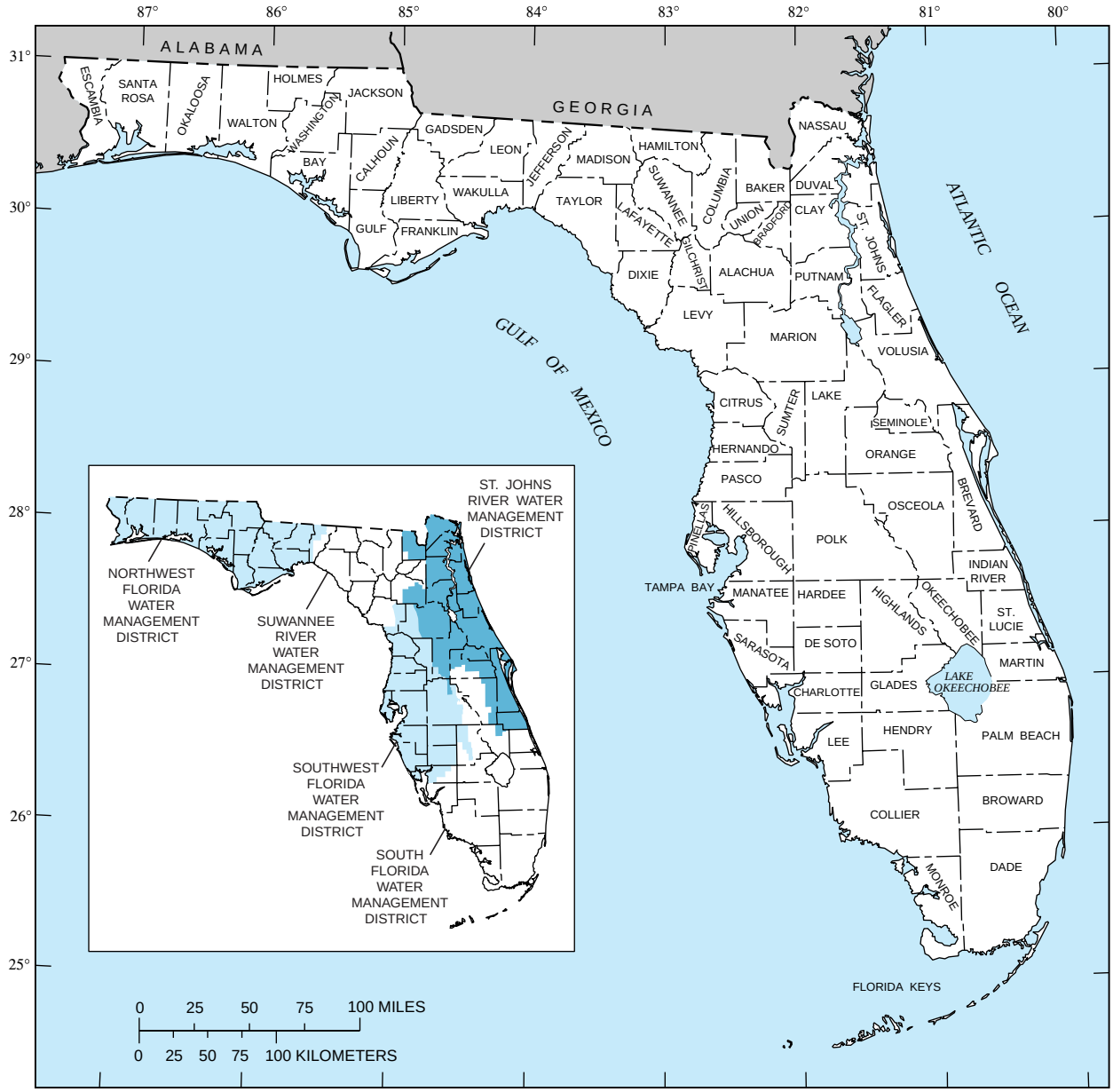

Figure 2. Counties and water management districts in Florida.

Previous Investigations

This report is the eighth in a series of reports documenting the results of water-use investigations in Florida. Statewide water-use data for Florida were published for 1965 and 1970 (Pride, 1973 and 1975); for 1975, 1977, and 1980 (Leach, 1978, 1983; and Leach and Healy, 1980) and for 1985 and 1990 (Marella, 1988, 1992). These reports included assessments of all water uses in Florida (including public-supply, domestic self-supplied, commercial-industrial self-supplied, agricultural irrigation and nonirrigation, and thermoelectric power generation water uses) by county.

Prior to 1965, State water-use data were only published at the national level. Nationwide summaries of water-use data were published for 1950, 1955, and 1960 (MacKichan, 1951, 1957; and MacKichan and Kammerer, 1961). These reports included detailed water-use data at the State level, but did not include water-use data for counties.

Nationwide summaries, including data for Florida, were also published by the USGS for 1965, 1970, 1975 (Murray, 1968; and Murray and Reeves, 1972, 1977); for 1980, 1985, 1990, and for 1995 (Solley and others, 1983, 1988, 1993, 1998).

Additional water-use reports have been published by selected water management districts between 1975 and 1995 (see selected water use bibliography). The St. Johns River and the Southwest Florida Water Management District have published annual water-use reports since 1977; the Northwest Florida, South Florida, and the Suwannee River Water Management Districts have intermittently published reports between 1977 and 1985. Detailed water-use data for 1995 were published for the St. Johns River Water Management District (Florence and Moore, 1997) and the Southwest Florida Water Management District (1997).

Data Sources and Limitations

As part of the USGS National Water-Use Information Program, water-use data are collected and compiled for each State every 5 years (Solley and others, 1988). Data are reported for each State by water-use category, county, hydrologic unit (basin), and aquifer. For this report, Florida water-use data were compiled through an ongoing cooperative program with the FDEP, as part of the 1995 National Water-Use Information Program. Data were obtained from the FDEP (Drinking Water and Wastewater Sections), the Northwest Florida Water Management District (NWFWMD), the St. Johns River Water Management District (SJRWMD), the South Florida Water Management District (SFWMD), the Southwest Florida Water Management District (SWFWMD), and the Suwannee River Water Management District (SRWMD), as well as from various utilities, industries, and power companies. Specific data sources for each category are listed below.

Public supply.--Data for public-supply withdrawals were obtained from the FDEP's Drinking Water Section (monthly operating reports), the five water management districts (consumptive water-use permit files or annual reports), or directly from the water supplier. All water use values for this category are from metered data. The population served value for each public supplier was selected by one of three sources: (1) estimated using the number of service connections multipled by the number people per household per county (Smith and Cody, 1996); (2) published population estimates for selected cities (University of Florida, 1996); or (3) estimates made by the individual public supplier that were reported to FDEP (Drinking Water Quick Look Report, Florida Department of Environmental Protection, written commun., April 1995). Population served numbers in the Northwest Florida, the South Florida, and the Suwannee River Water Management Districts were estimated by the USGS. Estimates for population served in the St. Johns River and the Southwest Florida Water Management District were made by the respective districts (Florence and Moore, 1997; Southwest Florida Water Management District, 1997).

Domestic self-supplied.--Domestic self-supplied populations are derived by subtracting the population served by public-supplied systems from the total county population. Domestic self-supplied withdrawals are calculated by multiplying the public-supply per capita use (in gallons per day) by the self-supplied population served for each county or were obtained from the water management districts. All water use values for this category are estimated.

Commercial-industrial self-supplied.--Data for commercial, industrial, and mining withdrawals were obtained from the FDEP's Drinking Water Section (monthly operating reports), the five water management districts (consumptive water-use permit files or annual reports), or directly from the user. Most of the water use values for this category are from metered data.

Agricultural self-supplied.--Water withdrawn for irrigation was estimated by the water management districts based on crop acreage, multiplied by a use coefficient (usually in inches per acre) generated from selected irrigation models for each crop. Only a small percentage of the water-use estimates for 1995 were derived from actual metered data.

Acreage data were obtained by the water management districts from a variety of sources including, (1) the University of Florida, Institute of Food and Agriculture Science (IFAS), County Extension Offices; (2) the water management districts' consumptive water-use permit files; (3) the Florida Department of Agriculture and Consumer Services (FDACS); Agricultural Statistics Service, Citrus Summary, Field Crops Summary, and the Vegetable Summary (Florida Agricultural Statistics Service, 1996a; 1996b; 1996c); (4) the FDACS, Division of Plant Industry, Annual Report (Florida Department of Agriculture and Consumer Services, 1995); and (5) the U.S. Department of Agricultural, Natural Resources Conservation Service (NRCS), County Field Offices. The total number of acres for selected crops for each county was obtained using these sources, as well as the acreage that was irrigated and the method of irrigation.

The supplemental irrigation coefficient used to determine the amount of water needed per crop was obtained from several irrigation models and publications including (1) the modified Blaney-Criddle irrigation model; "Irrigation Water Requirements, 1970, revised" (U.S. Soil Conservation Service, 1970); (2) the University of Florida "AFSIRS" computer model (Smajstrla, 1986); and, (3) the "Florida Irrigation Guide" (U.S. Soil Conservation Service, 1982). These models or publications either use actual or long-term averages of rainfall, and temperature (Jones and others, 1984). Other sources of supplemental irrigation coefficients used for determining irrigation needs included actual metered data for selected crops, or those coefficients provided by agricultural authorities.

Supplemental irrigation application rates (in inches per acre) generated from these sources were multiplied by the number of irrigated acres to yield water use. From these values, estimates of the water sources (ground or surface) were made by local county extension personnel or by using information from the water management district's consumptive water-use data base. Supplemental irrigation rates include the amount of water needed to grow each crop, and the amount of water necessary to overcome the inefficiency of the irrigation system and water used for frost and freeze protection.

Withdrawals were estimated for livestock and fish farming by multiplying the total number of cattle (including dairy cattle), chickens, horses, and swine for each county by a water-use coefficient per animal type. The number of animals per county was obtained from the FDACS, Agricultural Statistics Service, Livestock Summary (Florida Agricultural Statistics Service, 1996d). Water-use coefficients were obtained from the University of Florida, IFAS (St. Johns River Water Management District, 1984).

Estimates of the quantity of ground or surface water used were provided by local county extension personnel or were determined by using information from the water management district's consumptive water-use data base. The quantity of water withdrawn for fish farming was obtained from the water management district's consumptive water-use permit files or was estimated based on a coefficient of 50 inches per pond acre. Pond acreage was obtained from the county extension office and the water management districts.

Recreational irrigation.--Water withdrawal values for recreational irrigation were estimated based on irrigated acreage multiplied by a coefficient (usually in inches per acre) generated from selected irrigation models for turf grass. Only a small percentage of the water-use estimates for 1995 were derived from actual metered data.

The total number of acres and acres irrigated were obtained by the water management districts from a variety of sources that included: (1) the University of Florida, IFAS, County Extension Offices; (2) the water management districts' consumptive water-use permit files and needs and sources documents; and (3) the Florida Department of Commerce, Florida Sports Foundation (Florida Sports Foundation, 1994).

The supplemental irrigation coefficient used to determine the amount of water needed was obtained from several irrigation models or publications including: (1) the modified Blaney-Criddle irrigation model, and Irrigation Water Requirements, 1970, revised (U.S. Soil Conservation Service, 1970); (2) the University of Florida AFSIRS computer model (Smajstrla, 1986); and (3) the Florida Irrigation Guide (U.S. Soil Conservation Service, 1982). Other sources of supplemental irrigation coefficients were derived from metered data or were provided by turf-grass authorities.

Supplemental irrigation application rates (in inches per acre) generated from these sources were multiplied by the number of irrigated acres and a water-use value was calculated. From this value, estimates of the water sources (ground or surface) were provided by local county extension personnel or were made by using information from the water management districts.

Power generation.--Data for power generation withdrawals were obtained from the water management districts (consumptive water-use permit files or annual reports), or directly from the power companies. Withdrawal data were collected for ground and surface waters, both fresh and saline sources. Information on the amount of water purchased from public supplies was obtained from each facility along with the total gross power generated. Most of the water-use values for this category are from metered data.

Wastewater discharges.--Data for domestic and industrial wastewater discharges were obtained from the FDEP's Domestic and Industrial Wastewater Sections (Domestic Plant Flows Report, GMS35, and Test Site History Report for Industrial, GMS36, Florida Department of Environmental Protection, written commun., May 1996), or directly from the monthly operating reports, the five water management districts (annual reuse reports), or directly from the discharge facilities. Most discharge values for this category are from metered data. The population served value for each domestic wastewater facility was selected by either: (1) published population estimates for selected areas (local comprehensive plans); or (2) estimates made by the individual discharge facility that were reported to FDEP (Outfall

Detail Report, GMS05, Florida Department of Environmental Protection, written commun., March 1996).

Water withdrawals and use data presented in this report represent the average daily quantities used, as derived from annual data, and are expressed in million gallons per day (Mgal/d). Water-use values presented in the tables in this report are reported to two places to the right of the decimal or to the nearest 10,000 gallons per day (gal/d). Water-use values in the text are rounded to the nearest million gallons per day, and percentages are rounded. Water-use data published in this report may not be identical to the water-use data published by the water management districts or FDEP because of differences in data-collection procedures, categories, and methodology.

The accuracy of these values varies from category to category. Public-supply values usually are more accurate because most public-supply systems meter their usage. Whereas agricultural self-supplied or domestic self-supplied values are most often estimated. However, a small percentage of the irrigation values (agricultural and recreational) for 1995 were obtained from metered data.

Several changes in water-use categories have occured in Florida between 1970 and 1995. Most categories have remained the same since 1970, with the following exceptions. During the 1970's, rural water use consisted of domestic self-supplied and livestock. In the 1980's, livestock was added to the agricultural, and domestic self-supplied became a separate category. In the past, agricultural water use has included all irrigation, in 1995, recreational irrigation was removed from agricultural water use and placed within its own category. Agricultural self-supplied was called irrigation in the 1970's, then became agricultural irrigation in the 1980's, with the addition of livestock and removal of recreation irrigation. Commercial-industrial self-supplied was once called industrial water use, and power generation was once called thermoelectric power generation.

Miscellaneous water withdrawals and uses included in county totals presented in the 1985 water-use report (Marella, 1988) included water withdrawals for residential lawn irrigation, residential heat pumps and air-conditioning units, and water discharged through free-flowing wells. Because of the inconsistency in data from county to county for these uses, they were not included in the 1985 statewide totals (Marella, 1988). Since 1985, some data on residential lawn watering for several counties have been updated and are included in the recreational irrigation section of this report under turf grass. However, the 1990 and 1995 statewide data for water used by residential heat pumps and air conditioning units and water discharged through free-flowing wells remain inconsistent between counties and are not included in this report.

Acknowledgments

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Special thanks are extended to the Executive Directors of the five water management districts (Northwest Florida Water Management District, St. Johns River Water Management District, South Florida Water Management District, Southwest Florida Water Management District, and the Suwannee River Water Management District) for their participation and staff cooperation in providing water-use data. The participation of the following individuals is acknowledged for their data collection and tabulation efforts, and for their technical advice and support: Angela Chelette, Kimberly Robinson, and Patricia Ryan at the Northwest Florida Water Management District in Havana; Bruce Florence and Cynthia Moore at the St. Johns River Water Management District in Palatka; Jane Bucca, Mark Elsner, David Gilpin-Hudson, and Anne-Marie Schroden at the South Florida Water Management District in West Palm Beach; Mark Hammond, Tabitha Ostow, and You-Jen Tsai at the Southwest Florida Water Management District in Brooksville; Tammy Davis and William Kirk at the Suwannee River Water Management District in Live Oak.

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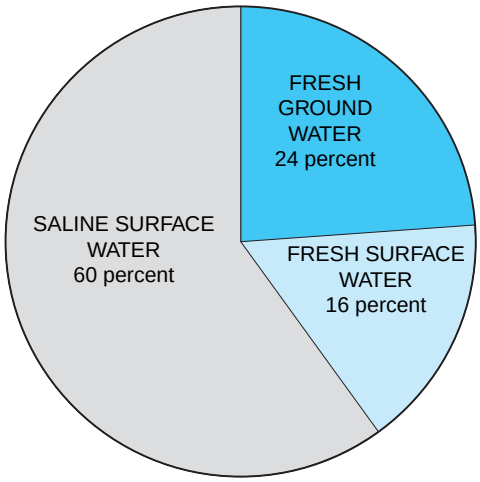
WATER WITHDRAWALS AND USE

In 1995, the total amount of water withdrawn in Florida was estimated at 18,181 Mgal/d, of which 60 percent was saline water and 40 percent was freshwater (fig. 3). Ground water accounted for nearly 60 percent of freshwater withdrawals, and surface water accounted for the remaining 40 percent (table 1). Almost all (99.9 percent) saline water withdrawals were from surface water (table 1), which was used for once-through cooling at 22 power generating plants. The saline water was withdrawn from bays or rivers along the coast, and then returned to these sources. Florida was the largest user of saline water in the Nation in 1995 (Solley and others, 1998).



Note: Saline ground water was less than 0.1 percent

Figure 3. Total water withdrawals in Florida by source, 1995.

Table 1. Total water withdrawals in Florida by category, 1995

[Source: U.S. Geological Survey, WRD, Tallahassee; all values in million gallons per day]

Florida 1995	Freshwater			Saline water			Total water
	Ground	Surface	Total	Ground	Surface	Total	
Public supply	1,855.57	209.70	2,065.27	0.00	0.00	0.00	2,065.27
Domestic self-supplied	296.74	0.00	296.74	0.00	0.00	0.00	296.74
Commercial-industrial self-supplied	438.12	253.71	691.83	0.00	5.76	5.76	697.59
Agricultural self-supplied	1,527.52	1,716.58	3,244.10	0.00	0.00	0.00	3,244.10
Recreational irrigation	196.38	84.50	280.88	0.00	0.00	0.00	280.88
Power generation	21.25	614.88	636.13	4.63	10,955.30	10,959.93	11,596.06
State totals	**4,335.58**	**2,879.37**	**7,214.95**	**4.63**	**10,961.06**	**10,965.69**	**18,180.64**

The amount of freshwater withdrawn monthly fluctuates because of variations in temperature, precipitation (rainfall), crop production, and tourism. About one-half (49 percent) of the freshwater withdrawal in 1995 occurred between April and August (fig. 4). This seasonal variation in withdrawals is normal in Florida.

Public supply (43 percent) and agricultural self-supplied (35 percent) were the largest users of ground water in 1995, followed by commercial-industrial self-supplied (including mining) (10 percent), domestic self-supplied (7 percent), recreational irrigation (4.5 percent), and power generation (0.5 percent) (fig. 5 and table 1). Agricultural self-supplied (60 percent) was the largest user of fresh surface water in 1995, followed by power generation (21 percent), commercial-industrial self-supplied (9 percent), public supply (7 percent), and recreational irrigation (3 percent) (fig. 5). Overall, agricultural self-supplied accounted for 45 percent of the total freshwater withdrawn (ground and surface). Power generation accounted for nearly all (99.9 percent) of saline water withdrawn.

The largest amount of freshwater was withdrawn in Palm Beach County, and the largest amount of saline water was withdrawn in Hillsborough County (table 2). Significant withdrawals (more than 200 Mgal/d) of fresh ground water occurred in Dade, Broward, Polk, Orange, and Palm Beach Counties. Significant withdrawals (more than 200 Mgal/d) of fresh surface water occurred in Palm Beach, Hendry, and St. Lucie Counties.

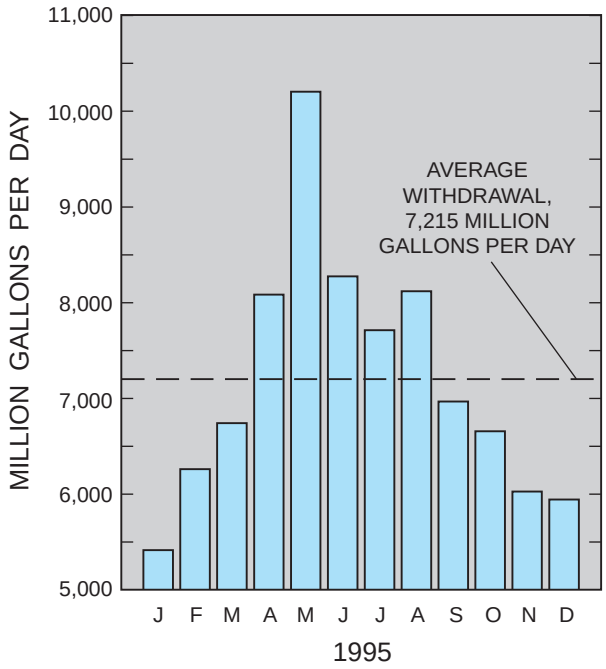


Figure 4. Average daily freshwater withdrawals by month in Florida, 1995.

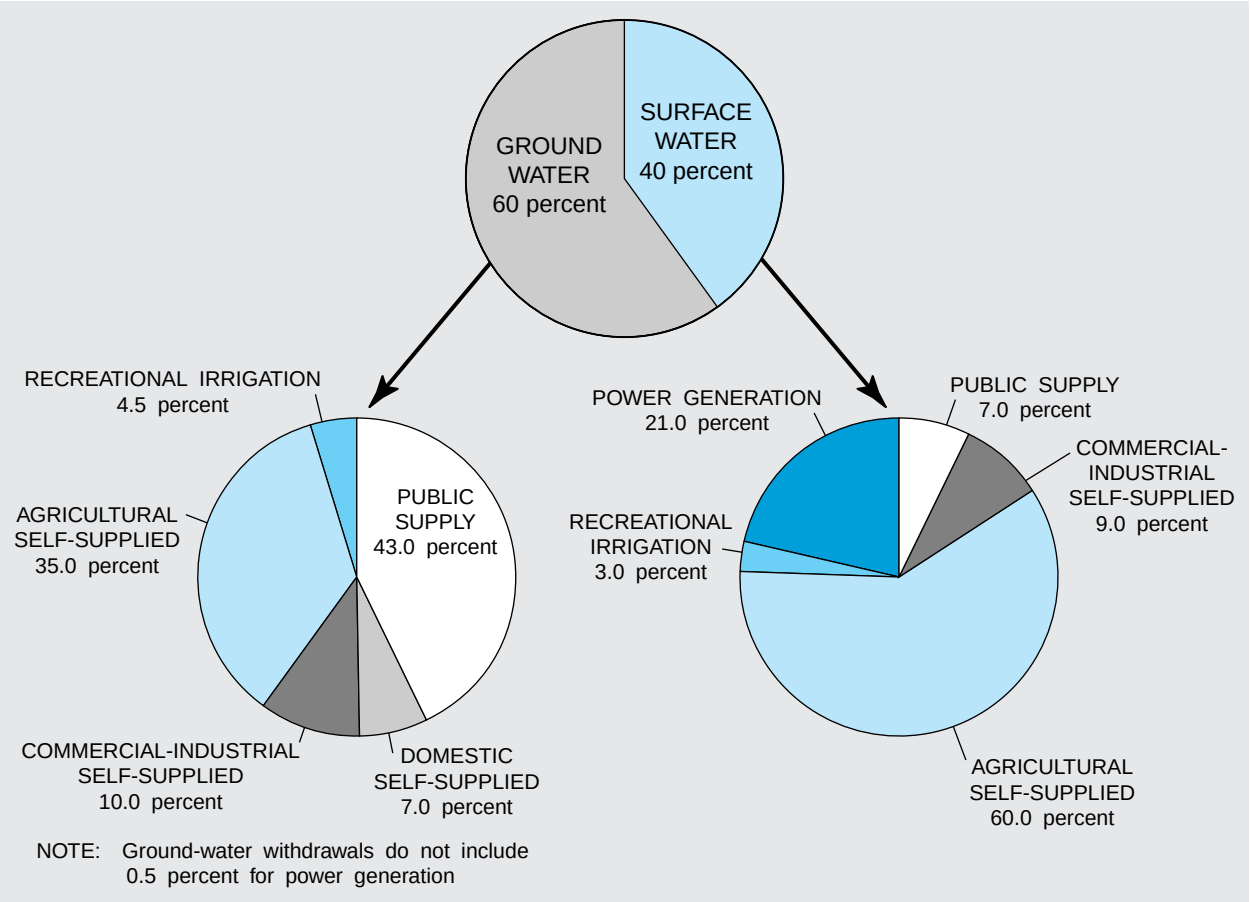


Figure 5. Fresh ground- and surface-water withdrawals in Florida by category, 1995.

Table 2. Total water withdrawals in Florida by county, 1995

[Source: U.S. Geological Survey, WRD, Tallahassee; all values in million gallons per day]

County	Ground water			Surface water			Total water		
	Fresh	Saline	Total	Fresh	Saline	Total	Fresh	Saline	Total
Alachua	47.56	0.00	47.56	0.75	0.00	0.75	48.31	0.00	48.31
Baker	4.74	0.00	4.74	0.63	0.00	0.63	5.37	0.00	5.37
Bay	14.26	0.00	14.26	44.60	259.65	304.25	58.86	259.65	318.51
Bradford	7.46	0.00	7.46	0.05	0.00	0.05	7.51	0.00	7.51
Brevard	113.03	0.00	113.03	22.50	1,197.31	1,219.81	135.53	1,197.31	1,332.84
Broward	267.58	0.00	267.58	19.75	1,228.27	1,248.02	287.33	1,228.27	1,515.60
Calhoun	3.38	0.00	3.38	0.81	0.00	0.81	4.19	0.00	4.19
Charlotte	36.17	0.00	36.17	13.71	0.00	13.71	49.88	0.00	49.88
Citrus	28.28	0.00	28.28	1.73	1,655.31	1,657.04	30.01	1,655.31	1,685.32
Clay	21.28	0.00	21.28	0.24	0.00	0.24	21.52	0.00	21.52
Collier	186.98	0.00	186.98	21.22	0.00	21.22	208.20	0.00	208.20
Columbia	16.15	0.00	16.15	0.59	0.00	0.59	16.74	0.00	16.74
Dade	550.42	4.31	554.73	18.83	78.19	97.02	569.25	82.50	651.75
DeSoto	58.59	0.00	58.59	12.35	0.00	12.35	70.94	0.00	70.94
Dixie	3.41	0.00	3.41	0.00	0.00	0.00	3.41	0.00	3.41
Duval	144.61	0.00	144.61	0.48	575.09	575.57	145.09	575.09	720.18
Escambia	86.83	0.00	86.83	182.72	0.00	182.72	269.55	0.00	269.55
Flagler	13.30	0.00	13.30	0.85	0.00	0.85	14.15	0.00	14.15
Franklin	2.89	0.00	2.89	0.00	0.00	0.00	2.89	0.00	2.89
Gadsden	7.71	0.00	7.71	8.67	0.00	8.67	16.38	0.00	16.38
Gilchrist	9.26	0.00	9.26	0.10	0.00	0.10	9.36	0.00	9.36
Glades	20.95	0.00	20.95	78.64	0.00	78.64	99.59	0.00	99.59
Gulf	3.11	0.00	3.11	27.98	5.76	33.74	31.09	5.76	36.85
Hamilton	46.18	0.00	46.18	0.00	0.00	0.00	46.18	0.00	46.18
Hardee	50.49	0.00	50.49	0.51	0.00	0.51	51.00	0.00	51.00
Hendry	156.35	0.00	156.35	400.66	0.00	400.66	557.01	0.00	557.01
Hernando	39.58	0.00	39.58	2.04	0.00	2.04	41.62	0.00	41.62
Highlands	112.83	0.00	112.83	6.64	0.00	6.64	119.47	0.00	119.47
Hillsborough	169.22	0.00	169.22	77.12	2,381.82	2,458.94	246.34	2,381.82	2,628.16
Holmes	6.53	0.00	6.53	0.71	0.00	0.71	7.24	0.00	7.24
Indian River	76.58	0.00	76.58	136.29	53.59	189.88	212.87	53.59	266.46
Jackson	28.22	0.00	28.22	52.83	0.00	52.83	81.05	0.00	81.05
Jefferson	11.09	0.00	11.09	0.52	0.00	0.52	11.61	0.00	11.61
Lafayette	7.11	0.00	7.11	0.34	0.00	0.34	7.45	0.00	7.45
Lake	75.43	0.00	75.43	7.68	0.00	7.68	83.11	0.00	83.11
Lee	112.56	0.00	112.56	21.45	365.25	386.70	134.01	365.25	499.26
Leon	38.55	0.00	38.55	0.75	0.00	0.75	39.30	0.00	39.30
Levy	20.93	0.00	20.93	2.49	0.00	2.49	23.42	0.00	23.42
Liberty	1.56	0.00	1.56	0.07	0.00	0.07	1.63	0.00	1.63
Madison	8.78	0.00	8.78	0.55	0.00	0.55	9.33	0.00	9.33
Manatee	90.70	0.00	90.70	32.03	0.00	32.03	122.73	0.00	122.73
Marion	51.03	0.00	51.03	1.04	0.00	1.04	52.07	0.00	52.07
Martin	49.80	0.00	49.80	120.23	0.00	120.23	170.03	0.00	170.03
Monroe	1.78	0.32	2.10	0.00	0.00	0.00	1.78	0.32	2.10
Nassau	44.54	0.00	44.54	0.11	0.00	0.11	44.65	0.00	44.65
Okaloosa	29.71	0.00	29.71	0.23	0.00	0.23	29.94	0.00	29.94
Okeechobee	35.75	0.00	35.75	5.47	0.00	5.47	41.22	0.00	41.22
Orange	228.56	0.00	228.56	31.00	0.00	31.00	259.56	0.00	259.56
Osceola	68.27	0.00	68.27	13.21	0.00	13.21	81.48	0.00	81.48
Palm Beach	219.80	0.00	219.80	740.04	472.76	1,212.80	959.84	472.76	1,432.60
Pasco	129.63	0.00	129.63	12.19	1,027.43	1,039.62	141.82	1,027.43	1,169.25
Pinellas	42.73	0.00	42.73	2.02	485.16	487.18	44.75	485.16	529.91
Polk	242.98	0.00	242.98	148.87	0.00	148.87	391.85	0.00	391.85
Putnam	38.11	0.00	38.11	50.32	0.00	50.32	88.43	0.00	88.43
St. Johns	45.73	0.00	45.73	0.64	0.00	0.64	46.37	0.00	46.37
St. Lucie	80.76	0.00	80.76	229.11	1,175.47	1,404.58	309.87	1,175.47	1,485.34
Santa Rosa	23.03	0.00	23.03	0.22	0.00	0.22	23.25	0.00	23.25
Sarasota	38.84	0.00	38.84	9.02	0.00	9.02	47.86	0.00	47.86
Seminole	68.90	0.00	68.90	0.88	0.00	0.88	69.78	0.00	69.78
Sumter	12.55	0.00	12.55	53.59	0.00	53.59	66.14	0.00	66.14
Suwannee	29.10	0.00	29.10	113.38	0.00	113.38	142.48	0.00	142.48
Taylor	51.10	0.00	51.10	1.98	0.00	1.98	53.08	0.00	53.08
Union	2.57	0.00	2.57	0.13	0.00	0.13	2.70	0.00	2.70
Volusia	81.16	0.00	81.16	75.44	0.00	75.44	156.60	0.00	156.60
Wakulla	3.60	0.00	3.60	68.92	0.00	68.92	72.52	0.00	72.52
Walton	10.59	0.00	10.59	1.18	0.00	1.18	11.77	0.00	11.77
Washington	4.32	0.00	4.32	0.27	0.00	0.27	4.59	0.00	4.59
State totals	**4,335.58**	**4.63**	**4,340.21**	**2,879.37**	**10,961.06**	**13,840.43**	**7,214.95**	**10,965.69**	**18,180.64**

Water Source and Use Category

Ground water was the source of drinking water for 13.11 million people (93 percent) in Florida during 1995. Florida, the largest user of ground water east of the Mississippi River, ranked fifth in the Nation in ground-water withdrawals (Solley and others, 1998). Ground water is available throughout the State, and generally needs little or no treatment before use. About 57 percent of the ground water withdrawn was obtained from the Floridan aquifer system, which underlies most of the State (fig. 6). Polk, Orange, Hillsborough, Duval and Pasco Counties were the largest users of water from the Floridan aquifer system (table 3). Florida accounted for about 78 percent of Floridan aquifer system withdrawals in the southeastern United States (USGS, unpublished data, 1997). The Biscayne aquifer was the source for about 20 percent of ground water, whereas the remaining 23 percent was obtained from the unnamed surficial aquifers, the intermediate aquifer, and the sand-and-gravel aquifer (fig. 6 and table 3). Surficial aquifers are primarily used for household wells (domestic self-supplied) or in places where the Floridan aquifer system is nonpotable or too deep to be used economically.

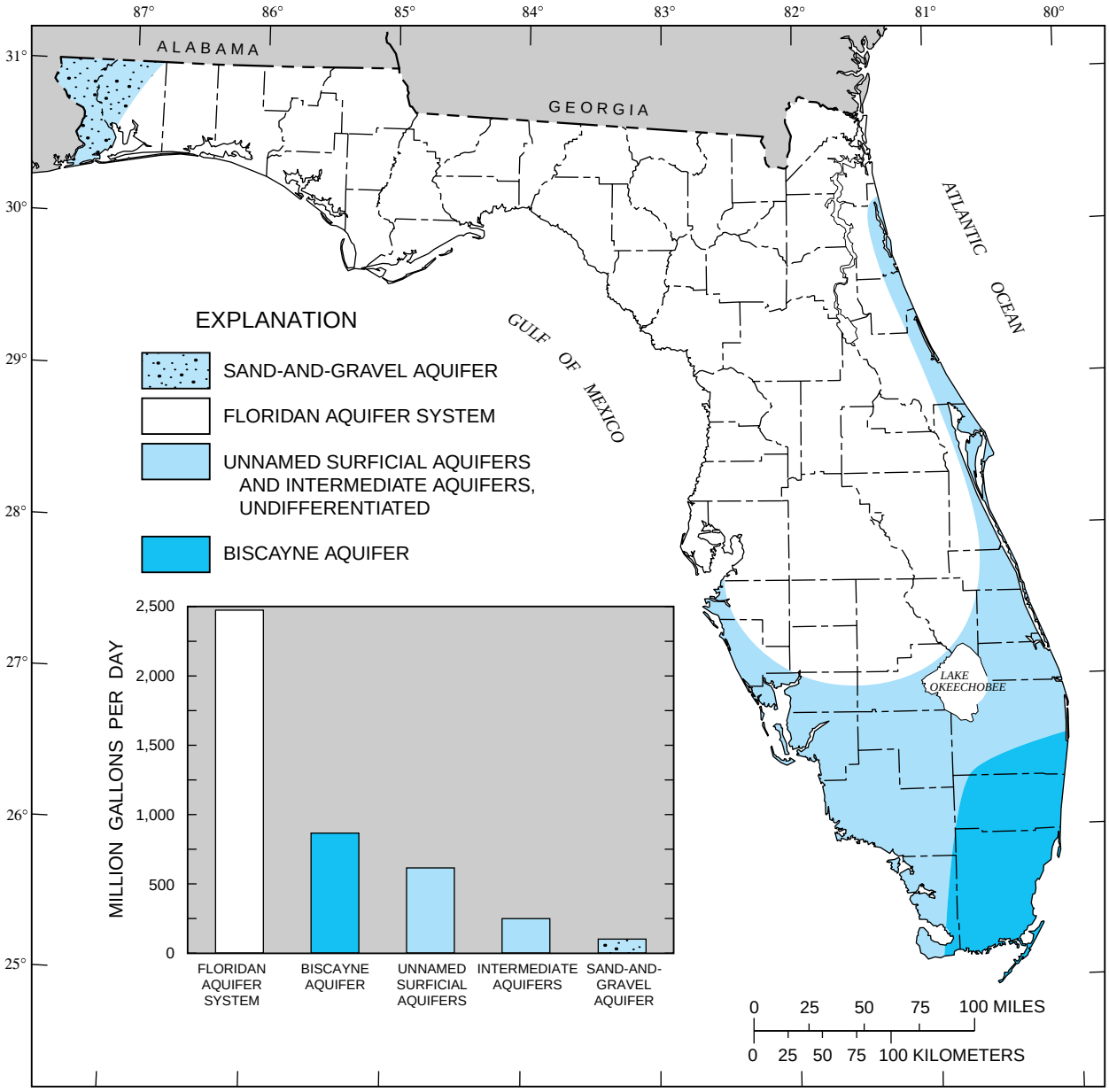


Figure 6. Approximate areal extent over which principal aquifers in Florida are the primary source of ground water and quantity of ground-water withdrawals in 1995. (Modified from Vecchioli and Foose, 1985.)

Table 3. Total ground-water withdrawals by principal aquifer in Florida by county, 1995

[Source: U.S. Geological Survey, WRD, Tallahassee; all values in million gallons per day]

County	Floridian aquifer	Biscayne aquifer	Surficial aquifer	Intermediate aquifer	Sand-and-gravel aquifer	Total
Alachua	47.22	0.00	0.34	0.00	0.00	47.56
Baker	3.49	0.00	1.25	0.00	0.00	4.74
Bay	11.63	0.00	2.63	0.00	0.00	14.26
Bradford	7.22	0.00	0.24	0.00	0.00	7.46
Brevard	95.56	0.00	17.47	0.00	0.00	113.03
Broward	0.00	267.58	0.00	0.00	0.00	267.58
Calhoun	2.74	0.00	0.64	0.00	0.00	3.38
Charlotte	8.24	0.00	13.72	14.21	0.00	36.17
Citrus	28.14	0.00	0.14	0.00	0.00	28.28
Clay	20.38	0.00	0.90	0.00	0.00	21.28
Collier	0.00	0.00	124.56	62.42	0.00	186.98
Columbia	15.92	0.00	0.23	0.00	0.00	16.15
Dade	0.00	550.42	0.00	0.00	0.00	550.42
DeSoto	48.97	0.00	1.70	7.92	0.00	58.59
Dixie	3.35	0.00	0.06	0.00	0.00	3.41
Duval	132.68	0.00	10.86	1.07	0.00	144.61
Escambia	0.00	0.00	0.00	0.00	86.83	86.83
Flagler	8.39	0.00	4.91	0.00	0.00	13.30
Franklin	2.69	0.00	0.20	0.00	0.00	2.89
Gadsden	7.11	0.00	0.60	0.00	0.00	7.71
Gilchrist	9.19	0.00	0.07	0.00	0.00	9.26
Glades	5.05	0.00	0.76	15.14	0.00	20.95
Gulf	2.91	0.00	0.20	0.00	0.00	3.11
Hamilton	46.14	0.00	0.04	0.00	0.00	46.18
Hardee	44.34	0.00	1.33	4.82	0.00	50.49
Hendry	0.00	0.00	79.97	76.38	0.00	156.35
Hernando	39.54	0.00	0.04	0.00	0.00	39.58
Highlands	99.87	0.00	11.69	1.27	0.00	112.83
Hillsborough	164.67	0.00	1.84	2.71	0.00	169.22
Holmes	6.38	0.00	0.15	0.00	0.00	6.53
Indian River	58.64	0.00	14.40	3.54	0.00	76.58
Jackson	28.00	0.00	0.22	0.00	0.00	28.22
Jefferson	11.03	0.00	0.06	0.00	0.00	11.09
Lafayette	7.07	0.00	0.04	0.00	0.00	7.11
Lake	74.76	0.00	0.67	0.00	0.00	75.43
Lee	9.48	0.00	69.97	33.11	0.00	112.56
Leon	38.31	0.00	0.24	0.00	0.00	38.55
Levy	20.75	0.00	0.18	0.00	0.00	20.93
Liberty	1.53	0.00	0.03	0.00	0.00	1.56
Madison	8.70	0.00	0.08	0.00	0.00	8.78
Manatee	80.26	0.00	1.44	9.00	0.00	90.70
Marion	50.00	0.00	1.03	0.00	0.00	51.03
Martin	18.89	0.00	30.53	0.38	0.00	49.80
Monroe	1.16	0.55	0.07	0.00	0.00	1.78
Nassau	40.51	0.00	4.03	0.00	0.00	44.54
Okaloosa	28.79	0.00	0.92	0.00	0.00	29.71
Okeechobee	30.42	0.00	5.33	0.00	0.00	35.75
Orange	227.91	0.00	0.65	0.00	0.00	228.56
Osceola	67.93	0.00	0.34	0.00	0.00	68.27
Palm Beach	6.75	53.63	159.42	0.00	0.00	219.80
Pasco	129.19	0.00	0.44	0.00	0.00	129.63
Pinellas	42.48	0.00	0.25	0.00	0.00	42.73
Polk	230.36	0.00	6.12	6.50	0.00	242.98
Putnam	35.85	0.00	2.26	0.00	0.00	38.11
St. Johns	43.95	0.00	1.78	0.00	0.00	45.73
St. Lucie	43.35	0.00	37.41	0.00	0.00	80.76
Santa Rosa	3.23	0.00	0.00	0.00	19.80	23.03
Sarasota	17.60	0.00	4.83	16.41	0.00	38.84
Seminole	68.38	0.00	0.52	0.00	0.00	68.90
Sumter	12.50	0.00	0.05	0.00	0.00	12.55
Suwannee	28.95	0.00	0.15	0.00	0.00	29.10
Taylor	51.03	0.00	0.07	0.00	0.00	51.10
Union	2.53	0.00	0.04	0.00	0.00	2.57
Volusia	79.97	0.00	1.19	0.00	0.00	81.16
Wakulla	3.55	0.00	0.05	0.00	0.00	3.60
Walton	10.56	0.00	0.03	0.00	0.00	10.59
Washington	4.22	0.00	0.10	0.00	0.00	4.32
State totals	**2,480.41**	**872.18**	**621.48**	**254.88**	**106.63**	**4,335.58**

Florida ranked thirtieth in the Nation in fresh surface-water withdrawals in 1995 (Solley and others, 1998). The primary users of surface water throughout Florida are irrigators and power plants, who used about 81 percent of the fresh water. The majority of fresh surface water used is in the Southern Florida subregion (fig. 7) and is associated with Lake Okeechobee and the Everglades Agricultural Area of Glades, Hendry, and Palm Beach Counties (fig. 2). This area is intensively irrigated (sugarcane and vegetables) and accounted for nearly 60 percent of the surface-water withdrawals during 1995.

Most of the surface water used in Florida comes from managed and maintained canal systems or large water bodies. Major sources of fresh surface water for irrigation include Lake Okeechobee and associated canals (Glades, Hendry, Martin, Palm Beach, and St. Lucie Counties), Lake Apopka (Lake and Orange Counties), the Caloosahatchee River (Glades, Hendry, and Lee Counties), and the headwaters of the St. Johns River (Brevard and Indian River Counties). Surface water from these sources is diverted through canals or ditches, then pumped or gravity-fed onto fields or groves. A large percentage of the water that is flooded

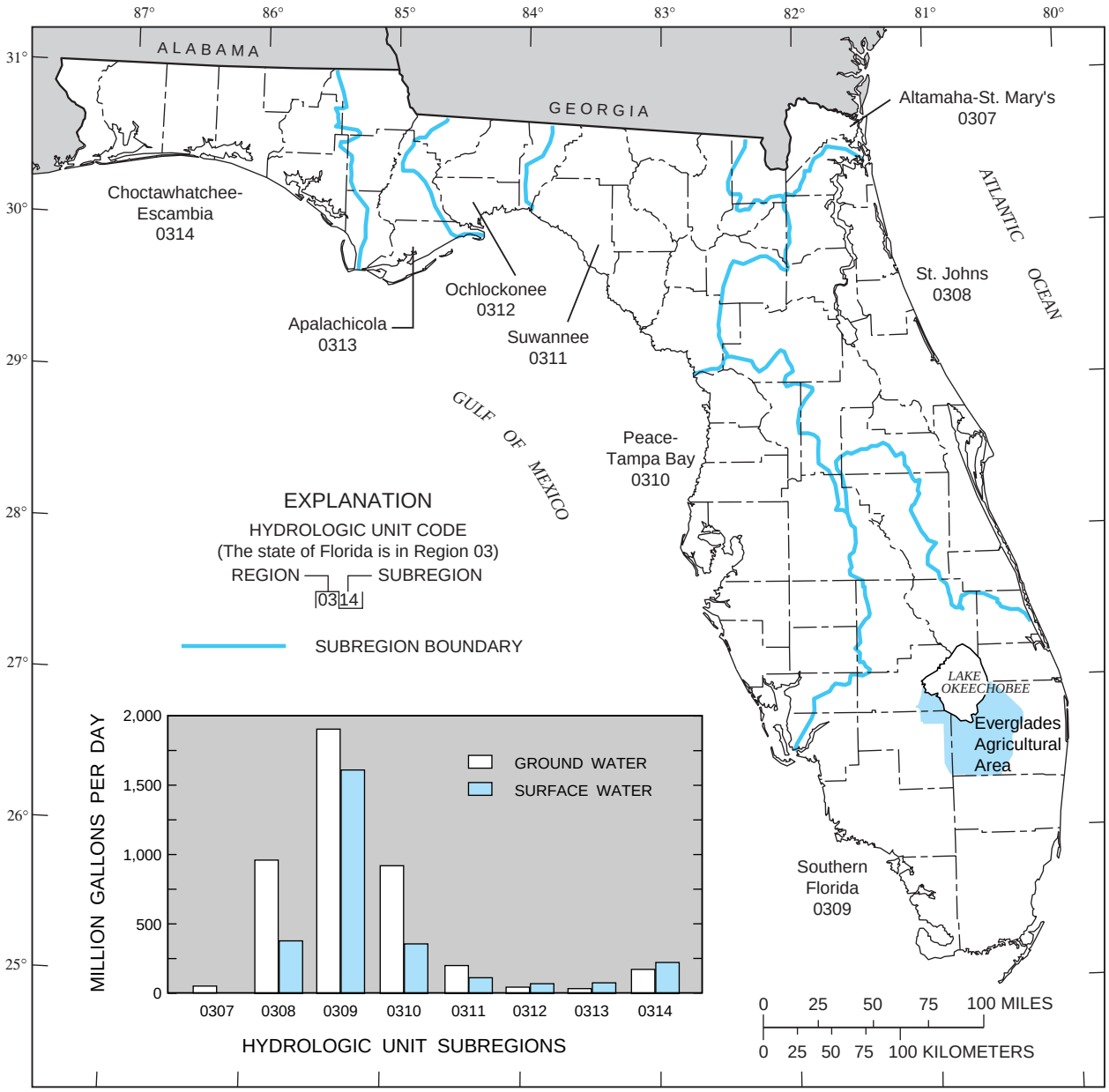


Figure 7. General location of hydrologic units in Florida and fresh ground- and surface-water withdrawals within these units in 1995. (Map from Seaber and others, 1984 and U.S. Geological Survey, 1975.)

onto fields or groves is unused and pumped back into the canals or ditches for further use. Throughout the rest of Florida, surface water for irrigation is obtained from local canals, ditches, lakes, ponds, small rivers, creeks, or tributaries. Many of the canals, ditches, or ponds that are used for irrigation are augmented with ground water.

Public Supply

The public-supply category refers to water distributed by a publicly- or privately-owned community water system to the public. A total of 2,141 community water systems in Florida met this criteria in April 1995 (Kenna Study, Florida Department of Environmental Protection, oral commun., 1998, and Drinking Water Quick Look Report, Florida Department of Environmental Protection, written commun., April 1995). For this report, water-use data were collected for 1,101 systems that either served 400 people or more, or withdrew 10,000 gal/d (0.01 Mgal/d) or more. Water withdrawals from the inventoried systems totaled 2,065 Mgal/d and accounted for an estimated 99.6 percent of total public supply withdrawals in 1995. Water withdrawn by the uninventoried systems totaled about 9 Mgal/d (1,040 systems multiplied by 0.009 Mgal/d) or 0.4 percent of the total and are included in the domestic self-supplied category.

Water withdrawals for public supply in Florida in 1995 totaled 2,065 Mgal/d, of which 90 percent was obtained from ground water and 10 percent from surface water (table 4). More than 12.21 million (86 percent) of the State's residents obtained their drinking water from a public-supply water system (table 4). Of those residents using public-supply drinking water, 11.17 million (91 percent) used ground water, and the remaining 1.04 million (9 percent) relied on surface water.

Florida ranked second in the Nation to California (Solley and others, 1998) in ground-water withdrawals for public supply. The Floridan aquifer system supplied nearly 50 percent of the total public-supply withdrawals, followed by the Biscayne aquifer (35 percent) (fig. 8).

The Hillsborough River and Tampa Bypass Canal in Hillsborough County supplied 30 percent of the total surface-water for public supply. Deer Point Lake in Bay County supplied 21 percent (app. 1). Other significant surface-water sources of public supply water include the Braden and Manatee Rivers in Manatee County, Clear Lake in Palm Beach County, Lake Washington in Brevard County, and the Peace River and Shell Creek in Charlotte and De Soto Counties (app. 1). Several of the public-supply water systems that use surface water also augment their water supply with ground water.

Public-supply withdrawals in 1995 were smallest in February and largest in May (fig. 9). Seasonal differences in residential demands are caused by variations in temperature, precipitation, and tourism.

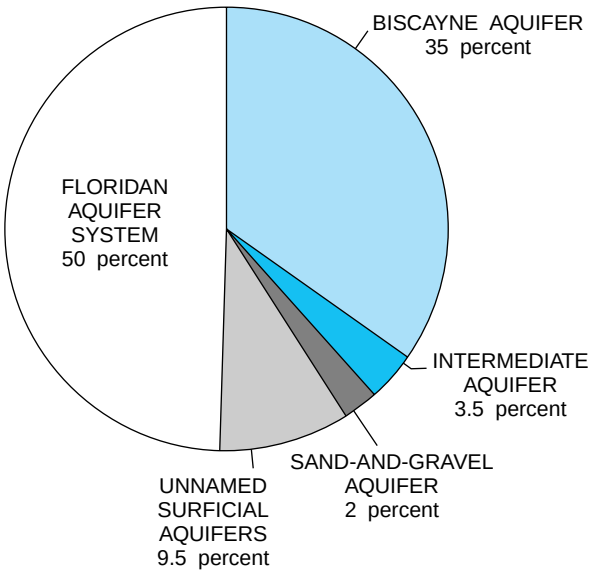


Figure 8. Public-supply ground-water withdrawals in Florida by principal aquifer, 1995.

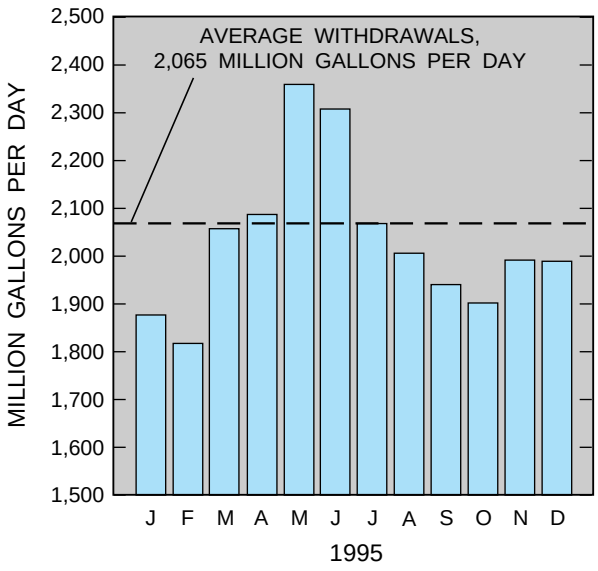


Figure 9. Average daily public-supply freshwater withdrawals by month in Florida, 1995.

Table 4. Public-supplied population, water use, withdrawals, transfers, and treated water in Florida by county, 1995

[Source: U.S. Geological Survey, WRD, Tallahassee; total population is from University of Florida, 1996; withdrawals, transfers, desalinated/diluted and water use values are in million gallons per day, per capita use in gallons per day; all withdrawals are freshwater]

County	Population		Withdrawals			Transfers		Desalinated/ diluted water	Water use	
	Total	Public supply	Total	Ground	Surface	Imports	Exports		Total	Per capita
Alachua	198,261	153,809	24.09	24.09	0.00	0.00	0.00	0.00	24.09	157
Baker	20,275	4,130	0.68	0.68	0.00	0.00	0.00	0.00	0.68	165
Bay	139,173	109,645	49.32	5.09	44.23	0.00	0.00	0.00	49.32	450
Bradford	24,336	8,502	1.33	1.33	0.00	0.00	0.00	0.00	1.33	156
Brevard	444,992	403,819	27.12	14.97	12.15	23.97	0.00	0.00	51.09	127
Broward	1,364,168	1,351,085	222.30	222.30	0.00	0.00	0.00	0.00	222.30	165
Calhoun	11,988	4,170	0.68	0.68	0.00	0.00	0.00	0.00	0.68	163
Charlotte	127,646	102,919	7.56	2.44	5.12	6.49	0.00	2.32	14.05	137
Citrus	105,468	56,740	10.08	10.08	0.00	0.00	0.00	0.00	10.08	178
Clay	120,896	93,055	12.04	12.04	0.00	0.00	0.00	0.00	12.04	129
Collier	186,504	163,396	39.30	36.46	2.84	0.00	0.00	8.55	39.30	241
Columbia	50,387	19,570	2.87	2.87	0.00	0.00	0.00	0.00	2.87	147
Dade	2,013,821	1,947,265	386.60	386.60	0.00	0.00	14.07	0.00	372.53	191
DeSoto	26,640	7,762	12.48	1.97	10.51	0.00	7.69	0.00	4.79	617
Dixie	12,416	4,212	0.64	0.64	0.00	0.00	0.00	0.00	0.64	152
Duval	718,355	641,774	99.62	99.62	0.00	0.00	0.00	0.00	99.62	155
Escambia	282,742	259,387	37.73	37.73	0.00	0.00	0.00	0.00	37.73	145
Flagler	36,997	26,213	4.51	4.51	0.00	0.00	0.00	0.00	4.51	172
Franklin	10,236	8,352	1.75	1.75	0.00	0.00	0.00	0.00	1.75	210
Gadsden	44,734	27,673	3.86	2.43	1.43	0.00	0.00	0.00	3.86	139
Gilchrist	11,888	1,765	0.22	0.22	0.00	0.00	0.00	0.00	0.22	125
Glades	8,551	3,456	0.38	0.38	0.00	0.00	0.00	0.00	0.38	110
Gulf	13,271	10,108	1.28	1.28	0.00	0.00	0.00	0.00	1.28	127
Hamilton	12,487	6,342	0.87	0.87	0.00	0.00	0.00	0.00	0.87	137
Hardee	22,885	8,565	1.61	1.61	0.00	0.00	0.00	0.00	1.61	188
Hendry	29,497	20,826	4.02	4.02	0.00	0.00	0.00	0.00	4.02	193
Hernando	117,895	102,490	17.07	17.06	0.01	0.00	0.00	0.00	17.07	167
Highlands	77,270	55,760	8.33	8.27	0.06	0.00	0.00	0.00	8.33	149
Hillsborough	892,874	760,450	129.50	63.75	65.75	4.94	15.67	0.00	118.77	156
Holmes	17,385	5,360	1.18	1.18	0.00	0.00	0.00	0.00	1.18	220
Indian River	100,261	61,886	11.16	11.16	0.00	0.00	0.00	5.98	11.16	180
Jackson	46,577	16,270	2.31	2.31	0.00	0.00	0.00	0.00	2.31	142
Jefferson	13,509	4,852	0.71	0.71	0.00	0.00	0.00	0.00	0.71	146
Lafayette	6,516	1,225	0.18	0.18	0.00	0.00	0.00	0.00	0.18	147
Lake	176,931	160,089	26.46	26.46	0.00	0.00	0.00	0.00	26.46	165
Lee	376,702	317,708	40.73	37.64	3.09	0.00	0.00	19.77	40.73	128
Leon	217,533	186,440	28.74	28.74	0.00	0.00	0.00	0.00	28.74	154
Levy	29,843	9,700	1.85	1.85	0.00	0.00	0.00	0.00	1.85	191
Liberty	6,873	2,679	0.32	0.32	0.00	0.00	0.00	0.00	0.32	119
Madison	18,344	7,341	1.58	1.58	0.00	0.00	0.00	0.00	1.58	215
Manatee	233,160	205,300	42.10	12.22	29.88	0.00	9.00	0.00	33.10	161
Marion	224,612	107,610	20.27	20.13	0.14	0.00	0.00	0.00	20.27	188
Martin	112,036	72,577	14.00	14.00	0.00	0.00	0.00	1.22	14.00	193
Monroe	83,401	80,500	0.00	0.00	0.00	14.07	0.00	0.00	14.07	175
Nassau	49,127	26,499	4.96	4.96	0.00	0.00	0.00	0.00	4.96	187
Okaloosa	162,707	149,665	21.20	21.20	0.00	0.00	0.00	0.00	21.20	142
Okeechobee	32,855	21,200	1.95	0.75	1.20	0.00	0.00	0.00	1.95	92
Orange	758,962	695,162	165.02	165.02	0.00	0.00	23.97	0.00	141.05	203
Osceola	136,627	100,855	19.15	19.15	0.00	0.00	0.00	0.00	19.15	190
Palm Beach	962,802	881,737	186.88	154.63	32.25	0.00	0.00	6.75	186.88	212
Pasco	305,576	223,605	93.93	93.93	0.00	0.00	67.79	0.00	26.14	117
Pinellas	876,200	867,440	34.83	34.83	0.00	78.52	0.00	0.00	113.35	131
Polk	443,153	386,054	58.42	58.15	0.27	0.00	0.00	0.00	58.42	151
Putnam	69,516	21,118	3.59	3.59	0.00	0.00	0.00	0.00	3.59	170
St. Johns	98,188	76,651	10.30	10.30	0.00	0.00	0.00	0.00	10.30	134
St. Lucie	171,160	107,162	15.31	15.31	0.00	0.00	0.00	1.00	15.31	143
Santa Rosa	96,091	91,030	12.08	12.08	0.00	0.00	0.00	0.00	12.08	133
Sarasota	301,528	247,250	25.98	25.21	0.77	10.20	0.00	12.34	36.18	146
Seminole	324,130	277,249	50.73	50.73	0.00	0.00	0.00	0.00	50.73	183
Sumter	36,456	16,609	2.45	2.45	0.00	0.00	0.00	0.00	2.45	148
Suwannee	30,534	9,276	1.42	1.42	0.00	0.00	0.00	0.00	1.42	153
Taylor	18,322	10,127	1.93	1.93	0.00	0.00	0.00	0.00	1.93	191
Union	12,647	4,000	0.38	0.38	0.00	0.00	0.00	0.00	0.38	95
Volusia	402,970	352,682	48.78	48.78	0.00	0.00	0.00	0.00	48.78	138
Wakulla	17,005	8,563	1.06	1.06	0.00	0.00	0.00	0.00	1.06	124
Walton	33,415	29,138	4.35	4.35	0.00	0.00	0.00	0.00	4.35	149
Washington	19,010	7,540	1.14	1.14	0.00	0.00	0.00	0.00	1.14	151
State totals	**14,149,317**	**12,213,389**	**2,065.27**	**1,855.57**	**209.70**	**138.19**	**138.19**	**57.93**	**2,065.27**	**169**

Public suppliers provide water (deliveries) for domestic (residential), commercial, industrial, public, and other uses (see glossary). The public use category includes firefighting, system maintenance, and water that is lost to leakage or processing (for desalination or lime-softening). Domestic water use, which includes indoor and outdoor residential uses, accounted for 61 percent of the public-supply withdrawals (fig. 10 and table 5). Domestic use was derived from the residual of the total public-supply net water use in each county minus the commercial, industrial, public, and other uses. Commercial (19 percent) and industrial (5 percent) water deliveries were estimated by multiplying county employment totals (U.S. Bureau of Census, 1996) by a water use coefficient based on average water use per employee (Davis and others, 1988) for various commercial and industrial employment sectors (Bucca and Marella, 1992). In this study, the percentage of public-supplied water provided for public uses (including losses) in the southeastern United States (14 percent) and the percent of water provided for other uses (irrigation and power generation) in the southeastern United States (1 percent) were used (American Water Works Association, 1992). Some specific data for water losses was provided directly from the individual users, estimated from data provided by the water management districts, or obtained from the FDEP's monthly operating reports. Estimates of the use or deliveries of public-supply water for each county in Florida are presented in table 5.

The statewide public-supply per capita use for Florida was 169 gal/d. This value is the total public-supply water withdrawn (2,065 Mgal/d) divided by the total population served by public supply (12.21 million). Per capita use computed in this manner includes water delivered for residential, commercial, industrial, public and other uses (table 5). The public-supply per capita use has remained fairly constant since 1970 with the exception of 1980 (fig. 11), when a statewide drought affected water usage for most of the year. The statewide public-supply per capita use was slightly lower than the 1995 national average of 179 gal/d (Solley and others, 1998).

The per capita use for domestic (residential) deliveries in Florida has been decreasing since the average of 144 gal/d in 1980, primarily as a result of (1) conservation efforts and the use of more efficient water fixtures; (2) the use of reclaimed wastewater as a source of water for lawn irrigation; (3) the use of xeriscape landscaping; and (4) a change in the way domestic water use was derived between 1980 and 1990. Florida's average for domestic (residential) per capita use of 103 gal/d (table 5) in 1995 is slightly higher than the national average of 101 gal/d (Solley and others, 1998).

The largest water withdrawals for public supply were in Dade and Broward Counties (table 4). The Miami-Dade Water and Sewer Authority in Dade County is the single largest water supplier in the State; it withdrew 341 Mgal/d of ground water and served 1.7 million people in 1995 (app. 1). Dade County's water withdrawals also included water supplied (exported) to neighboring Monroe County (14 Mgal/d)

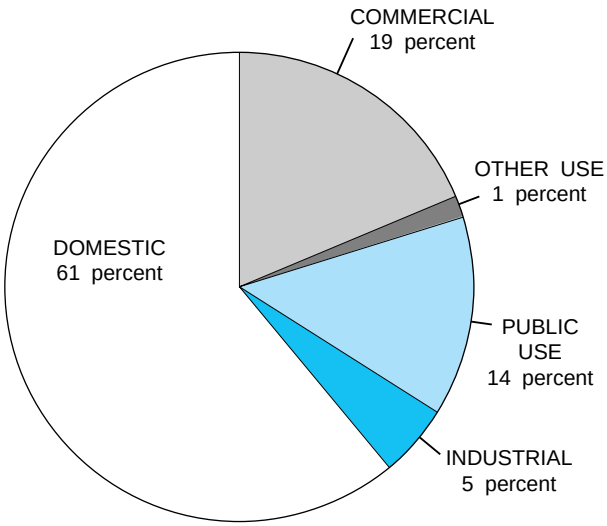


Figure 10. Public-supply water use in Florida, 1995.

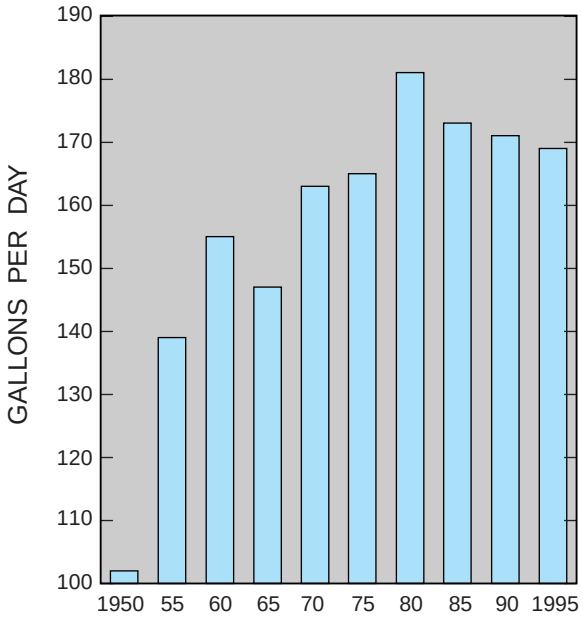


Figure 11. Historical public supply average daily per capita use in Florida, 1950-95. (Modified from Marella, 1995.)

Table 5. Estimated public supply water use (deliveries), and per capita use in Florida by county, 1995

[Source: U.S. Geological Survey, WRD, Tallahassee; water use in million gallons per day; per capita use in gallons per day]

County	Population served	Public supply water use (deliveries)						Per capita use	
		Domestic (residential)	Commercial	Industrial	Other uses	Public uses and losses	Total	Public supply	Domestic (residential)
Alachua	153,809	13.32	6.51	0.67	0.36	3.23	24.09	157	87
Baker	4,130	0.29	0.26	0.04	0.00	0.09	0.68	165	70
Bay	109,645	12.37	4.23	25.37	0.74	6.61	49.32	450	113
Bradford	8,502	0.69	0.39	0.06	0.01	0.18	1.33	156	81
Brevard	403,819	30.32	10.34	2.81	0.77	6.85	51.09	127	75
Broward	1,351,085	144.08	38.56	6.54	3.33	29.79	222.30	165	107
Calhoun	4,170	0.38	0.16	0.05	0.00	0.09	0.68	163	91
Charlotte	102,919	9.65	2.11	0.21	0.20	1.88	14.05	137	94
Citrus	56,740	6.71	1.63	0.24	0.15	1.35	10.08	178	118
Clay	93,055	8.13	1.78	0.34	0.18	1.61	12.04	129	87
Collier	163,396	27.22	5.62	0.60	0.59	5.27	39.30	241	167
Columbia	19,570	1.26	1.04	0.15	0.04	0.38	2.87	147	64
Dade	1,947,265	244.41	60.68	11.93	5.59	49.92	372.53	191	126
DeSoto	7,762	0.83	0.27	0.02	0.02	3.65	4.79	617	107
Dixie	4,212	0.42	0.09	0.04	0.00	0.09	0.64	152	100
Duval	641,774	54.54	22.22	8.02	1.49	13.35	99.62	155	85
Escambia	259,387	23.77	6.67	1.66	0.57	5.06	37.73	145	92
Flagler	26,213	3.12	0.54	0.18	0.07	0.60	4.51	172	119
Franklin	8,352	1.29	0.19	0.02	0.02	0.23	1.75	210	154
Gadsden	27,673	2.34	0.79	0.15	0.06	0.52	3.86	139	85
Gilchrist	1,765	0.10	0.08	0.01	0.00	0.03	0.22	125	57
Glades	3,456	0.29	0.04	0.00	0.00	0.05	0.38	110	84
Gulf	10,108	0.92	0.17	0.01	0.01	0.17	1.28	127	91
Hamilton	6,342	0.46	0.25	0.04	0.00	0.12	0.87	137	73
Hardee	8,565	1.06	0.30	0.01	0.02	0.22	1.61	188	124
Hendry	20,826	1.61	0.37	1.44	0.06	0.54	4.02	193	77
Hernando	102,490	12.79	1.48	0.25	0.26	2.29	17.07	167	125
Highlands	55,760	5.52	1.40	0.17	0.12	1.12	8.33	149	99
Hillsborough	760,450	64.08	29.95	7.04	1.78	15.92	118.77	156	84
Holmes	5,360	0.67	0.26	0.07	0.02	0.16	1.18	220	125
Indian River	61,886	6.98	2.19	0.32	0.17	1.50	11.16	180	113
Jackson	16,270	1.02	0.69	0.26	0.03	0.31	2.31	142	63
Jefferson	4,852	0.46	0.12	0.03	0.00	0.10	0.71	146	95
Lafayette	1,225	0.10	0.04	0.02	0.00	0.02	0.18	147	82
Lake	160,089	18.90	3.08	0.53	0.40	3.55	26.46	165	118
Lee	317,708	21.67	9.78	1.18	0.61	7.49	40.73	128	68
Leon	186,440	15.66	8.17	0.63	0.43	3.85	28.74	154	84
Levy	9,700	1.16	0.33	0.08	0.03	0.25	1.85	191	120
Liberty	2,679	0.22	0.05	0.01	0.00	0.04	0.32	119	82
Madison	7,341	0.64	0.28	0.43	0.02	0.21	1.58	215	87
Manatee	205,300	22.19	5.00	0.97	0.50	4.44	33.10	161	108
Marion	107,610	12.00	4.00	1.25	0.30	2.72	20.27	188	112
Martin	72,577	8.65	2.82	0.44	0.21	1.88	14.00	193	119
Monroe	80,500	7.92	3.20	0.15	0.21	2.59	14.07	175	98
Nassau	26,499	2.92	1.16	0.15	0.07	0.66	4.96	187	110
Okaloosa	149,665	13.41	4.01	0.62	0.32	2.84	21.20	142	90
Okeechobee	21,200	1.20	0.44	0.05	0.00	0.26	1.95	92	57
Orange	695,162	78.36	35.82	5.85	2.12	18.90	141.05	203	113
Osceola	100,855	11.93	4.05	0.31	0.29	2.57	19.15	190	118
Palm Beach	881,737	124.85	28.88	5.12	2.99	25.04	186.88	212	142
Pasco	223,605	17.33	4.45	0.47	0.39	3.50	26.14	117	78
Pinellas	867,440	65.60	24.28	6.58	1.70	15.19	113.35	131	76
Polk	386,054	37.29	9.35	3.07	0.88	7.83	58.42	151	97
Putnam	21,118	2.06	0.83	0.17	0.05	0.48	3.59	170	98
St. Johns	76,651	5.84	2.59	0.34	0.15	1.38	10.30	134	76
St. Lucie	107,162	9.27	2.82	0.40	0.77	2.05	15.31	143	87
Santa Rosa	91,030	8.84	1.19	0.25	0.18	1.62	12.08	133	97
Sarasota	247,250	19.06	8.34	1.54	0.18	7.06	36.18	146	77
Seminole	277,249	34.51	6.84	1.82	0.76	6.80	50.73	183	124
Sumter	16,609	1.56	0.41	0.13	0.02	0.33	2.45	148	94
Suwannee	9,276	0.79	0.36	0.07	0.01	0.19	1.42	153	85
Taylor	10,127	1.03	0.37	0.25	0.02	0.26	1.93	191	102
Union	4,000	0.20	0.09	0.04	0.00	0.05	0.38	95	50
Volusia	352,682	29.80	10.23	1.47	0.73	6.55	48.78	138	84
Wakulla	8,563	0.71	0.17	0.03	0.01	0.14	1.06	124	83
Walton	29,138	2.89	0.79	0.05	0.04	0.58	4.35	149	99
Washington	7,540	0.63	0.23	0.12	0.01	0.15	1.14	151	84
State totals	**12,213,389**	**1,260.29**	**385.83**	**103.34**	**31.06**	**284.75**	**2,065.27**	**169**	**103**

for public supply throughout the Florida Keys. Significant withdrawals (more than 100 Mgal/d) of public-supply water were in Broward, Palm Beach, Orange, Hillsborough, and Pinellas Counties (table 4). Several counties rely on water imported from other counties, as more than 138 Mgal/d of public-supplied water was withdrawn in one county for use in another county (table 4).

Water withdrawals for public supply in Florida have increased steadily since water-use data were first collected. Total public-supply withdrawals increased 1,100 percent between 1950 and 1995 (fig. 12). Over this same period, the population of Florida increased 410 percent, from 2.77 million in 1950 (Dietrich, 1978) to 14.15 million in 1995 (University of Florida, 1996). In addition to the increase in the State's total population, the percentage of the population that rely on public supply for drinking water increased. In 1950, about 60 percent of the State's population was served by a public supplier; this percentage increased to 86 percent in 1985 (Marella, 1995) and has remained about the same between 1985 and 1995. Public-supply withdrawals increased 134 percent between 1970 and 1995, and 7 percent between 1990 and 1995.

The use of nonpotable water (brackish water) for public supply has increased steadily in Florida since

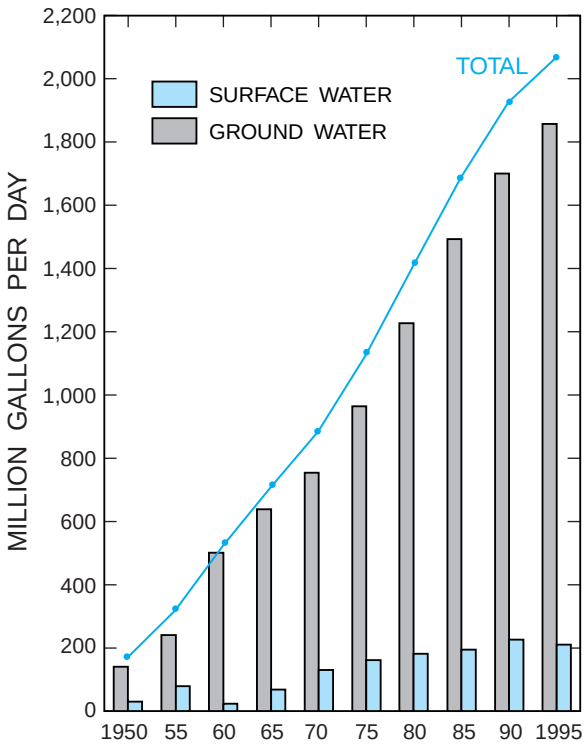


Figure 12. Historical public-supply freshwater withdrawals in Florida by source, 1950-95. (Modified from Marella, 1995.)

1985 (Dykes and Conlon, 1989; Marella, 1995). In 1995, about 58 Mgal/d of ground water containing less than 1,000 mg/L of dissolved solids was treated using desalination techniques (see glossary) or diluted with freshwater to meet the FDEP drinking-water standards for potable water (less than 500 mg/L of dissolved solids). The use of desalination or dilution for public supply was documented in eight counties (Charlotte, Collier, Indian River, Lee, Martin, Palm Beach, St. Lucie, and Sarasota) (table 4). This nonpotable water is included in the freshwater category for this report, as all water withdrawn for public supply in 1995 was freshwater.

Domestic Self-Supplied

The domestic self-supplied category consist of nonpermitted small potable water users. These include water withdrawn by individual households (domestic wells), by small non-community and non-transient non-community water systems such as churches, convenience stores, and restaurants that are not served by a public-water supplier and are too small (less than 0.01 Mgal/d) to be inventoried under commercial-industrial self-supplied, and by the 1,040 small public-supply systems (serving fewer than 400 residents or with a daily average pumpage of less than 0.01 Mgal/d) not inventoried under public supply.

Of the 297 Mgal/d withdrawn for domestic self-supplied use, 82 percent (244 Mgal/d) was from domestic wells, 15 percent (44 Mgal/d) from the 4,922 non-community and non-transient non-community water systems (Kenna Study, Florida Department of Environmental Protection, oral commun., 1998) (4,922 systems multiplied by 0.009 Mgal/d), and 3 percent (9 Mgal/d) from the 1,040 small public supply systems not inventoried. Withdrawals of more than 10 Mgal/d for domestic self-supplied use in 1995 occurred in Marion, Palm Beach, Orange, Hillsborough, Dade, and Duval Counties (table 6). It is assumed that water withdrawals for this category were derived exclusively from ground water because of its good quality and its widespread availability. About 52 percent of the domestic self-supplied water was obtained from the Floridan aquifer system (fig. 13); the remaining 48 percent was obtained from local water table or shallow aquifers (Biscayne, intermediate, sand-and-gravel, and the unnamed surficial aquifers). In many areas of Florida, the shallow aquifers yield sufficient water for domestic purposes.

Table 6. Domestic self-supplied population and water withdrawals in Florida by county, 1995

[Sources: U.S. Geological Survey, WRD, Tallahassee; total population from University of Florida, 1996; people per household from Smith and Cody, 1996; households with wells from U.S. Bureau of the Census, 1993]

County	Population			People per household	Households with wells (1990 data)	Withdrawals (in million gallons per day)		
	Total	Public supply	Self-supplied			Total	Ground	Surface
Alachua	198,261	153,809	44,452	2.39	14,982	6.75	6.75	0.00
Baker	20,275	4,130	16,145	2.98	4,431	2.50	2.50	0.00
Bay	139,173	109,645	29,528	2.53	11,821	6.58	6.58	0.00
Bradford	24,336	8,502	15,834	2.68	5,118	2.38	2.38	0.00
Brevard	444,992	403,819	41,173	2.43	18,185	5.23	5.23	0.00
Broward	1,364,168	1,351,085	13,083	2.34	6,298	2.16	2.16	0.00
Calhoun	11,988	4,170	7,818	2.63	2,806	1.27	1.27	0.00
Charlotte	127,646	102,919	24,727	2.23	5,401	5.85	5.85	0.00
Citrus	105,468	56,740	48,728	2.27	27,064	6.74	6.74	0.00
Clay	120,896	93,055	27,841	2.85	15,429	3.59	3.59	0.00
Collier	186,504	163,396	23,108	2.40	9,216	5.57	5.57	0.00
Columbia	50,387	19,570	30,817	2.66	10,374	4.53	4.53	0.00
Dade	2,013,821	1,947,265	66,556	2.76	15,541	12.71	12.71	0.00
DeSoto	26,640	7,762	18,878	2.62	5,858	2.28	2.28	0.00
Dixie	12,416	4,212	8,204	2.56	3,952	1.25	1.25	0.00
Duval	718,355	641,774	76,581	2.54	36,496	11.87	11.87	0.00
Escambia	282,742	259,387	23,355	2.57	1,182	3.39	3.39	0.00
Flagler	36,997	26,213	10,784	2.40	2,110	1.85	1.85	0.00
Franklin	10,236	8,352	1,884	2.41	1,334	0.40	0.40	0.00
Gadsden	44,734	27,673	17,061	2.89	5,041	2.37	2.37	0.00
Gilchrist	11,888	1,765	10,123	2.65	3,401	1.27	1.27	0.00
Glades	8,551	3,456	5,095	2.56	1,014	0.56	0.56	0.00
Gulf	13,271	10,108	3,163	2.56	2,370	0.40	0.40	0.00
Hamilton	12,487	6,342	6,145	2.81	2,078	0.84	0.84	0.00
Hardee	22,885	8,565	14,320	2.94	4,368	1.77	1.77	0.00
Hendry	29,497	20,826	8,671	2.98	3,010	1.21	1.21	0.00
Hernando	117,895	102,490	15,405	2.37	10,930	2.44	2.44	0.00
Highlands	77,270	55,760	21,510	2.28	11,566	2.86	2.86	0.00
Hillsborough	892,874	760,450	132,424	2.51	57,447	12.37	12.37	0.00
Holmes	17,385	5,360	12,025	2.56	4,476	2.65	2.65	0.00
Indian River	100,261	61,886	38,375	2.33	15,201	6.91	6.91	0.00
Jackson	46,577	16,270	30,307	2.55	9,821	4.30	4.30	0.00
Jefferson	13,509	4,852	8,657	2.78	3,014	1.26	1.26	0.00
Lafayette	6,516	1,225	5,291	2.74	1,804	0.78	0.78	0.00
Lake	176,931	160,089	16,842	2.34	24,161	2.71	2.71	0.00
Lee	376,702	317,708	58,994	2.35	23,793	7.55	7.55	0.00
Leon	217,533	186,440	31,093	2.42	10,183	4.79	4.79	0.00
Levy	29,843	9,700	20,143	2.51	7,959	3.66	3.66	0.00
Liberty	6,873	2,679	4,194	2.69	1,342	0.50	0.50	0.00
Madison	18,344	7,341	11,003	2.75	3,719	1.54	1.54	0.00
Manatee	233,160	205,300	27,860	2.29	5,982	3.00	3.00	0.00
Marion	224,612	107,610	117,002	2.44	48,359	20.33	20.33	0.00
Martin	112,036	72,577	39,459	2.28	15,585	7.62	7.62	0.00
Monroe	83,401	80,500	2,901	2.24	1,016	0.51	0.51	0.00
Nassau	49,127	26,499	22,628	2.68	10,574	4.23	4.23	0.00
Okaloosa	162,707	149,665	13,042	2.60	2,721	1.85	1.85	0.00
Okeechobee	32,855	21,200	11,655	2.74	5,599	1.11	1.11	0.00
Orange	758,962	695,162	63,800	2.56	21,146	12.95	12.95	0.00
Osceola	136,627	100,855	35,772	2.68	10,830	6.77	6.77	0.00
Palm Beach	962,802	881,737	81,065	2.33	34,835	17.19	17.19	0.00
Pasco	305,576	223,605	81,971	2.26	35,122	8.81	8.81	0.00
Pinellas	876,200	867,440	8,760	2.18	3,551	4.99	4.99	0.00
Polk	443,153	386,054	57,099	2.53	36,578	7.67	7.67	0.00
Putnam	69,516	21,118	48,398	2.54	22,639	8.23	8.23	0.00
St. Johns	98,188	76,651	21,537	2.43	11,568	2.89	2.89	0.00
St. Lucie	171,160	107,162	63,998	2.54	23,949	9.15	9.15	0.00
Santa Rosa	96,091	91,030	5,061	2.68	2,479	0.67	0.67	0.00
Sarasota	301,528	247,250	54,278	2.18	23,247	7.17	7.17	0.00
Seminole	324,130	277,249	46,881	2.64	12,116	8.58	8.58	0.00
Sumter	36,456	16,609	19,847	2.46	9,139	0.93	0.93	0.00
Suwannee	30,534	9,276	21,258	2.61	8,073	3.25	3.25	0.00
Taylor	18,322	10,127	8,195	2.66	4,170	1.33	1.33	0.00
Union	12,647	4,000	8,647	2.91	1,842	0.82	0.82	0.00
Volusia	402,970	352,682	50,288	2.33	23,330	3.63	3.63	0.00
Wakulla	17,005	8,563	8,442	2.69	3,712	1.05	1.05	0.00
Walton	33,415	29,138	4,277	2.44	7,537	0.64	0.64	0.00
Washington	19,010	7,540	11,470	2.55	5,563	1.73	1.73	0.00
State totals	**14,149,317**	**12,213,389**	**1,935,928**	**2.46**	**795,558[1]**	**296.74**	**296.74**	**0.00**

[1]Number of household data for 1995 is unavailable. Estimate for 1995 is 867,600 based on a 9 percent increase of the population growth (University of Florida, 1996). Individual county growth rates will vary.

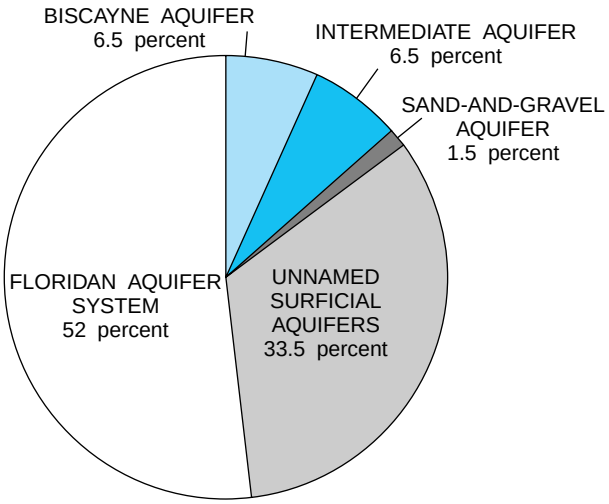
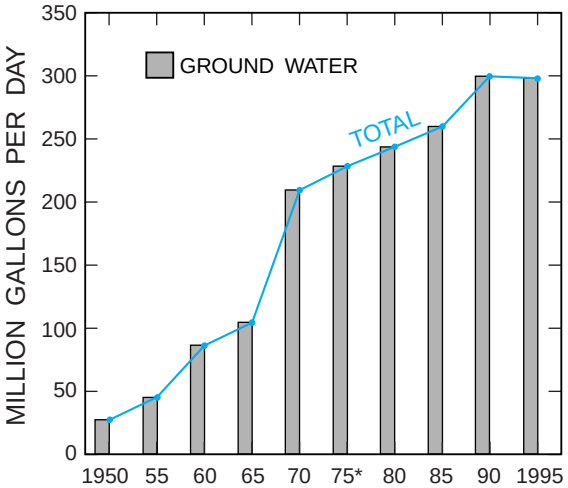


Figure 13. Domestic self-supplied ground-water withdrawals in Florida by principal aquifer, 1995.



* In 1975, surface water was estimated to be 2 million gallons per day.

Figure 14. Historical domestic self-supplied freshwater withdrawals in Florida, 1950-95. (Modified from Marella, 1995.)

In 1995, an estimated 1.94 million people in Florida were classified as domestic self-supplied (table 6). Of these, about 97 percent used domestic wells and 3 percent were served by the uninventoried small public-supply water systems. The non-community and non-transient non-community water systems do not serve a permanent population.

According to the U.S. Bureau of Census (1993), an estimated 795,560 households in Florida used an individual well as their primary source of drinking water in 1990 (data for 1995 are unavailable) (table 6). The number of households in 1995 with domestic wells was estimated at 867,600 and was based on increasing the 1990 statewide estimate by the rate of population growth in Florida (9 percent) between 1990 and 1995 (University of Florida, 1996). Based on the estimated number of domestic wells for 1995 and the amount of water used by those households for 1995, the average use per well would be slightly more than 280 gal/d. Many additional households in Florida have individual wells for irrigation purposes only, and these are not included in this category.

Withdrawals for domestic self-supplied use in Florida increased 42 percent between 1970 and 1995 (fig. 14), with a 40 percent increase in the self-supplied population during this time. In 1970, an estimated statewide per capita use figure of 120 gal/d was used to estimate withdrawals for all counties. However, since 1980, countywide per capita use rates were used for each county based on total public-supply per capita use. In 1995, a combination of estimates and report data were used to estimate domestic self-supplied use. Between 1990 and 1995, domestic self-supplied withdrawals stayed nearly the same as did the percent of the State's population that was self-supplied, despite the estimated increase in the number of domestic wells.

Commercial-Industrial Self-Supplied

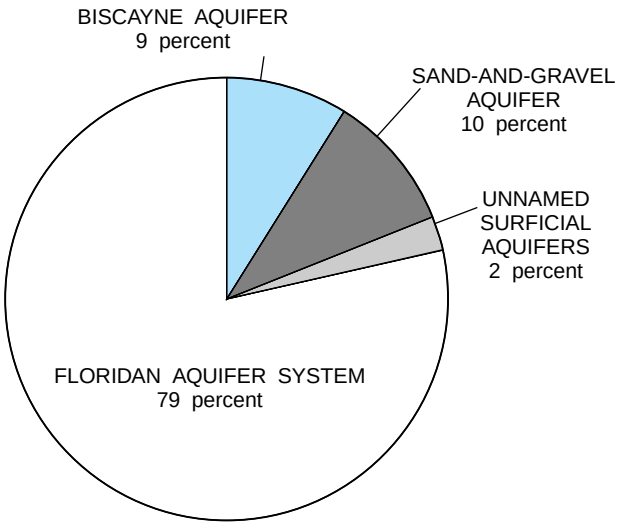
Commercial-industrial self-supplied use is water withdrawn at commercial and industrial facilities. Commercial users include government and military facilities, schools, prisons, hospitals, recreational, and non-manufacturing facilities. Industrial users include mining, processing, and manufacturing facilities. Data were obtained for those systems having withdrawals of more than 0.01 Mgal/d; water used by the smaller commercial-industrial (non-community and non-transient non-community) water systems is accounted for under domestic self-supplied. In 1995, there were 174 self-supplied commercial users and 278 self-supplied industrial users (including mines) inventoried in Florida.

Total freshwater withdrawals by commercial-industrial self-supplied systems in 1995 was 692 Mgal/d, of which 63 percent was ground water and 37 percent was surface water (table 7). The Floridan aquifer system supplied 79 percent of ground water withdrawals for this category in (fig. 15). Major surface-water sources for commercial-industrial self-supplied use include Etonia and Simms Creeks in Putnam County (13 percent), the Gulf County Canal in Gulf County (11 percent), and the Escambia River in Escambia County (9 percent). However, a large amount of surface water used for this category was withdrawn from mining pits or ponds for dewatering and mining operations.

Table 7. Commercial-industrial self-supplied water withdrawals in Florida by county, 1995

[Source: U.S. Geological Survey, WRD, Tallahassee; all values in million gallons per day]

County	Ground water			Surface water			Total water		
	Fresh	Saline	Total	Fresh	Saline	Total	Fresh	Saline	Total
Alachua	2.53	0.00	2.53	0.00	0.00	0.00	2.53	0.00	2.53
Baker	0.54	0.00	0.54	0.00	0.00	0.00	0.54	0.00	0.54
Bay	0.51	0.00	0.51	0.00	0.00	0.00	0.51	0.00	0.51
Bradford	2.98	0.00	2.98	0.00	0.00	0.00	2.98	0.00	2.98
Brevard	1.80	0.00	1.80	0.00	0.00	0.00	1.80	0.00	1.80
Broward	0.34	0.00	0.34	0.00	0.00	0.00	0.34	0.00	0.34
Calhoun	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Charlotte	0.33	0.00	0.33	6.19	0.00	6.19	6.52	0.00	6.52
Citrus	5.31	0.00	5.31	0.43	0.00	0.43	5.74	0.00	5.74
Clay	4.46	0.00	4.46	0.00	0.00	0.00	4.46	0.00	4.46
Collier	0.15	0.00	0.15	3.07	0.00	3.07	3.22	0.00	3.22
Columbia	0.23	0.00	0.23	0.00	0.00	0.00	0.23	0.00	0.23
Dade	38.82	0.00	38.82	4.56	0.00	4.56	43.38	0.00	43.38
DeSoto	0.02	0.00	0.02	0.39	0.00	0.39	0.41	0.00	0.41
Dixie	0.41	0.00	0.41	0.00	0.00	0.00	0.41	0.00	0.41
Duval	24.75	0.00	24.75	0.00	0.00	0.00	24.75	0.00	24.75
Escambia	37.20	0.00	37.20	22.19	0.00	22.19	59.39	0.00	59.39
Flagler	0.18	0.00	0.18	0.00	0.00	0.00	0.18	0.00	0.18
Franklin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gadsden	1.04	0.00	1.04	1.81	0.00	1.81	2.85	0.00	2.85
Gilchrist	0.15	0.00	0.15	0.00	0.00	0.00	0.15	0.00	0.15
Glades	0.36	0.00	0.36	14.53	0.00	14.53	14.89	0.00	14.89
Gulf	0.68	0.00	0.68	27.98	5.76	33.74	28.66	5.76	34.42
Hamilton	39.64	0.00	39.64	0.00	0.00	0.00	39.64	0.00	39.64
Hardee	2.81	0.00	2.81	0.00	0.00	0.00	2.81	0.00	2.81
Hendry	0.97	0.00	0.97	0.00	0.00	0.00	0.97	0.00	0.97
Hernando	13.97	0.00	13.97	0.70	0.00	0.70	14.67	0.00	14.67
Highlands	0.50	0.00	0.50	0.85	0.00	0.85	1.35	0.00	1.35
Hillsborough	27.60	0.00	27.60	5.54	0.00	5.54	33.14	0.00	33.14
Holmes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indian River	0.16	0.00	0.16	0.00	0.00	0.00	0.16	0.00	0.16
Jackson	1.67	0.00	1.67	0.00	0.00	0.00	1.67	0.00	1.67
Jefferson	0.25	0.00	0.25	0.00	0.00	0.00	0.25	0.00	0.25
Lafayette	0.23	0.00	0.23	0.00	0.00	0.00	0.23	0.00	0.23
Lake	10.23	0.00	10.23	1.14	0.00	1.14	11.37	0.00	11.37
Lee	4.14	0.00	4.14	5.13	0.00	5.13	9.27	0.00	9.27
Leon	0.23	0.00	0.23	0.00	0.00	0.00	0.23	0.00	0.23
Levy	0.07	0.00	0.07	2.00	0.00	2.00	2.07	0.00	2.07
Liberty	0.38	0.00	0.38	0.00	0.00	0.00	0.38	0.00	0.38
Madison	0.11	0.00	0.11	0.00	0.00	0.00	0.11	0.00	0.11
Manatee	0.57	0.00	0.57	0.26	0.00	0.26	0.83	0.00	0.83
Marion	1.91	0.00	1.91	0.00	0.00	0.00	1.91	0.00	1.91
Martin	1.66	0.00	1.66	0.00	0.00	0.00	1.66	0.00	1.66
Monroe	0.07	0.00	0.07	0.00	0.00	0.00	0.07	0.00	0.07
Nassau	34.49	0.00	34.49	0.00	0.00	0.00	34.49	0.00	34.49
Okaloosa	4.84	0.00	4.84	0.00	0.00	0.00	4.84	0.00	4.84
Okeechobee	0.13	0.00	0.13	0.00	0.00	0.00	0.13	0.00	0.13
Orange	19.67	0.00	19.67	0.00	0.00	0.00	19.67	0.00	19.67
Osceola	0.73	0.00	0.73	0.00	0.00	0.00	0.73	0.00	0.73
Palm Beach	1.95	0.00	1.95	21.00	0.00	21.00	22.95	0.00	22.95
Pasco	9.61	0.00	9.61	11.56	0.00	11.56	21.17	0.00	21.17
Pinellas	0.04	0.00	0.04	0.07	0.00	0.07	0.11	0.00	0.11
Polk	67.61	0.00	67.61	24.12	0.00	24.12	91.73	0.00	91.73
Putnam	11.19	0.00	11.19	34.74	0.00	34.74	45.93	0.00	45.93
St. Johns	0.06	0.00	0.06	0.00	0.00	0.00	0.06	0.00	0.06
St. Lucie	0.07	0.00	0.07	5.03	0.00	5.03	5.10	0.00	5.10
Santa Rosa	6.02	0.00	6.02	0.00	0.00	0.00	6.02	0.00	6.02
Sarasota	0.07	0.00	0.07	5.05	0.00	5.05	5.12	0.00	5.12
Seminole	0.14	0.00	0.14	0.00	0.00	0.00	0.14	0.00	0.14
Sumter	0.20	0.00	0.20	53.39	0.00	53.39	53.59	0.00	53.59
Suwannee	1.22	0.00	1.22	0.00	0.00	0.00	1.22	0.00	1.22
Taylor	47.40	0.00	47.40	1.98	0.00	1.98	49.38	0.00	49.38
Union	0.35	0.00	0.35	0.00	0.00	0.00	0.35	0.00	0.35
Volusia	0.69	0.00	0.69	0.00	0.00	0.00	0.69	0.00	0.69
Wakulla	0.63	0.00	0.63	0.00	0.00	0.00	0.63	0.00	0.63
Walton	0.92	0.00	0.92	0.00	0.00	0.00	0.92	0.00	0.92
Washington	0.13	0.00	0.13	0.00	0.00	0.00	0.13	0.00	0.13
State totals	**438.12**	**0.00**	**438.12**	**253.71**	**5.76**	**259.47**	**691.83**	**5.76**	**697.59**



Note: Intermediate aquifer equaled less than 1 percent

Figure 15. Commercial-industrial self-supplied groundwater withdrawals in Florida by principal aquifer, 1995.

Monthly withdrawals for commercial-industrial self-supplied systems fluctuated less than 100 Mgal/d during 1995 (fig. 16). Withdrawals were highest January through May, primarily because of increased water demand when citrus and vegetables are harvested and processed; withdrawals for mining and pulp and paper remained steady throughout the year. Withdrawals during December were low because of reduced activity during the holidays at several large processing plants.

Withdrawals by industrial facilities accounted for 93 percent and commercial accounted for 7 percent of the freshwater withdrawals. Mining accounted for the largest amount of water used in this category (43 percent) followed by pulp and paper manufacturing

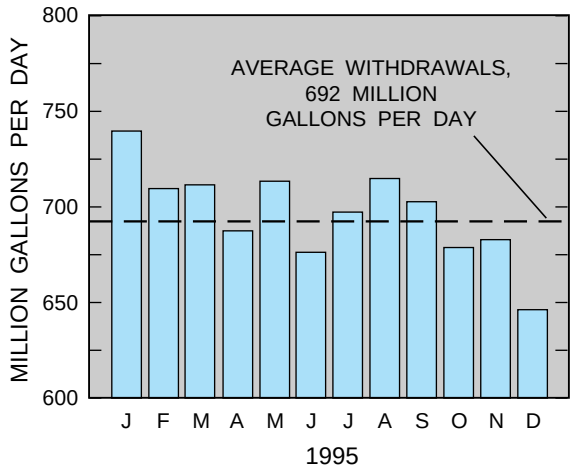


Figure 16. Average daily commercial-industrial self-supplied freshwater withdrawals by month in Florida, 1995.

(27 percent) (fig. 17). Of the water withdrawn from the 98 inventoried mining facilities, 61 percent (182 Mgal/d) was for mining limestone and sand, 37 percent (109 Mgal/d) for phosphate mining, and 2 percent (5 Mgal/d) for mineral mining. Mining operations are located throughout Florida, but are most concentrated in the central part of the State. Water withdrawn in the mining industry is used primarily for material washing and conveyance, but includes water pumped to dewater the area being mined. The pulp and paper industry is located in the heavily forested areas of northern and western Florida.

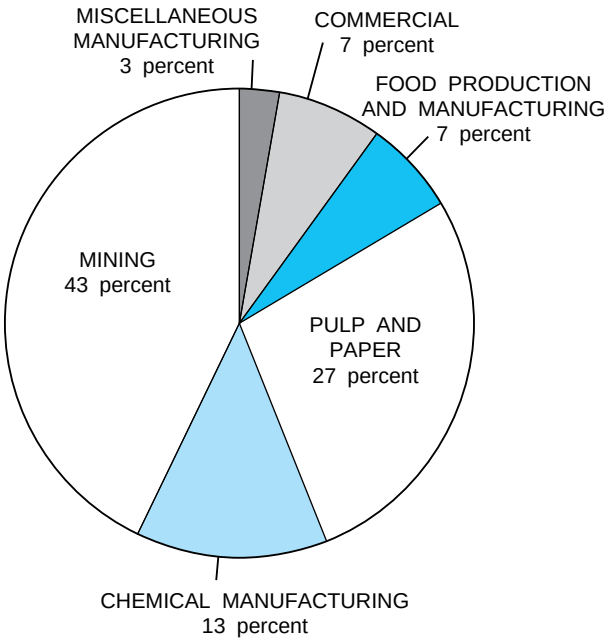


Figure 17. Commercial-industrial self-supplied freshwater use in Florida by major industrial type, 1995.

The largest amount of freshwater withdrawn for commercial-industrial self-supplied purposes was in Polk County, followed by Escambia, and Sumter Counties (table 7). These three counties accounted for 30 percent of the water withdrawn in this category during 1995.

Freshwater withdrawn for commercial-industrial self-supplied use in Florida decreased 23 percent between 1970 and 1995 (fig. 18). During this time period, deliveries to commercial and industrial users from public-supply systems increased from 162 Mgal/d (Pride, 1973) to 489 Mgal/d (table 5), about 200 percent. The increase in deliveries and the decrease in withdrawals indicate that most new commercial or industrial users obtained water from a public-supply water system and those self-supplied users

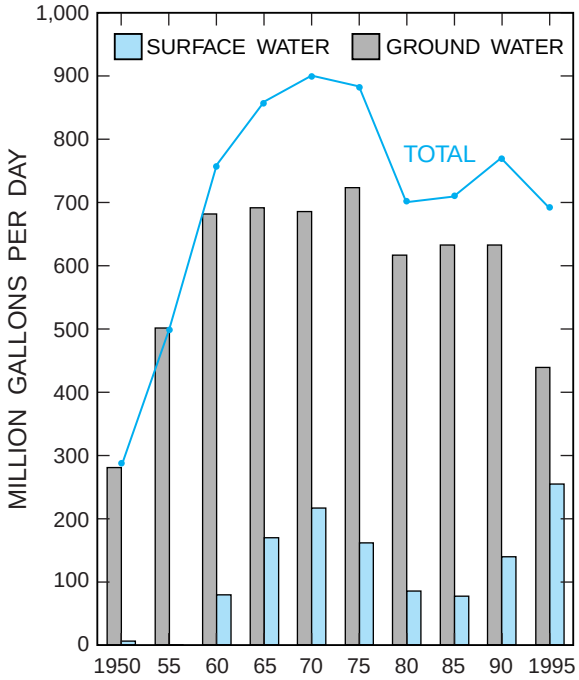


Figure 18. Historical commercial-industrial self-supplied freshwater withdrawals in Florida by source, 1950-95. (Modified from Marella, 1995.)

are either converting to public supply or have become more water efficient. The conversion to public supply occurred because of increasing cost of producing potable water and treating wastewater. This has forced many industries that were once self-supplied to receive and discharge water from a public supplier and to become more water efficient and reduce discharge volumes. Between 1990 and 1995, freshwater withdrawals for this category decreased 10 percent.

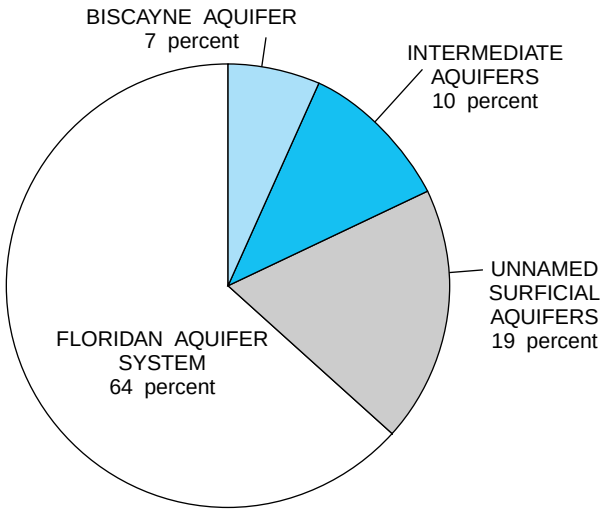
Agricultural Self-Supplied (Irrigation and Nonirrigation)

Agricultural self-supplied use consists of water withdrawn for the irrigation of crops and for nonirrigation uses associated with farming operations. Irrigation includes the application of water on lands to assist in the growing of crops or to prevent damage to crops due to harsh climatic conditions. Nonirrigation uses include water withdrawn for livestock watering (washing dairy and farm equipment), fish farming (augmenting ponds), and other uses. The agricultural self-supplied category no longer includes water withdrawals for irrigation of turf grasses (golf courses and urban landscape), which is now included in the category of recreational irrigation.

Agricultural self-supplied was the largest user of freshwater in Florida, accounting for 45 percent of the State's total freshwater withdrawn in 1995. Water withdrawals totaled 3,244 Mgal/d, of which 53 percent was surface water and 47 percent was ground water (table 8). Even though Florida ranked thirteenth in the Nation for irrigation and nonirrigation withdrawals, it had the largest withdrawals of any State east of the Mississippi River (Solley and others, 1998). All water withdrawn for irrigation in Florida was assumed to be freshwater.

The Floridan aquifer system supplied 64 percent of the ground water withdrawn for agricultural self-supplied use in 1995 (fig. 19). Major sources of surface water for irrigation purposes include Lake Okeechobee and associated canals (Glades, Hendry, Martin, Palm Beach, and St. Lucie Counties), and the marshlands associated with the headwaters of the St. Johns River (Brevard, Indian River and Okeechobee Counties). South Florida is intensively irrigated for sugarcane, citrus, and vegetables, and accounted for more than 70 percent of the State's surface-water withdrawals.

Monthly withdrawals for agricultural self-supplied use had the largest seasonal variation of any water-use category. Irrigation withdrawals followed a normal seasonal pattern: they were greatest in April, May, and June (accounting for 36 percent of the water



Note: Sand-and-gravel aquifer equaled less than 1 percent

Figure 19. Agricultural self-supplied ground-water withdrawals in Florida by principal aquifer, 1995.

Table 8. Agricultural self-supplied water withdrawals in Florida by county, 1995

[Source: U.S. Geological Survey, WRD, Tallahassee; all values in million gallons per day]

County	Ground water			Surface water			Total water		
	Fresh	Saline	Total	Fresh	Saline	Total	Fresh	Saline	Total
Alachua	10.36	0.00	10.36	0.45	0.00	0.45	10.81	0.00	10.81
Baker	0.93	0.00	0.93	0.63	0.00	0.63	1.56	0.00	1.56
Bay	0.29	0.00	0.29	0.00	0.00	0.00	0.29	0.00	0.29
Bradford	0.69	0.00	0.69	0.05	0.00	0.05	0.74	0.00	0.74
Brevard	88.43	0.00	88.43	8.56	0.00	8.56	96.99	0.00	96.99
Broward	3.33	0.00	3.33	6.70	0.00	6.70	10.03	0.00	10.03
Calhoun	1.43	0.00	1.43	0.81	0.00	0.81	2.24	0.00	2.24
Charlotte	27.46	0.00	27.46	0.96	0.00	0.96	28.42	0.00	28.42
Citrus	1.24	0.00	1.24	0.05	0.00	0.05	1.29	0.00	1.29
Clay	0.47	0.00	0.47	0.00	0.00	0.00	0.47	0.00	0.47
Collier	131.26	0.00	131.26	11.47	0.00	11.47	142.73	0.00	142.73
Columbia	8.37	0.00	8.37	0.59	0.00	0.59	8.96	0.00	8.96
Dade	95.95	0.00	95.95	11.72	0.00	11.72	107.67	0.00	107.67
DeSoto	54.15	0.00	54.15	1.28	0.00	1.28	55.43	0.00	55.43
Dixie	1.11	0.00	1.11	0.00	0.00	0.00	1.11	0.00	1.11
Duval	0.88	0.00	0.88	0.05	0.00	0.05	0.93	0.00	0.93
Escambia	1.66	0.00	1.66	0.31	0.00	0.31	1.97	0.00	1.97
Flagler	6.65	0.00	6.65	0.00	0.00	0.00	6.65	0.00	6.65
Franklin	0.17	0.00	0.17	0.00	0.00	0.00	0.17	0.00	0.17
Gadsden	1.76	0.00	1.76	5.33	0.00	5.33	7.09	0.00	7.09
Gilchrist	7.62	0.00	7.62	0.10	0.00	0.10	7.72	0.00	7.72
Glades	19.65	0.00	19.65	64.04	0.00	64.04	83.69	0.00	83.69
Gulf	0.58	0.00	0.58	0.00	0.00	0.00	0.58	0.00	0.58
Hamilton	4.80	0.00	4.80	0.00	0.00	0.00	4.80	0.00	4.80
Hardee	43.93	0.00	43.93	0.51	0.00	0.51	44.44	0.00	44.44
Hendry	149.33	0.00	149.33	400.32	0.00	400.32	549.65	0.00	549.65
Hernando	2.37	0.00	2.37	0.00	0.00	0.00	2.37	0.00	2.37
Highlands	99.06	0.00	99.06	5.62	0.00	5.62	104.68	0.00	104.68
Hillsborough	60.39	0.00	60.39	2.90	0.00	2.90	63.29	0.00	63.29
Holmes	2.70	0.00	2.70	0.71	0.00	0.71	3.41	0.00	3.41
Indian River	56.34	0.00	56.34	135.19	0.00	135.19	191.53	0.00	191.53
Jackson	19.31	0.00	19.31	2.55	0.00	2.55	21.86	0.00	21.86
Jefferson	8.52	0.00	8.52	0.52	0.00	0.52	9.04	0.00	9.04
Lafayette	5.92	0.00	5.92	0.34	0.00	0.34	6.26	0.00	6.26
Lake	34.97	0.00	34.97	5.80	0.00	5.80	40.77	0.00	40.77
Lee	52.07	0.00	52.07	10.28	0.00	10.28	62.35	0.00	62.35
Leon	0.87	0.00	0.87	0.21	0.00	0.21	1.08	0.00	1.08
Levy	15.19	0.00	15.19	0.49	0.00	0.49	15.68	0.00	15.68
Liberty	0.34	0.00	0.34	0.07	0.00	0.07	0.41	0.00	0.41
Madison	5.44	0.00	5.44	0.55	0.00	0.55	5.99	0.00	5.99
Manatee	73.67	0.00	73.67	0.94	0.00	0.94	74.61	0.00	74.61
Marion	6.20	0.00	6.20	0.44	0.00	0.44	6.64	0.00	6.64
Martin	23.12	0.00	23.12	100.18	0.00	100.18	123.30	0.00	123.30
Monroe	0.04	0.00	0.04	0.00	0.00	0.00	0.04	0.00	0.04
Nassau	0.15	0.00	0.15	0.00	0.00	0.00	0.15	0.00	0.15
Okaloosa	0.96	0.00	0.96	0.23	0.00	0.23	1.19	0.00	1.19
Okeechobee	32.64	0.00	32.64	4.27	0.00	4.27	36.91	0.00	36.91
Orange	22.09	0.00	22.09	28.54	0.00	28.54	50.63	0.00	50.63
Osceola	40.53	0.00	40.53	12.80	0.00	12.80	53.33	0.00	53.33
Palm Beach	15.88	0.00	15.88	655.56	0.00	655.56	671.44	0.00	671.44
Pasco	14.49	0.00	14.49	0.20	0.00	0.20	14.69	0.00	14.69
Pinellas	0.59	0.00	0.59	0.03	0.00	0.03	0.62	0.00	0.62
Polk	100.14	0.00	100.14	4.32	0.00	4.32	104.46	0.00	104.46
Putnam	14.20	0.00	14.20	1.08	0.00	1.08	15.28	0.00	15.28
St. Johns	31.35	0.00	31.35	0.00	0.00	0.00	31.35	0.00	31.35
St. Lucie	51.53	0.00	51.53	222.10	0.00	222.10	273.63	0.00	273.63
Santa Rosa	0.81	0.00	0.81	0.15	0.00	0.15	0.96	0.00	0.96
Sarasota	3.41	0.00	3.41	0.24	0.00	0.24	3.65	0.00	3.65
Seminole	6.76	0.00	6.76	0.24	0.00	0.24	7.00	0.00	7.00
Sumter	7.76	0.00	7.76	0.20	0.00	0.20	7.96	0.00	7.96
Suwannee	23.15	0.00	23.15	0.41	0.00	0.41	23.56	0.00	23.56
Taylor	0.33	0.00	0.33	0.00	0.00	0.00	0.33	0.00	0.33
Union	1.02	0.00	1.02	0.13	0.00	0.13	1.15	0.00	1.15
Volusia	25.27	0.00	25.27	4.26	0.00	4.26	29.53	0.00	29.53
Wakulla	0.42	0.00	0.42	0.00	0.00	0.00	0.42	0.00	0.42
Walton	4.05	0.00	4.05	0.83	0.00	0.83	4.88	0.00	4.88
Washington	0.97	0.00	0.97	0.27	0.00	0.27	1.24	0.00	1.24
State totals	**1,527.52**	**0.00**	**1,527.52**	**1,716.58**	**0.00**	**1,716.58**	**3,244.10**	**0.00**	**3,244.10**

used) and were at a seasonal low in January (fig. 20). A seasonal fluctuation of more than 3,000 Mgal/d was the result of intense crop production, dry conditions during the early spring, and a relatively dormant period during late fall and early winter.

Agricultural irrigation data were compiled for four crop categories: vegetable, fruit, field, and ornamentals and grasses. Within these 4 categories, acreage and irrigation water uses were tabulated for 28 specific crops and 3 miscellaneous crops (table 9). More than half (53 percent) of the 3,698,300 agricultural acres farmed in Florida was irrigated. Excluding improved pasture acreage, more than 85 percent of the acreage farmed was irrigated.

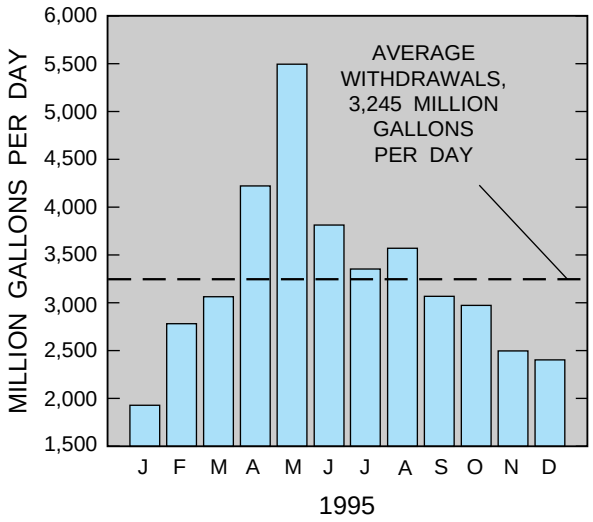


Figure 20. Average daily agricultural self-supplied freshwater withdrawals by month in Florida, 1995.

Of the four major crop types, fruit was the largest user of water for irrigation (fig. 21), accounting for 45 percent of the agricultural water withdrawn. Within fruit crops, citrus accounted for 93 percent of the irrigated acreage and 95 percent of the water withdrawn. Nearly 98 percent of the 830,100 acres of citrus were irrigated (table 9). Field crops, which include sugarcane, were the second largest user of water, accounting for 29 percent. All of the 417,000 acres of sugarcane were irrigated.

Most of the crop acreage was irrigated by flood or subsurface systems (52 percent), and the remaining acreage was irrigated by micro-irrigation systems (30 percent), or sprinkler systems (18 percent) (table 9). This reflects an increase in micro-irrigation system usage from 1985, and a proportionate decrease in the use of flood or subsurface systems and sprinkler systems. In 1985, flood or subsurface accounted for 58 percent, micro-irrigation for 16 percent, and sprinkler for 26 percent (Marella, 1988). The increase in

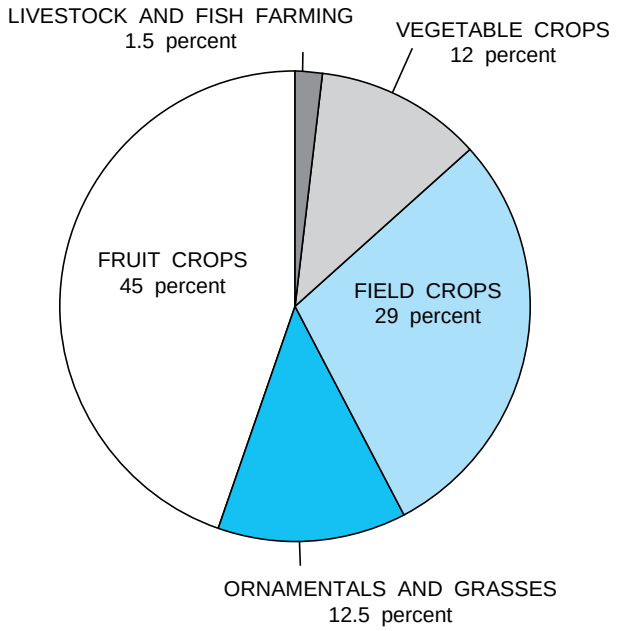


Figure 21. Agricultural self-supplied freshwater use in Florida by major crop type, 1995.

micro-irrigation system usage is particularly significant for citrus farming, as nearly all of the newly replanted citrus acreage is being irrigated by micro-irrigation systems, and large amounts of older acreage is being converted. These more efficient micro-irrigation systems use much less water than sprinklers and flood systems, and as a result, water withdrawn for citrus irrigation increased only 9 percent between 1990 and 1995 whereas irrigated citrus acreage increased 17 percent.

Total irrigated acreage increased by 25 percent between 1970 and 1995 despite crop loss to freezes, disease, insect infestation, and encroaching urbanization in agricultural areas. Although citrus acreage has decreased nearly 91,000 acres between 1970 and 1995 (fig. 22), actual irrigated acreage increased 196,000 acres. Sugar

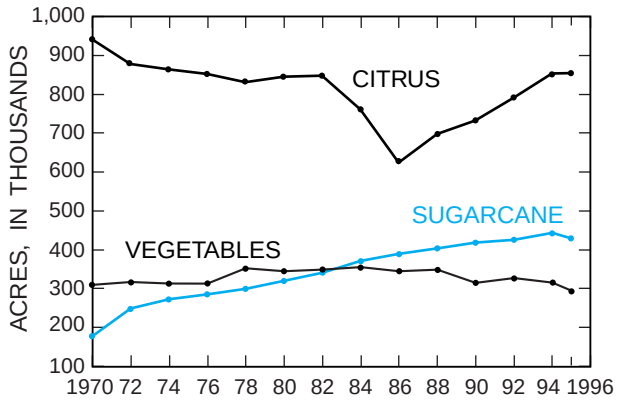


Figure 22. Historical agricultural acreage for selected crops in Florida, 1970-95. (Modified from Florida Agricultural Statistics Service, 1996a, 1996b, 1996c.)

Table 9. Acres irrigated, irrigation system type, and water use by crop and type in Florida, 1995

[Sources; U.S. Geological Survey, WRD, Tallahassee; University of Florida; County Extension Service; Florida Crop Reporting Service; Florida Department of Environmental Protection, and the five water management districts; Mgal/d, million gallons per day]

Crop and acreage			Irrigation system type			Water use in Mgal/d				Water
Crop type	Total	Irrigated	Micro	Sprinkler	Seepage	Ground	Surface	Reclaimed	Totals	Withdrawn
Vegetables	**297,269**	**277,313**	**18,065**	**56,431**	**202,817**	**302.79**	**90.76**	**0.00**	**393.55**	**393.55**
Cabbage	7,210	8,683	928	268	7,487	13.84	0.16	0.00	14.00	14.00
Carrots	14,050	7,425	0	0	7,425	1.15	7.46	0.00	8.61	8.61
Cucumbers	17,270	16,975	955	2,505	13,515	24.66	8.07	0.00	32.73	32.73
Peppers	22,680	22,725	1,064	1,711	19,950	36.08	11.11	0.00	47.19	47.19
Potatoes	37,510	37,510	3	2,142	35,365	52.32	0.83	0.00	53.15	53.15
Tomatoes	51,285	51,286	10,348	3,978	36,960	87.39	11.53	0.00	98.92	98.92
Sweet corn	39,155	32,265	5	4,715	27,545	9.27	20.46	0.00	29.73	29.73
Others/Miscellaneous	108,109	100,444	4,762	41,112	54,570	78.08	31.14	0.00	109.22	109.22
Fruit Crops	**925,129**	**894,445**	**573,943**	**139,832**	**180,670**	**793.76**	**665.41**	**35.90**	**1,495.07**	**1,459.17**
Blueberries	2,056	2,037	770	1,235	32	1.90	0.07	0.00	1.97	1.97
Citrus	850,719	830,072	559,786	103,176	167,110	721.59	661.96	35.90	1,419.45	1,383.55
Grapes	511	513	385	128	0	0.39	0.05	0.00	0.44	0.44
Peaches	160	138	27	111	0	0.17	0.00	0.00	0.17	0.17
Pecans	5,905	3,355	2,955	400	0	3.85	0.05	0.00	3.90	3.90
Strawberries	6,269	6,204	3,317	2,782	105	6.05	0.30	0.00	6.35	6.35
Watermelons/cantalopes	46,227	39,332	3,915	23,337	12,080	34.36	2.06	0.00	36.42	36.42
Others/miscellaneous	13,282	12,794	2,788	8,663	1,343	25.45	0.92	0.00	26.37	26.37
Field Crops	**797,698**	**539,117**	**143**	**92,421**	**446,554**	**96.08**	**832.57**	**14.13**	**942.78**	**928.65**
Cotton	106,368	14,081	0	14,081	0	10.04	1.06	0.00	11.10	11.10
Field corn	94,764	26,315	0	19,175	7,140	24.38	3.29	0.00	27.67	27.67
Peanuts	87,100	29,193	143	29,050	0	21.50	1.54	0.00	23.04	23.04
Rice	18,414	18,414	0	0	18,414	0.16	10.81	0.00	10.97	10.97
Sorghum	14,808	6,818	0	6,018	800	3.38	0.08	0.00	3.46	3.46
Soybeans	25,330	3,388	0	2,388	1,000	2.75	0.10	0.00	2.85	2.85
Sugarcane	417,000	417,000	0	0	417,000	17.80	815.00	0.00	832.80	832.80
Tabacco	7,210	6,382	0	6,382	0	6.33	0.34	0.00	6.67	6.67
Wheat	2,150	2,000	0	2,000	0	1.18	0.09	0.00	1.27	1.27
Others/miscellaneous	24,554	15,527	0	13,327	2,200	8.56	0.26	14.13	22.95	8.82
Ornamentals/Grasses	**1,678,220**	**261,381**	**12,763**	**63,591**	**185,027**	**284.63**	**121.93**	**21.20**	**427.76**	**406.56**
Ferns	6,393	6,393	0	6,393	0	26.25	5.34	0.00	31.59	31.59
Ornamentals (field grown)	9,671	9,518	1,195	6,655	1,668	15.00	3.75	0.00	18.75	18.75
Ornamentals (container grown)	36,592	32,997	11,028	17,759	4,210	81.39	33.48	1.51	116.38	114.87
Improved pasture	1,577,198	164,322	0	19,691	144,631	118.65	28.15	19.30	166.10	146.80
Sod	48,366	48,151	540	13,093	34,518	43.34	51.21	0.39	94.94	94.55
Nonirrigation						**50.26**	**5.91**	**8.23**	**64.40**	**56.17**
Livestock						31.32	3.58	0.00	34.90	34.90
Fish farming						4.08	0.61	0.00	4.69	4.69
Other/miscellaneous						14.86	1.72	8.23	24.81	16.58
Recreation/lawn/aesthetic	**183,258**	**130,974**	**1,494**	**128,543**	**937**	**196.38**	**84.50**	**153.98**	**434.86**	**280.88**
Turf grass recreation (golf)	150,467	98,498	0	98,498	0	132.39	55.03	97.55	284.97	187.42
Turf grass lawn	32,791	32,476	1,494	30,045	937	56.51	18.11	56.43	131.05	74.62
Aesthetic/others	0	0	0	0	0	7.48	11.36	0.00	18.84	18.84
Totals										
Agricultural irrigation[1]	3,698,316	1,972,257	604,914	352,275	1,015,068	1,477.26	1,710.67	71.23	3,259.16	3,187.93
Agricultural nonirrigation	0	0	0	0	0	50.26	5.91	8.23	64.40	56.17
Recreation/lawn/aesthetic	183,258	130,974	1,494	128,543	937	196.38	84.50	153.98	434.86	280.88
State totals	**3,881,574**	**2,103,231**	**606,408**	**480,818**	**1,016,005**	**1,723.90**	**1,801.08**	**233.44**	**3,758.42**	**3,524.98**

[1]Includes totals of vegetables, fruit crops, field crops, and ornamental/grasses.

cane acreage increased by 245,000 acres between 1970 and 1995 (Florida Department of Agricultural and Consumer Services, 1996b) while vegetable acreage decreased about 20,000 acres during this time period (fig. 22).

Palm Beach, Hendry, and St. Lucie Counties accounted for more than 45 percent of the total water withdrawn for agricultural self-supplied use (table 8). Palm Beach County was the largest user of surface water, and Hendry County used the most ground water.

Water withdrawn for agricultural self-supplied use increased 54 percent between 1970 and 1995; however, withdrawals for agricultural self-supplied decreased 7 percent between 1990 and 1995 (fig. 23).

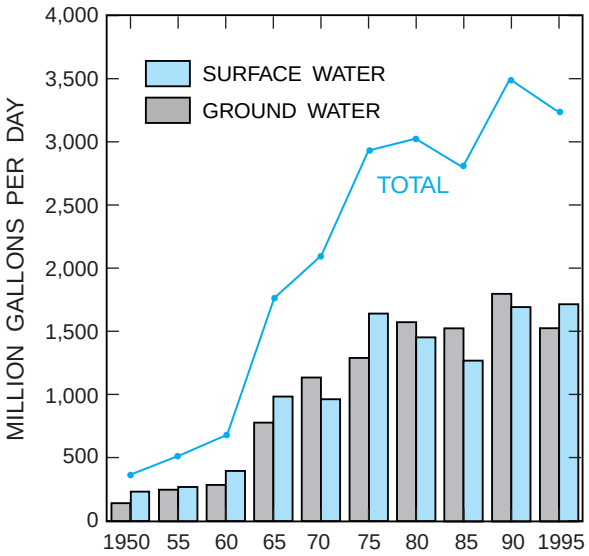


Figure 23. Historical agricultural self-supplied freshwater withdrawals in Florida by source, 1950-95. (Modified from Marella, 1995.)

This recent trend can be attributed to: (1) the use of more efficient irrigation systems; (2) the use of alternative water sources; (3) a higher than normal use in 1990 caused by low rainfall amounts and extremely dry conditions; and (4) more metered data being used for water-use estimates for agricultural irrigation in 1995 than in 1990.

In addition to conservation, the use of reclaimed wastewater, captured rainfall, and unused irrigation water (tailwater runoff) as alternative water sources has helped offset additional freshwater demands on ground- and surface-water sources from 1990 to 1995. Nearly 80 Mgal/d of reclaimed wastewater was used for agricultural irrigation and nonirrigation purposes in 1995 (table 9).

Recreational Irrigation

Recreational irrigation includes the application of water on lands to assist in the growing of turf grass and landscape vegetation for lawns or recreation purposes and also includes water used for aesthetic purposes. Turf grass recreation is categorized as the irrigation of golf courses (including all grass and landscape associated with golf courses), and turf grass lawns is categorized as the irrigation of all grass and landscape associated with athletic fields, cemeteries, common public or highway areas, parks, playgrounds, and lawns (primarily nonresidential, but does include some residential). Aesthetic uses include water used to fill or maintain nonagricultural ponds. Recreational irrigation is a new category in the 1995 compilation; however, these data have been collected since 1985 and were included under the agricultural irrigation category for 1985 and 1990. Water used for recreational irrigation may be obtained from a public water supplier, reclaimed wastewater, or self-supplied. Acreage and water use values reported in this section are for reclaimed wastewater or self-supplied uses only.

Approximately 281 Mgal/d of freshwater was withdrawn (table 10) for recreational irrigation purposes in 1995, with an additional 154 Mgal/d obtained from reclaimed wastewater (table 9). Nearly 70 percent was from ground water and the remaining 30 percent was from surface water. The Floridan aquifer system supplied 37 percent and the Biscayne aquifer supplied 31 percent of the ground-water withdrawals for this purpose (fig. 24). Ponds, lakes and canals are the major source of surface water for irrigation purposes, and for most

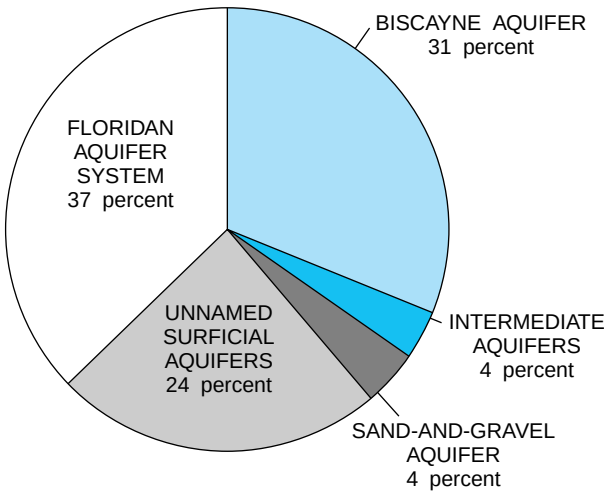


Figure 24. Recreational irrigation ground-water withdrawals in Florida by principal aquifer, 1995.

Table 10. Recreational irrigation water withdrawals in Florida by county, 1995

[Source: U.S. Geological Survey, WRD, Tallahassee; all values in million gallons per day]

County	Ground water			Surface water			Total water		
	Fresh	Saline	Total	Fresh	Saline	Total	Fresh	Saline	Total
Alachua	1.30	0.00	1.30	0.06	0.00	0.06	1.36	0.00	1.36
Baker	0.09	0.00	0.09	0.00	0.00	0.00	0.09	0.00	0.09
Bay	1.09	0.00	1.09	0.37	0.00	0.37	1.46	0.00	1.46
Bradford	0.08	0.00	0.08	0.00	0.00	0.00	0.08	0.00	0.08
Brevard	2.29	0.00	2.29	1.79	0.00	1.79	4.08	0.00	4.08
Broward	39.03	0.00	39.03	13.05	0.00	13.05	52.08	0.00	52.08
Calhoun	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Charlotte	0.09	0.00	0.09	1.44	0.00	1.44	1.53	0.00	1.53
Citrus	3.39	0.00	3.39	1.25	0.00	1.25	4.64	0.00	4.64
Clay	0.72	0.00	0.72	0.24	0.00	0.24	0.96	0.00	0.96
Collier	13.54	0.00	13.54	3.84	0.00	3.84	17.38	0.00	17.38
Columbia	0.15	0.00	0.15	0.00	0.00	0.00	0.15	0.00	0.15
Dade	14.24	0.00	14.24	2.55	0.00	2.55	16.79	0.00	16.79
DeSoto	0.17	0.00	0.17	0.17	0.00	0.17	0.34	0.00	0.34
Dixie	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Duval	2.02	0.00	2.02	0.43	0.00	0.43	2.45	0.00	2.45
Escambia	4.74	0.00	4.74	0.62	0.00	0.62	5.36	0.00	5.36
Flagler	0.11	0.00	0.11	0.85	0.00	0.85	0.96	0.00	0.96
Franklin	0.57	0.00	0.57	0.00	0.00	0.00	0.57	0.00	0.57
Gadsden	0.11	0.00	0.11	0.10	0.00	0.10	0.21	0.00	0.21
Gilchrist	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Glades	0.00	0.00	0.00	0.07	0.00	0.07	0.07	0.00	0.07
Gulf	0.17	0.00	0.17	0.00	0.00	0.00	0.17	0.00	0.17
Hamilton	0.03	0.00	0.03	0.00	0.00	0.00	0.03	0.00	0.03
Hardee	0.12	0.00	0.12	0.00	0.00	0.00	0.12	0.00	0.12
Hendry	0.82	0.00	0.82	0.34	0.00	0.34	1.16	0.00	1.16
Hernando	3.74	0.00	3.74	1.33	0.00	1.33	5.07	0.00	5.07
Highlands	2.14	0.00	2.14	0.08	0.00	0.08	2.22	0.00	2.22
Hillsborough	5.11	0.00	5.11	2.93	0.00	2.93	8.04	0.00	8.04
Holmes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indian River	2.01	0.00	2.01	1.10	0.00	1.10	3.11	0.00	3.11
Jackson	0.34	0.00	0.34	0.00	0.00	0.00	0.34	0.00	0.34
Jefferson	0.35	0.00	0.35	0.00	0.00	0.00	0.35	0.00	0.35
Lafayette	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lake	1.06	0.00	1.06	0.74	0.00	0.74	1.80	0.00	1.80
Lee	11.08	0.00	11.08	2.95	0.00	2.95	14.03	0.00	14.03
Leon	1.28	0.00	1.28	0.54	0.00	0.54	1.82	0.00	1.82
Levy	0.16	0.00	0.16	0.00	0.00	0.00	0.16	0.00	0.16
Liberty	0.02	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.02
Madison	0.11	0.00	0.11	0.00	0.00	0.00	0.11	0.00	0.11
Manatee	1.24	0.00	1.24	0.94	0.00	0.94	2.18	0.00	2.18
Marion	2.46	0.00	2.46	0.46	0.00	0.46	2.92	0.00	2.92
Martin	3.24	0.00	3.24	0.80	0.00	0.80	4.04	0.00	4.04
Monroe	1.16	0.00	1.16	0.00	0.00	0.00	1.16	0.00	1.16
Nassau	0.71	0.00	0.71	0.11	0.00	0.11	0.82	0.00	0.82
Okaloosa	0.86	0.00	0.86	0.00	0.00	0.00	0.86	0.00	0.86
Okeechobee	1.12	0.00	1.12	0.00	0.00	0.00	1.12	0.00	1.12
Orange	8.42	0.00	8.42	2.46	0.00	2.46	10.88	0.00	10.88
Osceola	1.05	0.00	1.05	0.41	0.00	0.41	1.46	0.00	1.46
Palm Beach	30.15	0.00	30.15	31.23	0.00	31.23	61.38	0.00	61.38
Pasco	2.56	0.00	2.56	0.43	0.00	0.43	2.99	0.00	2.99
Pinellas	2.28	0.00	2.28	1.92	0.00	1.92	4.20	0.00	4.20
Polk	8.71	0.00	8.71	1.38	0.00	1.38	10.09	0.00	10.09
Putnam	0.20	0.00	0.20	0.00	0.00	0.00	0.20	0.00	0.20
St. Johns	1.13	0.00	1.13	0.64	0.00	0.64	1.77	0.00	1.77
St. Lucie	4.70	0.00	4.70	1.98	0.00	1.98	6.68	0.00	6.68
Santa Rosa	3.45	0.00	3.45	0.07	0.00	0.07	3.52	0.00	3.52
Sarasota	2.98	0.00	2.98	2.96	0.00	2.96	5.94	0.00	5.94
Seminole	2.69	0.00	2.69	0.64	0.00	0.64	3.33	0.00	3.33
Sumter	1.21	0.00	1.21	0.00	0.00	0.00	1.21	0.00	1.21
Suwannee	0.05	0.00	0.05	0.00	0.00	0.00	0.05	0.00	0.05
Taylor	0.11	0.00	0.11	0.00	0.00	0.00	0.11	0.00	0.11
Union	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Volusia	2.42	0.00	2.42	0.88	0.00	0.88	3.30	0.00	3.30
Wakulla	0.23	0.00	0.23	0.00	0.00	0.00	0.23	0.00	0.23
Walton	0.63	0.00	0.63	0.35	0.00	0.35	0.98	0.00	0.98
Washington	0.35	0.00	0.35	0.00	0.00	0.00	0.35	0.00	0.35
State totals	**196.38**	**0.00**	**196.38**	**84.50**	**0.00**	**84.50**	**280.88**	**0.00**	**280.88**

golf courses are usually manmade and designed to catch unused irrigation water and rainfall runoff as well as to provide aesthetic value to the golf course. Often, these ponds or lakes are augmented with ground water or reclaimed wastewater to maintain water levels and provide storage for irrigation supplies.

Monthly withdrawals for recreational irrigation had a large seasonal variation. Irrigation withdrawals in 1995 were greatest in April through August during drier conditions, and lowest in January, February, and December during the dormant period (fig. 25). Nearly 40 percent of the water withdrawn for recreational irrigation was in Palm Beach and Broward Counties (table 10). Pinellas County is the largest user of reclaimed wastewater (40 Mgal/d) for recreational irrigation.

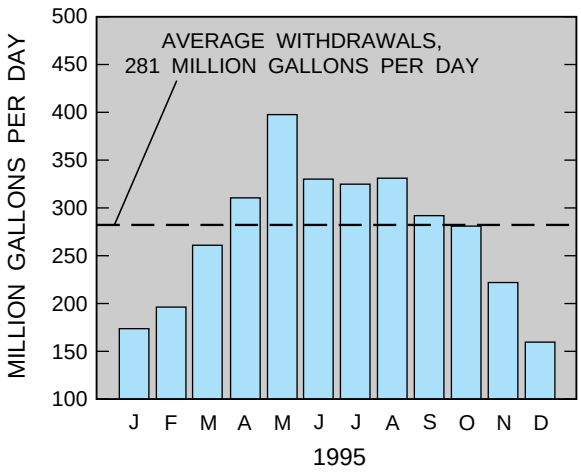


Figure 25. Average daily recreational irrigation freshwater withdrawals by month in Florida, 1995.

Golf course irrigation was the largest user of water in this category, accounting for 67 percent of the water withdrawn and 64 percent of the reclaimed wastewater used. Of the nearly 131,000 acres irrigated for recreational purposes, 75 percent was for golf courses and the remaining was for other turf grass or landscape uses (table 9). In 1995, more than 1,100 golf courses were located in Florida (Florida Sports Foundation, 1994), covering an estimated 150,500 acres, of which 65 percent was irrigated. This is an increase of about 33 percent from the 74,000 acres of irrigated golf course in 1985 (Marella, 1988). Based on an average of 20 holes per golf course (Hodges and others, 1994), the estimated acres per hole for 1995 is nearly 7, of which about 4.5 acres was irrigated.

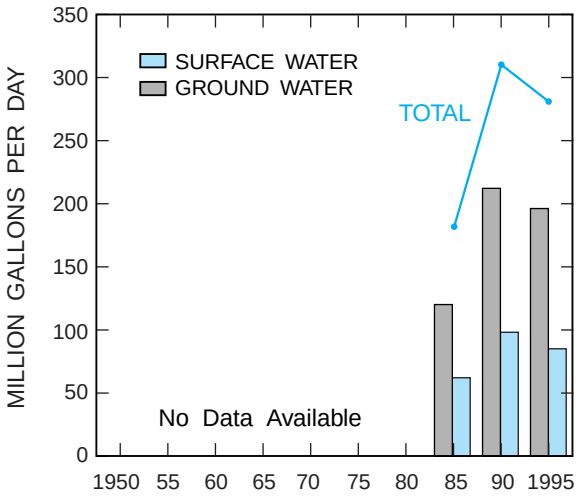


Figure 26. Historical recreational irrigation freshwater withdrawals in Florida by source, 1950-95. (Modified from Marella, 1988 and 1992.)

Water withdrawals for recreational irrigation increased 54 percent between 1985 and 1995, but decreased 9 percent between 1990 and 1995 (fig. 26). This decrease between 1990 and 1995 can be attributed to: (1) a higher than normal use in 1990 caused by low rainfall amounts and extremely dry conditions; (2) golf courses converting to reclaimed water as their primary source of irrigation water after 1990; and (3) more metered data being used for water-use estimates for golf-course irrigation in 1995 than in 1990.

Power Generation

Power generation use includes water withdrawn at thermoelectric power generation facilities (fossil fuel or nuclear) and water used at hydroelectric facilities. A total of 54 thermoelectric and 2 hydroelectric power generating facilities were inventoried for 1995. Of the 54 thermoelectric plants, 2 plants were under construction, and 4 were on standby use only (used only during extreme peak demands times or while primary plants are down due for maintenance). Small private secondary power generating facilities are not included in these estimates.

Nearly 11,596 Mgal/d of water was withdrawn for power generation purposes in 1995, of which 95 percent was saline and 5 percent was freshwater (table 11). Of the total freshwater withdrawn, 97 percent was surface water and 3 percent was ground water. Nearly all (99.5 percent) of the total water withdrawn (fresh and saline) for power generation is used for once through cooling, and is returned to its source immediately after its use.

Table 11. Power generation water withdrawals in Florida by county, 1995

[Source: U.S. Geological Survey, WRD, Tallahassee; all values in million gallons per day]

County	Ground water			Surface water			Total water		
	Fresh	Saline	Total	Fresh	Saline	Total	Fresh	Saline	Total
Alachua	2.53	0.00	2.53	0.24	0.00	0.24	2.77	0.00	2.77
Baker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bay	0.70	0.00	0.70	0.00	259.65	259.65	0.70	259.65	260.35
Bradford	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brevard	0.31	0.00	0.31	0.00	1,197.31	1,197.31	0.31	1,197.31	1,197.62
Broward	0.42	0.00	0.42	0.00	1,228.27	1,228.27	0.42	1,228.27	1,228.69
Calhoun	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Charlotte	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Citrus	1.52	0.00	1.52	0.00	1,655.31	1,655.31	1.52	1,655.31	1,656.83
Clay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Collier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Columbia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dade	2.10	4.31	6.41	0.00	78.19	78.19	2.10	82.50	84.60
DeSoto	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixie	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Duval	5.47	0.00	5.47	0.00	575.09	575.09	5.47	575.09	580.56
Escambia	2.11	0.00	2.11	159.60	0.00	159.60	161.71	0.00	161.71
Flagler	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Franklin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gadsden	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gilchrist	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Glades	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gulf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hamilton	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hardee	0.25	0.00	0.25	0.00	0.00	0.00	0.25	0.00	0.25
Hendry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hernando	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Highlands	0.00	0.00	0.00	0.03	0.00	0.03	0.03	0.00	0.03
Hillsborough	0.00	0.00	0.00	0.00	2,381.82	2,381.82	0.00	2,381.82	2,381.82
Holmes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indian River	0.00	0.00	0.00	0.00	53.59	53.59	0.00	53.59	53.59
Jackson	0.29	0.00	0.29	50.28	0.00	50.28	50.57	0.00	50.57
Jefferson	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lafayette	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lake	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lee	0.08	0.00	0.08	0.00	365.25	365.25	0.08	365.25	365.33
Leon	2.64	0.00	2.64	0.00	0.00	0.00	2.64	0.00	2.64
Levy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Liberty	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Madison	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manatee	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01
Marion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Martin	0.16	0.00	0.16	19.25	0.00	19.25	19.41	0.00	19.41
Monroe	0.00	0.32	0.32	0.00	0.00	0.00	0.00	0.32	0.32
Nassau	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Okaloosa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Okeechobee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Orange	0.41	0.00	0.41	0.00	0.00	0.00	0.41	0.00	0.41
Osceola	0.04	0.00	0.04	0.00	0.00	0.00	0.04	0.00	0.04
Palm Beach	0.00	0.00	0.00	0.00	472.76	472.76	0.00	472.76	472.76
Pasco	0.23	0.00	0.23	0.00	1,027.43	1,027.43	0.23	1,027.43	1,027.66
Pinellas	0.00	0.00	0.00	0.00	485.16	485.16	0.00	485.16	485.16
Polk	0.70	0.00	0.70	118.78	0.00	118.78	119.48	0.00	119.48
Putnam	0.70	0.00	0.70	14.50	0.00	14.50	15.20	0.00	15.20
St. Johns	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
St. Lucie	0.00	0.00	0.00	0.00	1,175.47	1,175.47	0.00	1,175.47	1,175.47
Santa Rosa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sarasota	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seminole	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sumter	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Suwannee	0.01	0.00	0.01	112.97	0.00	112.97	112.98	0.00	112.98
Taylor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Union	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Volusia	0.37	0.00	0.37	70.30	0.00	70.30	70.67	0.00	70.67
Wakulla	0.21	0.00	0.21	68.92	0.00	68.92	69.13	0.00	69.13
Walton	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Washington	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
State totals	**21.25**	**4.63**	**25.88**	**614.88**	**10,955.30**	**11,570.18**	**636.13**	**10,959.93**	**11,596.06**

The Floridan aquifer system was the source of 75 percent (16 Mgal/d) of fresh ground-water withdrawals for power generation in 1995. Most of the surface water was withdrawn from bays or rivers along the coast, and most was returned to these sources. Major surface water sources included the Caloosahatchee River (Lee County), Crystal River and the Gulf of Mexico (Citrus County), Indian River (Brevard, Indian River, and St. Lucie Counties), St. Johns River (Duval County), and Tampa Bay (Hillsborough and Pinellas County). Although several of these rivers are freshwater, the point of power plant withdrawal is often tidally influenced, and the water may be fresh, brackish, or saline due to tidal flows (McPherson and Hammett, 1991). The water withdrawn and reported herein is considered saline at these plants.

Monthly freshwater withdrawals for power generation fluctuated substantially during 1995—highest withdrawals occurred from May through August, as power demands increase due to hotter weather (fig. 27).

Public-supply deliveries to thermoelectric power plants used for domestic purposes or as boiler make-up water totaled nearly 5 Mgal/d (Solley and others, 1998). Additionally, 5 Mgal/d of reclaimed wastewater was used directly for cooling purposes; however, a much larger amount of cooling water was obtained from lakes or ponds supplemented by reclaimed wastewater.

The largest amount of freshwater withdrawn was in Escambia County, and the largest amount of saline water withdrawn was in Hillsborough County (table 11). Several power plants in Duval, Hillsborough, Indian River, Orange, Osceola and Polk Counties used reclaimed wastewater to augment cooling water. The State's two hydroelectric plants in Gadsden and Leon Counties used 8,455 Mgal/d (water flowing through the turbine) to generate power.

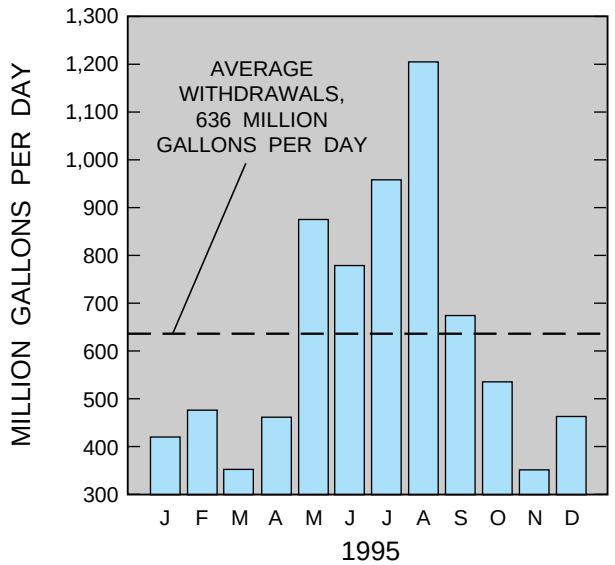
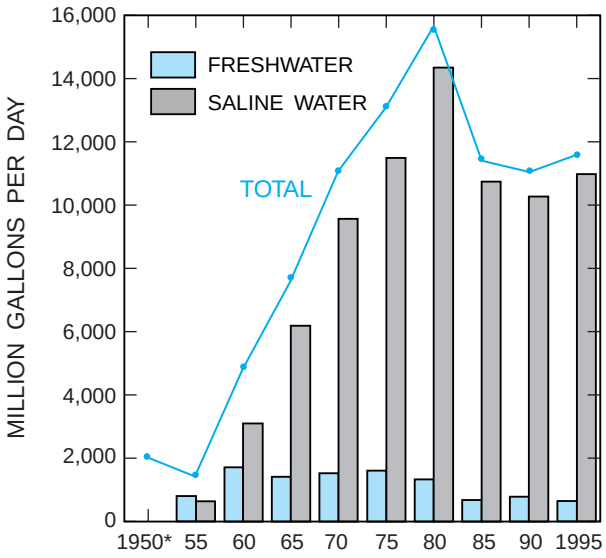


Figure 27. Average daily power generation freshwater withdrawals by month in Florida, 1995.

Total water withdrawals for power generation increased steadily between 1955 and 1980, when withdrawals peaked at 15,500 Mgal/d (fig. 28). Between 1970 and 1995, saline water withdrawals for power generation increased 15 percent whereas freshwater withdrawals decreased 58 percent. Between 1990 and 1995, saline water withdrawals increased 7 percent, whereas freshwater withdrawals decreased 19 percent.



* Published water use value for 1950 was not differentiated between fresh and saline water.

Figure 28. Historical power generation water withdrawals in Florida by source, 1950-95. (Modified from Marella, 1995.)

The reduction in freshwater withdrawals was due to the increase in water efficiency of new or modernized facilities, and in part to increased recycling of cooling water after routing the water to cooling ponds or cooling towers, or the reclassification of a plants water source from freshwater to saline water. Water withdrawals at many plants during the 1990's are made now only to augment or replenish the water in the cooling ponds. Because of these factors, total gross power generated in Florida increased 160 percent, whereas water withdrawals increased 5 percent between 1970 and 1995. Furthermore, differences between years could have occurred due to facility downtime caused by plant maintenance or modernization. Significant down time can substantially reduce the annual average water withdrawn at power plant, and is particularly evident when data are collected only every 5 years.

Water Management District

The Florida Water Resource Act of 1972 established authority for management of the State's water resources through five water management districts that operate under the general supervision of the Florida Department of Environmental Protection (formerly the Florida Department of Natural Resources) (Fernald and Patton, 1984). These five water management districts, which encompass the entire State, are the Northwest Florida, the St. Johns River, the South Florida, the Southwest Florida, and the Suwannee River (fig. 2).

The population of Florida in 1995 was 14.15 million (University of Florida, 1996), of which 40 percent (5.66 million) lived in the SFWMD, followed by the SWFWMD at 25.5 percent (3.61 million), the SJRWMD at 25 percent (3.51 million), the NWFWMD at 8 percent (1.13 million), and the SRWMD at 1.5 percent (0.25 million) (fig. 29). The SFWMD included the largest number of residents served by public-supply water systems (5.23 million) in 1995 (fig. 29).

The largest amount of freshwater withdrawn was from the SFWMD, which was nearly one-half (49.5 percent) of the State's total freshwater withdrawn

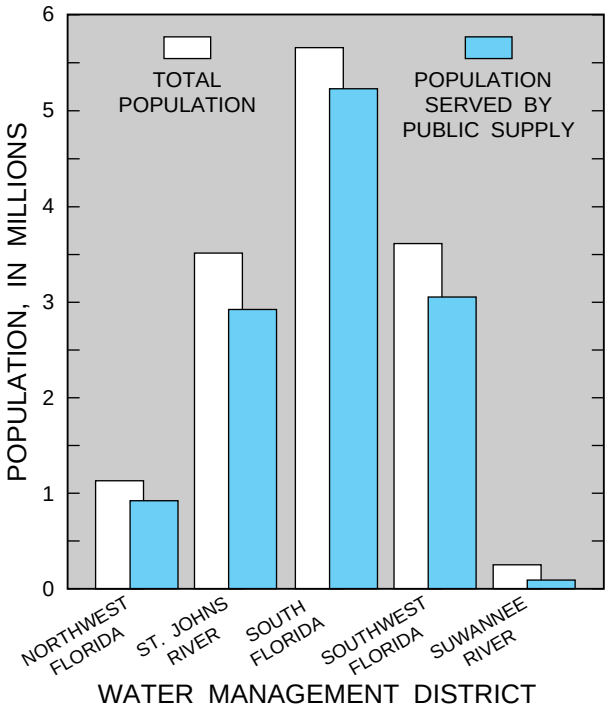


Figure 29. Population and population served by public supply by water management district, 1995.

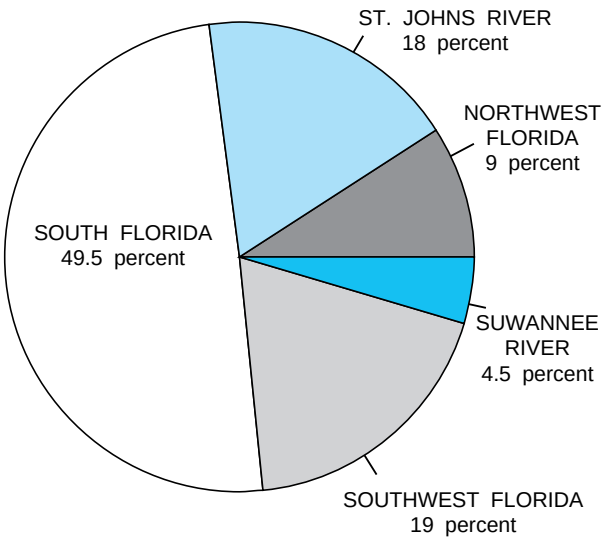


Figure 30. Freshwater withdrawals by water management district, 1995.

in (fig. 30 and table 12). The percentage of the total freshwater withdrawn in the other water management districts were: SWFWMD, 19 percent; SJRWMD, 18 percent; NWFWMD, 9 percent; and SRWMD, 4.5 percent. The SFWMD accounted for the largest amount of freshwater withdrawn for public supply (47 percent), agricultural self-supplied use (68 percent), and recreational irrigation (67 percent). The SWFWMD accounted for the largest amount of freshwater withdrawn for commercial-industrial self-supplied use (34 percent); the SJRWMD accounted for the largest amount of freshwater withdrawn for domestic self-supplied (32 percent); and the NWFWMD accounted for the largest amount of freshwater withdrawn for power generation (45 percent) (table 12). The largest amount (51 percent) of saline water withdrawn was from the SWFWMD and was used for cooling purposes at several power generation facilities located along Tampa Bay or the Gulf of Mexico (fig. 31 and table 12).

Freshwater withdrawals in all but the SFWMD have remained about the same or decreased slightly between 1975 and 1995 (fig. 32). However, as a result of increases in irrigated acreage and population, freshwater withdrawals in the SFWMD increased between 1985 and 1995. Since 1975, fresh ground-water withdrawals increased in all but the SWFWMD (fig.33), and fresh surface-water withdrawals decreased in all but the SFWMD (fig. 34).

Table 12. Water withdrawals by category in Florida by water management district, 1995

[Sources: U.S. Geological Survey, WRD, Tallahassee; Florence and Moore, 1997; and Southwest Florida Water Management District, 1997; all values in million gallons per day; district totals may not be identical to data reported or published by the water management districts due to differences in data-collection procedures and categories of use or revisions in reported values; general locations of water management districts are shown in figure 2]

	Freshwater			Saline water	Total water
	Ground	Surface	Total	Total	
Northwest Florida					
Public Supply	122.05	45.66	167.71	0.00	167.71
Domestic self-supplied	33.26	0.00	33.26	0.00	33.26
Commercial-industrial-mining	54.31	51.98	106.29	5.76	112.05
Agricultural irrigation	39.78	11.89	51.67	0.00	51.67
Recreational irrigation	13.93	2.05	15.98	0.00	15.98
Power generation	5.95	278.80	284.75	259.65	544.40
Totals	**269.28**	**390.38**	**659.66**	**265.41**	**925.07**
St. Johns River					
Public Supply	449.43	12.15	461.58	0.00	461.58
Domestic self-supplied	93.37	0.00	93.37	0.00	93.37
Commercial-industrial-|mining	95.76	35.88	131.64	0.00	131.64
Agricultural irrigation	302.34	189.31	491.65	0.00	491.64
Recreational irrigation	19.34	8.26	27.60	0.00	27.60
Power generation	7.66	84.80	92.46	1,825.99	1,918.45
Totals	**967.90**	**330.40**	**1,298.30**	**1,825.99**	**3,124.29**
South Florida					
Public Supply	933.59	39.38	972.97	0.00	972.97
Domestic self-supplied	74.81	0.00	74.81	0.00	74.81
Commercial-industrial-mining	66.58	54.52	121.10	0.00	121.10
Agricultural irrigation	696.84	1,496.75	2,193.59	0.00	2,193.59
Recreational irrigation	127.43	59.37	186.80	0.00	186.80
Power generation	2.80	19.28	22.08	3,324.57	3,346.65
Totals	**1,902.05**	**1,669.30**	**3,571.35**	**3,324.57**	**6,895.92**
Southwest Florida					
Public Supply	336.21	112.51	448.72	0.00	448.72
Domestic self-supplied	72.24	0.00	72.24	0.00	72.24
Commercial-industrial-mining	127.52	107.35	234.87	0.00	234.87
Agricultural irrigation	408.19	15.70	423.89	0.00	423.89
Recreational irrigation	34.68	14.82	49.50	0.00	49.50
Power generation	2.70	118.79	121.49	5,549.72	5,671.21
Totals	**981.54**	**369.16**	**1,350.70**	**5,549.72**	**6,900.42**
Suwannee River					
Public Supply	14.29	0.00	14.29	0.00	14.29
Domestic self-supplied	23.06	0.00	23.06	0.00	23.06
Commercial-industrial-mining	93.95	3.98	97.93	0.00	97.93
Agricultural irrigation	80.37	2.93	83.30	0.00	83.30
Recreational irrigation	1.00	0.00	1.00	0.00	1.00
Power generation	2.14	113.21	115.35	0.00	115.35
Totals	**214.81**	**120.12**	**334.93**	**0.00**	**334.93**
State totals	**4,335.58**	**2,879.37**	**7,214.95**	**10,965.69**	**18,180.64**

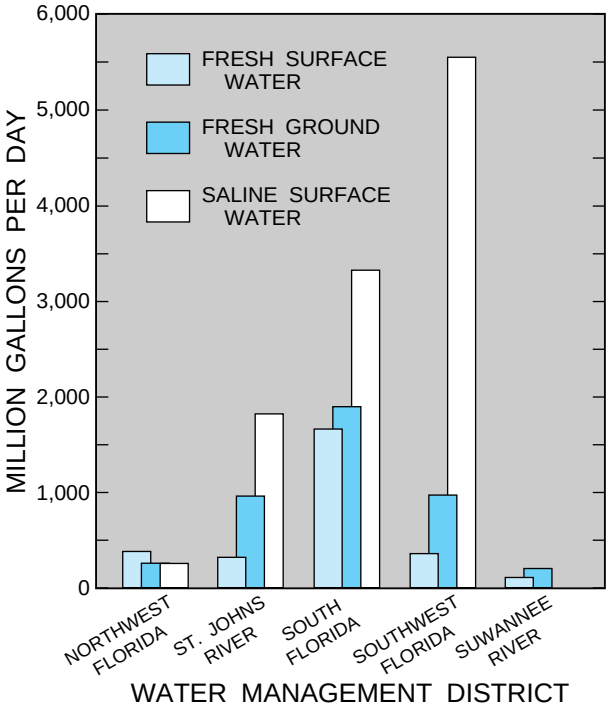


Figure 31. Fresh and saline water withdrawals by water management district, 1995.

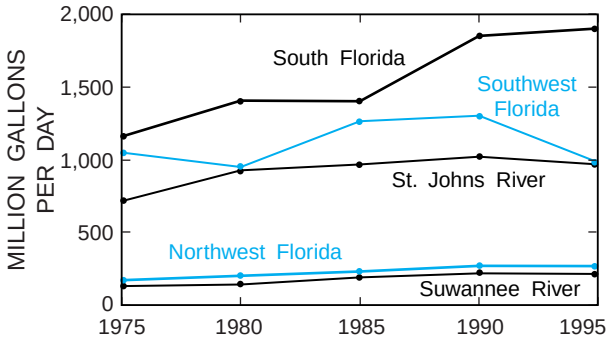


Figure 33. Historical fresh ground-water withdrawals by water management district, 1975-95. (Modified from Marella, 1995.)

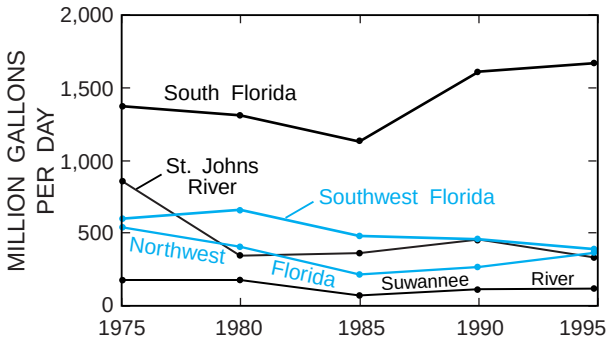


Figure 34. Historical fresh surface-water withdrawals by water management district, 1975-95. (Modified from Marella, 1995.)

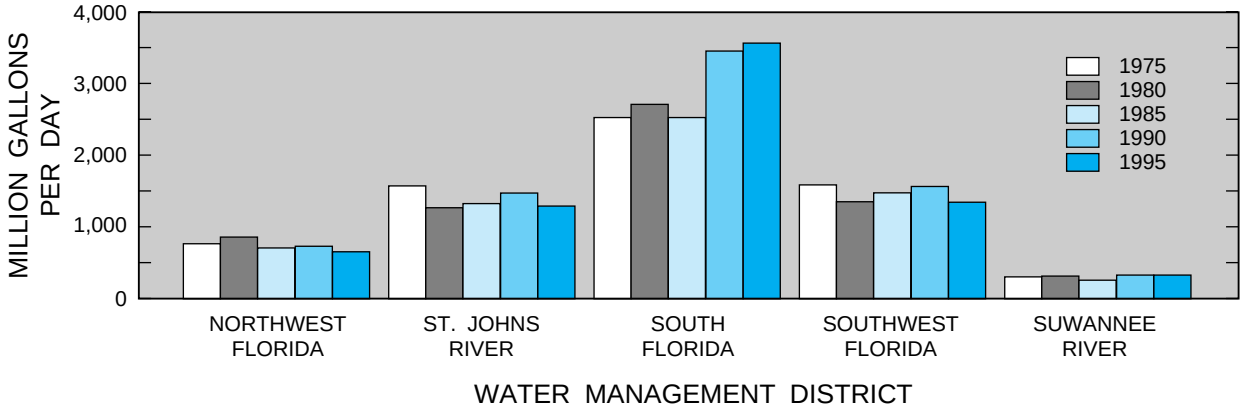


Figure 32. Historical freshwater withdrawals by water management district, 1975-95. (Modified from Marella, 1995.)

In 1995, approximately 39 percent (table 13) of the freshwater withdrawn in Florida was consumed (evaporated, transpired, incorporated into products or crops, or otherwise removed from the immediate water environment) and the remaining 61 percent was returned to the hydrologic system as wastewater. However, less than 0.1 percent (5 Mgal/d) of the saline water was consumed. The greatest consumption of freshwater in Florida occurred in agricultural self-supplied (irrigation and nonirrigation) and recreational irrigation uses due to vast acreage being irrigated during hot, dry periods when evapotranspiration was highest. Water consumed ranges from 80 percent for recreational irrigation to 9 percent for power generation (freshwater only) (fig. 35 and table 13). Nearly all (99.5 percent) of the total water withdrawn for power generation (fresh and saline) was returned to its source. The estimated percentage of freshwater consumed varied during the past 20 years. In 1975, 33 percent of the water withdrawn was consumed (Leach, 1978); in 1985, 43 percent was consumed (Marella, 1988); in 1990, 42 percent was consumed (Solley and others, 1993). All consumption values are estimated from irrigation coefficents, industry standards, or published sources.

Table 13. Estimated freshwater consumed by category in Florida, 1995 (freshwater consumed in million gallons per day)

	Freshwater consumed	Percent consumed
Public supply	340.7	16.5
Domestic self-supplied	49.2	16.6
Commercial-industrial self-supplied	114.8	16.6
Agricultural self-supplied	1,997.2	61.6
Recreational irrigation	225.2	80.2
Power generation	56.3	8.9
State totals	**2,783.4**	**38.6**

Wastewater included water that was discharged from treatment facilities, septic tanks, or runoff from agricultural or urban lands. Discharge data for domestic (municipal) and industrial facilities are usually regulated and metered, whereas records of the amount of water released from septic tanks or that runs off agricultural or urban lands are usually not available. For this report, wastewater values were reported for domestic and industrial discharges only. Total wastewater

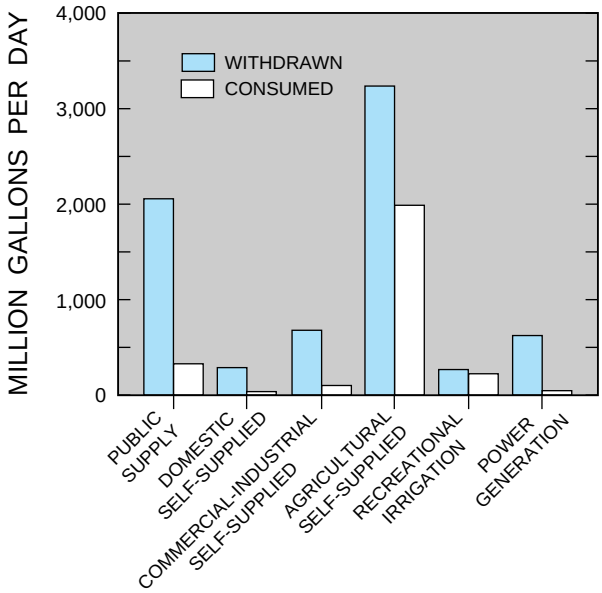


Figure 35. Freshwater withdrawals and estimated water consumption in Florida by category, 1995. (Modified from Solley and others, 1998.)

discharged from the 615 treatment facilities inventoried in 1995 (systems that discharged 0.10 Mgal/d or more) totaled 1,836 Mgal/d, of which 84 percent was from domestic wastewater facilities and 16 percent was from industrial facilities (table 14).

Domestic Wastewater

Domestic wastewater facilities (including municipal) are those systems that receive or dispose of wastewater derived principally from residential dwellings, businesses or commercial establishments, institutions and some industrial facilities (Florida Department of Environmental Regulation, 1991). According to the FDEP, there were 3,034 domestic wastewater systems in operation during 1995 (Richard Addison, written commun.,1996).

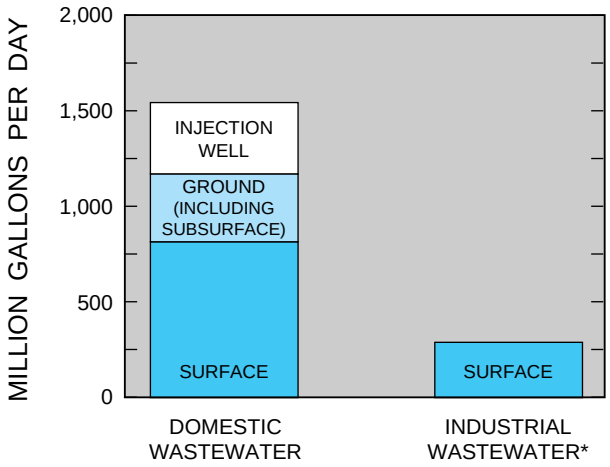
For this report, domestic wastewater discharge data was collected for 561 systems that discharged 0.10 Mgal/d or more. Discharge from the inventoried systems totaled more than 1,544 Mgal/d and accounted for 98.5 percent of the total domestic wastewater discharge. Discharge from the 2,473 uninventoried systems was estimated at 22 Mgal/d (2,473 systems multiplied by 0.009 Mgal/d) or 1.5 percent of the total discharge.

Table 14. Treated domestic and industrial wastewater discharge and number or systems in Florida by county, 1995

[Sources: U.S. Geological Survey, WRD, Tallahassee, and the Florida Department of Environmental Protection; discharge values in million gallons per day]

County	Domestic wastewater systems				Industrial wastewater system		
	Population served	Number of systems	Total Inventoried	Treated discharge	Number of systems	Total Inventoried	Treated discharge
Alachua	133,360	32	8	16.53	12	1	0.71
Baker	2,500	6	3	0.96	1	0	0.00
Bay	81,200	16	5	37.76	6	0	0.00
Bradford	6,500	6	3	2.28	5	1	7.61
Brevard	270,020	86	21	40.21	77	0	0.00
Broward	1,091,750	22	14	191.19	21	0	0.00
Calhoun	2,400	1	1	0.69	8	0	0.00
Charlotte	72,921	55	11	7.15	20	0	0.00
Citrus	18,504	87	7	2.57	21	0	0.00
Clay	61,666	33	10	8.78	11	1	7.80
Collier	107,400	54	12	20.77	15	0	0.00
Columbia	24,560	21	2	1.90	8	0	0.00
Dade	1,573,500	34	5	323.91	18	0	0.00
DeSoto	6,620	24	3	1.31	13	0	0.00
Dixie	3,350	3	2	0.30	2	0	0.00
Duval	539,125	108	28	81.41	49	6	19.35
Escambia	149,610	17	9	20.29	26	2	49.27
Flagler	30,214	19	5	3.15	5	0	0.00
Franklin	4,350	11	4	1.10	15	0	0.00
Gadsden	18,600	10	5	2.07	0	0	0.00
Gilchrist	1,000	3	2	0.16	4	0	0.00
Glades	0	23	0	0.00	4	0	0.00
Gulf	6,800	5	4	28.65	5	1	8.34
Hamilton	5,400	14	3	0.81	6	1	17.93
Hardee	8,939	16	4	1.59	17	0	0.00
Hendry	14,450	13	4	1.77	12	1	2.46
Hernando	29,571	49	11	3.98	14	0	0.00
Highlands	21,402	72	8	2.15	16	0	0.00
Hillsborough	593,306	157	16	86.33	332	9	25.73
Holmes	2,751	5	1	0.70	2	0	0.00
Indian River	59,350	33	10	5.63	41	1	0.83
Jackson	11,960	13	5	2.87	6	0	0.00
Jefferson	2,900	5	2	0.54	3	0	0.00
Lafayette	1,500	2	2	0.24	3	0	0.00
Lake	88,340	115	19	8.93	52	3	1.08
Lee	272,888	135	26	34.76	23	0	0.00
Leon	128,000	15	5	17.46	19	0	0.00
Levy	6,283	11	4	0.65	10	0	0.00
Liberty	0	2	1	0.11	3	0	0.00
Madison	3,960	6	1	0.92	3	0	0.00
Manatee	198,611	12	5	25.81	28	2	3.12
Marion	86,971	153	12	7.41	35	0	0.00
Martin	46,080	95	12	5.28	11	1	0.35
Monroe	51,163	281	6	9.05	16	0	0.00
Nassau	20,330	27	4	3.36	5	2	35.85
Okaloosa	94,283	17	13	17.41	4	0	0.00
Okeechobee	4,140	27	2	0.57	23	0	0.00
Orange	601,218	86	23	94.67	74	0	0.00
Osceola	98,908	50	16	14.36	20	0	0.00
Palm Beach	768,135	76	15	107.70	36	1	0.10
Pasco	90,049	113	17	16.27	38	1	10.10
Pinellas	815,510	35	21	121.73	34	0	0.00
Polk	178,628	204	24	28.47	208	9	12.83
Putnam	13,600	30	2	3.22	16	2	28.58
St. Johns	59,102	52	15	7.82	9	0	0.00
St. Lucie	98,904	77	12	10.55	26	0	0.00
Santa Rosa	30,829	15	7	2.91	10	2	2.48
Sarasota	200,110	93	21	22.79	29	3	5.14
Seminole	243,912	31	13	35.73	21	0	0.00
Sumter	2,700	40	3	0.79	27	0	0.00
Suwannee	8,475	13	2	0.96	5	1	1.34
Taylor	8,000	6	2	1.00	6	1	49.02
Union	4,100	3	2	0.40	3	0	0.00
Volusia	271,493	132	16	40.02	44	0	0.00
Wakulla	1,000	10	1	0.13	9	1	1.40
Walton	15,964	11	6	2.42	2	1	0.93
Washington	4,400	6	3	0.98	3	0	0.00
State totals	**9,473,565**	**3,034**	**561**	**1,544.39**	**1,650**	**54**	**292.35**

Of the domestic wastewater discharged from the inventoried systems, 53 percent was discharged to surface water, 24 percent was discharged to deep aquifers through injection wells, and 23 percent was discharged to the ground through drain fields, percolation ponds, spray fields, and land application systems (including reuse systems) (fig. 36).



* Injection well and ground discharge totaled 10 Mgal/d each for industrial wastewater, and is too small to show on this graph.

Figure 36. Treated domestic and industrial wastewater discharges in Florida by disposal method, 1995.

The estimated population served by the inventoried systems in 1995 was 9.47 million (table 14), and the population served by the uninventoried systems was estimated at about 0.82 million for a total of 73 percent (10.29 million) of the State's population. The remaining 3.86 million people (27 percent) discharged domestic wastewater to an estimated 1.75 million septic tanks in 1995 (U.S. Bureau of Census, 1993; and Florida Department of Health, written commun., 1997).

Domestic wastewater discharge increased 37 percent between 1985 and 1995 and 14 percent between 1990 and 1995 (fig. 37). Statewide domestic wastewater discharge values were not available prior to 1985.

The largest domestic wastewater discharges in 1995 were in Dade and Broward Counties (table 15). Of the treated domestic wastewater discharged in Dade County, 70 percent was released to the Atlantic Ocean, and of the treated domestic discharge in Broward County, 60 percent was released to deep well injection. Dade and Broward Counties each had over 1 million people served by domestic wastewater systems (table 14). The Miami-Dade Water and Sewer Authority in Dade County had the single largest discharge of domestic wastewater (321 Mgal/d), which was treated and discharged at 3 facilities during 1995 (app. 2).

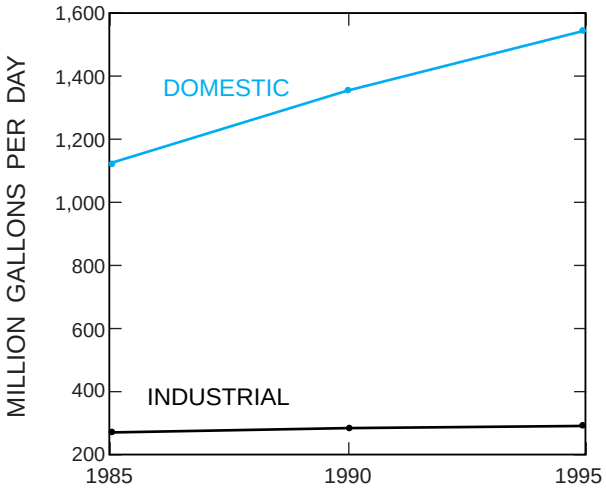


Figure 37. Historical treated domestic and industrial wastewater discharges in Florida, 1985-95. (Modified from Marella, 1994.)

Industrial Wastewater

Industrial wastewater facilities include those that produce, treat, or dispose of wastewater not otherwise defined as domestic wastewater. This includes runoff and leachate from areas that receive pollutants associated with industrial or commercial storage, handling, or processing (Florida Department of Environmental Regulation, 1991). According to the FDEP, there were 1,650 industrial facilities in operation during 1995 (Fred Noble, written commun., 1996).

Estimated discharge from the 54 industrial wastewater systems that treated and discharged 0.10 Mgal/d or more) was 292 Mgal/d (table 14). Discharges that are not treated as wastewater are not included in these totals. Power plant discharge of once-through cooling water, discharges for dewatering purposes, and stormwater discharges from retention ponds are not included in this total. Permitted systems discharging more than 0.10 Mgal/d periodically, but averaging less than 0.10 Mgal/d per year, were not included.

More than 96 percent of the industrial wastewater was discharged to surface water in 1995 (fig. 36). The remaining 4 percent was discharged to the ground or injection wells. Escambia, Taylor, and Nassau Counties accounted for 46 percent of the State's industrial discharge (table 15).

Industrial wastewater discharge increased 7 percent between 1985 and 1995 and 2 percent between 1990 and 1995 (fig. 37). Statewide industrial wastewater discharge values were not available prior to 1985.

Table 15. Treated domestic and industrial wastewater discharge by disposal method in Florida by county, 1995

[Source: U.S. Geological Survey, WRD, Tallahassee; all values in million gallons per day; ground discharge includes absorption beds, drainfields, percolation ponds, rapid infiltration basins, spray fields and land application/reuse systems]

County	Treated Domestic Wastewater Discharge				Treated Industrial Wastewater Discharge			
	Ground	Injection	Surface	Total	Ground	Injection	Surface	Total
Alachua	0.87	9.14	6.52	16.53	0.00	0.00	0.71	0.71
Baker	0.18	0.00	0.78	0.96	0.00	0.00	0.00	0.00
Bay	0.28	0.00	37.48	37.76	0.00	0.00	0.00	0.00
Bradford	0.00	0.00	2.28	2.28	0.00	0.00	7.61	7.61
Brevard	9.68	17.40	13.13	40.21	0.00	0.00	0.00	0.00
Broward	2.00	108.79	80.40	191.19	0.00	0.00	0.00	0.00
Calhoun	0.00	0.00	0.69	0.69	0.00	0.00	0.00	0.00
Charlotte	4.80	1.40	0.95	7.15	0.00	0.00	0.00	0.00
Citrus	2.57	0.00	0.00	2.57	0.00	0.00	0.00	0.00
Clay	0.31	0.00	8.47	8.78	0.00	0.00	7.80	7.80
Collier	17.36	0.00	3.41	20.77	0.00	0.00	0.00	0.00
Columbia	1.90	0.00	0.00	1.90	0.00	0.00	0.00	0.00
Dade	2.43	90.45	231.03	323.91	0.00	0.00	0.00	0.00
DeSoto	0.26	0.00	1.05	1.31	0.00	0.00	0.00	0.00
Dixie	0.00	0.00	0.30	0.30	0.00	0.00	0.00	0.00
Duval	0.64	0.00	80.77	81.41	0.00	0.00	19.35	19.35
Escambia	0.08	0.00	20.21	20.29	0.00	2.84	46.43	49.27
Flagler	2.32	0.00	0.83	3.15	0.00	0.00	0.00	0.00
Franklin	0.39	0.00	0.71	1.10	0.00	0.00	0.00	0.00
Gadsden	0.00	0.00	2.07	2.07	0.00	0.00	0.00	0.00
Gilchrist	0.16	0.00	0.00	0.16	0.00	0.00	0.00	0.00
Glades	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gulf	0.15	0.00	28.50	28.65	0.00	0.00	8.34	8.34
Hamilton	0.10	0.00	0.71	0.81	0.00	0.00	17.93	17.93
Hardee	0.32	0.00	1.27	1.59	0.00	0.00	0.00	0.00
Hendry	1.57	0.00	0.20	1.77	2.46	0.00	0.00	2.46
Hernando	3.98	0.00	0.00	3.98	0.00	0.00	0.00	0.00
Highlands	1.18	0.00	0.97	2.15	0.00	0.00	0.00	0.00
Hillsborough	8.33	0.00	78.00	86.33	0.00	0.00	25.73	25.73
Holmes	0.00	0.00	0.70	0.70	0.00	0.00	0.00	0.00
Indian River	4.60	0.00	1.03	5.63	0.00	0.00	0.83	0.83
Jackson	0.74	0.00	2.13	2.87	0.00	0.00	0.00	0.00
Jefferson	0.08	0.00	0.46	0.54	0.00	0.00	0.00	0.00
Lafayette	0.24	0.00	0.00	0.24	0.00	0.00	0.00	0.00
Lake	8.93	0.00	0.00	8.93	0.77	0.00	0.31	1.08
Lee	9.56	0.35	24.85	34.76	0.00	0.00	0.00	0.00
Leon	17.46	0.00	0.00	17.46	0.00	0.00	0.00	0.00
Levy	0.55	0.00	0.10	0.65	0.00	0.00	0.00	0.00
Liberty	0.11	0.00	0.00	0.11	0.00	0.00	0.00	0.00
Madison	0.00	0.00	0.92	0.92	0.00	0.00	0.00	0.00
Manatee	7.71	11.17	6.93	25.81	0.00	0.00	3.12	3.12
Marion	7.34	0.00	0.07	7.41	0.00	0.00	0.00	0.00
Martin	3.15	2.13	0.00	5.28	0.00	0.00	0.35	0.35
Monroe	0.05	0.67	8.33	9.05	0.00	0.00	0.00	0.00
Nassau	0.93	0.00	2.43	3.36	0.00	0.00	35.85	35.85
Okaloosa	16.19	0.00	1.22	17.41	0.00	0.00	0.00	0.00
Okeechobee	0.57	0.00	0.00	0.57	0.00	0.00	0.00	0.00
Orange	94.02	0.00	0.65	94.67	0.00	0.00	0.00	0.00
Osceola	14.11	0.00	0.25	14.36	0.00	0.00	0.00	0.00
Palm Beach	3.84	73.65	30.21	107.70	0.00	0.10	0.00	0.10
Pasco	10.48	0.00	5.79	16.27	0.00	0.00	10.10	10.10
Pinellas	39.01	53.02	29.70	121.73	0.00	0.00	0.00	0.00
Polk	12.04	0.00	16.43	28.47	2.14	0.00	10.69	12.83
Putnam	0.00	0.00	3.22	3.22	0.00	0.00	28.58	28.58
St. Johns	3.25	0.00	4.57	7.82	0.00	0.00	0.00	0.00
St. Lucie	1.33	1.85	7.37	10.55	0.00	0.00	0.00	0.00
Santa Rosa	1.55	0.00	1.36	2.91	0.36	0.69	1.43	2.48
Sarasota	8.90	2.49	11.40	22.79	0.00	0.00	5.14	5.14
Seminole	13.88	0.00	21.85	35.73	0.00	0.00	0.00	0.00
Sumter	0.12	0.00	0.67	0.79	0.00	0.00	0.00	0.00
Suwannee	0.96	0.00	0.00	0.96	0.00	0.00	1.34	1.34
Taylor	0.05	0.00	0.95	1.00	0.00	0.00	49.02	49.02
Union	0.00	0.00	0.40	0.40	0.00	0.00	0.00	0.00
Volusia	9.58	0.00	30.44	40.02	0.00	0.00	0.00	0.00
Wakulla	0.13	0.00	0.00	0.13	0.50	0.00	0.90	1.40
Walton	1.86	0.00	0.56	2.42	0.93	0.00	0.00	0.93
Washington	0.07	0.00	0.91	0.98	0.00	0.00	0.00	0.00
State totals	**355.25**	**372.51**	**816.63**	**1,544.39**	**7.16**	**3.63**	**281.56**	**292.35**

WATER WITHDRAWAL TRENDS, 1970-95

Statewide withdrawal and water-use estimates have been compiled for Florida every 5 years since 1950; however, variations in historical water-use values are sometimes difficult to assess because of differences in data-collection techniques and sources of information through the years. Since 1970, statewide water-use data for all withdrawal categories have been collected, tabulated, and published five times by many agencies (five water management districts, the Florida Geological Survey, the Florida Department of Environmental Protection, and the U.S. Geological Survey).

Total water (fresh and saline) withdrawn in Florida increased by 2,886 Mgal/d or 19 percent between 1970 and 1995 (fig. 38), whereas the population increased by 7.4 million people (110 percent) (fig. 1). During this period, freshwater withdrawals increased nearly 29 percent (1,603 Mgal/d), and saline water withdrawals increased 13 percent (1,283 Mgal/d) (fig. 38). However, between 1990 and 1995, freshwater withdrawals decreased by about 4 percent while saline withdrawals increased by 6 percent. This decrease in freshwater withdrawals between 1990 and 1995 can be attributed to many factors, including, (1) significantly drier conditions (lower rainfall) in 1990 during key times of the year compared to 1995; (2) water-conservation efforts; and (3) the use of alternative water sources such as reclaimed wastewater. Although 1995 estimates are lower than 1990, it is not possible to determine if this change will continue or if 1995 was an exceptional year. The increase in saline withdrawals can be attributed to an increase in power production and capacity at the State's coastal power plants. Also, in 1990 there was a significant amount of downtime at several power plants, significantly decreasing water usage that year.

Ground-water withdrawals increased 56 percent between 1970 and 1995 (fig. 39 and table 16). This long-term trend in ground-water withdrawals is a result of: (1) improvements in drilling techniques; (2) the ability to pump large quantities of high-quality water more economically from large, deep wells; and (3) increases in demand posed by population growth and crop irrigation. Between 1990 and 1995, ground-water withdrawals decreased 7 percent, for many of the factors cited in the previous paragraph (fig. 39 and table 16).

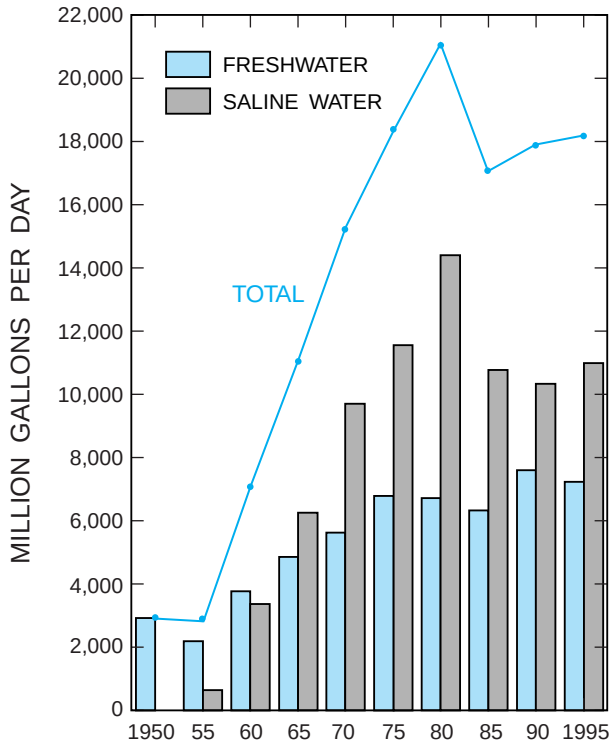


Figure 38. Historical fresh and saline water withdrawals in Florida, 1950-95. (Modified from Marella, 1995.)

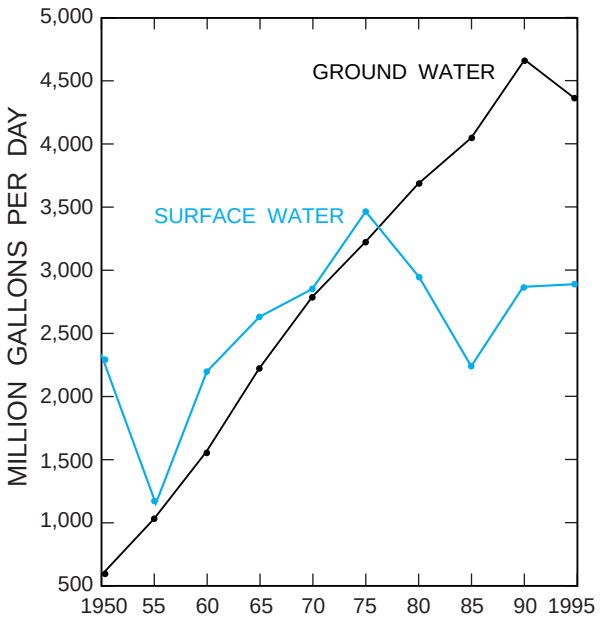


Figure 39. Historical freshwater withdrawals in Florida by source, 1950-95. (Modified from Marella, 1995.)

Table 16. Historical freshwater withdrawals in Florida by category, 1970-95

[Source: U.S. Geological Survey, WRD, Tallahassee; all values in million gallons per day; ----, no data were collected; N/A, totals not available]

Year	Public supply		Domestic self-supplied		Commercial-industrial self-supplied		Agricultural self-supplied		Recreational irrigation		Power generation		Total freshwater withdrawals		
	Ground	Surface	Ground	Surface	Ground	Surface	Ground	Surface	Ground	Surface	Ground	Surface	Ground	Surface	Totals
1970	753.10	130.30	209.20	0.00	683.60	215.90	1,136.35	964.35	N/A	N/A	4.50	1,515.00	2,786.75	2,825.55	5,612.30
1971	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1972	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1973	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1974	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1975	962.80	161.30	225.75	2.05	721.85	160.70	1,289.90	1,640.70	N/A	N/A	14.30	1,488.80	3,214.60	3,453.55	6,668.15
1976	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1977	1,059.10	172.80	213.00	1.01	703.68	153.54	1,437.29	1,479.50	N/A	N/A	16.43	1,216.63	3,429.50	3,023.48	6,452.98
1978	1,052.60	154.10	239.30	1.00	----	----	----	----	----	----	----	----	N/A	N/A	N/A
1979	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1980	1,225.95	180.45	243.40	0.10	615.24	85.08	1,572.80	1,452.60	N/A	N/A	19.80	1,219.10	3,677.19	2,937.33	6,614.52
1981	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1982	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1983	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1984	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1985	1,491.80	193.64	259.29	0.00	631.53	77.28	1,526.66	1,271.15	119.65	61.84	18.74	632.71	4,047.67	2,236.62	6,284.29
1986	1,542.77	191.28	----	----	----	----	----	----	----	----	----	----	N/A	N/A	N/A
1987	1,634.68	199.73	----	----	----	----	----	----	----	----	----	----	N/A	N/A	N/A
1988	1,693.21	211.29	----	----	----	----	----	----	----	----	----	----	N/A	N/A	N/A
1989	1,754.10	217.80	----	----	----	----	----	----	----	----	----	----	N/A	N/A	N/A
1990	1,698.82	226.33	299.38	0.00	630.88	139.06	1,800.19	1,695.03	212.31	97.72	23.14	708.92	4,664.72	2,867.06	7,531.78
1991	1,682.11	224.34	----	----	----	----	----	----	----	----	----	----	N/A	N/A	N/A
1992	1,762.08	236.92	----	----	----	----	----	----	----	----	----	----	N/A	N/A	N/A
1993	1,801.56	221.00	----	----	----	----	----	----	----	----	----	----	N/A	N/A	N/A
1994	1,771.52	217.03	----	----	----	----	----	----	----	----	----	----	N/A	N/A	N/A
1995	1,855.57	209.70	296.74	0.00	438.12	253.71	1,527.52	1,716.58	196.38	84.50	21.25	614.88	4,335.58	2,879.37	7,214.95

Commercial-industrial self-supplied includes water withdrawn for mining purposes.

Agricultural self-supplied includes water withdrawn for crop irrigation, livestock, and fish farming purposes.

Recreational irrigation includes water used for all turf grass (golf, commercial, industrial, and public) irrigation. This category was accounted for under agricultural self-supplied for 1975 through 1984.

Data sources:

1970-90 - U.S. Geological Survey Open-File Report 94-521 (Marella, 1995).

1991-94 - U.S. Geological Survey unpublished water-use data files, Tallahassee, Florida.

Fresh surface-water withdrawals have increased only slightly (2 percent) between 1970 and 1995, and increased less than 1 percent between 1990 and 1995. Fresh surface-water withdrawals peaked in 1975, primarily due to power generation demands (fig. 39 and table 16). Increases in fresh surface-water demands posed by increased irrigated agricultural acreage in southern Florida during 1970 through 1995 helped offset the large decrease in withdrawals for power generation.

Between 1970 and 1995, total freshwater withdrawals increased for public supply by 134 percent, for agricultural self-supplied by 54 percent, and for domestic self-supplied by 42 percent. However, during this period withdrawals decreased for power generation (thermoelectric) by 58 percent and for commercial-industrial self-supplied by 24 percent (table 16). Recreational irrigation withdrawals increased 55 percent between 1985 and 1995; prior to 1985, recreational irrigation water use was included in the agricultural self-supplied category. Public supply and domestic self-supplied increases are a result of population growth and tourism during this time period. Agricultural self-supplied increases during this period are a result of irrigation development and the availablilty of water for irrigation which allowed farmers to increase crop production while decreasing the risk of crop damage due to prolonged dry conditions.

Between 1990 and 1995, agricultural self-supplied withdrawals decreased 7 percent. This reduction in agricultural self-supplied use reflects greater rainfall in 1995 than in 1990, more efficient irrigation systems and practices, and more accurate data from metered irrigation systems. Public-supply water withdrawals increased 7 percent between 1990 and 1995, primarily as a result of an increase in the State's population of 9 percent (1.2 million people). Withdrawals for the other categories remained relatively unchanged between 1990 and 1995 (table 16).

The use of nonpotable ground water as a source of supply, primarily for public supply, also has increased in Florida. Nonpotable water (sometimes referred to as brackish water), which contains less than 1,000 mg/L of dissolved solids, is sometimes treated by desalination processes (see glossary) to meet the FDEP drinking-water standards for public supply use. The amount of nonpotable water treated to meet drinking-water standards increased from 17 Mgal/d in 1985 (Marella, 1995) to 58 Mgal/d in 1995.

The use of reclaimed wastewater also has increased in Florida since the mid 1980's. According to the FDEP, nearly 402 Mgal/d of reclaimed wastewater was used in 1996, compared to 266 Mgal/d in 1990, and 206 Mgal/d used in 1986 (Florida Department of Environmental Protection, 1997). For 1995, an estimated 383 Mgal/d of reclaimed wastewater was inventoried by the Water Management Districts (Florida Water Management Districts, 1996), which differs from the 240 Mgal/d identified in this report. This difference in reported values for 1995 is explained by the fact that the FDEP defines ground-water recharge, wetlands enhancement, and other such factors as waste-water reuse. These categories are not considered reuse in this report. Most of the reclaimed wastewater (64 percent) reported by FDEP was used for irrigation purposes (agricultural and public access areas). The use of reclaimed wastewater reduces the demand for freshwater, and is expected to continue to increase statewide.

> Water resources are among Florida's most important natural assets. Freshwater supplies are vital for our daily lives, future residents and visitors, natural systems, recreation and agriculture.
>
> Florida's freshwater supplies are finite and the demands of a growing population and the need to sustain our rivers, lakes, wetlands and estuaries requires the utmost care and thoughtfulness in planning and using our freshwater supplies.
>
> --Quote from Lawton Chiles, former Governor of Florida, from the Water Resources Atlas of Florida by Fernald, E.A., and Purdum, E.D., 1998, p. iii.

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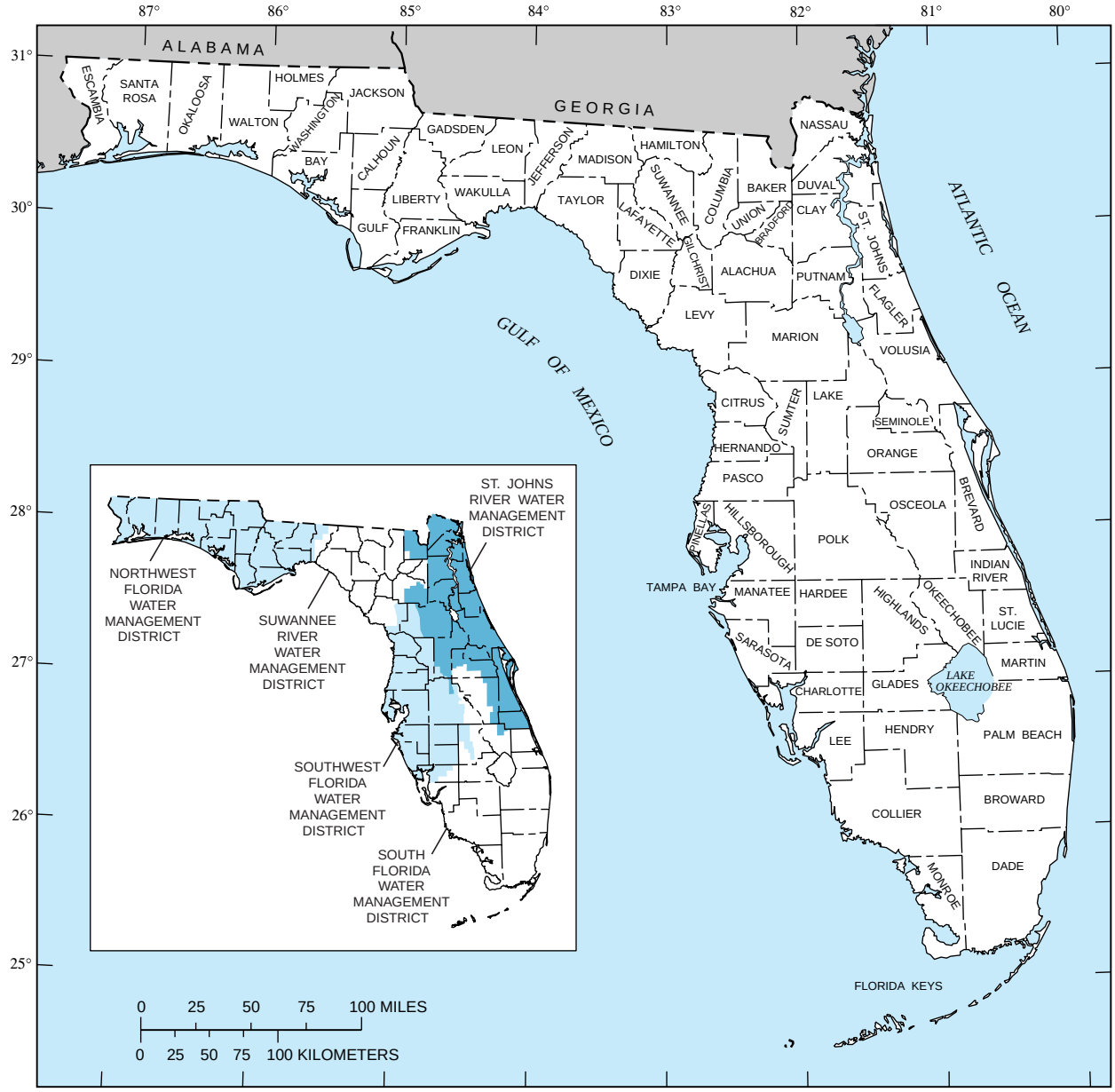
APPENDIX I

APPENDIX I

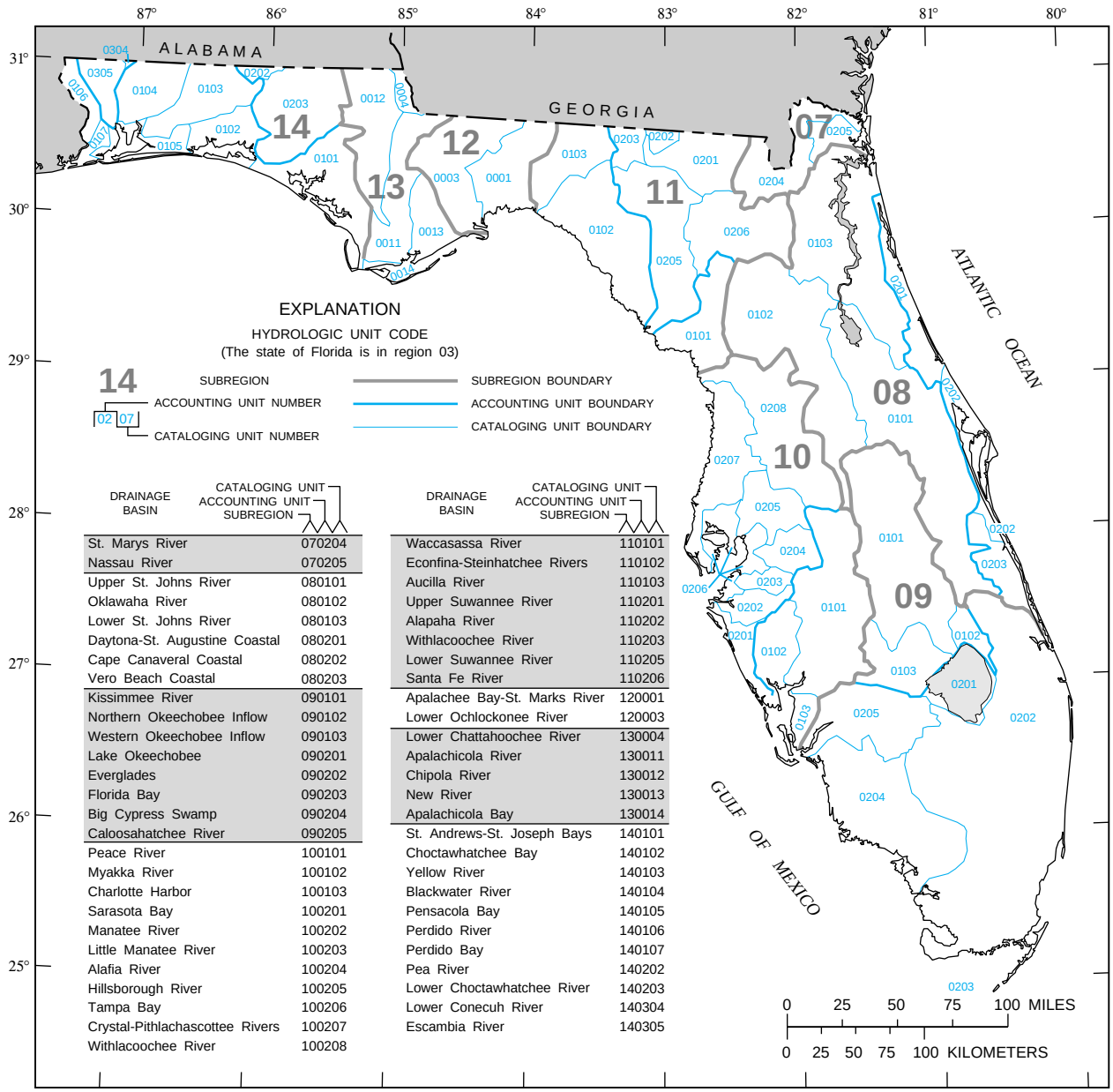
Purpose, data sources, and contacts

The purpose of this table is to provide additional and more specific information on the public supply water systems that were inventoried for this project. Most of the data or information in this table was obtained from the Florida Department of Environmental Protection, Drinking Water Program office in Tallahassee with assistance from personnel in the Ft. Myers, Jacksonville, Orlando, Pensacola, Port St. Lucie, Tampa, and West Palm Beach District Offices or from the five water management districts (Northwest Florida, St. Johns River, South Florida, Southwest Florida, and the Suwannee River). Additional data or information was supplied by the drinking water programs of the Florida Department of Health, County Health Department offices in Broward, Dade, Duval, Hillsborough, Lee, Palm Beach, Polk, and Sarasota Counties. Data also supplied by various utilities including Florida Water Services (formerly Southern States Utilities). This table can be obtained from the USGS on diskette in spreadsheet format.



ABBREVIATIONS AND ACRONYMS USED IN APPENDIX I

AFB = Air Force Base	P = Purchased Water
Assoc. = Association	PRMSRWSA = Peace River-Manatee-Sarasota Regional Water Supply Authority
Auth. = Authority	R/O = Reverse Osmosis
Com. = Community	RV = Recreational Vehicle
Coop. = Cooperative	S/D = Subdivision
Corp. = Corporation	S = Surface Water
Dept. = Department	TP = Trailer Park
G = Ground Water	U.S. = United States
I/D = Improvement District	W/A = Water Authority or Water Association
Inc. = Incorporated	W/D = Water District
Int. = Interconnect	WF = Well Field
Mgal/d = Million gallons per day	W/S = Water System
MHP = Mobile Home Park	WCRWSA = West Coast Regional Water Supply Authority
N/A = Not Available	WRWSA = Withlacoochee River Water Supply Authority
NAS = Naval Air Station	WSA = Water and Sewer Authority



DRAINAGE BASIN	CATALOGING UNIT / ACCOUNTING UNIT / SUBREGION
St. Marys River	070204
Nassau River	070205
Upper St. Johns River	080101
Oklawaha River	080102
Lower St. Johns River	080103
Daytona-St. Augustine Coastal	080201
Cape Canaveral Coastal	080202
Vero Beach Coastal	080203
Kissimmee River	090101
Northern Okeechobee Inflow	090102
Western Okeechobee Inflow	090103
Lake Okeechobee	090201
Everglades	090202
Florida Bay	090203
Big Cypress Swamp	090204
Caloosahatchee River	090205
Peace River	100101
Myakka River	100102
Charlotte Harbor	100103
Sarasota Bay	100201
Manatee River	100202
Little Manatee River	100203
Alafia River	100204
Hillsborough River	100205
Tampa Bay	100206
Crystal-Pithlachascottee Rivers	100207
Withlacoochee River	100208

DRAINAGE BASIN	CATALOGING UNIT / ACCOUNTING UNIT / SUBREGION
Waccasassa River	110101
Econfina-Steinhatchee Rivers	110102
Aucilla River	110103
Upper Suwannee River	110201
Alapaha River	110202
Withlacoochee River	110203
Lower Suwannee River	110205
Santa Fe River	110206
Apalachee Bay-St. Marks River	120001
Lower Ochlockonee River	120003
Lower Chattahoochee River	130004
Apalachicola River	130011
Chipola River	130012
New River	130013
Apalachicola Bay	130014
St. Andrews-St. Joseph Bays	140101
Choctawhatchee Bay	140102
Yellow River	140103
Blackwater River	140104
Pensacola Bay	140105
Perdido River	140106
Perdido Bay	140107
Pea River	140202
Lower Choctawhatchee River	140203
Lower Conecuh River	140304
Escambia River	140305

APPENDIX I. Public supply population served, water withdrawn and use, and water source by utility in Florida, 1995

[Sources: U.S. Geological Survey, Florida Department of Environmental Protection, and the five water management districts; Abbrevations and location of cataloging units and counties are shown on pages 50 and 51; Utility/Owners indented are affilated with the Utility/Owner justified left immediately above; For Utility/Owners that purchase water, their population served and water use are included in the supplies totals unless listed specifically]

Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Alachua, city of		Alachua	Santa Fe River	5,612	0.77	0.77	G	Floridan aquifer system	
Alachua, city of	Turkey Creek Utilities	Alachua	Santa Fe River	538	0.15	0.15	G	Floridan aquifer system	
Archer, city of		Alachua	Oklawaha River	1,291	0.15	0.15	G	Floridan aquifer system	
Arrendondo Utilities	Arrendondo Estates	Alachua	Oklawaha River	569	0.06	0.06	G	Floridan aquifer system	
Arrendondo Utilities	Arrendondo Farms	Alachua	Oklawaha River	586	0.06	0.06	G	Floridan aquifer system	
Gainesville Regional Utilities	Murphee Water Plant	Alachua	Oklawaha River	135,000	21.52	21.52	G	Floridan aquifer system	
Hawthorne, city of		Alachua	Oklawaha River	1,338	0.19	0.19	G	Floridan aquifer system	
High Springs, city of		Alachua	Santa Fe River	2,925	0.40	0.40	G	Floridan aquifer system	
Hilcrest TP		Alachua	Oklawaha River	237	0.03	0.03	G	Floridan aquifer system	
Kincaid Hills W/S		Alachua	Oklawaha River	753	0.10	0.10	G	Floridan aquifer system	
Micanopy, town of		Alachua	Oklawaha River	837	0.08	0.08	G	Floridan aquifer system	
Newberry, city of		Alachua	Waccasassa River	1,912	0.32	0.32	G	Floridan aquifer system	
Oak Park Village		Alachua	Oklawaha River	621	0.08	0.08	G	Floridan aquifer system	
Sunshine MHP		Alachua	Oklawaha River	287	0.02	0.02	G	Floridan aquifer system	
Waldo, city of		Alachua	Oklawaha River	1,064	0.13	0.13	G	Floridan aquifer system	
Westgate MHP		Alachua	Oklawaha River	239	0.03	0.03	G	Floridan aquifer system	
Macclenny, city of		Baker	St. Marys River	3,900	0.65	0.65	G	Floridan aquifer system	
Macclenny S/D II		Baker	St. Marys River	230	0.03	0.03	G	Floridan aquifer system	
Bay County Public Utilities		Bay	St. Andrews-St. Joseph Bays	19,229	45.23	N/A	S	Deer Point Lake	
Callaway, city of		Bay	St. Andrews-St. Joseph Bays	10,504	0.00	N/A	P	Bay County Public Utilities	
Cedar Grove, town of		Bay	St. Andrews-St. Joseph Bays	1,586	0.00	N/A	P	Bay County Public Utilities	
Panama City, city of		Bay	St. Andrews-St. Joseph Bays	38,000	0.00	N/A	P	Bay County Public Utilities	
Parker, city of		Bay	St. Andrews-St. Joseph Bays	4,500	0.00	0.58	P	Bay County Public Utilities	
Springfield, city of		Bay	St. Andrews-St. Joseph Bays	9,000	0.00	0.89	P	Bay County Public Utilities	
Stone Container Corp.		Bay	St. Andrews-St. Joseph Bays	0	0.20	24.80	P	Bay County Public Utilities	Floridan aquifer system (0.20 Mgal/d)
U.S. Air Force	Tyndall Air Force Base	Bay	St. Andrews-St. Joseph Bays	N/A	0.04	1.53	P	Bay County Public Utilities	Floridan aquifer system (0.04 Mgal/d)
Bay Pines MHP		Bay	St. Andrews-St. Joseph Bays	170	0.02	0.02	G	Floridan aquifer system	
Lisenby MHP		Bay	St. Andrews-St. Joseph Bays	68	0.01	0.01	G	Floridan aquifer system	
Lynn Haven, city of		Bay	St. Andrews-St. Joseph Bays	10,568	1.55	1.55	G	Floridan aquifer system	
Mexico Beach, city of		Bay	St. Andrews-St. Joseph Bays	1,600	0.42	0.42	G	Floridan aquifer system	Intermediate system (0.00 Mgal/d)
Panama City Beach, city of		Bay	St. Andrews-St. Joseph Bays	14,000	3.04	9.74	P/G	Bay County Public Utilities	Floridan aquifer system (3.04 Mgal/d)
Sandy Creek Utilities		Bay	St. Andrews-St. Joseph Bays	420	0.05	0.05	G	Floridan aquifer system	
Brooker, town of		Bradford	Santa Fe River	402	0.04	0.04	G	Floridan aquifer system	
Hampton, city of		Bradford	Santa Fe River	370	0.06	0.06	G	Floridan aquifer system	
Lawtey, city of		Bradford	Santa Fe River	766	0.17	0.17	G	Floridan aquifer system	
Starke, city of		Bradford	Santa Fe River	6,378	0.98	0.98	G	Floridan aquifer system	
Southern States Utilities	Geneva Lake Estates	Bradford	Santa Fe River	222	0.04	0.04	G	Floridan aquifer system	
Southern States Utilities	Keystone Club Estates	Bradford	Santa Fe River	364	0.04	0.04	G	Floridan aquifer system	
Aquarina Development Corp.	Aquarina Utilities	Brevard	Cape Canaveral Coastal	208	0.03	0.03	G	Floridan aquifer system	Desalination (0.03 Mgal/d)
Florida Cities Water Company	Avatar/Barefoot Bay	Brevard	Cape Canaveral Coastal	8,965	0.47	0.47	G	Surficial aquifer	
Cocoa, city of	Cocoa Water System	Brevard	Cape Canaveral Coastal	162,000	24.21	N/A	G	Floridan aquifer system	Withdrawn in Orange County
U.S. Air Force	Patrick Air Force Base	Brevard	Cape Canaveral Coastal	N/A	0.00	N/A	P	Cocoa, city of	Population served included under Cocoa, city of
Melbourne, city of		Brevard	Cape Canaveral Coastal	110,723	15.89	N/A	S/G	Lake Washington/St. Johns River	Floridan aquifer system (3.14 Mgal/d)
West Melbourne, city of		Brevard	Cape Canaveral Coastal	N/A	0.00	N/A	P	Melbourne, city of	Population served included under Melbourne, city of
Mobile Manor TP		Brevard	Cape Canaveral Coastal	248	0.03	0.03	G	Surficial aquifer	
Brevard County Utilities	North Brevard/Mims W/S	Brevard	Cape Canaveral Coastal	5,314	0.70	0.70	G	Surficial aquifer	
Northgate TP		Brevard	Cape Canaveral Coastal	243	0.03	0.03	G	Floridan aquifer system	Desalination (0.03 Mgal/d)
Palm Bay, city of	Palm Bay Utilities	Brevard	Cape Canaveral Coastal	73,137	4.94	4.94	G	Surficial aquifer	
Malabar, town of		Brevard	Cape Canaveral Coastal	N/A	0.00	N/A	P	Palm Bay, city of	Population served included under Palm Bay, city of
Pinewood Village		Brevard	Cape Canaveral Coastal	175	0.02	0.02	G	Floridan aquifer system	
Snug Harbor Village		Brevard	Cape Canaveral Coastal	496	0.06	0.06	G	Floridan aquifer system	

APPENDIX I. Public supply population served, water withdrawn and use, and water source by utility in Florida, 1995

[Sources: U.S. Geological Survey, Florida Department of Environmental Protection, and the five water management districts; Abbrevations and location of cataloging units and counties are shown on pages 50 and 51; Utility/Owners indented are affilated with the Utility/Owner justified left immediately above; For Utility/Owners that purchase water, their population served and water use are included in the supplies totals unless listed specifically]

Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
South Brevard Water Coop.		Brevard	Cape Canaveral Coastal	815	0.07	0.07	G	Floridan aquifer system	
Titusville, city of		Brevard	Cape Canaveral Coastal	41,495	4.90	5.16	G/P	Floridan aquifer system	Purchased (0.26 Mgal/d) from Cocoa, city of
Broward County Utilities		Broward	Everglades	179,640	28.67	N/A	G	Biscayne aquifer	
Broadview Park		Broward	Everglades	40	0.00	N/A	P	Broward County Utilities	
Coconut Creek, city of		Broward	Everglades	29,000	0.00	N/A	P	Broward County Utilities	
Cooper City, city of		Broward	Everglades	19,876	3.50	3.50	G	Biscayne aquifer	
Coral Springs I/D		Broward	Everglades	28,000	4.08	4.08	G	Biscayne aquifer	
Coral Springs, city of		Broward	Everglades	45,000	7.24	7.24	G	Biscayne aquifer	
Dania, city of		Broward	Everglades	15,900	2.46	2.46	G	Biscayne aquifer	
Davie, town of		Broward	Everglades	25,080	3.05	3.05	G	Biscayne aquifer	
Deerfield Beach, city of		Broward	Everglades	46,997	10.96	10.96	G	Biscayne aquifer	
Ferncrest Utilities		Broward	Everglades	5,500	0.78	0.78	G	Biscayne aquifer	
Fort Lauderdale, city of		Broward	Everglades	224,420	48.74	N/A	G	Biscayne aquifer	
Davie, town of	Hacienda Village	Broward	Everglades	120	0.00	N/A	P	Fort Lauderdale, city of	
Oakland Park, city of		Broward	Everglades	34,796	0.00	N/A	P	Fort Lauderdale, city of	
Tamarac, city of	East	Broward	Everglades	1,500	0.00	N/A	P	Fort Lauderdale, city of	
Wilton Manors, city of		Broward	Everglades	14,600	0.00	N/A	P	Fort Lauderdale, city of	
Hallendale, city of		Broward	Everglades	30,997	3.46	3.46	G	Biscayne aquifer	
Hillsboro Beach, town of		Broward	Everglades	1,768	0.86	0.86	G	Biscayne aquifer	
Hollywood, city of		Broward	Everglades	125,342	19.31	19.31	G	Biscayne aquifer	
Lauderhill, city of		Broward	Everglades	50,500	7.43	7.43	G	Biscayne aquifer	
Margate, city of		Broward	Everglades	47,279	8.34	8.34	G	Biscayne aquifer	
Miramar, city of		Broward	Everglades	20,983	4.19	4.19	G	Biscayne aquifer	
North Lauderdale, city of		Broward	Everglades	24,100	3.04	3.04	G	Biscayne aquifer	
North Springs I/D		Broward	Everglades	8,760	1.41	1.41	G	Biscayne aquifer	
Parkland Utilities		Broward	Everglades	1,512	0.20	0.20	G	Biscayne aquifer	
Pembrook Pines, city of		Broward	Everglades	64,100	9.33	9.33	G	Biscayne aquifer	
Plantation, city of		Broward	Everglades	72,494	13.92	13.92	G	Biscayne aquifer	
Pompano Beach, city of		Broward	Everglades	73,950	16.25	16.25	G	Biscayne aquifer	
Royal Utility Company		Broward	Everglades	2,800	0.36	0.36	G	Biscayne aquifer	
Seminole Utilities		Broward	Everglades	1,738	0.35	0.35	G	Biscayne aquifer	
South Broward Utility Inc.		Broward	Everglades	5,260	0.66	0.66	G	Biscayne aquifer	
Sunrise, city of		Broward	Everglades	104,972	18.11	18.11	G	Biscayne aquifer	
Tamarac, city of	West	Broward	Everglades	44,061	5.60	5.60	G	Biscayne aquifer	
Altha, town of		Calhoun	Apalachicola River	580	0.10	0.10	G	Floridan aquifer system	
Blountstown, city of		Calhoun	Apalachicola River	3,590	0.58	0.58	G	Floridan aquifer system	
Burnt Store Colony MHP		Charlotte	Charlotte Harbor	150	0.03	0.03	G	Intermediate aquifer	Desalination (0.03 Mgal/d)
Charlotte County Utilities	Port Charlotte	Charlotte	Peace River	62,448	0.00	6.49	P	PRMSRWSA	Withdrawn in De Soto County
Charlotte Harbor W/A		Charlotte	Peace River	4,441	0.46	0.46	G	Intermediate aquifer	Desalination (0.46 Mgal/d)
El Jobean W/A		Charlotte	Myakka River	N/A	0.00	N/A	P	Charlotte County Utilities	
Fiveland Investment Inc.	Gasparilla Pines	Charlotte	Charlotte Harbor	1,083	0.17	0.17	G	Intermediate aquifer	Desalination (0.17 Mgal/d)
Gasparilla Island W/A		Charlotte	Charlotte Harbor	2,561	0.90	0.90	G	Surficial aquifer	Desalination (0.90 Mgal/d)
Knight Island Utilities Inc.		Charlotte	Sarasota Bay	310	0.17	0.17	G	Intermediate aquifer	Desalination (0.17 Mgal/d)
Punta Gorda, city of		Charlotte	Peace River	23,501	3.17	3.17	S	Shell Creek	
Rotonda West Utility Corp.		Charlotte	Sarasota Bay	5,858	0.61	0.61	G	Intermediate aquifer	Desalination (0.61 Mgal/d)
Southern States Utilities	Burnt Store	Charlotte	Charlotte Harbor	1,189	0.16	0.16	G	Intermediate aquifer	Desalination (0.16 Mgal/d)
Southern States Utilities	Deep Creek	Charlotte	Peace River	N/A	0.00	N/A	P	Charlotte County Utilities	
ADG Crystal Point W/A		Citrus	Crystal-Pithlachascotee Rivers	43	0.01	0.01	G	Floridan aquifer system	
Cinnamon Ridge Utilities		Citrus	Crystal-Pithlachascotee Rivers	476	0.04	0.04	G	Floridan aquifer system	
Crystal River, city of		Citrus	Crystal-Pithlachascotee Rivers	4,056	0.68	0.68	G	Floridan aquifer system	
Floral City W/A		Citrus	Withlacoochee River	3,922	0.30	0.30	G	Floridan aquifer system	
Greenbriar Condo W/A		Citrus	Withlacoochee River	270	0.05	0.09	G/P	Floridan aquifer system	Purchased (0.04 Mgal/d)

APPENDIX I. Public supply population served, water withdrawn and use, and water source by utility in Florida, 1995

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Homosassa Special W/D		Citrus	Crystal-Pithlachascotee Rivers	3,533	0.63	0.63	G	Floridan aquifer system	
Inverness, city of		Citrus	Withlacoochee River	6,644	1.18	1.17	G	Floridan aquifer system	Sold (0.01 Mgal/d) to Golden Terrace
Rolling Oaks Utilities		Citrus	Withlacoochee River	13,115	2.31	2.31	G	Floridan aquifer system	
Southern States Utilities	Apache Shores	Citrus	Withlacoochee River	44	0.02	0.02	G	Floridan aquifer system	
Southern States Utilities	Citrus Springs	Citrus	Withlacoochee River	6,213	1.00	1.00	G	Floridan aquifer system	
Southern States Utilities	Golden Terrace	Citrus	Withlacoochee River	252	0.01	0.01	P	Inverness, city of	
Southern States Utilities	Oak Forest	Citrus	Withlacoochee River	334	0.05	0.05	G	Floridan aquifer system	
Southern States Utilities	Point O Woods	Citrus	Withlacoochee River	309	0.07	0.07	G	Floridan aquifer system	
Southern States Utilities	Rosemont/Rolling Green	Citrus	Withlacoochee River	379	0.06	0.06	G	Floridan aquifer system	
Southern States Utilities	Sugar Mill Woods	Citrus	Crystal-Pithlachascotee Rivers	4,665	1.09	1.09	G	Floridan aquifer system	
WRWSA	Meadowcrest	Citrus	Withlacoochee River	12,638	2.14	2.10	G	Floridan aquifer system	Sold (0.04 Mgal/d) to Greenbriar Condo W/A
Black Creek W/S		Clay	Lower St. Johns River	111	0.03	0.03	G	Floridan aquifer system	
Clay County Utility Auth.	Fleming Oaks	Clay	Lower St. Johns River	6,150	0.35	0.35	G	Floridan aquifer system	
Clay County Utility Auth.	Greenwood	Clay	Lower St. Johns River	3,523	0.29	0.29	G	Floridan aquifer system	
Clay County Utility Auth.	Lucy Branch	Clay	Lower St. Johns River	N/A	1.28	1.28	G	Floridan aquifer system	Population served included under Ridgecrest
Clay County Utility Auth.	Meadowbrook	Clay	Lower St. Johns River	N/A	2.00	2.00	G	Floridan aquifer system	Population served included under Ridgecrest
Clay County Utility Auth.	Mid-Clay	Clay	Lower St. Johns River	2,670	0.29	0.29	G	Floridan aquifer system	
Clay County Utility Auth.	Orange Park South	Clay	Lower St. Johns River	3,885	0.36	0.36	G	Floridan aquifer system	
Clay County Utility Auth.	Pace Island	Clay	Lower St. Johns River	6,150	0.58	0.58	G	Floridan aquifer system	
Clay County Utility Auth.	Pier Station	Clay	Lower St. Johns River	177	0.04	0.04	G	Floridan aquifer system	
Clay County Utility Auth.	Ridaught Landing	Clay	Lower St. Johns River	2,391	0.20	0.20	G	Floridan aquifer system	
Clay County Utility Auth.	Ridgecrest	Clay	Lower St. Johns River	43,605	3.02	3.02	G	Floridan aquifer system	
Clay County Utility Auth.	Tanglewood	Clay	Lower St. Johns River	4,181	0.40	0.40	G	Floridan aquifer system	
Clay County Utility Auth.	The Ravines	Clay	Lower St. Johns River	182	0.06	0.06	G	Floridan aquifer system	
Clay Utilities Inc.		Clay	Lower St. Johns River	128	0.01	0.01	G	Floridan aquifer system	
Green Cove Springs, city of		Clay	Lower St. Johns River	4,847	0.91	0.91	G	Floridan aquifer system	
Magnolia Apartments W/S		Clay	Lower St. Johns River	821	0.08	0.08	G	Floridan aquifer system	
McRae Landing W/S		Clay	Lower St. Johns River	251	0.03	0.03	G	Floridan aquifer system	
Orange Park, town of		Clay	Lower St. Johns River	9,514	1.62	1.62	G	Floridan aquifer system	
Penney Farms, town of		Clay	Lower St. Johns River	638	0.04	0.04	G	Floridan aquifer system	
Penney Retirement Com.		Clay	Lower St. Johns River	400	0.07	0.07	G	Floridan aquifer system	
Southern States Utilities	Keystone Heights	Clay	Lower St. Johns River	3,109	0.34	0.34	G	Floridan aquifer system	
Southern States Utilities	Postmaster Village	Clay	Lower St. Johns River	498	0.04	0.04	G	Floridan aquifer system	
Collier County Utilities		Collier	Big Cypress Swamp	62,300	14.72	14.72	G	Intermediate aquifer	Desalination (5.79 Mgal/d)
Everglades City, city of		Collier	Big Cypress Swamp	1,020	0.12	0.12	G	Surficial aquifer	
Florida Cities Water Company	Golden Gate	Collier	Big Cypress Swamp	6,269	1.09	1.09	G	Intermediate aquifer	
Immokalee W/S		Collier	Big Cypress Swamp	20,496	2.49	2.49	G	Surficial aquifer	
Naples, city of		Collier	Big Cypress Swamp	52,000	15.24	15.24	G	Intermediate aquifer	Surficial aquifer (3.84 Mgal/d)
Orangetree Utility Company	Orangetree	Collier	Big Cypress Swamp	341	0.04	0.04	G	Intermediate aquifer	
Southern States Utilities	Marco Island	Collier	Big Cypress Swamp	20,000	5.50	5.50	S/G	Warren Brothers Pit	Floridan aquifer system/desalination (2.75 Mgal/d)
Southern States Utilities	Marco Shores	Collier	Big Cypress Swamp	970	0.10	0.10	S	Warren Brothers Pit	
Azalea Park S/D		Columbia	Santa Fe River	221	0.03	0.03	G	Floridan aquifer system	
Clayton Smith W/S		Columbia	Santa Fe River	471	0.09	0.09	G	Floridan aquifer system	
College Manor S/D		Columbia	Santa Fe River	138	0.01	0.01	G	Floridan aquifer system	
Lake City, city of		Columbia	Santa Fe River	16,721	2.46	2.46	G	Floridan aquifer system	
Melton Bishop S/D		Columbia	Santa Fe River	1,301	0.16	0.16	G	Floridan aquifer system	
Quail Heights		Columbia	Santa Fe River	125	0.02	0.02	G	Floridan aquifer system	
Seally-Pine Ridge S/D		Columbia	Upper Suwannee River	122	0.02	0.02	G	Floridan aquifer system	
Shady Oaks MHP		Columbia	Santa Fe River	258	0.02	0.02	G	Floridan aquifer system	
Verndale Apartments		Columbia	Santa Fe River	40	0.03	0.03	G	Floridan aquifer system	
Woodgate Village S/D		Columbia	Upper Suwannee River	173	0.03	0.03	G	Floridan aquifer system	
American Village MHP		Dade	Everglades	331	0.21	0.21	G	Biscayne aquifer	

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Florida City, city of		Dade	Everglades	9,445	2.30	2.30	G	Biscayne aquifer	
Jones Trailer Park		Dade	Everglades	166	0.02	0.02	G	Biscayne aquifer	
Homestead, city of		Dade	Everglades	26,700	6.45	6.45	G	Biscayne aquifer	
Miami-Dade WSA	Main and Rex Systems	Dade	Everglades	1,414,795	340.98	N/A	G	Biscayne aquifer	
Bal Harbour, city of		Dade	Everglades	2,907	0.00	N/A	P	Miami-Dade WSA	
Bay Harbor Islands, town of		Dade	Everglades	4,791	0.00	N/A	P	Miami-Dade WSA	
Hialeah Gardens, city of		Dade	Everglades	7,500	0.00	N/A	P	Miami-Dade WSA	
Hialeah, city of		Dade	Everglades	142,000	0.00	N/A	P	Miami-Dade WSA	
Indian Creek, village of		Dade	Everglades	103	0.00	N/A	P	Miami-Dade WSA	
Medley, town of		Dade	Everglades	12,800	0.00	N/A	P	Miami-Dade WSA	
Miami Beach, city of		Dade	Everglades	96,000	0.00	N/A	P	Miami-Dade WSA	
Miami Springs, city of		Dade	Everglades	14,000	0.00	N/A	P	Miami-Dade WSA	
North Bay Village, city of		Dade	Everglades	5,800	0.00	N/A	P	Miami-Dade WSA	
Opa-Locka, city of		Dade	Everglades	15,250	0.00	N/A	P	Miami-Dade WSA	
Surfside, town of		Dade	Everglades	4,290	0.00	N/A	P	Miami-Dade WSA	
Virginia Gardens, village of		Dade	Everglades	2,212	0.00	N/A	P	Miami-Dade WSA	
West Miami, city of		Dade	Everglades	5,700	0.00	N/A	P	Miami-Dade WSA	
North Miami, city of		Dade	Everglades	56,675	7.18	7.18	G	Biscayne aquifer	
North Miami Beach, city of		Dade	Everglades	125,800	15.39	15.39	G	Biscayne aquifer	
Arcadia, city of		De Soto	Peace River	6,608	0.94	0.94	G	Floridan aquifer system	
PRMSRWSA		De Soto	Peace River	1,154	7.89	0.12	S	Peace River	Sold (7.77 Mgal/d) Charlotte County Utilities/Northport
Cross City, town of		Dixie	Econfina-Steinhatchee Rivers	2,816	0.50	0.50	G	Floridan aquifer system	
Horseshoe Beach W/A		Dixie	Econfina-Steinhatchee Rivers	186	0.04	0.04	G	Floridan aquifer system	
Shady Oaks TP		Dixie	Econfina-Steinhatchee Rivers	96	0.01	0.01	G	Floridan aquifer system	
Suwannee, town of		Dixie	Econfina-Steinhatchee Rivers	1,114	0.09	0.09	G	Floridan aquifer system	
Atlantic Beach, city of		Duval	Lower St. Johns River	15,833	3.15	3.15	G	Floridan aquifer system	
Azelea MHP		Duval	Lower St. Johns River	330	0.04	0.04	G	Floridan aquifer system	
Baldwin, town of		Duval	St. Marys River	1,546	0.22	0.22	G	Floridan aquifer system	
Baptist Home for Children		Duval	Lower St. Johns River	100	0.03	0.03	G	Floridan aquifer system	
Buccaneer TP		Duval	Lower St. Johns River	508	0.05	0.05	G	Floridan aquifer system	
Colonial Apartments		Duval	Lower St. Johns River	231	0.02	0.02	G	Floridan aquifer system	
Country Roads MHP		Duval	Lower St. Johns River	445	0.08	0.08	G	Floridan aquifer system	
Jacksonville Beach, city of		Duval	Lower St. Johns River	20,135	2.90	2.90	G	Floridan aquifer system	
Jacksonville, city of		Duval	Lower St. Johns River	481,634	75.28	75.28	G	Floridan aquifer system	1995 estimates are the totals for all Facility/Plants
Jacksonville, city of	Arbor Point	Duval	Lower St. Johns River	N/A	0.10	N/A	G	Floridan aquifer system	
Jacksonville, city of	Argyle Forest	Duval	Lower St. Johns River	N/A	0.43	N/A	G	Floridan aquifer system	
Jacksonville, city of	Arlington	Duval	Lower St. Johns River	N/A	5.46	N/A	G	Floridan aquifer system	
Jacksonville, city of	Community Hall	Duval	Lower St. Johns River	N/A	4.19	N/A	G	Floridan aquifer system	
Jacksonville, city of	Deerwood #1	Duval	Lower St. Johns River	N/A	0.04	N/A	G	Floridan aquifer system	
Jacksonville, city of	Deerwood #3	Duval	Lower St. Johns River	N/A	3.17	N/A	G	Floridan aquifer system	
Jacksonville, city of	Fairfax	Duval	Lower St. Johns River	N/A	4.30	N/A	G	Floridan aquifer system	
Jacksonville, city of	Hendrix	Duval	Lower St. Johns River	N/A	1.47	N/A	G	Floridan aquifer system	
Jacksonville, city of	Highlands	Duval	Lower St. Johns River	N/A	7.08	N/A	G	Floridan aquifer system	
Jacksonville, city of	Hood Landing	Duval	Lower St. Johns River	N/A	0.00	N/A	G	Floridan aquifer system	
Jacksonville, city of	Julington Hills	Duval	Lower St. Johns River	N/A	0.04	N/A	G	Floridan aquifer system	
Jacksonville, city of	Lake Shore	Duval	Lower St. Johns River	N/A	1.10	N/A	G	Floridan aquifer system	
Jacksonville, city of	Lovegrove	Duval	Lower St. Johns River	N/A	3.67	N/A	G	Floridan aquifer system	
Jacksonville, city of	Main Street	Duval	Lower St. Johns River	N/A	5.17	N/A	G	Floridan aquifer system	
Jacksonville, city of	Mandarin Point	Duval	Lower St. Johns River	N/A	0.16	N/A	G	Floridan aquifer system	
Jacksonville, city of	Mandarin Terrace	Duval	Lower St. Johns River	N/A	0.12	N/A	G	Floridan aquifer system	
Jacksonville, city of	Marietta	Duval	Lower St. Johns River	N/A	7.78	N/A	G	Floridan aquifer system	
Jacksonville, city of	McDuff	Duval	Lower St. Johns River	N/A	5.35	N/A	G	Floridan aquifer system	

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Jacksonville, city of	Norwood	Duval	Lower St. Johns River	N/A	2.67	N/A	G	Floridan aquifer system	
Jacksonville, city of	Oakridge	Duval	Lower St. Johns River	N/A	5.45	N/A	G	Floridan aquifer system	
Jacksonville, city of	Pickwick Park	Duval	Lower St. Johns River	N/A	2.35	N/A	G	Floridan aquifer system	
Jacksonville, city of	River Oaks	Duval	Lower St. Johns River	N/A	3.11	N/A	G	Floridan aquifer system	
Jacksonville, city of	Satellites	Duval	Lower St. Johns River	N/A	3.85	N/A	G	Floridan aquifer system	
Jacksonville, city of	Southeast	Duval	Lower St. Johns River	N/A	1.23	N/A	G	Floridan aquifer system	
Jacksonville, city of	Southwest	Duval	Lower St. Johns River	N/A	6.89	N/A	G	Floridan aquifer system	
Jacksonville, city of	Southwood	Duval	Lower St. Johns River	N/A	0.07	N/A	G	Floridan aquifer system	
Jacksonville, city of	Suni Pines	Duval	Lower St. Johns River	N/A	0.03	N/A	G	Floridan aquifer system	
Lamplighter MHP		Duval	Lower St. Johns River	743	0.06	0.06	G	Floridan aquifer system	
Malibu Gardens Apartments		Duval	Lower St. Johns River	264	0.02	0.02	G	Floridan aquifer system	
Neighborhood Utilities	Timber Creek	Duval	Lower St. Johns River	627	0.05	0.05	G	Floridan aquifer system	
Neptune Beach, city of		Duval	Lower St. Johns River	7,423	1.21	1.21	G	Floridan aquifer system	
Normandy Village Utilities		Duval	Lower St. Johns River	4,272	0.39	0.39	G	Floridan aquifer system	
Oaks of Atlantic Beach MHP		Duval	Lower St. Johns River	559	0.08	0.08	G	Floridan aquifer system	
Ortega Utilities	Airport	Duval	Lower St. Johns River	1,630	0.17	0.17	G	Floridan aquifer system	
Ortega Utilities	Blanding	Duval	Lower St. Johns River	7,434	0.77	0.77	G	Floridan aquifer system	
Regency Utilities		Duval	Lower St. Johns River	5,019	0.00	0.00	G	Floridan aquifer system	
Southern States Utilities	Beacon Hills	Duval	Lower St. Johns River	5,404	0.68	0.68	G	Floridan aquifer system	
Southern States Utilities	Cobblestone	Duval	Lower St. Johns River	5,533	0.60	0.60	G	Floridan aquifer system	
Southern States Utilities	Woodmere	Duval	Lower St. Johns River	4,105	0.55	0.55	G	Floridan aquifer system	
United Water of Florida Inc.		Duval	Lower St. Johns River	77,999	12.30	12.30	G	Floridan aquifer system	1995 estimates are the totals for all Facility/Plants
United Water of Florida Inc.	A1A North	Duval	Lower St. Johns River	N/A	0.01	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	A1A South	Duval	Lower St. Johns River	N/A	0.01	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Alderman Park	Duval	Lower St. Johns River	N/A	0.46	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Jail	Duval	Lower St. Johns River	N/A	0.02	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Columbine	Duval	Lower St. Johns River	N/A	0.54	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Amaco	Duval	Lower St. Johns River	N/A	0.00	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Elvia	Duval	Lower St. Johns River	N/A	0.77	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Forest Brook	Duval	Lower St. Johns River	N/A	0.05	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Green Fern	Duval	Lower St. Johns River	N/A	0.00	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Green Forest	Duval	Lower St. Johns River	N/A	0.29	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Holly Oaks S/D	Duval	Lower St. Johns River	N/A	0.00	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Hyde Grove	Duval	Lower St. Johns River	N/A	0.15	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Lake Forest	Duval	Lower St. Johns River	N/A	0.17	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Lake Lucina	Duval	Lower St. Johns River	N/A	0.64	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Lofton Oaks	Duval	Lower St. Johns River	N/A	0.01	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Magnolia Gardens	Duval	Lower St. Johns River	N/A	0.17	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Marshview	Duval	Lower St. Johns River	N/A	0.47	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Monument Road	Duval	Lower St. Johns River	N/A	0.98	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Oak Hill	Duval	Lower St. Johns River	N/A	0.29	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Ortega Hills S/D	Duval	Lower St. Johns River	N/A	0.12	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Ponte Vedra North	Duval	Lower St. Johns River	N/A	0.31	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Queen Acres	Duval	Lower St. Johns River	N/A	0.15	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Royal Lakes S/D	Duval	Lower St. Johns River	N/A	3.17	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	San Jose S/D	Duval	Lower St. Johns River	N/A	2.19	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	St. Johns North	Duval	Lower St. Johns River	N/A	0.34	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	University Park	Duval	Lower St. Johns River	N/A	0.28	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Venetia Terrace	Duval	Lower St. Johns River	N/A	0.05	N/A	G	Floridan aquifer system	
United Water of Florida Inc.	Wheat Road	Duval	Lower St. Johns River	N/A	0.66	N/A	G	Floridan aquifer system	
Bratt-Davisville W/S		Escambia	Escambia River	3,118	0.20	0.20	G	Sand-and-gravel aquifer	
Central Water Works		Escambia	Perdido River	2,996	0.26	0.26	G	Sand-and-gravel aquifer	

APPENDIX I. Public supply population served, water withdrawn and use, and water source by utility in Florida, 1995

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Century Utilities		Escambia	Escambia River	3,086	0.51	0.51	G	Sand-and-gravel aquifer	
Cottage Hill Utilities		Escambia	Escambia River	2,657	0.33	0.33	G	Sand-and-gravel aquifer	
Escambia County Utility Auth.		Escambia	Pensacola Bay	197,923	32.90	32.28	G	Sand-and-gravel aquifer	Sold (0.62 Mgal/d) to Gulf Breeze and Saufley Field
Farm Hill Utilities		Escambia	Escambia River	2,891	0.29	0.29	G	Sand-and-gravel aquifer	
Gonzalez Utilities		Escambia	Perdido Bay	3,169	0.39	0.39	G	Sand-and-gravel aquifer	
Molino Utilities		Escambia	Escambia River	4,410	0.58	0.58	G	Sand-and-gravel aquifer	
Navarre Beach W/S		Escambia	Pensacola Bay	7,008	0.00	N/A	P	Escambia County Utility Auth.	
Peoples Water Company		Escambia	Pensacola Bay	25,589	2.08	2.08	G	Sand-and-gravel aquifer	
Santa Rosa Island W/S		Escambia	Pensacola Bay	4,869	0.20	0.40	P/G	Midway W/S	Sand-and-gravel aquifer (0.20 Mgal/d)
Walnut Hill Water Works		Escambia	Perdido River	1,671	0.19	0.19	G	Sand-and-gravel aquifer	
Bunnell, city of		Flagler	Lower St. Johns River	2,087	0.25	0.25	G	Floridan aquifer system	
Flagler Beach, city of		Flagler	Daytona-St. Augustine Coastal	4,175	0.49	0.49	G	Floridan aquifer system	
Ocean City Utilities	Beverly Beach	Flagler	Daytona-St. Augustine Coastal	322	0.05	0.05	G	Floridan aquifer system	
Palm Coast Utilities		Flagler	Daytona-St. Augustine Coastal	18,852	3.66	3.66	G	Surficial aquifer	Floridan aquifer system (0.74 Mgal/d)
Plantation Bay W/S		Flagler	Daytona-St. Augustine Coastal	777	0.06	0.06	G	Floridan aquifer system	
Alligator Point W/D		Franklin	New River	980	0.12	0.12	G	Floridan aquifer system	
Apalachicola, city of		Franklin	Apalachicola River	2,774	0.70	0.70	G	Floridan aquifer system	
Carrabelle, city of		Franklin	New River	800	0.17	0.17	G	Floridan aquifer system	
East Point, town of		Franklin	New River	1,100	0.21	0.21	G	Floridan aquifer system	
Lanark Village W/S		Franklin	New River	1,074	0.20	0.20	G	Floridan aquifer system	
St. George Island Utilities		Franklin	Apalachicola Bay	1,624	0.35	0.35	G	Floridan aquifer system	
Chattahoochee, city of		Gadsden	Apalachicola River	4,259	0.91	0.91	G	Floridan aquifer system	
Greensboro, town of		Gadsden	Lower Ochlockonee River	580	0.08	0.08	G	Floridan aquifer system	
Gretna, town of		Gadsden	Lower Ochlockonee River	1,960	0.25	0.25	G	Floridan aquifer system	
Havana, town of		Gadsden	Lower Ochlockonee River	3,766	0.58	0.58	G	Floridan aquifer system	
Joyland S/D		Gadsden	Lower Ochlockonee River	133	0.02	0.02	G	Floridan aquifer system	
Quincy, city of		Gadsden	Lower Ochlockonee River	11,008	1.44	1.44	S/G	Quincy Creek	Floridan aquifer system (0.01 Mgal/d)
Rentz MHP		Gadsden	Lower Ochlockonee River	118	0.01	0.01	G	Floridan aquifer system	
Talquin Electric Cooperative	Atlanta Street	Gadsden	Lower Ochlockonee River	289	0.00	N/A	P	N/A	
Talquin Electric Cooperative	Hammock Creek	Gadsden	Lower Ochlockonee River	35	0.00	0.00	G	Floridan aquifer system	
Talquin Electric Cooperative	Hinson Heights	Gadsden	Lower Ochlockonee River	145	0.00	N/A	P	N/A	
Talquin Electric Cooperative	Jamison	Gadsden	Lower Ochlockonee River	90	0.01	0.01	G	Floridan aquifer system	
Talquin Electric Cooperative	Scottstown	Gadsden	Lower Ochlockonee River	2,295	0.27	0.27	G	Floridan aquifer system	
Talquin Electric Cooperative	Shiloh	Gadsden	Lower Ochlockonee River	2,916	0.27	0.27	G	Floridan aquifer system	
Talquin Electric Cooperative	St. James	Gadsden	Lower Ochlockonee River	81	0.01	0.01	G	Floridan aquifer system	
Trenton, city of		Gilchrist	Lower Suwannee River	1,765	0.22	0.22	G	Floridan aquifer system	
Lakeport W/A		Glades	Caloosahatchee River	1,091	0.11	0.11	G	Intermediate aquifer	
Moore Haven, city of		Glades	Caloosahatchee River	2,365	0.27	0.27	G	Intermediate aquifer	
Lighthouse Utilities Inc.	Cape San Blas	Gulf	St. Andrews-St. Joseph Bays	1,400	0.11	0.11	G	Floridan aquifer system	
Port St. Joe, city of		Gulf	St. Andrews-St. Joseph Bays	6,887	1.04	N/A	G	Floridan aquifer system	Surficial aquifer (0.52 Mgal/d)
Highland View W/S		Gulf	St. Andrews-St. Joseph Bays	768	0.00	N/A	P	Port St. Joe, city of	
St. Joe Beach W/S		Gulf	St. Andrews-St. Joseph Bays	1,119	0.00	N/A	P	Port St. Joe, city of	
White City		Gulf	St. Andrews-St. Joseph Bays	443	0.00	N/A	P	Port St. Joe, city of	
Wewahitchka, city of		Gulf	Chipola River	1,821	0.13	0.13	G	Floridan aquifer system	
Jasper, city of		Hamilton	Upper Suwannee River	4,215	0.62	0.62	G	Floridan aquifer system	
Jennings, town of		Hamilton	Alapaha River	966	0.13	0.13	G	Floridan aquifer system	
White Springs, town of		Hamilton	Upper Suwannee River	1,161	0.12	0.12	G	Floridan aquifer system	
Bowling Green, city of		Hardee	Peace River	1,959	0.29	0.29	G	Floridan aquifer system	
Wauchula, city of		Hardee	Peace River	5,436	0.86	0.86	G	Floridan aquifer system	
Zolfo Springs, city of		Hardee	Peace River	1,279	0.22	0.22	G	Floridan aquifer system	
U.S. Sugar Corp.		Hendry	Everglades	N/A	N/A	N/A	S	Lake Okeechobee	
Clewiston, city of		Hendry	Everglades	14,212	0.00	3.25	P	U.S. Sugar Company	
South Shore Utilities		Hendry	Everglades	3,642	0.00	N/A	P	U.S. Sugar Company	

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
General Development Utilities	Port La Belle	Hendry	Caloosahatchee River	1,980	0.18	0.18	G	Intermediate aquifer	
La Belle, city of		Hendry	Caloosahatchee River	4,634	0.59	0.59	G	Surficial aquifer	
Brooksville, town of		Hernando	Crystal-Pithlachascotee Rivers	10,725	1.66	1.66	G	Floridan aquifer system	
Hernando County Water/Sewer		Hernando	Withlacoochee River	37,120	5.69	5.69	G	Floridan aquifer system	
Southern States Utilities	Spring Hill	Hernando	Crystal-Pithlachascotee Rivers	58,724	9.06	9.06	G	Floridan aquifer system	
Avon Park, city of		Highlands	Kissimmee River	16,141	1.79	1.79	G	Floridan aquifer system	
Avon Park/Pine Acres		Highlands	Kissimmee River	940	0.06	0.06	G	Floridan aquifer system	
Crystal Lake Golf Club		Highlands	Kissimmee River	557	0.13	0.13	G	Floridan aquifer system	
Heartland Utilities	De Soto City	Highlands	Kissimmee River	714	0.09	0.09	G	Floridan aquifer system	
Heartland Utilities	Sebring Estates	Highlands	Kissimmee River	696	0.08	0.08	G	Floridan aquifer system	
Hidden Acres Estates		Highlands	Kissimmee River	274	0.02	0.02	G	Floridan aquifer system	
Highlands Ridge (Bonnet)		Highlands	Kissimmee River	255	0.11	0.11	G	Floridan aquifer system	
Highlands Ridge W/A		Highlands	Kissimmee River	344	0.10	0.10	G	Floridan aquifer system	
Lake Bonnet Village		Highlands	Kissimmee River	788	0.03	0.03	G	Floridan aquifer system	
Lake Josephine Heights W/S		Highlands	Kissimmee River	956	0.09	0.09	G	Floridan aquifer system	
Lake Placid Camp		Highlands	Kissimmee River	201	0.06	0.06	G	Floridan aquifer system	
Lake Placid Holding Company		Highlands	Kissimmee River	2,110	0.23	0.23	G	Floridan aquifer system	
Lake Placid, town of		Highlands	Kissimmee River	3,645	0.56	0.56	G	Floridan aquifer system	
Placid Utilitiy Company		Highlands	Kissimmee River	1,311	0.41	0.41	G	Floridan aquifer system	
Pugh Utilities	Buttonwood Bay	Highlands	Kissimmee River	1,407	0.21	0.21	G	Floridan aquifer system	
Sebring Ridge Utilities		Highlands	Kissimmee River	1,382	0.20	0.20	G	Floridan aquifer system	
Sebring, city of		Highlands	Kissimmee River	24,136	3.30	3.30	G	Floridan aquifer system	
Short Utilities	Sebring Country Club	Highlands	Kissimmee River	400	0.39	0.39	G	Floridan aquifer system	
Southern States Utilities	Highlands W/S	Highlands	Kissimmee River	920	0.03	0.03	G	Floridan aquifer system	
Spring Lake I/D		Highlands	Kissimmee River	2,400	0.19	0.19	G	Floridan aquifer system	
Sun'N Lake of Sebring		Highlands	Kissimmee River	3,373	0.78	0.78	G	Floridan aquifer system	
The Palms Estates		Highlands	Kissimmee River	190	0.02	0.02	G	Floridan aquifer system	
Tropical W/S		Highlands	Kissimmee River	721	0.05	0.05	G	Floridan aquifer system	
Allied Utilities		Hillsborough	Tampa Bay	2,767	0.24	0.24	G	Floridan aquifer system	
Bay Hills Village		Hillsborough	Tampa Bay	133	0.02	0.02	G	Floridan aquifer system	
Country Meadow Estates		Hillsborough	Tampa Bay	2,456	0.12	0.12	G	Floridan aquifer system	
Davpam MHP		Hillsborough	Tampa Bay	1,004	0.10	0.10	G	Floridan aquifer system	
Eagle Utility Company		Hillsborough	Tampa Bay	268	0.02	0.02	G	Floridan aquifer system	
Featherock MHP		Hillsborough	Tampa Bay	664	0.13	0.13	G	Floridan aquifer system	
Florida Cities Water Company	Carrollwood	Hillsborough	Tampa Bay	3,438	0.59	0.59	G	Floridan aquifer system	
Hillsborough County Utilities	Crystal Lake	Hillsborough	Hillsborough River	495	0.10	0.10	G	Floridan aquifer system	
Little Manatee Island MHP		Hillsborough	Little Manatee River	200	0.01	0.01	G	Floridan aquifer system	
Neptune Partners LTD.		Hillsborough	Tampa Bay	139	0.02	0.02	G	Floridan aquifer system	
Paradise Village of Tampa		Hillsborough	Tampa Bay	1,444	0.12	0.12	G	Floridan aquifer system	
Parkwood Estates		Hillsborough	Hillsborough River	95	0.02	0.02	G	Floridan aquifer system	
Pebble Creek Service Corp.	Pebble Creek Village	Hillsborough	Hillsborough River	2,671	0.00	0.32	P	N/A	
Plant City, city of		Hillsborough	Hillsborough River	25,465	5.18	5.18	G	Floridan aquifer system	
Southern States Utilities	Seaboard Utilities	Hillsborough	Alafia River	6,383	0.25	0.67	P/G	N/A	Floridan aquifer system (0.25 Mgal/d)
Southern States Utilities	Valrico Hills	Hillsborough	Tampa Bay	889	0.15	0.15	G	Floridan aquifer system	
Tampa, city of		Hillsborough	Hillsborough River	431,520	66.61	65.80	S	Hillsborough River	Sold (0.81 Mgal/d)
Temple Terrace, city of		Hillsborough	Hillsborough River	25,785	3.48	3.48	G	Floridan aquifer system	
WCRWSA	Northeast Brandon	Hillsborough	Hillsborough River	N/A	0.02	0.00	G	Floridan aquifer system	Sold (0.02 Mgal/d)
WCRWSA	Northwest Hillsborough	Hillsborough	Hillsborough River	118,478	8.73	18.33	G/P	Floridan aquifer system	Purchased (13.55 Mgal/d) and sold (3.95 Mgal/d)
WCRWSA	South Central Hillsborough	Hillsborough	Little Manatee River	164,424	18.19	18.21	G/P	Floridan aquifer system	Purchased (0.02 Mgal/d)
WCRWSA	Tampa Bypass	Hillsborough	Hillsborough River	N/A	2.66	0.00	S	Tampa Bypass Canal	Sold (2.66 Mgal/d)
Wilder Corp.	Southern Aire	Hillsborough	Tampa Bay	326	0.02	0.02	G	Floridan aquifer system	
Wilder Corp.	Hawaiian Isles	Hillsborough	Tampa Bay	628	0.03	0.03	G	Floridan aquifer system	

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Windemere Utility Company	Scarecrow Utitities	Hillsborough	Hillsborough River	2,510	0.42	0.42	G	Floridan aquifer system	
Bonifay, city of		Holmes	Lower Choctawhatchee River	3,600	0.94	0.94	G	Floridan aquifer system	
Dogwood Estates		Holmes	Lower Choctawhatchee River	300	0.05	0.05	G	Floridan aquifer system	
Esto, town of		Holmes	Lower Choctawhatchee River	356	0.03	0.03	G	Floridan aquifer system	
Noma, town of		Holmes	Lower Choctawhatchee River	230	0.05	0.05	G	Floridan aquifer system	
Ponce De Leon, town of		Holmes	Lower Choctawhatchee River	614	0.07	0.07	G	Floridan aquifer system	
Westville, town of		Holmes	Lower Choctawhatchee River	260	0.04	0.04	G	Floridan aquifer system	
Aspen Whispering Pines		Indian River	Vero Beach Coastal	300	0.02	0.02	G	Floridan aquifer system	Desalination (0.02 Mgal/d)
Countryside North MHP		Indian River	Vero Beach Coastal	1,000	0.03	0.03	G	Surficial aquifer	
Fellsmere, city of		Indian River	Vero Beach Coastal	2,354	0.19	0.19	G	Floridan aquifer system	
Indian River County Utilities	Copelands Landing	Indian River	Vero Beach Coastal	18	0.01	0.01	G	Floridan aquifer system	Desalination (0.01 Mgal/d) (began in 3-96)
Indian River County Utilities	Hobert Landing	Indian River	Vero Beach Coastal	95	0.01	0.01	G	Floridan aquifer system	Desalination (0.01 Mgal/d)
Indian River County Utilities	North Beach	Indian River	Vero Beach Coastal	2,015	0.40	0.40	G	Floridan aquifer system	Desalination (0.40 Mgal/d)
Indian River County Utilities	South	Indian River	Vero Beach Coastal	17,287	3.33	3.33	G	Floridan aquifer system	Desalination (3.33 Mgal/d)
Lakewood Village W/S		Indian River	Vero Beach Coastal	876	0.02	0.02	G	Floridan aquifer system	Desalination (0.02 Mgal/d)
Oyster Point W/S		Indian River	Vero Beach Coastal	58	0.03	0.03	G	Floridan aquifer system	
Sebastian Highlands W/S		Indian River	Vero Beach Coastal	3,246	0.36	0.36	G	Floridan aquifer system	
Vero Beach, city of		Indian River	Vero Beach Coastal	34,641	6.76	6.76	G	Surficial aquifer	Floridan aquifer system/desalination (2.23 Mgal/d)
Alford, city of		Jackson	Chipola River	558	0.05	0.05	G	Floridan aquifer system	
Campbellton, town of		Jackson	Chipola River	330	0.03	0.03	G	Floridan aquifer system	
Cottondale, city of		Jackson	Chipola River	1,148	0.15	0.15	G	Floridan aquifer system	
Graceville, city of		Jackson	Lower Choctawhatchee River	2,675	0.38	0.38	G	Floridan aquifer system	
Grand Ridge, town of		Jackson	Apalachicola River	765	0.09	0.09	G	Floridan aquifer system	
Greenwood, town of		Jackson	Chipola River	671	0.08	0.08	G	Floridan aquifer system	
Jacobs Community W/S		Jackson	Chipola River	308	0.03	0.03	G	Floridan aquifer system	
Malone, town of		Jackson	Chipola River	885	0.07	0.07	G	Floridan aquifer system	
Marianna, city of		Jackson	Chipola River	6,724	1.18	1.18	G	Floridan aquifer system	
Sneads, town of		Jackson	Apalachicola River	2,206	0.25	0.25	G	Floridan aquifer system	
Lloyd W/S		Jefferson	Apalachee Bay-St. Marks River	64	0.01	0.01	G	Floridan aquifer system	
Monticello, city of		Jefferson	Apalachee Bay-St. Marks River	4,788	0.70	0.70	G	Floridan aquifer system	
Mayo, town of		Lafayette	Econfina-Steinhatchee Rivers	1,225	0.18	0.18	G	Floridan aquifer system	
Astor Park W/S		Lake	Upper St. Johns River	2,600	0.27	0.27	G	Floridan aquifer system	
Bonfire MHP		Lake	Oklawaha River	312	0.05	0.05	G	Floridan aquifer system	
Brendenwood W/S		Lake	Oklawaha River	159	0.04	0.04	G	Floridan aquifer system	
Brittany Estates		Lake	Oklawaha River	461	0.06	0.06	G	Floridan aquifer system	
B's RV Resort		Lake	Oklawaha River	503	0.02	0.02	G	Floridan aquifer system	
Century Estates		Lake	Oklawaha River	250	0.03	0.03	G	Floridan aquifer system	
Chain O'Lakes MHP		Lake	Oklawaha River	692	0.06	0.06	G	Floridan aquifer system	
Chateau Orange-Lake MHP		Lake	Oklawaha River	384	0.13	0.13	G	Floridan aquifer system	
Citrus Cove S/D		Lake	Oklawaha River	82	0.06	0.06	G	Floridan aquifer system	
Clerbrook RV Resort		Lake	Oklawaha River	1,200	0.14	0.14	G	Floridan aquifer system	
Clermont East W/S		Lake	Oklawaha River	1,995	0.28	0.28	G	Floridan aquifer system	
Clermont, city of		Lake	Oklawaha River	7,233	1.35	1.35	G	Floridan aquifer system	
Corley Island MHP		Lake	Oklawaha River	500	0.04	0.04	G	Floridan aquifer system	
Country Life Family Park		Lake	Oklawaha River	220	0.07	0.07	G	Floridan aquifer system	
Country Squire MHP		Lake	Upper St. Johns River	257	0.03	0.03	G	Floridan aquifer system	
Cresent West S/D		Lake	Oklawaha River	126	0.15	0.15	G	Floridan aquifer system	
Cypress Creek		Lake	Oklawaha River	339	0.05	0.05	G	Floridan aquifer system	
Dora Pines MHP		Lake	Oklawaha River	230	0.17	0.17	G	Floridan aquifer system	
Eagle Nest MHP		Lake	Oklawaha River	340	0.06	0.06	G	Floridan aquifer system	
Eustis, city of		Lake	Oklawaha River	24,993	2.33	2.33	G	Floridan aquifer system	
Forester Haven		Lake	Oklawaha River	120	0.02	0.02	G	Floridan aquifer system	

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Forty-Eight Estates		Lake	Oklawaha River	220	0.03	0.03	G	Floridan aquifer system	
Fruitland Park, city of		Lake	Oklawaha River	2,935	0.59	0.59	G	Floridan aquifer system	
Groveland, city of		Lake	Withlacoochee River	2,391	0.36	0.36	G	Floridan aquifer system	
Harbor Hills		Lake	Withlacoochee River	277	0.19	0.19	G	Floridan aquifer system	
Harbor Oaks MHP		Lake	Oklawaha River	421	0.06	0.06	G	Floridan aquifer system	
Haselton Mobile Village		Lake	Oklawaha River	600	0.04	0.04	G	Floridan aquifer system	
Hawthorne at Leesburg		Lake	Oklawaha River	2,747	0.42	0.42	G	Floridan aquifer system	
Howey-in-the-Hills, town of		Lake	Oklawaha River	1,040	0.21	0.21	G	Floridan aquifer system	
Kings Cove S/D		Lake	Oklawaha River	440	0.06	0.06	G	Floridan aquifer system	
Lady Lake Central		Lake	Withlacoochee River	3,042	0.26	0.26	G	Floridan aquifer system	
Lady Lake MHP		Lake	Withlacoochee River	286	0.03	0.03	G	Floridan aquifer system	
Lake Beauclaire S/D		Lake	Oklawaha River	58	0.02	0.02	G	Floridan aquifer system	
Lake Griffin Isles MHP		Lake	Oklawaha River	924	0.09	0.09	G	Floridan aquifer system	
Lake Groves Utility	Greater Groves	Lake	Oklawaha River	945	0.12	0.12	G	Floridan aquifer system	
Lake Ridge Club		Lake	Oklawaha River	84	0.09	0.09	G	Floridan aquifer system	
Lake Utility Company		Lake	Oklawaha River	2,796	0.53	0.53	G	Floridan aquifer system	
Lake Yale Estates		Lake	Oklawaha River	40	0.02	0.02	G	Floridan aquifer system	
Lakeside Village		Lake	Oklawaha River	262	0.04	0.04	G	Floridan aquifer system	
Lakeview Terrace Center		Lake	Oklawaha River	271	0.05	0.05	G	Floridan aquifer system	
Leesburg, city of		Lake	Oklawaha River	23,103	4.87	4.87	G	Floridan aquifer system	
Leisure Meadows MHP		Lake	Withlacoochee River	236	0.03	0.03	G	Floridan aquifer system	
Little Lake Harris Shores		Lake	Oklawaha River	316	0.03	0.03	G	Floridan aquifer system	
Mascottee, city of		Lake	Withlacoochee River	2,297	0.25	0.25	G	Floridan aquifer system	
Mid-Florida Lakes MHP		Lake	Oklawaha River	2,296	0.31	0.31	G	Floridan aquifer system	
Minneola, city of		Lake	Oklawaha River	2,182	0.39	0.39	G	Floridan aquifer system	
Molokai Park W/S		Lake	Oklawaha River	559	0.03	0.03	G	Floridan aquifer system	
Monteverde MHP		Lake	Oklawaha River	600	0.06	0.06	G	Floridan aquifer system	
Monteverde, town of		Lake	Oklawaha River	1,097	0.15	0.15	G	Floridan aquifer system	
Mt. Dora, city of		Lake	Oklawaha River	18,778	2.72	2.72	G	Floridan aquifer system	
Oak Springs MHP		Lake	Upper St. Johns River	1,025	0.17	0.17	G	Floridan aquifer system	
Palm Shores RV Resort		Lake	Oklawaha River	702	0.05	0.05	G	Floridan aquifer system	
Pennbrooke Fairways		Lake	Oklawaha River	328	0.11	0.11	G	Floridan aquifer system	
Raintree Harbor		Lake	Oklawaha River	55	0.03	0.03	G	Floridan aquifer system	
Ridge Crest MHP		Lake	Oklawaha River	476	0.05	0.05	G	Floridan aquifer system	
Shangri-La by the Sea		Lake	Oklawaha River	393	0.06	0.06	G	Floridan aquifer system	
Silver Oaks S/D		Lake	Oklawaha River	85	0.03	0.03	G	Floridan aquifer system	
South Umatilla W/A		Lake	Oklawaha River	334	0.05	0.05	G	Floridan aquifer system	
Southern States Utilities	Carlton Village	Lake	Withlacoochee River	559	0.04	0.04	G	Floridan aquifer system	
Southern States Utilities	East Lake Harris	Lake	Oklawaha River	620	0.02	0.02	G	Floridan aquifer system	
Southern States Utilities	Fern Terrace	Lake	Oklawaha River	337	0.04	0.04	G	Floridan aquifer system	
Southern States Utilities	Friendly Center	Lake	Oklawaha River	77	0.01	0.01	G	Floridan aquifer system	
Southern States Utilities	Grand Terrace	Lake	Oklawaha River	279	0.04	0.04	G	Floridan aquifer system	
Southern States Utilities	Hobby Hill	Lake	Oklawaha River	368	0.02	0.02	G	Floridan aquifer system	
Southern States Utilities	Imperial Mobile Terrace	Lake	Oklawaha River	850	0.03	0.03	G	Floridan aquifer system	
Southern States Utilities	Mourning View	Lake	Oklawaha River	116	0.01	0.01	G	Floridan aquifer system	
Southern States Utilities	Palisades Country Club	Lake	Oklawaha River	238	0.08	0.08	G	Floridan aquifer system	
Southern States Utilities	Palms MHP	Lake	Oklawaha River	217	0.00	0.00	G	Floridan aquifer system	
Southern States Utilities	Picciola Island	Lake	Oklawaha River	500	0.04	0.04	G	Floridan aquifer system	
Southern States Utilities	Piney Woods	Lake	Oklawaha River	630	0.06	0.06	G	Floridan aquifer system	
Southern States Utilities	Quail Ridge	Lake	Oklawaha River	98	0.01	0.01	G	Floridan aquifer system	
Southern States Utilities	Silver Lake Estates	Lake	Oklawaha River	3,745	0.90	0.90	G	Floridan aquifer system	
Southern States Utilities	Skycrest Mobile Park	Lake	Oklawaha River	410	0.03	0.03	G	Floridan aquifer system	

APPENDIX I. Public supply population served, water withdrawn and use, and water source by utility in Florida, 1995

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Southern States Utilities	Stone Mountain	Lake	Oklawaha River	35	0.01	0.01	G	Floridan aquifer system	
Southern States Utilities	Valencia Terrace S/D	Lake	Oklawaha River	1,208	0.12	0.12	G	Floridan aquifer system	
Southern States Utilities	Ventetian Village	Lake	Oklawaha River	494	0.03	0.03	G	Floridan aquifer system	
Southern States Utilities	Western Shores	Lake	Oklawaha River	1,166	0.01	0.01	G	Floridan aquifer system	
Southlake Utilities		Lake	Oklawaha River	650	0.07	0.07	G	Floridan aquifer system	
Springs Park Area W/S		Lake	Oklawaha River	316	0.08	0.08	G	Floridan aquifer system	
Summit Chase Villas		Lake	Oklawaha River	474	0.03	0.03	G	Floridan aquifer system	
Sunlake Estates		Lake	Oklawaha River	667	0.28	0.28	G	Floridan aquifer system	
Tavares, city of		Lake	Oklawaha River	10,259	1.49	1.49	G	Floridan aquifer system	
The Hills Home Owners Assoc.		Lake	Oklawaha River	65	0.08	0.08	G	Floridan aquifer system	
Treasure Cove		Lake	Oklawaha River	50	0.02	0.02	G	Floridan aquifer system	
Umatilla, city of		Lake	Oklawaha River	2,406	0.44	0.44	G	Floridan aquifer system	
Utilities Inc. of Florida	Amber Hills	Lake	Oklawaha River	80	0.15	0.15	G	Floridan aquifer system	
Utilities Inc. of Florida	Clermont #1	Lake	Oklawaha River	248	0.04	0.04	G	Floridan aquifer system	
Utilities Inc. of Florida	Clermont #2	Lake	Oklawaha River	82	0.02	0.02	G	Floridan aquifer system	
Utilities Inc. of Florida	Lake Crescent Hills	Lake	Oklawaha River	138	0.12	0.12	G	Floridan aquifer system	
Utilities Inc. of Florida	Oranges S/D	Lake	Oklawaha River	171	0.05	0.05	G	Floridan aquifer system	
Utilities Inc. of Florida	Vistas S/D	Lake	Oklawaha River	215	0.03	0.03	G	Floridan aquifer system	
Villages of Lake-Sumter		Lake	Withlacoochee River	16,031	3.39	3.39	G	Floridan aquifer system	
Water Oak Utilities	Water Oak Estates	Lake	Withlacoochee River	1,474	0.34	0.34	G	Floridan aquifer system	
Waterwood S/D		Lake	Oklawaha River	295	0.07	0.07	G	Floridan aquifer system	
Wedgewood S/D		Lake	Oklawaha River	304	0.16	0.16	G	Floridan aquifer system	
Woodland Heritage MHP		Lake	Withlacoochee River	152	0.05	0.05	G	Floridan aquifer system	
Bayshore Utility Company		Lee	Caloosahatchee River	414	0.03	0.03	G	Intermediate aquifer	
Bonita Springs Utilities		Lee	Big Cypress Swamp	18,771	2.87	2.87	G	Surficial aquifer	
Cape Coral, city of		Lee	Caloosahatchee River	58,747	8.62	8.62	G	Floridan aquifer system	Desalination (8.62 Mgal/d)
Charleston Park W/S		Lee	Caloosahatchee River	125	0.01	0.01	G	Surficial aquifer	Desalination (0.01 Mgal/d)
Citrus Park S/D		Lee	Big Cypress Swamp	2,350	0.19	0.19	G	Surficial aquifer	
Florida Cities Water Company	Green Meadows	Lee	Caloosahatchee River	48,557	5.28	5.28	G	Intermediate aquifer	
Florida Cities Water Company	Waterway Estates	Lee	Caloosahatchee River	10,627	0.95	0.95	G	Intermediate aquifer	
Fort Myers, city of		Lee	Caloosahatchee River	46,474	6.51	6.51	G	Surficial aquifer	Desalination (6.51 Mgal/d)
Greater Pine Island W/A		Lee	Charlotte Harbor	11,804	1.25	1.25	G	Floridan aquifer system	Desalination (1.25 Mgal/d)
Gulf Utility Company		Lee	Big Cypress Swamp	15,717	1.91	1.91	G	Surficial aquifer	Desalination (0.52 Mgal/d)
Imperial Harbor		Lee	Big Cypress Swamp	1,410	0.04	0.04	G	Intermediate aquifer	Desalination (0.04 Mgal/d)
Island W/A		Lee	Charlotte Harbor	9,614	2.80	2.80	G	Floridan aquifer system	Desalination (2.80 Mgal/d)
Lake Fairway MHP		Lee	Caloosahatchee River	2,265	0.10	0.10	G	Surficial aquifer	
Lee County Utilities	Corkscrew Plant	Lee	Caloosahatchee River	39,480	5.65	5.65	G	Surficial aquifer	Intermediate aquifer (Unknown Mgal/d)
Lee County Utilities	Olga Plant	Lee	Caloosahatchee River	28,435	3.09	3.09	S	Caloosahatchee River	
Orange Harbor MHP		Lee	Caloosahatchee River	1,246	0.04	0.04	G	Surficial aquifer	
Oak Park MHP		Lee	Caloosahatchee River	463	0.05	0.05	G	Surficial aquifer	
Spring Creek/Bonita Bay		Lee	Big Cypress Swamp	714	0.04	0.04	G	Surficial aquifer	
Southern States Utilities	Lehigh Acres	Lee	Caloosahatchee River	20,189	1.27	1.27	G	Intermediate aquifer	
Useppa Utilities		Lee	Charlotte Harbor	306	0.03	0.03	G	Intermediate aquifer	Desalination (0.03 Mgal/d)
Deertree Hills		Leon	Apalachee Bay-St. Marks River	194	0.03	0.03	G	Floridan aquifer system	
Lake Bradford MHP		Leon	Apalachee Bay-St. Marks River	169	0.03	0.03	G	Floridan aquifer system	
Rowe Drilling Company	Bucklake Estates	Leon	Apalachee Bay-St. Marks River	172	0.02	0.02	G	Floridan aquifer system	
Rowe Drilling Company	Brewster	Leon	Apalachee Bay-St. Marks River	421	0.03	0.03	G	Floridan aquifer system	
Rowe Drilling Company	Meadow Hills	Leon	Apalachee Bay-St. Marks River	257	0.04	0.04	G	Floridan aquifer system	
Rowe Drilling Company	North Lake Meadows	Leon	Lower Ochlockonee River	201	0.02	0.02	G	Floridan aquifer system	
Rowe Drilling Company	Plantation Estates	Leon	Apalachee Bay-St. Marks River	414	0.05	0.05	G	Floridan aquifer system	
Rowe Drilling Company	Sedgefield	Leon	Apalachee Bay-St. Marks River	288	0.03	0.03	G	Floridan aquifer system	
Southern Bell MHP		Leon	Apalachee Bay-St. Marks River	213	0.02	0.02	G	Floridan aquifer system	

APPENDIX I. Public supply population served, water withdrawn and use, and water source by utility in Florida, 1995

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Spencer Subdivision		Leon	Apalachee Bay-St. Marks River	141	0.02	0.02	G	Floridan aquifer system	
Tallahassee, city of		Leon	Apalachee Bay-St. Marks River	165,773	25.69	25.69	G	Floridan aquifer system	Includes Woodville system
Talquin Electric Cooperative	Annawood	Leon	Apalachee Bay-St. Marks River	114	0.01	0.01	G	Floridan aquifer system	
Talquin Electric Cooperative	Bradfordville Regional	Leon	Lower Ochlockonee River	4,281	0.79	0.79	G	Floridan aquifer system	
Talquin Electric Cooperative	Burgess Circle	Leon	Apalachee Bay-St. Marks River	82	0.01	0.01	G	Floridan aquifer system	
Talquin Electric Cooperative	Kiper W/S	Leon	Apalachee Bay-St. Marks River	82	0.01	0.01	G	Floridan aquifer system	
Talquin Electric Cooperative	Heartwood Hills	Leon	Apalachee Bay-St. Marks River	N/A	0.01	0.01	G	Floridan aquifer system	
Talquin Electric Cooperative	Lake Jackson Regional	Leon	Lower Ochlockonee River	8,835	1.17	1.17	G	Floridan aquifer system	
Talquin Electric Cooperative	Leon East Regional	Leon	Apalachee Bay-St. Marks River	189	0.10	0.10	G	Floridan aquifer system	
Talquin Electric Cooperative	Leon South Regional	Leon	Apalachee Bay-St. Marks River	508	0.07	0.07	G	Floridan aquifer system	
Talquin Electric Cooperative	Leon West Regional	Leon	Lower Ochlockonee River	953	0.15	0.15	G	Floridan aquifer system	
Talquin Electric Cooperative	Meadows at Wood Run	Leon	Apalachee Bay-St. Marks River	2,205	0.32	0.32	G	Floridan aquifer system	
Talquin Electric Cooperative	Meridian Hills	Leon	Lower Ochlockonee River	162	0.03	0.03	G	Floridan aquifer system	
Talquin Electric Cooperative	Pineridge Estates	Leon	Apalachee Bay-St. Marks River	368	0.06	0.06	G	Floridan aquifer system	
Talquin Electric Cooperative	Stonegate S/D	Leon	Apalachee Bay-St. Marks River	150	0.02	0.02	G	Floridan aquifer system	
Bronson, town of		Levy	Waccasassa River	269	0.18	0.18	G	Floridan aquifer system	
Cedar Key, city of		Levy	Waccasassa River	704	0.16	0.16	G	Floridan aquifer system	
Chiefland, city of		Levy	Lower Suwannee River	2,314	0.42	0.42	G	Floridan aquifer system	
Fanning Springs, city of		Levy	Lower Suwannee River	703	0.13	0.13	G	Floridan aquifer system	
Fowlers Bluff W/A		Levy	Lower Suwannee River	280	0.02	0.02	G	Floridan aquifer system	
Hide-A-Way MHP		Levy	Waccasassa River	157	0.01	0.01	G	Floridan aquifer system	
Inglewood Estates		Levy	Withlacoochee River	100	0.01	0.01	G	Floridan aquifer system	
Inglis, town of		Levy	Withlacoochee River	664	0.14	0.14	G	Floridan aquifer system	
Manatee Utilities		Levy	Lower Suwannee River	88	0.01	0.01	G	Floridan aquifer system	
Otter Creek, town of		Levy	Waccasassa River	171	0.02	0.02	G	Floridan aquifer system	
Springside MHP		Levy	Lower Suwannee River	93	0.01	0.01	G	Floridan aquifer system	
University Oaks S/D		Levy	Oklawaha River	188	0.01	0.01	G	Floridan aquifer system	
Williston, city of		Levy	Oklawaha River	2,583	0.57	0.57	G	Floridan aquifer system	
Yankeetown, town of		Levy	Withlacoochee River	617	0.12	0.12	G	Floridan aquifer system	
Bristol, city of		Liberty	Apalachicola River	1,786	0.22	0.22	G	Floridan aquifer system	
Estiffanalga W/S		Liberty	Apalachicola River	175	0.01	0.01	G	Floridan aquifer system	
Hosford-Telogia W/S		Liberty	Lower Ochlockonee River	437	0.07	0.07	G	Floridan aquifer system	
Sumatra W/S		Liberty	Apalachicola River	204	0.01	0.01	G	Floridan aquifer system	
Talquin Electric Cooperative	Sweatwater	Liberty	Lower Ochlockonee River	77	0.01	0.01	G	Floridan aquifer system	
Cherry Lake Utilities		Madison	Withlacoochee River	578	0.05	0.05	G	Floridan aquifer system	
Greenville, town of		Madison	Aucilla River	1,224	0.18	0.18	G	Floridan aquifer system	
Lee W/S		Madison	Withlacoochee River	314	0.01	0.01	G	Floridan aquifer system	
Madison, city of		Madison	Aucilla River	5,225	1.34	1.34	G	Floridan aquifer system	
Bradenton, city of		Manatee	Manatee River	47,729	5.51	5.71	S	Braden River	Purchased (0.20 Mgal/d)
Long Boat Key W/S		Manatee	Sarasota Bay	9,316	0.00	2.21	P	Manatee County Utilities	
Manatee County Utilities		Manatee	Manatee River	186,218	24.36	23.91	S	Lake Manatee/Manatee River	Purchased (12.16 Mgal/d) and sold (12.61 Mgal/d)
Palmetto, city of		Manatee	Manatee River	9,582	0.00	1.21	P	Manatee County Utilities	
Amaroc Enterprises	Foxwood Farms MHP	Marion	Oklawaha River	387	0.06	0.06	G	Floridan aquifer system	
Belleview, city of		Marion	Withlacoochee River	3,287	0.63	0.63	G	Floridan aquifer system	
Community Water Cooperative		Marion	Oklawaha River	378	0.03	0.03	G	Floridan aquifer system	
Country-Wide Utility Corp.	Bahia Oaks	Marion	Oklawaha River	803	0.08	0.08	G	Floridan aquifer system	
Decca Utilities	Oak Run Estates	Marion	Withlacoochee River	4,452	1.34	1.34	G	Floridan aquifer system	
Decca Utilities	Pine Run	Marion	Withlacoochee River	1,664	0.45	0.45	G	Floridan aquifer system	
Drexel Properties	Quail Hollow	Marion	Withlacoochee River	210	0.08	0.08	G	Floridan aquifer system	
Dunnellon, city of		Marion	Withlacoochee River	1,844	0.32	0.32	G	Floridan aquifer system	
Eagle Springs Utilities		Marion	Oklawaha River	464	0.04	0.04	G	Floridan aquifer system	
Fort King Forest		Marion	Oklawaha River	273	0.05	0.05	G	Floridan aquifer system	

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
General Development Utilities	Silver Springs Shores	Marion	Oklawaha River	8,940	0.95	0.95	G	Floridan aquifer system	
Greenfields S/D		Marion	Oklawaha River	859	0.10	0.10	G	Floridan aquifer system	
Hawks Point S/D		Marion	Withlacoochee River	200	0.02	0.02	G	Floridan aquifer system	
Hideaway MHP		Marion	Oklawaha River	250	0.04	0.04	G	Floridan aquifer system	
Hilltop Estates MHP		Marion	Withlacoochee River	84	0.03	0.03	G	Floridan aquifer system	
J & J MHP		Marion	Oklawaha River	300	0.03	0.03	G	Floridan aquifer system	
Linadale W/S		Marion	Oklawaha River	230	0.09	0.09	G	Floridan aquifer system	
Maco Utilities	South Oaks S/D	Marion	Withlacoochee River	837	0.16	0.16	G	Floridan aquifer system	
Marion Utilities Inc.	Cedar Hills	Marion	Withlacoochee River	1,341	0.13	0.13	G	Floridan aquifer system	
Marion Utilities Inc.	Fore Acres S/D	Marion	Oklawaha River	1,500	0.13	0.13	G	Floridan aquifer system	
Marion Utilities Inc.	Golden Holiday	Marion	Oklawaha River	578	0.02	0.02	G	Floridan aquifer system	
Marion Utilities Inc.	Hi-Cliff Heights/Estates	Marion	Withlacoochee River	1,008	0.08	0.08	G	Floridan aquifer system	
Marion Utilities Inc.	Pine Ridge Estates	Marion	Oklawaha River	669	0.07	0.07	G	Floridan aquifer system	
Marion Utilities Inc.	Quadvilla Estates	Marion	Oklawaha River	488	0.04	0.04	G	Floridan aquifer system	
Marion Utilities Inc.	Spruce Creek	Marion	Oklawaha River	160	0.12	0.12	G	Floridan aquifer system	
McIntosh, town of		Marion	Oklawaha River	423	0.07	0.07	G	Floridan aquifer system	
Oak Bend MHP		Marion	Withlacoochee River	250	0.04	0.04	G	Floridan aquifer system	
Oak Haven		Marion	Oklawaha River	90	0.03	0.03	G	Floridan aquifer system	
Oak Park MHP		Marion	Withlacoochee River	93	0.03	0.03	G	Floridan aquifer system	
Oakmuir Village		Marion	Oklawaha River	128	0.04	0.04	G	Floridan aquifer system	
Ocala East Villas		Marion	Oklawaha River	400	0.11	0.11	G	Floridan aquifer system	
Ocala Housing Corp.	Marion Landing	Marion	Oklawaha River	594	0.22	0.22	G	Floridan aquifer system	
Ocala Oaks Utilities	Bellaire S/D	Marion	Oklawaha River	721	0.08	0.08	G	Floridan aquifer system	
Ocala Oaks Utilities	Belleview Hills Estates	Marion	Withlacoochee River	354	0.02	0.02	G	Floridan aquifer system	
Ocala Oaks Utilities	Belleview Hills S/D	Marion	Withlacoochee River	326	0.03	0.03	G	Floridan aquifer system	
Ocala Oaks Utilities	Fairfax Hills	Marion	Withlacoochee River	280	0.03	0.03	G	Floridan aquifer system	
Ocala Oaks Utilities	Ocala Oaks S/D	Marion	Withlacoochee River	1,841	0.16	0.16	G	Floridan aquifer system	
Ocala, city of		Marion	Oklawaha River	43,207	8.70	8.70	G	Floridan aquifer system	
On Top of the World W/S		Marion	Withlacoochee River	4,030	1.10	1.10	G	Floridan aquifer system	
Paddock Park South MHP		Marion	Withlacoochee River	N/A	0.03	0.03	G	Floridan aquifer system	
Peppertree Village		Marion	Withlacoochee River	400	0.07	0.07	G	Floridan aquifer system	
Rainbow Springs Utilities		Marion	Withlacoochee River	415	0.15	0.15	G	Floridan aquifer system	
Raven Hills S/D		Marion	Withlacoochee River	451	0.12	0.12	G	Floridan aquifer system	
Residential W/S		Marion	Withlacoochee River	1,281	0.17	0.17	G	Floridan aquifer system	
Saddlebrook Oaks		Marion	Oklawaha River	850	0.17	0.17	G	Floridan aquifer system	
Shady Road Villas TP		Marion	Withlacoochee River	110	0.02	0.02	G	Floridan aquifer system	
Smith Lake Shores MHP		Marion	Oklawaha River	385	0.07	0.07	G	Floridan aquifer system	
Southern States Utilities	Citrus Park	Marion	Withlacoochee River	927	0.08	0.08	G	Floridan aquifer system	
Southern States Utilities	Marion Oaks	Marion	Withlacoochee River	6,466	0.67	0.67	G	Floridan aquifer system	
Southern States Utilities	Salt Springs Village	Marion	Upper St. Johns River	322	0.12	0.12	G	Floridan aquifer system	
Spruce Creek South Utilties		Marion	Withlacoochee River	4,000	0.87	0.87	G	Floridan aquifer system	
Steeplechase Utilities	Stonecrest/Floridian Club	Marion	Withlacoochee River	300	0.12	0.12	G	Floridan aquifer system	
Sunshine Utilities	Belleview Oaks Estates	Marion	Withlacoochee River	291	0.02	0.02	G	Floridan aquifer system	
Sunshine Utilities	Florida Heights	Marion	Withlacoochee River	346	0.02	0.02	G	Floridan aquifer system	
Sunshine Utilities	Four Oaks	Marion	Oklawaha River	462	0.05	0.05	G	Floridan aquifer system	
Sunshine Utilities	Lake Weir/Oklawaha	Marion	Oklawaha River	816	0.07	0.07	G	Floridan aquifer system	
Sunshine Utilities	Little Lake Weir S/D	Marion	Oklawaha River	438	0.04	0.04	G	Floridan aquifer system	
Sunshine Utilities	Oakhurst S/D	Marion	Withlacoochee River	300	0.04	0.04	G	Floridan aquifer system	
Sunshine Utilities	Ocala Heights	Marion	Withlacoochee River	282	0.04	0.04	G	Floridan aquifer system	
Sunshine Utilities	Sunlight Acres	Marion	Withlacoochee River	188	0.02	0.02	G	Floridan aquifer system	
Sunshine Utilities	Sunray Estates	Marion	Oklawaha River	1,960	0.16	0.16	G	Floridan aquifer system	
Sunshine Utilities	Whispering Sands	Marion	Oklawaha River	190	0.03	0.03	G	Floridan aquifer system	

APPENDIX I. Public supply population served, water withdrawn and use, and water source by utility in Florida, 1995

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Sunshine Utilities	Winding Waters	Marion	Withlacoochee River	339	0.03	0.03	G	Floridan aquifer system	
Sweetwater Oaks		Marion	Oklawaha River	125	0.03	0.03	G	Floridan aquifer system	
Tradewinds Utilties	Tradewinds Village	Marion	Oklawaha River	732	0.09	0.09	G	Floridan aquifer system	
Utilities Inc. of Florida	Golden Hills	Marion	Oklawaha River	904	0.13	0.13	G	Floridan aquifer system	
Venture Associates Utilities	Palm Cay	Marion	Withlacoochee River	1,826	0.26	0.26	G	Floridan aquifer system	
Windgate Estates		Marion	Oklawaha River	288	0.04	0.04	G	Floridan aquifer system	
Windstream Utilites Company	Majestic Oaks	Marion	Withlacoochee River	235	0.04	0.04	G	Floridan aquifer system	
Windstream Utilites Company	Wind S/D	Marion	Withlacoochee River	499	0.15	0.15	G	Floridan aquifer system	
Woods and Lakes S/D		Marion	Oklawaha River	309	0.04	0.04	G	Floridan aquifer system	
Canoe Creek S/D		Martin	Everglades	205	0.08	0.08	G	Surficial aquifer	
Fishermans Cove S/D		Martin	Everglades	1,199	0.10	0.10	G	Surficial aquifer	
Hobe Sound Water Company		Martin	Everglades	4,000	2.04	2.04	G	Surficial aquifer	
Hydratech Utilities	Ridgeway W/S	Martin	Everglades	9,804	1.40	1.40	G	Surficial aquifer	
Radnor Plantation Inc.	Indian River Plantation	Martin	Everglades	2,000	0.16	0.16	G	Floridan aquifer system	Desalination (0.16 Mgal/d)
Indiantown Water Company		Martin	Everglades	3,812	0.62	0.62	G	Surficial aquifer	
I.B.S.C.O. Corp.	Jensen Park Estates	Martin	Vero Beach Coastal	682	0.15	0.15	G	Surficial aquifer	
Joe's Point Venture		Martin	Vero Beach Coastal	390	0.03	0.03	G	Floridan aquifer system	Desalination (0.03 Mgal/d)
Martin County Utilities	North (Main) Plant	Martin	Everglades	16,186	3.22	3.22	G	Surficial aquifer	Floridan aquifer system/desalination (0.90 Mgal/d)
Martin County Utilities	Port Salarno/Yacht	Martin	Vero Beach Coastal	N/A	0.02	0.02	G	Surficial aquifer	Population served included under Port Salerno/Vista
Martin County Utilities	Port Salarno/Vista	Martin	Vero Beach Coastal	5,930	0.94	0.94	G	Surficial aquifer	
Martin Downs Utilities		Martin	Everglades	8,000	1.05	1.05	G	Surficial aquifer	
Miles Grant W/S		Martin	Everglades	2,508	0.15	0.15	G	Surficial aquifer	
Pinelake Village		Martin	Vero Beach Coastal	1,067	0.22	0.22	G	Surficial aquifer	
Pipers Landing W/S		Martin	Everglades	652	0.13	0.13	G	Surficial aquifer	
Sailfish Point Utility Corp.		Martin	Everglades	531	0.13	0.13	G	Floridan aquifer system	Desalination (0.13 Mgal/d)
Southern States Utilities	Fishermans Haven	Martin	Everglades	320	0.03	0.03	G	Surficial aquifer	
Southern States Utilities	Fox Run	Martin	Everglades	358	0.03	0.03	G	Surficial aquifer	
Southern States Utilities	Leileni Heights	Martin	Vero Beach Coastal	736	0.15	0.15	G	Surficial aquifer	
St. Lucie Falls TP		Martin	Everglades	762	0.08	0.08	G	Surficial aquifer	
Stuart, city of		Martin	Everglades	13,435	3.27	3.27	G	Surficial aquifer	
Florida Keys Aqueduct Auth.		Monroe	Florida Bay	80,500	14.07	14.07	G	Biscayne aquifer	Withdrawn in Dade County
Callahan, town of		Nassau	Nassau River	1,400	0.16	0.16	G	Floridan aquifer system	
Eastwood Oaks Apartments		Nassau	Nassau River	279	0.03	0.03	G	Floridan aquifer system	
Florida Public Utilities	Fernandina Beach	Nassau	St. Marys River	14,740	3.22	3.22	G	Floridan aquifer system	
Hillard, town of		Nassau	St. Marys River	2,200	0.23	0.23	G	Floridan aquifer system	
Marsh Cove Apartments		Nassau	St. Marys River	337	0.05	0.05	G	Floridan aquifer system	
Otter Run		Nassau	Nassau River	497	0.08	0.08	G	Floridan aquifer system	
Southern States Utilities	Amelia Island	Nassau	Nassau River	6,346	1.12	1.12	G	Floridan aquifer system	
Yulee Villas Apartments		Nassau	Nassau River	700	0.07	0.07	G	Floridan aquifer system	
Auburn W/S		Okaloosa	Yellow River	8,468	1.11	1.11	G	Floridan aquifer system	
Baker W/S		Okaloosa	Yellow River	1,590	0.16	0.16	G	Floridan aquifer system	
Crestview, city of		Okaloosa	Yellow River	11,937	2.04	2.04	G	Floridan aquifer system	
Destin, city of		Okaloosa	Choctawhatchee Bay	13,231	2.83	2.83	G	Floridan aquifer system	
Fort Walton Beach, city of		Okaloosa	Choctawhatchee Bay	21,021	3.29	3.29	G	Floridan aquifer system	
Holt W/S		Okaloosa	Yellow River	1,001	0.09	0.09	G	Floridan aquifer system	
Laurel Hill, city of		Okaloosa	Yellow River	1,256	0.13	0.13	G	Floridan aquifer system	
Mary Ester, town of		Okaloosa	Pensacola Bay	5,296	0.77	0.77	G	Floridan aquifer system	
Milligan W/S		Okaloosa	Yellow River	1,230	0.14	0.14	G	Floridan aquifer system	
Niceville, city of		Okaloosa	Choctawhatchee Bay	15,605	2.80	2.80	G	Floridan aquifer system	
Okaloosa County Utilities	Bluewater Bay	Okaloosa	Choctawhatchee Bay	9,253	1.03	1.03	G	Floridan aquifer system	
Okaloosa County Utilities	Mid-County	Okaloosa	Yellow River	N/A	0.33	0.33	G	Floridan aquifer system	Population served included under Main (Garnier)
Okaloosa County Utilities	Main (Garnier)	Okaloosa	Choctawhatchee Bay	50,766	5.19	5.19	G	Floridan aquifer system	

APPENDIX I. Public supply population served, water withdrawn and use, and water source by utility in Florida, 1995

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Okaloosa County Utilities	Seashore	Okaloosa	Pensacola Bay	3,668	0.56	0.56	G	Floridan aquifer system	
Seminole Community W/S		Okaloosa	Choctawhatchee Bay	598	0.11	0.11	G	Floridan aquifer system	
Valparaiso, city of		Okaloosa	Choctawhatchee Bay	4,745	0.62	0.62	G	Floridan aquifer system	
Okeechobee, city of		Okeechobee	Northern Okeechobee Inflow	12,338	1.95	N/A	S/G	Lake Okeechobee	Surficial aquifer (0.75 Mgal/d)
Okeechobee Beach W/S		Okeechobee	Northern Okeechobee Inflow	8,861	0.00	N/A	P	Okeechobee, city of	
Apopka, city of		Orange	Upper St. Johns River	33,372	5.90	5.90	G	Floridan aquifer system	
Brightwood Manor MHP		Orange	Upper St. Johns River	640	0.09	0.09	G	Floridan aquifer system	
Eatonville, town of		Orange	Upper St. Johns River	1,920	0.65	0.65	G	Floridan aquifer system	
Econ Utilities	Wedgefield	Orange	Upper St. Johns River	1,884	0.18	0.18	G	Floridan aquifer system	
Hidden Valley MHP		Orange	Kissimmee River	776	0.07	0.07	G	Floridan aquifer system	
Lake Downey MHP		Orange	Upper St. Johns River	159	0.03	0.03	G	Floridan aquifer system	
Maitland, city of		Orange	Upper St. Johns River	14,641	2.82	2.82	G	Floridan aquifer system	
Oakland, city of		Orange	Oklawaha River	768	0.11	0.11	G	Floridan aquifer system	
Ocoee, city of		Orange	Oklawaha River	17,935	3.68	3.68	G	Floridan aquifer system	
Ola Beach I/D		Orange	Oklawaha River	197	0.05	0.05	G	Floridan aquifer system	
Orange County Utilties	Bent Oaks	Orange	Upper St. Johns River	N/A	1.11	1.11	G	Floridan aquifer system	Population served included under West Regional
Orange County Utilties	Bonneville	Orange	Upper St. Johns River	N/A	0.73	0.73	G	Floridan aquifer system	Population served included under Econ Complex
Orange County Utilties	Conway	Orange	Upper St. Johns River	N/A	2.61	2.61	G	Floridan aquifer system	Population served included under Econ Complex
Orange County Utilties	Corrine Terrace	Orange	Upper St. Johns River	N/A	0.23	0.23	G	Floridan aquifer system	Population served included under Econ Complex
Orange County Utilties	Cypress Walk	Orange	Kissimmee River	N/A	1.32	1.32	G	Floridan aquifer system	Population served included under Orangewood
Orange County Utilties	Econ Complex	Orange	Upper St. Johns River	76,875	8.79	8.79	G	Floridan aquifer system	
Orange County Utilties	Hidden Springs	Orange	Kissimmee River	N/A	1.85	1.85	G	Floridan aquifer system	Population served included under West Regional
Orange County Utilties	Hunters Creek	Orange	Kissimmee River	N/A	1.40	1.40	G	Floridan aquifer system	Population served included under Orangewood
Orange County Utilties	Lake Nona	Orange	Kissimmee River	985	0.18	0.18	G	Floridan aquifer system	
Orange County Utilties	Magnolia Woods	Orange	Upper St. Johns River	280	0.07	0.07	G	Floridan aquifer system	
Orange County Utilties	Meadow Woods	Orange	Kissimmee River	3,935	0.53	0.53	G	Floridan aquifer system	
Orange County Utilties	Mt. Plymouth Lakes	Orange	Oklawaha River	1,618	0.31	0.31	G	Floridan aquifer system	
Orange County Utilties	Oak Meadows	Orange	Kissimmee River	N/A	3.77	3.77	G	Floridan aquifer system	Population served included under West Regional
Orange County Utilties	Orange Village	Orange	Kissimmee River	N/A	0.01	0.01	G	Floridan aquifer system	Population served included under Econ Complex
Orange County Utilties	Orangewood	Orange	Kissimmee River	11,710	1.35	1.35	G	Floridan aquifer system	
Orange County Utilties	Plymouth Regional	Orange	Oklawaha River	1,015	0.18	0.18	G	Floridan aquifer system	
Orange County Utilties	Riverside	Orange	Upper St. Johns River	N/A	1.23	1.23	G	Floridan aquifer system	Population served included under Econ Complex
Orange County Utilties	Vistana	Orange	Kissimmee River	N/A	2.17	2.17	G	Floridan aquifer system	Population served included under Orangewood
Orange County Utilties	West Regional	Orange	Kissimmee River	53,404	3.74	3.74	G	Floridan aquifer system	
Orlando Utilities Commision		Orange	Upper St. Johns River	356,040	79.26	79.26	G	Floridan aquifer system	1995 estimates are the totals for all Facility/Plants
Orlando Utilities Commision	Conway	Orange	Upper St. Johns River	N/A	9.46	N/A	G	Floridan aquifer system	
Orlando Utilities Commision	Doctor Phillips	Orange	Kissimmee River	N/A	6.51	N/A	G	Floridan aquifer system	
Orlando Utilities Commision	Highlands	Orange	Upper St. Johns River	N/A	9.72	N/A	G	Floridan aquifer system	
Orlando Utilities Commision	Kirkman	Orange	Kissimmee River	N/A	7.52	N/A	G	Floridan aquifer system	
Orlando Utilities Commision	Kuhl	Orange	Upper St. Johns River	N/A	7.59	N/A	G	Floridan aquifer system	
Orlando Utilities Commision	Martin	Orange	Kissimmee River	N/A	8.61	N/A	G	Floridan aquifer system	
Orlando Utilities Commision	Navy	Orange	Upper St. Johns River	N/A	4.45	N/A	G	Floridan aquifer system	
Orlando Utilities Commision	Pine Hills	Orange	Upper St. Johns River	N/A	15.05	N/A	G	Floridan aquifer system	
Orlando Utilities Commision	Primrose	Orange	Upper St. Johns River	N/A	5.71	N/A	G	Floridan aquifer system	
Orlando Utilities Commision	Sky Lake	Orange	Kissimmee River	N/A	4.65	N/A	G	Floridan aquifer system	
Park Manor Estates		Orange	Upper St. Johns River	3,310	0.38	0.38	G	Floridan aquifer system	
Rock Springs MHP		Orange	Upper St. Johns River	1,408	0.23	0.23	G	Floridan aquifer system	
Shadow Hills MHP		Orange	Upper St. Johns River	1,715	0.18	0.18	G	Floridan aquifer system	
Southern States Utilities	Holiday Heights	Orange	Upper St. Johns River	156	0.02	0.02	G	Floridan aquifer system	
Southern States Utilities	University Shores	Orange	Upper St. Johns River	8,630	1.04	1.04	G	Floridan aquifer system	
Starlight Ranch MHP		Orange	Upper St. Johns River	1,889	0.18	0.18	G	Floridan aquifer system	
Taft, town of		Orange	Kissimmee River	2,043	0.26	0.26	G	Floridan aquifer system	

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Tangerine, town of		Orange	Oklawaha River	540	0.18	0.18	G	Floridan aquifer system	
Utilities Inc. of Florida	Cresent Heights	Orange	Upper St. Johns River	700	0.09	0.09	G	Floridan aquifer system	
Utilities Inc. of Florida	Davis Shores	Orange	Upper St. Johns River	240	0.01	0.01	G	Floridan aquifer system	
Valencia Estates MHP		Orange	Kissimmee River	305	0.04	0.04	G	Floridan aquifer system	
Winter Garden, city of		Orange	Oklawaha River	14,408	1.83	1.83	G	Floridan aquifer system	
Winter Park, city of		Orange	Upper St. Johns River	78,265	11.35	11.35	G	Floridan aquifer system	
Zellwood Station Utilities		Orange	Oklawaha River	2,529	0.57	0.57	G	Floridan aquifer system	
Zellwood Water Assoc.		Orange	Oklawaha River	870	0.27	0.27	G	Floridan aquifer system	
Airport Road Development		Osceola	Kissimmee River	563	0.05	0.05	G	Floridan aquifer system	
Brighton Place W/S		Osceola	Kissimmee River	263	0.05	0.05	G	Floridan aquifer system	
Cypress Cove S/D		Osceola	Kissimmee River	850	0.07	0.07	G	Floridan aquifer system	
Good Samaritan Retirement		Osceola	Kissimmee River	1,813	0.17	0.17	G	Floridan aquifer system	
Kissimmee, city of		Osceola	Kissimmee River	41,789	13.55	13.55	G	Floridan aquifer system	1995 estimates are the totals for all Facility/Plants
Kissimmee, city of	Camelot/Scott/Fountian	Osceola	Kissimmee River	N/A	3.37	N/A	G	Floridan aquifer system	
Kissimmee, city of	Indian Ridge/Sandhill	Osceola	Kissimmee River	N/A	0.70	N/A	G	Floridan aquifer system	
Kissimmee, city of	Kissimmee NW/West	Osceola	Kissimmee River	N/A	2.56	N/A	G	Floridan aquifer system	
Kissimmee, city of	Parkway/Partin	Osceola	Kissimmee River	N/A	0.97	N/A	G	Floridan aquifer system	
Kissimmee, city of	Ruby/North Burmuda	Osceola	Kissimmee River	N/A	5.95	N/A	G	Floridan aquifer system	
Majestic Oaks		Osceola	Kissimmee River	188	0.02	0.02	G	Floridan aquifer system	
Morningside Utilities		Osceola	Kissimmee River	429	0.04	0.04	G	Floridan aquifer system	
Pleasant Hill Lakes		Osceola	Kissimmee River	375	0.05	0.05	G	Floridan aquifer system	
Poinciana Utilities		Osceola	Kissimmee River	9,246	0.86	0.86	G	Floridan aquifer system	
Siesta Lago MHP		Osceola	Kissimmee River	1,225	0.13	0.13	G	Floridan aquifer system	
Southern States Utilities	Bay Lake	Osceola	Kissimmee River	188	0.02	0.02	G	Floridan aquifer system	
Southern States Utilities	Buenaventura Lakes	Osceola	Kissimmee River	19,481	1.89	1.89	G	Floridan aquifer system	
Southern States Utilities	Intercession City	Osceola	Kissimmee River	1,500	0.06	0.06	G	Floridan aquifer system	
Southern States Utilities	Lake Ajay	Osceola	Kissimmee River	233	0.05	0.05	G	Floridan aquifer system	
Southern States Utilities	Pineridge Estates	Osceola	Kissimmee River	464	0.06	0.06	G	Floridan aquifer system	
Southern States Utilities	Tropical Park	Osceola	Kissimmee River	1,603	0.15	0.15	G	Floridan aquifer system	
Southern States Utilities	Windsong	Osceola	Kissimmee River	295	0.02	0.02	G	Floridan aquifer system	
St. Cloud, city of	Main Water System	Osceola	Kissimmee River	19,520	1.49	1.49	G	Floridan aquifer system	
St. Cloud, city of	Cane Brake	Osceola	Kissimmee River	150	0.38	0.38	G	Floridan aquifer system	
St. Cloud, city of	Emerald Lakes	Osceola	Kissimmee River	230	0.02	0.02	G	Floridan aquifer system	
Whispering Pines		Osceola	Kissimmee River	450	0.02	0.02	G	Floridan aquifer system	
Acme I/D		Palm Beach	Everglades	25,378	4.04	4.04	G	Surficial aquifer	Desalination (0.94 Mgal/d)
Belle Glade, city of		Palm Beach	Everglades	12,782	6.02	6.02	S	Lake Okeechobee	
Boca Raton, city of		Palm Beach	Everglades	76,028	35.91	35.91	G	Biscayne aquifer	
Boynton Beach, city of		Palm Beach	Everglades	63,234	12.56	N/A	G	Surficial aquifer	Desalination (3.72 Mgal/d)
Sand and Sea Village MHP		Palm Beach	Everglades	1,417	0.00	N/A	P	Boynton Beach, city of	
U.S. Sugar Corp.	Bryant, town of	Palm Beach	Everglades	1,800	0.54	0.54	S	Lake Okeechobee	
Colonial Estates MHP		Palm Beach	Everglades	601	0.04	0.04	G	Surficial aquifer	
Delray Beach, city of		Palm Beach	Everglades	40,498	12.17	N/A	G	Surficial aquifer	
Gulf Stream, town of		Palm Beach	Everglades	753	0.00	N/A	P	Delray Beach, city of	
Golf, village of		Palm Beach	Everglades	4,420	0.42	0.42	G	Surficial aquifer	
Highland Beach, town of		Palm Beach	Everglades	1,083	1.13	1.13	G	Biscayne aquifer	
Jupiter, town of		Palm Beach	Everglades	41,092	11.46	11.46	G	Surficial aquifer	Floridan aquifer system/desalination (1.97 Mgal/d)
Lake Worth Utilities		Palm Beach	Everglades	34,530	7.16	N/A	G	Surficial aquifer	
Seminole Manor		Palm Beach	Everglades	1,764	0.00	N/A	P	Lake Worth Utilities	
Lake Osborne Utilities		Palm Beach	Everglades	990	0.00	N/A	P	Lake Worth Utilities	
Lantana Cascade MHP		Palm Beach	Everglades	1,074	0.00	N/A	P	Lake Worth Utilities	
Palm Breeze Club MHP		Palm Beach	Everglades	440	0.00	N/A	P	Lake Worth Utilities	
Whispering Pines MHP		Palm Beach	Everglades	708	0.00	N/A	P	Lake Worth Utilities	

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Lake Worth Village		Palm Beach	Everglades	1,932	0.19	0.19	G	Surficial aquifer	
Lantana, town of		Palm Beach	Everglades	9,250	2.06	N/A	G	Surficial aquifer	
Palm Breezes Club MHP		Palm Beach	Everglades	250	0.00	N/A	P	Lantana, town of	
Magnolia Park Utilities		Palm Beach	Everglades	806	0.34	0.34	G	Surficial aquifer	
Manalapan, town of		Palm Beach	Everglades	1,049	1.00	1.00	G	Surficial aquifer	
Pahokee, city of		Palm Beach	Everglades	5,179	0.77	N/A	S	Lake Okeechobee	
Southeastern States Utility		Palm Beach	Everglades	524	0.00	N/A	P	Pahokee, city of	
Palm Beach County Utilities		Palm Beach	Everglades	350,250	34.78	N/A	G	Surficial aquifer	
Atlantis, city of		Palm Beach	Everglades	2,750	0.00	N/A	P	Palm Beach County Utilities	
Century Village		Palm Beach	Everglades	7,500	0.00	N/A	P	Palm Beach County Utilities	
Palm Springs Village		Palm Beach	Everglades	24,584	4.01	163	G	Surficial aquifer	
Englewood Manor		Palm Beach	Everglades	881	0.00	N/A	P	Palm Springs Village	
Forest Hill Gardens		Palm Beach	Everglades	599	0.00	N/A	P	Palm Springs Village	
Forest Hill Gardens East		Palm Beach	Everglades	645	0.00	N/A	P	Palm Springs Village	
Lake Clarke Shores, town of		Palm Beach	Everglades	1,573	0.00	N/A	P	Palm Springs Village	
Riviera Beach, city of	Main System	Palm Beach	Everglades	26,088	8.75	N/A	G	Surficial aquifer	
Palm Lakes Estates North		Palm Beach	Everglades	480	0.00	N/A	P	Riviera Beach, city of	
Palm Lakes Estates South		Palm Beach	Everglades	700	0.00	N/A	P	Riviera Beach, city of	
Riviera Beach, city of	Water System 2	Palm Beach	Everglades	1,561	0.19	0.19	G	Surficial aquifer	
Royal Palm Beach Utilities		Palm Beach	Everglades	15,467	2.20	2.20	G	Surficial aquifer	Desalination (0.12 Mgal/d)
Seacoast Utilities		Palm Beach	Everglades	61,808	13.91	13.91	G	Surficial aquifer	
South Bay, city of		Palm Beach	Everglades	2,982	0.47	N/A	S	Lake Okeechobee	
South Shore W/A		Palm Beach	Everglades	228	0.00	N/A	P	South Bay, city of	
Tequesta, village of		Palm Beach	Everglades	10,634	1.41	1.41	G	Surficial aquifer	
Tropical Breeze Estates		Palm Beach	Everglades	746	0.09	0.09	G	Surficial aquifer	
West Palm Beach, city of		Palm Beach	Everglades	67,643	25.22	25.22	S	Clear Lake and Lake Mangonia	
Woodhaven Villas		Palm Beach	Everglades	312	0.04	0.04	G	Surficial aquifer	
Aloha Utilities	Aloha Gardens	Pasco	Crystal-Pithlachascotee Rivers	6,935	0.12	0.42	P/G	Pasco County Utilities	Floridan aquifer system (0.12 Mgal/d)
Aloha Utilities	Seven Springs	Pasco	Crystal-Pithlachascotee Rivers	16,814	2.00	2.16	G/P	Floridan aquifer system	Purchased (0.16 Mgal/d)
Bartelt Sunshine	Buena Vista TP	Pasco	Crystal-Pithlachascotee Rivers	1,838	0.15	0.15	G	Floridan aquifer system	
CAV Homeowners Coop.	Country Aire Village (CAV)	Pasco	Hillsborough River	550	0.35	0.35	G	Floridan aquifer system	
Country Village MHP		Pasco	Crystal-Pithlachascotee Rivers	237	0.04	0.04	G	Floridan aquifer system	
Crestridge Utility Corp.	Crestridge Gardens	Pasco	Crystal-Pithlachascotee Rivers	1,251	0.11	0.11	G	Floridan aquifer system	
CS Water Company, Inc.	Crystal Springs (CS)	Pasco	Hillsborough River	669	0.08	0.08	G	Floridan aquifer system	
Dade City, city of		Pasco	Withlacoochee River	15,578	1.50	1.50	G	Floridan aquifer system	
Dixie Grove Estates		Pasco	Crystal-Pithlachascotee Rivers	602	0.04	0.04	G	Floridan aquifer system	
Floralino Properties Inc.	Colonial Manor	Pasco	Crystal-Pithlachascotee Rivers	1,575	0.14	0.14	G	Floridan aquifer system	
Forest Hills Utilities Inc.		Pasco	Crystal-Pithlachascotee Rivers	4,500	0.45	0.45	G	Floridan aquifer system	
Hacienda Village MHP		Pasco	Crystal-Pithlachascotee Rivers	502	0.05	0.05	G	Floridan aquifer system	
Holiday Gardens Utilities		Pasco	Crystal-Pithlachascotee Rivers	1,183	0.09	0.09	G	Floridan aquifer system	
Hudson Water Works Inc.		Pasco	Crystal-Pithlachascotee Rivers	5,922	0.59	0.59	G	Floridan aquifer system	
Jasmine Lakes Utility Inc.		Pasco	Crystal-Pithlachascotee Rivers	3,434	0.08	0.18	P/G	Pasco County Utilities	Floridan aquifer system (0.10 Mgal/d)
Lindrick Service Corp.	Gulf Harbor	Pasco	Crystal-Pithlachascotee Rivers	8,018	0.07	0.70	P/G	New Port Richey, city of	Floridan aquifer system (0.07 Mgal/d)
LWV Utilities Inc.	Lakewood Village (LWV)	Pasco	Crystal-Pithlachascotee Rivers	700	0.05	0.05	G	Floridan aquifer system	
Mad Hatter Utility	Turtle Lakes	Pasco	Hillsborough River	4,030	0.58	0.58	G	Floridan aquifer system	
New Port Richey, city of		Pasco	Crystal-Pithlachascotee Rivers	24,387	0.46	3.21	P/G	WCRWSA	Floridan aquifer system (0.46 Mgal/d) and sold (1.06 Mgal/d)
Orangewood Lakes MHP		Pasco	Crystal-Pithlachascotee Rivers	860	0.08	0.08	G	Floridan aquifer system	
Order of Saint Bendictin		Pasco	Hillsborough River	505	0.09	0.09	G	Floridan aquifer system	
Pasco County Utilities	East System	Pasco	Hillsborough River	19,688	0.05	4.76	P/G	WCRWSA	Floridan aquifer system (0.05 Mgal/d)
Pasco County Utilities	West System	Pasco	Crystal-Pithlachascotee Rivers	103,063	0.59	11.26	P/G	WCRWSA	Floridan aquifer system (0.59 Mgal/d) and sold (0.78 Mgal/d)

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Pasco Utilities Inc.	Angus Valley	Pasco	Hillsborough River	1,288	0.18	0.18	G	Floridan aquifer system	
Port Richey, city of		Pasco	Crystal-Pithlachascotee Rivers	7,955	0.42	0.80	G/P	Floridan aquifer system	Purchased (0.38 Mga/d)
San Antonio, city of		Pasco	Hillsborough River	793	0.09	0.09	G	Floridan aquifer system	
Scarecrow Utilities		Pasco	Crystal-Pithlachascotee Rivers	143	0.01	0.01	G	Floridan aquifer system	
SH Utility Inc.	Shamerock Heights (SH)	Pasco	Crystal-Pithlachascotee Rivers	266	0.03	0.03	G	Floridan aquifer system	
Southern States Utilities	Palm Terrace	Pasco	Crystal-Pithlachascotee Rivers	2,332	0.06	0.22	P/G	Pasco County Utilities	Floridan aquifer system (0.06 Mgal/d)
Sweetwater RV Park		Pasco	Hillsborough River	250	0.02	0.02	G	Floridan aquifer system	
Travelers Rest Inc.		Pasco	Withlacoochee River	382	0.05	0.05	G	Floridan aquifer system	
Utilities Inc. of Florida	Orangewood W/S	Pasco	Crystal-Pithlachascotee Rivers	1,283	0.11	0.11	G	Floridan aquifer system	
Utilities Inc. of Florida	Summer-tree	Pasco	Crystal-Pithlachascotee Rivers	1,757	0.13	0.13	G	Floridan aquifer system	
WCRWSA	Cross Bar WF	Pasco	Crystal-Pithlachascotee Rivers	0	23.89	0.00	G	Floridan aquifer system	Sold (23.89 Mgal/d)
WCRWSA	Cypress Bridge WF	Pasco	Crystal-Pithlachascotee Rivers	0	1.52	0.00	G	Floridan aquifer system	Sold (1.52 Mgal/d)
WCRWSA	Cypress Creek WF	Pasco	Hillsborough River	0	27.28	0.00	G	Floridan aquifer system	Sold (27.28 Mgal/d)
WCRWSA	North Pasco WF	Pasco	Crystal-Pithlachascotee Rivers	0	2.19	0.00	G	Floridan aquifer system	Sold (2.19 Mgal/d)
WCRWSA	Starkey WF	Pasco	Crystal-Pithlachascotee Rivers	0	11.93	0.00	G	Floridan aquifer system	Sold (11.93 Mgal/d)
Zephyrhills, city of		Pasco	Hillsborough River	13,168	2.18	1.87	G	Floridan aquifer system	Sold (0.31 Mgal/d)
Belleair, town of		Pinellas	Crystal-Pithlachascotee Rivers	4,968	1.08	0.92	G	Floridan aquifer system	Sold (0.16 Mgal/d)
Clearwater, city of		Pinellas	Crystal-Pithlachascotee Rivers	113,110	3.67	14.17	P/G	Pinellas County Water/Sewer	Floridan aquifer system (3.67 Mgal/d)
Dunedin, city of		Pinellas	Crystal-Pithlachascotee Rivers	35,738	5.10	5.19	G/P	Floridan aquifer system	Pinellas County Water/Sewer (0.09 Mgal/d)
Gulfport, city of		Pinellas	Crystal-Pithlachascotee Rivers	13,473	0.00	1.20	P	St. Petersburg, city of	
Oldsmar, city of		Pinellas	Tampa Bay	9,500	0.00	1.08	P	St. Petersburg, city of	
Pinellas County Water/Sewer	Eldridge/Wilde WF	Pinellas	Tampa Bay	373,278	25.85	48.54	G/P	Floridan aquifer system	WCRWSA (43.74 Mgal/d) and sold (21.05 Mgal/d)
Pinellas Park, city of		Pinellas	Crystal-Pithlachascotee Rivers	56,457	0.00	5.20	P	Pinellas County Water/Sewer	
Safety Harbor, city of		Pinellas	Tampa Bay	13,200	0.00	1.90	P	Pinellas County Water/Sewer	
St. Petersburg, city of		Pinellas	Tampa Bay	290,963	0.00	31.18	P	WCRWSA	Sold (2.28 Mgal/d)
Tarpon Springs, city of		Pinellas	Crystal-Pithlachascotee Rivers	26,624	0.27	3.27	P/G	Pinellas County Water/Sewer	Floridan aquifer system (0.27 Mgal/d)
Utilities Inc. of Florida	Lake Tarpon	Pinellas	Tampa Bay	1,280	0.14	0.14	G	Floridan aquifer system	
Auburndale, city of		Polk	Peace River	17,383	2.49	2.49	G	Floridan aquifer system	
Bartow, city of		Polk	Peace River	17,200	3.83	3.83	G	Floridan aquifer system	
Breeze Hill MHP		Polk	Kissimmee River	150	0.06	0.06	G	Floridan aquifer system	
Carefree RV Country Club		Polk	Peace River	559	0.07	0.07	G	Floridan aquifer system	
Century Reality Group Inc.	Plantation Landings	Polk	Peace River	792	0.07	0.07	G	Floridan aquifer system	
Century Reality Group Inc.	Swiss Village	Polk	Peace River	1,557	0.26	0.26	G	Floridan aquifer system	
Century Reality Group Inc.		Polk	Peace River	1,907	0.41	0.41	G	Floridan aquifer system	
Crooked Lake Park W/S		Polk	Kissimmee River	1,768	0.19	0.19	G	Floridan aquifer system	
Cypress Lakes Venture	Cypress Lakes	Polk	Peace River	1,354	0.22	0.22	G	Floridan aquifer system	
Davenport, town of		Polk	Kissimmee River	2,970	0.47	0.47	G	Floridan aquifer system	
Dundee, town of		Polk	Peace River	3,196	0.45	0.45	G	Floridan aquifer system	
Eagle Lake, city of		Polk	Peace River	2,481	0.24	0.24	G	Floridan aquifer system	
Emerald Acres/Lakes		Polk	Oklawaha River	200	0.02	0.02	G	Floridan aquifer system	
Fort Meade, city of		Polk	Peace River	6,123	1.05	1.05	G	Floridan aquifer system	
Frostproof, city of		Polk	Kissimmee River	3,129	1.33	1.33	G	Floridan aquifer system	
Garden Grove Utilities	Towerwood	Polk	Peace River	356	0.05	0.05	G	Floridan aquifer system	
Garden Grove Water Company	Cypress Gardens	Polk	Peace River	20,043	2.96	2.96	G	Floridan aquifer system	
Haines City, city of		Polk	Peace River	12,601	2.21	2.21	G	Floridan aquifer system	
Indian Lake Estates		Polk	Kissimmee River	251	0.19	0.19	G	Floridan aquifer system	
Lake Alfred, city of		Polk	Peace River	4,247	0.67	0.67	G	Floridan aquifer system	
Lake Hamilton, town of		Polk	Peace River	1,630	0.28	0.28	G	Floridan aquifer system	
Lake Regional MHP		Polk	Peace River	988	0.11	0.11	G	Floridan aquifer system	
Lake Wales Utility Corp.	Fedhaven	Polk	Kissimmee River	2,100	0.15	0.15	G	Floridan aquifer system	
Lake Wales, city of		Polk	Kissimmee River	17,047	2.63	2.63	G	Floridan aquifer system	
Lakeland, city of	Polk City System	Polk	Withlacoochee River	1,888	0.28	0.28	G	Floridan aquifer system	

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Lakeland, city of		Polk	Peace River	143,060	19.72	19.72	G	Floridan aquifer system	
Mountain Lake Corp.	Mountain Lake Estates	Polk	Peace River	305	0.11	0.11	G	Floridan aquifer system	
Mulberry, city of		Polk	Alafia River	2,984	0.42	0.42	G	Floridan aquifer system	
Orchid Springs Development		Polk	Peace River	752	0.09	0.09	G	Floridan aquifer system	
Poinciana Utilities		Polk	Kissimmee River	5,212	0.79	0.79	G	Floridan aquifer system	
Polk County Utilities	Central Regional	Polk	Peace River	10,181	1.43	1.43	G	Floridan aquifer system	
Polk County Utilities	Loma Linda	Polk	Kissimmee River	779	0.17	0.17	G	Floridan aquifer system	
Polk County Utilities	Northeast Regional	Polk	Peace River	16,590	2.12	2.12	G	Floridan aquifer system	
Polk County Utilities	Oak Hill	Polk	Kissimmee River	1,569	0.33	0.33	G	Floridan aquifer system	
Polk County Utilities	Pleasant Acres	Polk	Kissimmee River	847	0.08	0.08	G	Floridan aquifer system	
Polk County Utilities	Polo Davenport	Polk	Oklawaha River	1,463	0.11	0.11	G	Floridan aquifer system	
Polk County Utilities	Southeast Regional	Polk	Kissimmee River	3,081	0.43	0.43	G	Floridan aquifer system	
Polk County Utilities	Southwest Regional	Polk	Alafia River	21,259	2.20	2.20	G	Floridan aquifer system	
Polk County Utilities	Sun Air	Polk	Kissimmee River	954	0.08	0.08	G	Floridan aquifer system	
Polk County Utilities	Timber Lake	Polk	Kissimmee River	1,586	0.19	0.19	G	Floridan aquifer system	
Polk County Utilities	Walk-in-Water Estates	Polk	Kissimmee River	312	0.04	0.04	G	Floridan aquifer system	
Royal Palm Village		Polk	Kissimmee River	350	0.02	0.02	G	Floridan aquifer system	
S.W. Limited		Polk	Peace River	713	0.12	0.12	G	Floridan aquifer system	
Saddlebag Lake Resort		Polk	Kissimmee River	910	0.09	0.09	G	Floridan aquifer system	
Southern States Utilities	Gibsonia	Polk	Peace River	444	0.04	0.04	G	Floridan aquifer system	
Southern States Utilities	Lake Gibson W/S	Polk	Peace River	1,973	0.25	0.25	G	Floridan aquifer system	
Southern States Utilities	Orange Hill/Sugar Creek	Polk	Peace River	582	0.06	0.06	G	Floridan aquifer system	
Sports Shinko of Florida	Grenelefe Resort	Polk	Kissimmee River	1,989	2.11	2.11	G	Floridan aquifer system	
Sunrise Water Company	Whiting Water Works	Polk	Kissimmee River	540	0.07	0.07	G	Floridan aquifer system	
Sweetwater Golf/Tennis Resort		Polk	Peace River	300	0.18	0.18	G	Floridan aquifer system	
Valhalla Homeowners W/S		Polk	Peace River	89	0.07	0.07	G	Floridan aquifer system	
Village of Highlands Park		Polk	Peace River	215	0.10	0.10	G	Floridan aquifer system	
Winter Haven, city of		Polk	Peace River	45,378	6.14	6.14	G	Floridan aquifer system	
Crescent City, city of		Putnam	Lower St. Johns River	2,484	0.32	0.32	G	Floridan aquifer system	
Interlachen, town of		Putnam	Oklawaha River	1,376	0.09	0.09	G	Floridan aquifer system	
Lake Como W/A		Putnam	Lower St. Johns River	330	0.03	0.03	G	Floridan aquifer system	
Melrose, town of		Putnam	Santa Fe River	1,337	0.10	0.10	G	Floridan aquifer system	
Palatka, city of		Putnam	Lower St. Johns River	10,970	2.82	2.82	G	Floridan aquifer system	
St. Johns Harbor W/S		Putnam	Lower St. Johns River	260	0.03	0.03	G	Floridan aquifer system	
Southern States Utilities	Hermits Cove	Putnam	Lower St. Johns River	460	0.02	0.02	G	Floridan aquifer system	
Southern States Utilities	Interlachen Estates	Putnam	Oklawaha River	560	0.04	0.04	G	Floridan aquifer system	
Southern States Utilities	Palm Port	Putnam	Lower St. Johns River	303	0.02	0.02	G	Floridan aquifer system	
Southern States Utilities	Pomona Park	Putnam	Lower St. Johns River	465	0.03	0.03	G	Floridan aquifer system	
Southern States Utilities	River Grove	Putnam	Lower St. Johns River	265	0.02	0.02	G	Floridan aquifer system	
Southern States Utilities	River Park TP	Putnam	Lower St. Johns River	1,050	0.03	0.03	G	Floridan aquifer system	
Southern States Utilities	Saratoga Harbour	Putnam	Lower St. Johns River	161	0.01	0.01	G	Floridan aquifer system	
Southern States Utilities	Silver Lake Oaks	Putnam	Lower St. Johns River	83	0.01	0.01	G	Floridan aquifer system	
Southern States Utilities	St. Johns Highlands	Putnam	Lower St. Johns River	314	0.01	0.01	G	Floridan aquifer system	
Southern States Utilities	Welaka, town of	Putnam	Lower St. Johns River	700	0.01	0.01	G	Floridan aquifer system	
Bayside Estates W/S		St. Johns	Daytona-St. Augustine Coastal	148	0.07	0.07	G	Floridan aquifer system	
Fruit Cove Oaks W/S		St. Johns	Lower St. Johns River	511	0.05	0.05	G	Floridan aquifer system	
General Development Utilities	Julington Creek	St. Johns	Lower St. Johns River	1,650	0.27	0.27	G	Floridan aquifer system	
Hastings, city of		St. Johns	Lower St. Johns River	816	0.08	0.08	G	Floridan aquifer system	
Intercoastal Utilities		St. Johns	Lower St. Johns River	6,216	1.08	1.08	G	Floridan aquifer system	
North Beach W/S		St. Johns	Daytona-St. Augustine Coastal	1,790	0.22	0.22	G	Floridan aquifer system	
Oakridge Apartments		St. Johns	Lower St. Johns River	148	0.03	0.03	G	Floridan aquifer system	
Ponce De Leon Utilities		St. Johns	Daytona-St. Augustine Coastal	722	0.16	0.16	G	Floridan aquifer system	

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Ponte Vedra Utilities		St. Johns	Daytona-St. Augustine Coastal	5,059	0.91	0.91	G	Floridan aquifer system	
Porpoise Point W/S		St. Johns	Daytona-St. Augustine Coastal	200	0.08	0.08	G	Floridan aquifer system	
St. Augustine, city of		St. Johns	Daytona-St. Augustine Coastal	16,213	1.66	1.66	G	Surficial aquifer	
St. Johns County Utilities		St. Johns	Daytona-St. Augustine Coastal	26,730	3.20	3.20	G	Surficial aquifer	
St. Johns Forest W/S		St. Johns	Lower St. Johns River	N/A	0.03	0.03	G	Floridan aquifer system	
St. Johns North Utilities		St. Johns	Lower St. Johns River	1,119	0.33	0.33	G	Floridan aquifer system	
St. Johns Service Company		St. Johns	Daytona-St. Augustine Coastal	14,621	1.96	1.96	G	Floridan aquifer system	
Southern States Utilities	Remington Forest	St. Johns	Lower St. Johns River	231	0.04	0.04	G	Floridan aquifer system	
Wesley Manor W/S		St. Johns	Lower St. Johns River	477	0.06	0.06	G	Floridan aquifer system	
Wildwood W/S		St. Johns	Lower St. Johns River	N/A	0.07	0.07	G	Floridan aquifer system	
Fort Pierce Utility Auth.		St. Lucie	Vero Beach Coastal	35,000	9.31	N/A	G	Surficial aquifer	
North Hutchinson Island		St. Lucie	Vero Beach Coastal	8,200	0.00	N/A	P	Fort Pierce Utilities	
Harbor Ridge Utilities		St. Lucie	Everglades	1,461	0.12	0.12	G	Surficial aquifer	
Holiday Pines S/D		St. Lucie	Vero Beach Coastal	1,697	0.15	0.15	G	Floridan aquifer system	Desalination (0.15 Mgal/d)
Meadowood Master Assoc.		St. Lucie	Vero Beach Coastal	630	0.13	0.13	G	Surficial aquifer	
Miramar-Belle Vista		St. Lucie	Vero Beach Coastal	488	0.03	0.03	G	Floridan aquifer system	Desalination (0.03 Mgal/d)
Ocean Towers Utility	Island Village	St. Lucie	Vero Beach Coastal	493	0.05	0.05	G	Floridan aquifer system	Desalination (0.05 Mgal/d)
Princess Condominium		St. Lucie	Vero Beach Coastal	400	0.05	0.05	G	Floridan aquifer system	Desalination (0.05 Mgal/d)
Reserve Utilities		St. Lucie	Everglades	836	0.08	0.08	G	Surficial aquifer	
Spanish Lakes Country Club		St. Lucie	Everglades	3,289	0.24	0.24	G	Surficial aquifer	
Spanish Lakes Fairways		St. Lucie	Everglades	2,413	0.17	0.17	G	Floridan aquifer system	Desalination (0.17 Mgal/d)
Spanish Lakes MHP		St. Lucie	Everglades	3,523	0.26	0.26	G	Surficial aquifer	
St. Lucie County	Port St. Lucie W/S	St. Lucie	Everglades	43,769	4.09	4.09	G	Surficial aquifer	
St. Lucie West Utilities		St. Lucie	Everglades	3,790	0.55	0.55	G	Floridan aquifer system	Desalination (0.55 Mgal/d)
Vista St. Lucie Utilities		St. Lucie	Everglades	1,173	0.08	0.08	G	Surficial aquifer	
Bagdad/Garron W/S		Santa Rosa	Pensacola Bay	3,728	0.39	0.39	G	Sand-and-gravel aquifer	
Berrydale W/S		Santa Rosa	Blackwater River	1,549	0.21	0.21	G	Sand-and-gravel aquifer	
Chumuckala, city of		Santa Rosa	Escambia River	2,286	0.27	0.27	G	Sand-and-gravel aquifer	
East Milton W/S		Santa Rosa	Blackwater River	5,967	0.77	0.77	G	Sand-and-gravel aquifer	
Gulf Breeze, city of		Santa Rosa	Pensacola Bay	5,700	0.00	0.79	P	Escambia County Utility Auth.	Midway W/S (0.36 Mgal/d)
Holley/Navarre W/S		Santa Rosa	Pensacola Bay	9,463	1.48	1.48	G	Floridan aquifer system	
Jay, town of		Santa Rosa	Blackwater River	1,603	0.28	0.28	G	Sand-and-gravel aquifer	
Midway W/S		Santa Rosa	Pensacola Bay	10,500	1.72	1.00	G	Floridan aquifer system	Sand-and-gravel aquifer (0.26 Mgal/d) and sold (0.72 Mgal/d)
Milton, city of		Santa Rosa	Blackwater River	14,359	1.98	1.98	G	Sand-and-gravel aquifer	
Moore Creek/Mt. Carmel W/S		Santa Rosa	Lower Conecuh River	2,431	0.31	0.31	G	Sand-and-gravel aquifer	
Navarre Beach W/S		Santa Rosa	Pensacola Bay	1,981	0.27	0.27	G	Floridan aquifer system	
Pace, city of		Santa Rosa	Pensacola Bay	17,500	2.59	2.59	G	Sand-and-gravel aquifer	
Point Baker W/S		Santa Rosa	Blackwater River	5,387	0.66	0.66	G	Sand-and-gravel aquifer	
South Santa Rosa Utility		Santa Rosa	Pensacola Bay	8,576	0.36	0.52	G/P	Sand-and-gravel aquifer	Midway W/S (0.16 Mgal/d)
Camelot Lakes Utilities		Sarasota	Sarasota Bay	1,955	0.18	0.18	G	Intermediate aquifer	Desalination (0.18 Mgal/d)
Englewood W/D		Sarasota	Sarasota Bay	27,846	2.77	2.77	G	Surficial aquifer	Desalination (2.77 Mgal/d)
Florida Cities Water Company	Sarasota	Sarasota	Sarasota Bay	20,090	0.00	1.64	P	Sarasota County Utilities	
Northport, city of		Sarasota	Myakka River	11,108	0.90	2.10	P/S	PRMSRWSA	Myakkahatchee River (0.90 Mgal/d)
Sarasota County Utilities	University Parkway WF	Sarasota	Sarasota Bay	108,669	3.11	14.12	P/G	Manatee County Utilities	Floridan aquifer system/desalination (3.11 Mgal/d)
Sarasota County Utilities	Carlton Track WF	Sarasota	Myakka River	N/A	4.44	N/A	G	Intermediate aquifer	
Sarasota, city of	Verna WF	Sarasota	Sarasota Bay	63,235	5.02	9.77	G	Surficial aquifer	
Sarasota, city of	Downtown WF	Sarasota	Sarasota Bay	N/A	4.75	N/A	G	Floridan aquifer system	Desalination (4.75 Mgal/d)
Siesta Key Utilities		Sarasota	Sarasota Bay	16,601	0.00	1.64	P	Sarasota County Utilities	Purchased (1.79 Mgal/d) and sold (0.16 Mgal/d)
Southbay Utilities		Sarasota	Sarasota Bay	1,384	0.29	0.29	G	Intermediate aquifer	Desalination (0.29 Mgal/d)
Venice Gardens Utility Corp.		Sarasota	Sarasota Bay	14,735	1.02	1.94	G	Floridan aquifer system	Sarasota County Utilities (0.92 Mgal/d)
Venice Ranch MHP		Sarasota	Sarasota Bay	234	0.02	0.02	G	Intermediate aquifer	Desalination (0.02 Mgal/d)

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Venice, city of		Sarasota	Sarasota Bay	20,902	4.33	4.22	G	Floridan aquifer system	Desalination (4.33 Mgal/d) sold (0.11 Mgal/d)
Altamonte Springs, city of		Seminole	Upper St. Johns River	37,917	6.48	6.48	G	Floridan aquifer system	
Bretton Woods W/S		Seminole	Upper St. Johns River	886	0.13	0.13	G	Floridan aquifer system	
Casselberry, city of		Seminole	Upper St. Johns River	35,000	5.92	5.92	G	Floridan aquifer system	
Lake Harney W/A		Seminole	Upper St. Johns River	437	0.05	0.05	G	Floridan aquifer system	
Lake Mary, city of		Seminole	Upper St. Johns River	7,251	1.75	1.75	G	Floridan aquifer system	
Longwood, city of		Seminole	Upper St. Johns River	13,602	2.00	2.00	G	Floridan aquifer system	
Mullet Lake W/A		Seminole	Upper St. Johns River	692	0.04	0.04	G	Floridan aquifer system	
Oviedo, city of		Seminole	Upper St. Johns River	17,910	2.82	2.82	G	Floridan aquifer system	
Palm Valley MHP		Seminole	Upper St. Johns River	1,649	0.23	0.23	G	Floridan aquifer system	
Sanford, city of		Seminole	Upper St. Johns River	35,311	5.74	5.74	G	Floridan aquifer system	
Sanlando Utilities Corp.	Despinar	Seminole	Upper St. Johns River	4,662	2.65	2.65	G	Floridan aquifer system	
Sanlando Utilities Corp.	Knollwood	Seminole	Upper St. Johns River	783	0.07	0.07	G	Floridan aquifer system	
Sanlando Utilities Corp.	Wekiva Hunt Club	Seminole	Upper St. Johns River	23,115	6.09	6.09	G	Floridan aquifer system	
Seminole County Utilities	Consumers	Seminole	Upper St. Johns River	28,182	3.00	3.00	G	Floridan aquifer system	
Seminole County Utilities	Country Club Heights	Seminole	Upper St. Johns River	2,938	0.52	0.52	G	Floridan aquifer system	
Seminole County Utilities	Greenwood Lakes	Seminole	Upper St. Johns River	9,013	1.55	1.55	G	Floridan aquifer system	
Seminole County Utilities	Hanover Woods/Monroe	Seminole	Upper St. Johns River	620	0.36	0.36	G	Floridan aquifer system	
Seminole County Utilities	Heathrow	Seminole	Upper St. Johns River	4,192	1.37	1.37	G	Floridan aquifer system	
Seminole County Utilities	Indian Hills	Seminole	Upper St. Johns River	N/A	1.79	1.79	G	Floridan aquifer system	Population served included under Consumers
Seminole County Utilities	Lake Hayes	Seminole	Upper St. Johns River	5,935	1.56	1.56	G	Floridan aquifer system	
Seminole County Utilities	Lynwood/Belaire	Seminole	Upper St. Johns River	5,027	0.88	0.88	G	Floridan aquifer system	
Seminole Pines/Indian Creek		Seminole	Upper St. Johns River	318	0.04	0.04	G	Floridan aquifer system	
Seminole Woods W/S		Seminole	Upper St. Johns River	343	0.04	0.04	G	Floridan aquifer system	
Southern States Utilities	Apple Valley	Seminole	Upper St. Johns River	2,513	0.46	0.46	G	Floridan aquifer system	
Southern States Utilities	Chuluota	Seminole	Upper St. Johns River	1,980	0.21	0.21	G	Floridan aquifer system	
Southern States Utilities	Dol-Ray Manor	Seminole	Upper St. Johns River	161	0.04	0.04	G	Floridan aquifer system	
Southern States Utilities	Druid Hills	Seminole	Upper St. Johns River	668	0.13	0.13	G	Floridan aquifer system	
Southern States Utilities	Fern Park	Seminole	Upper St. Johns River	475	0.04	0.04	G	Floridan aquifer system	
Southern States Utilities	Harmony Homes	Seminole	Upper St. Johns River	169	0.02	0.02	G	Floridan aquifer system	
Southern States Utilities	Lake Brantley	Seminole	Upper St. Johns River	182	0.02	0.02	G	Floridan aquifer system	
Southern States Utilities	Lake Harriett	Seminole	Upper St. Johns River	750	0.04	0.04	G	Floridan aquifer system	
Southern States Utilities	Meridith Manor	Seminole	Upper St. Johns River	1,793	0.27	0.27	G	Floridan aquifer system	
Town and Country RV Park		Seminole	Upper St. Johns River	100	0.02	0.02	G	Floridan aquifer system	
Twelve Oaks RV Park		Seminole	Upper St. Johns River	500	0.03	0.03	G	Floridan aquifer system	
Utilities Inc. of Florida	Bear Lake	Seminole	Upper St. Johns River	573	0.06	0.06	G	Floridan aquifer system	
Utilities Inc. of Florida	Crystal Lake	Seminole	Upper St. Johns River	436	0.04	0.04	G	Floridan aquifer system	
Utilities Inc. of Florida	Jansen	Seminole	Upper St. Johns River	512	0.07	0.07	G	Floridan aquifer system	
Utilities Inc. of Florida	Little Wekiva Estates	Seminole	Upper St. Johns River	161	0.01	0.01	G	Floridan aquifer system	
Utilities Inc. of Florida	Oakland Shores	Seminole	Upper St. Johns River	697	0.10	0.10	G	Floridan aquifer system	
Utilities Inc. of Florida	Park Ridge	Seminole	Upper St. Johns River	267	0.02	0.02	G	Floridan aquifer system	
Utilities Inc. of Florida	Phillips Section	Seminole	Upper St. Johns River	182	0.03	0.03	G	Floridan aquifer system	
Utilities Inc. of Florida	Ravenna Park	Seminole	Upper St. Johns River	919	0.10	0.10	G	Floridan aquifer system	
Utilities Inc. of Florida	Weathersfield	Seminole	Upper St. Johns River	3,144	0.35	0.35	G	Floridan aquifer system	
Winter Springs, city of	Stations 2 and 3	Seminole	Upper St. Johns River	12,881	1.48	1.48	G	Floridan aquifer system	
Winter Springs, city of	Tuscawilla	Seminole	Upper St. Johns River	12,792	2.07	2.07	G	Floridan aquifer system	
Brown, Roland	Fairways at Rolling Hills	Sumter	Withlacoochee River	534	0.04	0.04	G	Floridan aquifer system	
Bushnell, city of		Sumter	Withlacoochee River	2,273	0.28	0.28	G	Floridan aquifer system	
Cedar Acres Inc.		Sumter	Withlacoochee River	157	0.06	0.06	G	Floridan aquifer system	
Center Hill, city of		Sumter	Withlacoochee River	788	0.08	0.08	G	Floridan aquifer system	
Continental Counrty Club Inc.		Sumter	Withlacoochee River	2,592	0.45	0.45	G	Floridan aquifer system	
Lake Panasoffkee W/A		Sumter	Withlacoochee River	3,708	0.24	0.24	G	Floridan aquifer system	

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Webster, city of		Sumter	Withlacoochee River	942	0.14	0.14	G	Floridan aquifer system	
Wildwood, city of		Sumter	Withlacoochee River	3,992	0.73	0.73	G	Floridan aquifer system	
Advent Village W/S		Suwannee	Lower Suwannee River	397	0.08	0.08	G	Floridan aquifer system	
Branford, town of		Suwannee	Lower Suwannee River	1,044	0.11	0.11	G	Floridan aquifer system	
Friars TP		Suwannee	Lower Suwannee River	358	0.04	0.04	G	Floridan aquifer system	
Live Oak, city of		Suwannee	Lower Suwannee River	6,917	1.16	1.16	G	Floridan aquifer system	
Wellborn, town of		Suwannee	Upper Suwannee River	560	0.03	0.03	G	Floridan aquifer system	
Cedar Island W/S		Taylor	Econfina-Steinhatchee Rivers	130	0.01	0.01	G	Floridan aquifer system	
Perry, city of		Taylor	Econfina-Steinhatchee Rivers	7,259	1.74	1.74	G	Floridan aquifer system	
Steinhatchee W/A		Taylor	Econfina-Steinhatchee Rivers	2,288	0.15	0.15	G	Floridan aquifer system	
Taylor Beaches W/S		Taylor	Econfina-Steinhatchee Rivers	450	0.03	0.03	G	Floridan aquifer system	
Lake Butler, city of		Union	Santa Fe River	4,000	0.38	0.38	G	Floridan aquifer system	
Colony in the Woods MHP		Volusia	Daytona-St. Augustine Coastal	885	0.05	0.05	G	Floridan aquifer system	
Daytona Beach, city of		Volusia	Daytona-St. Augustine Coastal	82,314	12.42	N/A	G	Floridan aquifer system	
South Daytona, city of		Volusia	Daytona-St. Augustine Coastal	N/A	0.00	N/A	P	Daytona Beach, city of	Population served included under Daytona Beach, city of
De Land, city of	Brandywine	Volusia	Upper St. Johns River	2,887	0.43	0.43	G	Floridan aquifer system	
De Land, city of	Gleenwood Estates	Volusia	Upper St. Johns River	165	0.02	0.02	G	Floridan aquifer system	
De Land, city of	Holiday Hills	Volusia	Upper St. Johns River	738	0.06	0.06	G	Floridan aquifer system	
De Land, city of	Spring Garden Hills	Volusia	Upper St. Johns River	273	0.02	0.02	G	Floridan aquifer system	
De Land, city of	Stations 1, 2, 4, 5, 6, 13	Volusia	Upper St. Johns River	32,000	4.50	4.50	G	Floridan aquifer system	
De Land, city of	Tomoka Woods	Volusia	Lower St. Johns River	101	0.02	0.02	G	Floridan aquifer system	
De Land, city of	Woodland Manor MHP	Volusia	Upper St. Johns River	1,176	0.03	0.03	G	Floridan aquifer system	
Duvall Home for Children		Volusia	Upper St. Johns River	250	0.03	0.03	G	Floridan aquifer system	
Edgewater, city of		Volusia	Cape Canaveral Coastal	17,484	1.49	1.49	G	Floridan aquifer system	
Eldorado Estates W/S		Volusia	Cape Canaveral Coastal	305	0.02	0.02	G	Floridan aquifer system	
Elmwood TP		Volusia	Daytona-St. Augustine Coastal	240	0.01	0.01	G	Floridan aquifer system	
Florida United Methodist Home		Volusia	Upper St. Johns River	138	0.02	0.02	G	Floridan aquifer system	
Hacienda Del Rio W/S		Volusia	Upper St. Johns River	832	0.12	0.12	G	Floridan aquifer system	
Hidden Valley Park		Volusia	Upper St. Johns River	463	0.02	0.02	G	Floridan aquifer system	
Holly Hill, city of		Volusia	Daytona-St. Augustine Coastal	11,539	1.16	1.16	G	Floridan aquifer system	
John Knox Village W/S		Volusia	Upper St. Johns River	909	0.21	0.21	G	Floridan aquifer system	
Kingston Shores W/A		Volusia	Daytona-St. Augustine Coastal	250	0.02	0.02	G	Floridan aquifer system	
Kove Estates		Volusia	Upper St. Johns River	715	0.03	0.03	G	Floridan aquifer system	
Lake Beresford W/A		Volusia	Upper St. Johns River	1,074	0.17	0.17	G	Floridan aquifer system	
Lake Helen, city of		Volusia	Upper St. Johns River	2,344	0.24	0.24	G	Floridan aquifer system	
Lemon Bluff W/A		Volusia	Upper St. Johns River	189	0.01	0.01	G	Floridan aquifer system	
Lingering Lane MHP		Volusia	Upper St. Johns River	203	0.02	0.02	G	Floridan aquifer system	
Magnolias W/S		Volusia	Cape Canaveral Coastal	457	0.05	0.05	G	Floridan aquifer system	
Meadowlea Estates		Volusia	Upper St. Johns River	431	0.03	0.03	G	Floridan aquifer system	
Meadowlea on the River		Volusia	Upper St. Johns River	562	0.04	0.04	G	Floridan aquifer system	
New Smyrna Beach, city of		Volusia	Daytona-St. Augustine Coastal	23,312	4.27	4.27	G	Floridan aquifer system	
Orange City, city of		Volusia	Upper St. Johns River	6,117	1.33	1.33	G	Floridan aquifer system	
Ormond Beach, city of		Volusia	Daytona-St. Augustine Coastal	39,263	4.90	4.90	G	Floridan aquifer system	
Pierson, town of		Volusia	Upper St. Johns River	1,230	0.12	0.12	G	Floridan aquifer system	
Port Orange, city of		Volusia	Daytona-St. Augustine Coastal	46,344	5.28	N/A	G	Floridan aquifer system	
Ponce Inlet, town of		Volusia	Daytona-St. Augustine Coastal	N/A	0.00	N/A	P	Port Orange, city of	Population served included under Port Orange, city of
Southern States Utilities	Deltona	Volusia	Upper St. Johns River	71,400	9.12	9.12	G	Floridan aquifer system	
Southern States Utilities	Sugar Mill	Volusia	Daytona-St. Augustine Coastal	2,254	0.12	0.12	G	Floridan aquifer system	
Strawn Water Plant		Volusia	Upper St. Johns River	42	0.01	0.01	G	Floridan aquifer system	
Sunny Sands Resort Inc.		Volusia	Upper St. Johns River	198	0.01	0.01	G	Floridan aquifer system	
Terra Mar Village W/S		Volusia	Cape Canaveral Coastal	769	0.01	0.01	G	Floridan aquifer system	
Tomoka Water Works	Tomoka View Estates	Volusia	Daytona-St. Augustine Coastal	405	0.04	0.04	G	Floridan aquifer system	

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Utility/Owner	Facility/Plant	County	Cataloging unit of water user	1995 estimates				Primary water source	Comments/secondary water source
				Population served	Water withdrawn (Mgal/d)	Water use (Mgal/d)			
Tomoka Water Works	Twin Rivers Estates	Volusia	Daytona-St. Augustine Coastal	205	0.03	0.03	G	Floridan aquifer system	
Tymber Creek Utilities		Volusia	Daytona-St. Augustine Coastal	1,138	0.11	0.11	G	Floridan aquifer system	
Village of Pine Run		Volusia	Daytona-St. Augustine Coastal	261	0.03	0.03	G	Floridan aquifer system	
Volusia County Utilities	Blue Springs	Volusia	Upper St. Johns River	100	0.03	0.03	G	Floridan aquifer system	
Volusia County Utilities	Breezewood	Volusia	Upper St. Johns River	N/A	0.50	0.50	G	Floridan aquifer system	Population served included under West Volusia Int.
Volusia County Utilities	Cassadaga	Volusia	Upper St. Johns River	424	0.02	0.02	G	Floridan aquifer system	
Volusia County Utilities	Deltona North	Volusia	Upper St. Johns River	5,348	0.29	0.29	G	Floridan aquifer system	
Volusia County Utilities	Four Towns	Volusia	Upper St. Johns River	N/A	0.12	0.12	G	Floridan aquifer system	Population served included under West Volusia Int.
Volusia County Utilities	Glen Abbey	Volusia	Upper St. Johns River	N/A	0.79	0.79	G	Floridan aquifer system	Population served included under West Volusia Int.
Volusia County Utilities	Halifax Plantation	Volusia	Daytona-St. Augustine Coastal	437	0.07	0.07	G	Floridan aquifer system	
Volusia County Utilities	Highland Counrty Estates	Volusia	Upper St. Johns River	N/A	0.02	0.02	G	Floridan aquifer system	Population served included under West Volusia Int.
Volusia County Utilities	Indian Harbor Estates	Volusia	Cape Canaveral Coastal	540	0.03	0.03	G	Floridan aquifer system	
Volusia County Utilities	Lighthouse Cove	Volusia	Cape Canaveral Coastal	N/A	0.00	0.00	G	Floridan aquifer system	
Volusia County Utilities	Pine Island Utility	Volusia	Upper St. Johns River	340	0.01	0.01	G	Floridan aquifer system	
Volusia County Utilities	South Water Front Park	Volusia	Cape Canaveral Coastal	818	0.03	0.03	G	Floridan aquifer system	
Volusia County Utilities	Spruce Creek	Volusia	Daytona-St. Augustine Coastal	3,294	0.25	0.25	G	Floridan aquifer system	
Volusia County Utilities	West Volusia Int.	Volusia	Upper St. Johns River	11,857	N/A	N/A	G	Floridan aquifer system	
Mysterious Waters S/D		Wakulla	Apalachee Bay-St. Marks River	135	0.01	0.01	G	Floridan aquifer system	
Panacea W/S		Wakulla	Apalachee Bay-St. Marks River	2,410	0.23	0.23	G	Floridan aquifer system	
Sopchoppy, town of		Wakulla	Lower Ochlockonee River	3,003	0.44	0.44	G	Floridan aquifer system	
St. Marks, town of		Wakulla	Apalachee Bay-St. Marks River	508	0.10	0.10	G	Floridan aquifer system	
Talquin Electric Cooperative	Gulf Coast W/S	Wakulla	Apalachee Bay-St. Marks River	2,507	0.28	0.28	G	Floridan aquifer system	
Argyle W/S		Walton	Lower Choctawhatchee River	691	0.06	0.06	G	Floridan aquifer system	
De Funiak Springs, city of		Walton	Lower Choctawhatchee River	5,384	1.00	1.00	G	Floridan aquifer system	
Florida Com. Service Company	Beachwood Viilas	Walton	St. Andrews-St. Joseph Bays	285	0.01	0.01	G	Floridan aquifer system	
Florida Com. Service Company	Camp Creek	Walton	St. Andrews-St. Joseph Bays	350	0.01	0.01	G	Floridan aquifer system	
Florida Com. Service Company	Saddlebrook Downs	Walton	St. Andrews-St. Joseph Bays	56	0.01	0.01	G	Floridan aquifer system	
Florida Com. Service Company	Seagrove Beach	Walton	St. Andrews-St. Joseph Bays	3,378	0.61	0.61	G	Floridan aquifer system	
Florida Com. Service Company	Westside/Sandcliff	Walton	St. Andrews-St. Joseph Bays	75	0.03	0.03	G	Floridan aquifer system	
Freeport, city of		Walton	Choctawhatchee Bay	952	0.29	0.29	G	Floridan aquifer system	
Gulf Trace W/S		Walton	Choctawhatchee Bay	142	0.02	0.02	G	Floridan aquifer system	
Inlet Beach W/S		Walton	St. Andrews-St. Joseph Bays	852	0.07	0.07	G	Floridan aquifer system	
Lake Sharon Estates		Walton	Choctawhatchee Bay	107	0.02	0.02	G	Floridan aquifer system	
Mossy Head W/S		Walton	Yellow River	820	0.08	0.08	G	Floridan aquifer system	
Paxton, town of		Walton	Yellow River	1,503	0.20	0.20	G	Floridan aquifer system	
Smith Water Company	Villa Tasso	Walton	Choctawhatchee Bay	598	0.06	0.06	G	Floridan aquifer system	
Smith Water Company	Choctow Beach	Walton	Choctawhatchee Bay	695	0.07	0.07	G	Floridan aquifer system	
South Walton Utility Company		Walton	Choctawhatchee Bay	13,304	1.80	1.80	G	Floridan aquifer system	
Ten Lake Estates		Walton	Lower Choctawhatchee River	98	0.01	0.01	G	Floridan aquifer system	
Caryville, town of		Washington	Lower Choctawhatchee River	612	0.08	0.08	G	Floridan aquifer system	
Chipley, city of		Washington	Lower Choctawhatchee River	4,656	0.74	0.74	G	Floridan aquifer system	
Southern States Utilities	Sunny Hills	Washington	St. Andrews-St. Joseph Bays	1,132	0.15	0.15	G	Floridan aquifer system	
Vernon, city of		Washington	Lower Choctawhatchee River	830	0.13	0.13	G	Floridan aquifer system	
Wausau, town of		Washington	Lower Choctawhatchee River	310	0.04	0.04	G	Floridan aquifer system	

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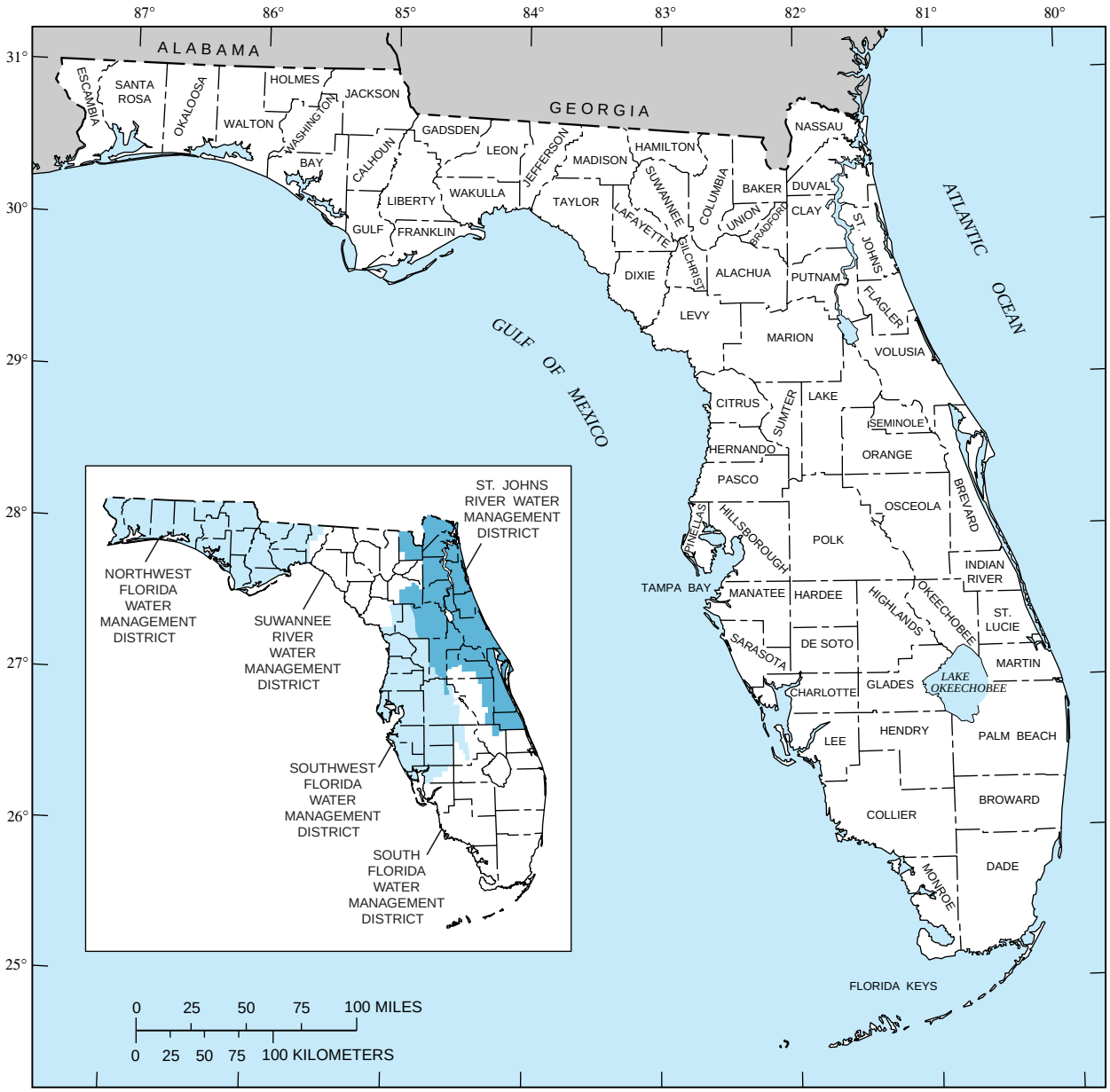
APPENDIX II

APPENDIX II

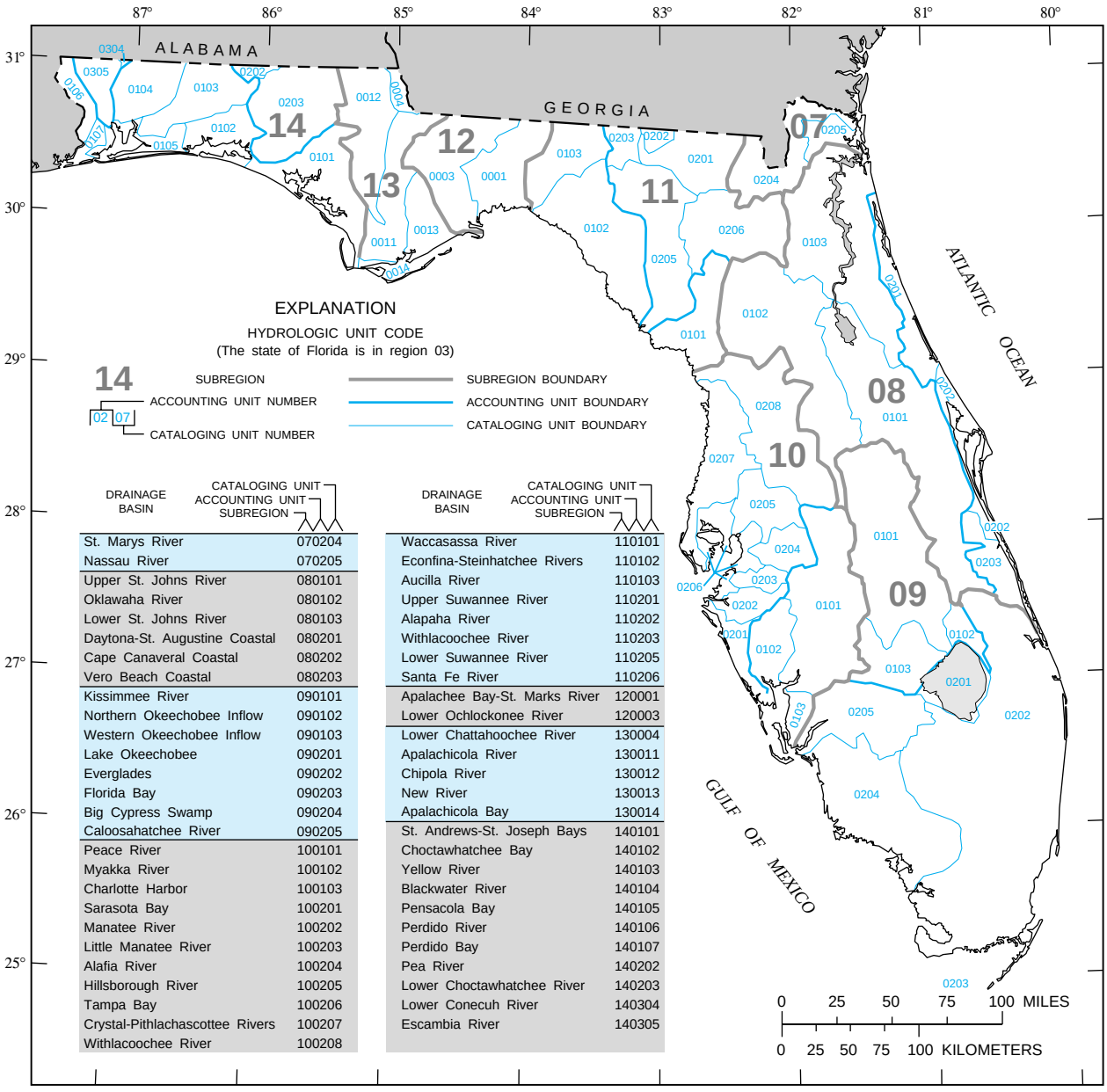
Purpose, data sources, and references

The purpose of this table is to provide additional and more specific information on the domestic and industrial wastewater facilities that were inventoried for this project. Most of the data or information in this table was obtained from the Florida Department of Environmental Protection, Domestic and Industrial Wastewater Program offices in Tallahassee with assistance from personnel in the Ft. Myers, Jacksonville, Orlando, Pensacola, Tampa, and West Palm Beach District Offices. Additional data was obtained from the five water management districts (Northwest Florida, St. Johns River, South Florida, Southwest Florida, and the Suwannee River), the Florida Department of Health, County Health Department offices in Broward, Hillsborough, and Palm Beach Counties, or from specific utilities or industries including Florida Water Services (formerly Southern States Utilities). This table can be obtained from the USGS on diskette in spreadsheet format.



ABBREVIATIONS AND ACRONYMS USED IN APPENDIX II

AFB = Air Force Base	NW = Northwest
Assoc. = Association	RIB = Rapid Infiltration Basin
Auth. = Authority	R/O = Reverse Osmosis
AWWT = Advanced Wastewater Treatment	RV = Recreational Vehicle
BOCC = Board of County Commissioners	S/D = Subdivision
Com. = Community	SR = State Road
Coop. = Cooperative	STP = Sewage Treatment Plant
Corp. = Corporation	TP = Trailer Park
Dept. = Department	U.S. = United States
ECD = Environmental Control District	W/A = Water Authority or Water Association
I/D = Improvement District	W/D = Water District
Inc. = Incorporated	W/S = Water System
Mgal/d = Million gallons per day	WPCF = Water Pollution Control Facility
MHP = Mobile Home Park	WRF = Water Reclamation Facility
N/A = Not Available	WRWSA = Withlacoochee River Water Supply Authority
NAS = Naval Air Station	WSA = Water and Sewer Authority
NE = Northeast	WWTP = Waste-Water Treatment Plant



DRAINAGE BASIN	CATALOGING UNIT / ACCOUNTING UNIT / SUBREGION
St. Marys River	070204
Nassau River	070205
Upper St. Johns River	080101
Oklawaha River	080102
Lower St. Johns River	080103
Daytona-St. Augustine Coastal	080201
Cape Canaveral Coastal	080202
Vero Beach Coastal	080203
Kissimmee River	090101
Northern Okeechobee Inflow	090102
Western Okeechobee Inflow	090103
Lake Okeechobee	090201
Everglades	090202
Florida Bay	090203
Big Cypress Swamp	090204
Caloosahatchee River	090205
Peace River	100101
Myakka River	100102
Charlotte Harbor	100103
Sarasota Bay	100201
Manatee River	100202
Little Manatee River	100203
Alafia River	100204
Hillsborough River	100205
Tampa Bay	100206
Crystal-Pithlachascottee Rivers	100207
Withlacoochee River	100208

DRAINAGE BASIN	CATALOGING UNIT / ACCOUNTING UNIT / SUBREGION
Waccasassa River	110101
Econfina-Steinhatchee Rivers	110102
Aucilla River	110103
Upper Suwannee River	110201
Alapaha River	110202
Withlacoochee River	110203
Lower Suwannee River	110205
Santa Fe River	110206
Apalachee Bay-St. Marks River	120001
Lower Ochlockonee River	120003
Lower Chattahoochee River	130004
Apalachicola River	130011
Chipola River	130012
New River	130013
Apalachicola Bay	130014
St. Andrews-St. Joseph Bays	140101
Choctawhatchee Bay	140102
Yellow River	140103
Blackwater River	140104
Pensacola Bay	140105
Perdido River	140106
Perdido Bay	140107
Pea River	140202
Lower Choctawhatchee River	140203
Lower Conecuh River	140304
Escambia River	140305

APPENDIX II. Treated domestic and industrial wastewater discharge, population served, and discharge method by facility in Florida, 1995

[Sources: U.S. Geological Survey and the Florida Department of Environmental Protection; Abbrevations and location of cataloging units and counties are found on pages 76 and 77; plant capacity and discharge are in million gallons per day; ground discharge includes absorption beds, drainfields, percolation ponds, rapid infiltration basins, spray fields and land application/reuse systems]

Utility/Owner/Plant	Facility/Plant	County	Cataloging unit	Population served	Plant capacity	1995 Discharge				System type	Discharge method or receiving water body
						Total	Ground	Injection Well	Surface		
Alachua, city of		Alachua	Santa Fe River	2,500	0.40	0.48	0.48	0.00	0.00	Domestic	Spray field
Gainesville Regional Utilities	STP 5 - Kanapaha	Alachua	Oklawaha River	66,600	10.00	7.25	0.00	7.25	0.00	Domestic	Injection well
Gainesville Regional Utilities	STP 1 and STP 2	Alachua	Oklawaha River	55,000	7.50	6.44	0.00	0.00	6.44	Domestic	Sweetwater Branch
Hawthorne, city of		Alachua	Oklawaha River	1,100	0.15	0.04	0.04	0.00	0.00	Domestic	Percolation pond
Newberry, city of		Alachua	Waccasassa River	3,870	0.42	0.27	0.27	0.00	0.00	Domestic	Spray field
Turkey Creek Utilities		Alachua	Santa Fe River	3,500	0.35	0.08	0.08	0.00	0.00	Domestic	Spray field
University of Florida		Alachua	Oklawaha River	N/A	3.00	1.89	0.00	1.89	0.00	Domestic	Injection well/Lake Alice
Waldo, city of		Alachua	Oklawaha River	790	0.08	0.08	0.00	0.00	0.08	Domestic	Cypress Wetlands
Energizer Power Systems Inc.	Alachua	Alachua	Santa Fe River	N/A	1.60	0.71	0.00	0.00	0.71	Industrial	Cellon Creek
Florida Dept. of Corrections	Baker Correctional	Baker	Santa Fe River	N/A	0.19	0.18	0.18	0.00	0.00	Domestic	Percolation pond
Florida Dept. of Corrections	NE Florida Hospital	Baker	St. Marys River	N/A	0.30	0.11	0.00	0.00	0.11	Domestic	Unnamed wetlands
Macclenny, city of		Baker	St. Marys River	2,500	0.64	0.67	0.00	0.00	0.67	Domestic	Turkey Creek
Bay County Public Utilities	Regional WWTP	Bay	St. Andrews-St. Joseph Bay	53,000	37.00	30.58	0.00	0.00	30.58	Domestic	St. Andrews Bay
Panama City Beach , city of	Main WWTP	Bay	St. Andrews-St. Joseph Bay	10,600	7.00	3.58	0.00	0.00	3.58	Domestic	Ditch to West Bay
Panama City Beach , city of	Bay Point STP	Bay	St. Andrews-St. Joseph Bay	1,300	0.50	0.28	0.28	0.00	0.00	Domestic	Reuse system
Panama City, city of	St. Andrews WWTP	Bay	St. Andrews-St. Joseph Bay	10,600	5.00	3.18	0.00	0.00	3.18	Domestic	St. Andrews Bay
U.S. Navy	Coastal System Center	Bay	St. Andrews-St. Joseph Bay	N/A	0.20	0.14	0.00	0.00	0.14	Domestic	St. Andrews Bay
Florida Dept. of Corrections	Lawtey Correctional	Bradford	Santa Fe River	N/A	0.11	0.06	0.00	0.00	0.06	Domestic	New River
Florida Dept. of Corrections	Florida State Prison	Bradford	Santa Fe River	N/A	1.30	1.18	0.00	0.00	1.18	Domestic	New River
Starke, city of		Bradford	Santa Fe River	6,500	1.20	1.04	0.00	0.00	1.04	Domestic	Alligator Creek
E.I. Dupont De Nemours Inc.	Trailridge Plant	Bradford	Santa Fe River	N/A	20.00	7.61	0.00	0.00	7.61	Industrial	Alligator Creek
Brevard County Utilities	North Brevard WWTP	Brevard	Cape Canaveral Coastal	N/A	1.00	0.25	0.25	0.00	0.00	Domestic	Percolation pond
Brevard County Utilities	Port St. John WWTP	Brevard	Cape Canaveral Coastal	5,000	0.50	0.28	0.28	0.00	0.00	Domestic	Spray field
Brevard County Utilities	South Beaches WWTP	Brevard	Cape Canaveral Coastal	5,500	9.00	6.41	0.67	5.74	0.00	Domestic	Injection well/reuse system
Brevard County Utilities	South Central WWTP	Brevard	Cape Canaveral Coastal	12,000	3.00	1.93	1.93	0.00	0.00	Domestic	Spray field
Brevard County Utilities	Sykes Creek WWTP	Brevard	Cape Canaveral Coastal	52,000	6.00	3.45	0.83	2.62	0.00	Domestic	Injection well/reuse system
Cape Canaveral, city of		Brevard	Cape Canaveral Coastal	5,300	1.80	1.32	0.00	0.00	1.32	Domestic	Banana River
Cocoa Beach, city of		Brevard	Cape Canaveral Coastal	30,000	6.00	4.15	2.28	0.00	1.87	Domestic	Banana River/reuse system
Cocoa, city of		Brevard	Cape Canaveral Coastal	4,764	4.50	2.67	0.00	0.00	2.67	Domestic	Indian River
Florida Cities Water Company	Barefoot Bay WWTP	Brevard	Cape Canaveral Coastal	2,200	0.90	0.78	0.08	0.00	0.70	Domestic	Indian River/spray field
Kennedy Space Center	STP 1	Brevard	Cape Canaveral Coastal	N/A	0.20	0.13	0.00	0.00	0.13	Domestic	Buck Creek
Kennedy Space Center	STP 4	Brevard	Cape Canaveral Coastal	N/A	0.37	0.11	0.00	0.00	0.11	Domestic	Banana Creek
Kennedy Space Center	STP 10	Brevard	Cape Canaveral Coastal	N/A	0.10	0.04	0.04	0.00	0.00	Domestic	Percolation pond
Melbourne, city of	D.B. Lee WWTP	Brevard	Cape Canaveral Coastal	26,350	5.00	4.92	0.00	4.42	0.50	Domestic	Injection well/Elbow Creek
Melbourne, city of	Grant Street WWTP	Brevard	Cape Canaveral Coastal	47,950	5.15	3.12	1.87	1.25	0.00	Domestic	Injection well/reuse system
Palm Bay, city of		Brevard	Cape Canaveral Coastal	12,310	4.00	3.41	0.99	2.42	0.00	Domestic	Injection well/reuse system
Rockledge, city of		Brevard	Cape Canaveral Coastal	11,500	4.50	1.95	0.00	0.00	1.95	Domestic	Indian River
Sun Lake Estates		Brevard	Cape Canaveral Coastal	1,350	0.14	0.07	0.07	0.00	0.00	Domestic	Percolation pond
Titusville, city of	North WWTP	Brevard	Cape Canaveral Coastal	16,700	2.75	2.41	0.00	0.00	2.41	Domestic	Indain River
Titusville, city of	South WWTP	Brevard	Cape Canaveral Coastal	24,096	2.00	1.47	0.00	0.00	1.47	Domestic	Indain River
U.S. Air Force	Cape Canaveral	Brevard	Cape Canaveral Coastal	N/A	0.49	0.26	0.26	0.00	0.00	Domestic	Percolation pond
West Melbourne, city of		Brevard	Cape Canaveral Coastal	13,000	1.90	1.08	0.13	0.95	0.00	Domestic	Injection well/reuse system
Broward County Utilities	North District WWTP	Broward	Everglades	400,000	80.00	66.50	0.00	23.00	43.50	Domestic	Atlantic Ocean/injection well
Cooper City, city of		Broward	Everglades	12,600	1.25	1.25	0.00	0.00	1.25	Domestic	Atlantic Ocean
Coral Springs, city of		Broward	Everglades	20,000	3.00	4.65	0.00	4.65	0.00	Domestic	Injection well
Davie, town of		Broward	Everglades	5,020	3.00	2.20	0.00	0.00	2.20	Domestic	Atlantic Ocean
Ferncrest Utilities		Broward	Everglades	5,500	0.60	0.27	0.00	0.00	0.27	Domestic	Evaporation pond
Ft. Lauderdale, city of	Lohmeyer WWTP	Broward	Everglades	224,420	43.00	40.68	0.00	40.68	0.00	Domestic	Injection well
Hollywood, city of		Broward	Everglades	180,000	42.00	33.18	0.00	0.00	33.18	Domestic	Atlantic Ocean
Margate, city of		Broward	Everglades	47,279	8.00	8.08	0.00	8.08	0.00	Domestic	Injection well
Pembroke Pines, city of		Broward	Everglades	12,000	3.50	3.63	0.00	3.63	0.00	Domestic	Injection well
Plantation, city of		Broward	Everglades	75,184	15.00	12.77	0.00	12.77	0.00	Domestic	Injection well
Pompano Beach, city of		Broward	Everglades	N/A	2.50	1.50	1.50	0.00	0.00	Domestic	Reuse system
South Broward Utility Inc.		Broward	Everglades	5,267	0.50	0.50	0.50	0.00	0.00	Domestic	Percolation pond

APPENDIX II. Treated domestic and industrial wastewater discharge, population served, and discharge method by facility in Florida, 1995

[Sources: U.S. Geological Survey and the Florida Department of Environmental Protection; Abbrevations and location of cataloging units and counties are found on pages 76 and 77; plant capacity and discharge are in million gallons per day; ground discharge includes absorption beds, drainfields, percolation ponds, rapid infiltration basins, spray fields and land application/reuse systems]

Utility/Owner/Plant	Facility/Plant	County	Cataloging unit	Population served	Plant capacity	1995 Discharge				System type	Discharge method or receiving water body
						Total	Ground	Injection Well	Surface		
Sunrise, city of	STP 1	Broward	Everglades	40,000	7.50	7.05	0.00	7.05	0.00	Domestic	Injection well
Sunrise, city of	STP 2	Broward	Everglades	14,480	3.00	1.54	0.00	1.54	0.00	Domestic	Injection well
Sunrise, city of	STP 3	Broward	Everglades	50,000	8.50	7.39	0.00	7.39	0.00	Domestic	Injection well
Blountstown, city of		Calhoun	Apalachicola River	2,400	0.60	0.69	0.00	0.00	0.69	Domestic	Sutton Creek
Charlotte County Utilities	Eastport WWTP	Charlotte	Peace River	30,000	5.00	2.35	0.00	1.40	0.95	Domestic	Injection well/spray field
Charlotte County Utilities	Southport WWTP	Charlotte	Peace River	13,213	1.20	0.79	0.79	0.00	0.00	Domestic	Spray field
Charlotte County Utilities	West Murdock	Charlotte	Myakka River	N/A	N/A	0.00	0.00	0.00	0.00	Domestic	Under construction
Charlotte County Utilities	Westport	Charlotte	Peace River	3,300	0.33	0.26	0.26	0.00	0.00	Domestic	Spray field
Florida Dept. of Corrections	Charlotte Correctional	Charlotte	Caloosahatchee River	N/A	0.18	0.15	0.15	0.00	0.00	Domestic	Percolation pond
Punta Gorda, city of		Charlotte	Peace River	17,738	3.20	2.21	2.21	0.00	0.00	Domestic	Myrtle Slough/spray field
Rampart Utilities		Charlotte	Peace River	2,170	0.31	0.11	0.11	0.00	0.00	Domestic	Spray field
Rotondra West Utility Corp.		Charlotte	Sarasota Bay	2,500	0.63	0.70	0.70	0.00	0.00	Domestic	Spray field
Sandalhaven Utilities Inc.		Charlotte	Sarasota Bay	1,500	0.15	0.07	0.07	0.00	0.00	Domestic	Percolation pond
Southern States Utilities	Burnt Store WWTP	Charlotte	Charlotte Harbor	2,500	0.25	0.12	0.12	0.00	0.00	Domestic	Percolation pond
West Charlotte Utilities Inc.	North	Charlotte	Sarasota Bay	N/A	0.38	0.15	0.15	0.00	0.00	Domestic	Percolation pond
West Charlotte Utilities Inc.	South	Charlotte	Sarasota Bay	N/A	0.40	0.24	0.24	0.00	0.00	Domestic	Reuse system
Citrus County Utilities	Brentwood	Citrus	Crystal-Pithlachascottee Rivers	1,000	0.19	0.13	0.13	0.00	0.00	Domestic	Percolation pond
Citrus County Utilities	Meadowcrest	Citrus	Withlacoochee River	1,000	0.17	0.10	0.10	0.00	0.00	Domestic	Spray field
Crystal River, city of		Citrus	Crystal-Pithlachascottee Rivers	4,050	1.50	0.87	0.87	0.00	0.00	Domestic	Spray field
Inverness, city of		Citrus	Withlacoochee River	6,644	1.50	0.68	0.68	0.00	0.00	Domestic	Spray field
Rolling Oaks Utilities	Beverly Hills	Citrus	Withlacoochee River	2,600	0.50	0.42	0.42	0.00	0.00	Domestic	Percolation pond
Southern States Utilities	Citrus Springs	Citrus	Withlacoochee River	2,010	0.20	0.09	0.09	0.00	0.00	Domestic	Percolation pond
Southern States Utilities	Sugar Mill Woods	Citrus	Crystal-Pithlachascottee Rivers	1,200	0.50	0.28	0.28	0.00	0.00	Domestic	Spray field
Clay County Utility Auth.	Fleming Island WWTP	Clay	Lower St. Johns River	N/A	1.50	0.74	0.21	0.00	0.53	Domestic	St. Johns River/reuse system
Clay County Utility Auth.	Fleming Oaks WWTP	Clay	Lower St. Johns River	2,300	0.72	0.23	0.00	0.00	0.23	Domestic	St. Johns River
Clay County Utility Auth.	Miller Street STP	Clay	Lower St. Johns River	19,000	4.00	3.67	0.00	0.00	3.67	Domestic	St. Johns River
Clay County Utility Auth.	Ridaught Landing	Clay	Lower St. Johns River	12,500	1.00	0.84	0.00	0.00	0.84	Domestic	Black Creek
Florida National Guard	Camp Blanding	Clay	Lower St. Johns River	N/A	0.90	0.90	0.00	0.00	0.90	Domestic	Black Creek South Fork
Green Cove Springs, city of	Main WWTP	Clay	Lower St. Johns River	10,000	1.20	0.46	0.00	0.00	0.46	Domestic	St. Johns River
Green Cove Springs, city of	South WWTP	Clay	Lower St. Johns River	N/A	0.50	0.26	0.00	0.00	0.26	Domestic	St. Johns River
Mid Clay Utilities	Meadow Lake	Clay	Lower St. Johns River	1,500	0.15	0.10	0.10	0.00	0.00	Domestic	Drain field
Orange Park, town of		Clay	Lower St. Johns River	16,366	2.50	1.58	0.00	0.00	1.58	Domestic	St. Johns River
E.I. Dupont De Nemours Inc.	Highlands Plant	Clay	Lower St. Johns River	N/A	10.00	7.80	0.00	0.00	7.80	Industrial	Black Creek
Collier County Utilities	North WWTP	Collier	Big Cypress Swamp	15,000	2.50	5.33	5.33	0.00	0.00	Domestic	Spray field/percolation pond
Collier County Utilities	Pelican Bay STP	Collier	Big Cypress Swamp	5,000	0.50	0.68	0.68	0.00	0.00	Domestic	Reuse system
Collier County Utilities	South	Collier	Big Cypress Swamp	15,000	1.50	3.45	3.45	0.00	0.00	Domestic	Spray field/percolation pond
Everglades City, city of		Collier	Big Cypress Swamp	1,000	0.10	0.10	0.00	0.00	0.10	Domestic	Lake Placid Canal
Florida Cities Water Company	Golden Gate WWTP	Collier	Big Cypress Swamp	6,167	0.75	0.88	0.88	0.00	0.00	Domestic	Golden Gate Canal/RIB
Immokalee, city of		Collier	Big Cypress Swamp	15,000	2.50	2.07	2.07	0.00	0.00	Domestic	Spray field/percolation pond
Naples, city of		Collier	Big Cypress Swamp	30,000	8.50	6.12	2.81	0.00	3.31	Domestic	Gordon River/reuse system
Orangetree Utility Company	Orangetree	Collier	Big Cypress Swamp	N/A	0.05	0.03	0.03	0.00	0.00	Domestic	Percolation pond
Port of the Islands		Collier	Big Cypress Swamp	N/A	0.20	0.08	0.08	0.00	0.00	Domestic	Percolation pond
Rookery Bay Utilities		Collier	Big Cypress Swamp	1,000	0.15	0.21	0.21	0.00	0.00	Domestic	Percolation pond
Southern States Utilities	Marco Island	Collier	Big Cypress Swamp	18,713	2.50	1.77	1.77	0.00	0.00	Domestic	Reuse system
Southern States Utilities	Marco Shores	Collier	Big Cypress Swamp	520	0.09	0.05	0.05	0.00	0.00	Domestic	Percolation pond
Florida Dept. of Corrections	Columbia Correctional	Columbia	Santa Fe River	N/A	0.20	0.17	0.17	0.00	0.00	Domestic	Spray field
Lake City, city of		Columbia	Santa Fe River	24,560	3.00	1.73	1.73	0.00	0.00	Domestic	Spray field
Americana Village MHP		Dade	Everglades	1,000	0.20	0.06	0.06	0.00	0.00	Domestic	Soakage pit
Homestead, city of		Dade	Everglades	22,500	2.00	2.37	2.37	0.00	0.00	Domestic	Percolation pond/soakage pit
Miami-Dade WSA	Central District	Dade	Everglades	400,000	90.00	135.81	0.00	0.00	135.81	Domestic	Atlantic Ocean
Miami-Dade WSA	North District	Dade	Everglades	800,000	121.00	95.22	0.00	0.00	95.22	Domestic	Atlantic Ocean
Miami-Dade WSA	South District	Dade	Everglades	350,000	75.00	90.45	0.00	90.45	0.00	Domestic	Injection well
Arcadia, city of	W. Tyson WWTP	De Soto	Peace River	6,620	2.00	1.05	0.00	0.00	1.05	Domestic	Peace River Tributary
Florida Dept. of Corrections	De Soto Correctional	De Soto	Peace River	N/A	0.11	0.14	0.14	0.00	0.00	Domestic	Percolation pond
Florida Dept. of Health	G. Pierce Wood Hospital	De Soto	Peace River	N/A	0.20	0.12	0.12	0.00	0.00	Domestic	Percolation pond

APPENDIX II. Treated domestic and industrial wastewater discharge, population served, and discharge method by facility in Florida, 1995

[Sources: U.S. Geological Survey and the Florida Department of Environmental Protection; Abbrevations and location of cataloging units and counties are found on pages 76 and 77; plant capacity and discharge are in million gallons per day; ground discharge includes absorption beds, drainfields, percolation ponds, rapid infiltration basins, spray fields and land application/reuse systems]

Utility/Owner/Plant	Facility/Plant	County	Cataloging unit	Population served	Plant capacity	1995 Discharge				System type	Discharge method or receiving water body
						Total	Ground	Injection Well	Surface		
Cross City, town of	STP 1	Dixie	Econfina-Steinhatchee Rivers	350	0.15	0.08	0.00	0.00	0.08	Domestic	Unnamed Swamp
Cross City, town of	STP 2	Dixie	Econfina-Steinhatchee Rivers	3,000	0.25	0.22	0.00	0.00	0.22	Domestic	California Swamp
Atlantic Beach, city of	Buccaneer	Duval	Lower St. Johns River	2,100	1.00	1.06	0.00	0.00	1.06	Domestic	St. Johns River
Atlantic Beach, city of	Donner Road	Duval	Lower St. Johns River	9,000	2.00	2.02	0.00	0.00	2.02	Domestic	St. Johns River
Baldwin, town of		Duval	St. Marys River	1,320	0.40	0.20	0.00	0.00	0.20	Domestic	Deep Creek
Beauclerc Utilities	Brierwood S/D	Duval	Lower St. Johns River	12,800	0.78	0.55	0.00	0.00	0.55	Domestic	Goodby's Lake/St. Johns River
Jacksonville Beach, city of		Duval	Lower St. Johns River	15,500	3.00	3.43	0.15	0.00	3.28	Domestic	St. Johns River/spray field
Jacksonville, city of	Airport	Duval	Lower St. Johns River	N/A	0.50	0.08	0.00	0.00	0.08	Domestic	Cedar Creek
Jacksonville, city of	Arlington East	Duval	Lower St. Johns River	N/A	10.00	9.61	0.00	0.00	9.61	Domestic	St. Johns River
Jacksonville, city of	Buckman	Duval	Lower St. Johns River	350,000	52.50	33.77	0.00	0.00	33.77	Domestic	St. Johns River
Jacksonville, city of	District II	Duval	Lower St. Johns River	N/A	10.00	3.67	0.00	0.00	3.67	Domestic	St. Johns River
Jacksonville, city of	Mandarin	Duval	Lower St. Johns River	40,000	5.00	4.54	0.00	0.00	4.54	Domestic	St. Johns River
Jacksonville, city of	Southwest	Duval	Lower St. Johns River	50,000	10.00	6.55	0.00	0.00	6.55	Domestic	St. Johns River
Neptune Beach, city of		Duval	Lower St. Johns River	N/A	1.50	1.21	0.00	0.00	1.21	Domestic	St. Johns River
Normandy Village Utilities		Duval	Lower St. Johns River	3,500	0.40	0.28	0.28	0.00	0.00	Domestic	Percolation pond
Ortega Utilities	Airport	Duval	Lower St. Johns River	N/A	0.17	0.12	0.00	0.00	0.12	Domestic	Little Cedar Creek
Ortega Utilities	Blanding	Duval	Lower St. Johns River	N/A	1.10	0.70	0.00	0.00	0.70	Domestic	Ortega River
Shadow Rock Utilities	Springtree Village S/D	Duval	Lower St. Johns River	1,486	0.45	0.21	0.21	0.00	0.00	Domestic	Percolation pond
Southern States Utilities	Beacon Hills	Duval	Lower St. Johns River	N/A	1.80	0.76	0.00	0.00	0.76	Domestic	St. Johns River
Southern States Utilities	Woodmere	Duval	Lower St. Johns River	5,000	0.50	0.34	0.00	0.00	0.34	Domestic	Fairfield Branch
U.S. Navy	Cecil Field	Duval	Lower St. Johns River	N/A	1.20	0.68	0.00	0.00	0.68	Domestic	Rowell Creek
U.S. Navy	Jacksonville NAS	Duval	Lower St. Johns River	N/A	3.00	1.01	0.00	0.00	1.01	Domestic	St. Johns River
U.S. Navy	Mayport Navel Base	Duval	Lower St. Johns River	N/A	1.80	1.04	0.00	0.00	1.04	Domestic	St. Johns River
United Water of Florida Inc.	Holly Oaks S/D	Duval	Lower St. Johns River	N/A	1.00	0.66	0.00	0.00	0.66	Domestic	Cowhead Creek
United Water of Florida Inc.	Jacksonville Heights	Duval	Lower St. Johns River	12,600	2.50	1.04	0.00	0.00	1.04	Domestic	Fishing Creek
United Water of Florida Inc.	Monterey S/D	Duval	Lower St. Johns River	N/A	3.00	2.87	0.00	0.00	2.87	Domestic	St. Johns River
United Water of Florida Inc.	Ortega Hills S/D	Duval	Lower St. Johns River	2,500	0.25	0.15	0.00	0.00	0.15	Domestic	Ortega River
United Water of Florida Inc.	Royal Lakes S/D	Duval	Lower St. Johns River	13,000	3.25	2.47	0.00	0.00	2.47	Domestic	Pottsburg Creek
United Water of Florida Inc.	San Jose S/D	Duval	Lower St. Johns River	19,600	2.20	1.99	0.00	0.00	1.99	Domestic	St. Johns River
United Water of Florida Inc.	San Pablo S/D	Duval	Lower St. Johns River	720	0.50	0.40	0.00	0.00	0.40	Domestic	San Pablo Creek
Bush Book Allen Inc.	Union Camp	Duval	Lower St. Johns River	N/A	4.50	1.79	0.00	0.00	1.79	Industrial	Little Six Mile Creek
Jefferson Smurfit Corp.	Alton	Duval	Lower St. Johns River	N/A	7.00	6.02	0.00	0.00	6.02	Industrial	St. Johns River
Jefferson Smurfit Corp.	Seminole Kraft	Duval	Lower St. Johns River	N/A	20.00	8.24	0.00	0.00	8.24	Industrial	St. Johns River
Reichold Chemicals Inc.	Jacksonville	Duval	Lower St. Johns River	N/A	0.10	0.13	0.00	0.00	0.13	Industrial	Cedar Creek
Riverside Plaza		Duval	Lower St. Johns River	N/A	2.10	1.37	0.00	0.00	1.37	Industrial	St. Johns River
SCM Glidco Organics Corp.		Duval	Lower St. Johns River	N/A	N/A	1.80	0.00	0.00	1.80	Industrial	Moncrief Creek
Century, town of		Escambia	Escambia River	2,500	0.45	0.25	0.00	0.00	0.25	Domestic	Escambia River
Escambia County Utility Auth.	Avondale WWTP	Escambia	Perdido Bay	25,000	7.10	1.40	0.00	0.00	1.40	Domestic	Bayou Marcus Creek
Escambia County Utility Auth.	Cantonment STP	Escambia	Perdido Bay	4,110	0.70	0.41	0.00	0.00	0.41	Domestic	Eleven Mile Creek
Escambia County Utility Auth.	Main Street AWWT	Escambia	Pensacola Bay	100,500	20.00	15.38	0.00	0.00	15.38	Domestic	Pensacola Bay
Escambia County Utility Auth.	Pensacola Beach WWTP	Escambia	Pensacola Bay	15,000	2.40	0.86	0.00	0.00	0.86	Domestic	Santa Rosa Sound
Moreno Courts		Escambia	Pensacola Bay	2,500	0.14	0.08	0.08	0.00	0.00	Domestic	Percolation pond
U.S. Navy	Pensacola NAS	Escambia	Pensacola Bay	N/A	4.00	1.65	0.00	0.00	1.65	Domestic	Pensacola Bay
U.S. Navy	Saufley Filed	Escambia	Perdido Bay	N/A	0.21	0.07	0.00	0.00	0.07	Domestic	Perdido Bay
University of West Florida		Escambia	Escambia River	N/A	0.50	0.19	0.00	0.00	0.19	Domestic	Swamphouse Slough
Champion International Corp.		Escambia	Perdido Bay	N/A	28.00	22.85	0.00	0.00	22.85	Industrial	Eleven Mile Creek
Monsanto Company	Cantonment	Escambia	Escambia River	N/A	27.00	26.42	0.00	2.84	23.58	Industrial	Escambia River/injection well
Bunnell, city of		Flagler	Lower St. Johns River	3,000	0.30	0.22	0.00	0.00	0.22	Domestic	Haw Creek
Flagler Beach, city of		Flagler	Daytona-St. Augustine Coastal	6,500	1.00	0.61	0.00	0.00	0.61	Domestic	Intercoastal Waterway
Hammock Dunes		Flagler	Daytona-St. Augustine Coastal	1,814	0.20	0.09	0.09	0.00	0.00	Domestic	Reuse system
Matanzas Shores		Flagler	Daytona-St. Augustine Coastal	2,900	0.32	0.05	0.05	0.00	0.00	Domestic	Percolation pond
Palm Coast Utilities		Flagler	Daytona-St. Augustine Coastal	16,000	1.60	2.18	2.18	0.00	0.00	Domestic	Percolation pond/spray field
Apalachicola, city of		Franklin	Apalachicola River	2,800	1.00	0.71	0.00	0.00	0.71	Domestic	Whortleberry Creek
Carrabelle, city of		Franklin	New River	700	0.30	0.17	0.17	0.00	0.00	Domestic	Spray field
Eastpoint, town of		Franklin	New River	200	0.17	0.16	0.16	0.00	0.00	Domestic	Spray field
Lanark Village		Franklin	New River	650	0.10	0.06	0.06	0.00	0.00	Domestic	Spray field

APPENDIX II. Treated domestic and industrial wastewater discharge, population served, and discharge method by facility in Florida, 1995

[Sources: U.S. Geological Survey and the Florida Department of Environmental Protection; Abbrevations and location of cataloging units and counties are found on pages 76 and 77; plant capacity and discharge are in million gallons per day; ground discharge includes absorption beds, drainfields, percolation ponds, rapid infiltration basins, spray fields and land application/reuse systems]

Utility/Owner/Plant	Facility/Plant	County	Cataloging unit	Population served	Plant capacity	1995 Discharge				System type	Discharge method or receiving water body
						Total	Ground	Injection Well	Surface		
Chattahoochee, city of		Gadsden	Apalachicola River	5,200	0.50	0.37	0.00	0.00	0.37	Domestic	Mosquito Creek
Florida Dept. of Corrections	Florida State Hospital	Gadsden	Apalachicola River	N/A	1.30	0.38	0.00	0.00	0.38	Domestic	Mosquito Creek
Gretna, town of		Gadsden	Lower Ochlockonee River	1,650	0.13	0.15	0.00	0.00	0.15	Domestic	Telogia Creek
Havana, town of		Gadsden	Lower Ochlockonee River	3,150	0.30	0.24	0.00	0.00	0.24	Domestic	Womack Creek
Quincy, city of		Gadsden	Lower Ochlockonee River	8,600	1.50	0.93	0.00	0.00	0.93	Domestic	Quincy Creek
Florida Dept. of Corrections	Lancaster Correctional	Gilchrist	Lower Suwannee River	N/A	0.16	0.05	0.05	0.00	0.00	Domestic	Spray field
Trenton, city of		Gilchrist	Lower Suwannee River	1,000	0.20	0.11	0.11	0.00	0.00	Domestic	Percolation pond
Florida Dept. of Corrections	Gulf Correctional	Gulf	Apalachicola River	N/A	0.20	0.12	0.12	0.00	0.00	Domestic	Reuse system
Gulf Aire S/D		Gulf	St. Andrews-St. Joseph Bay	200	0.07	0.03	0.03	0.00	0.00	Domestic	Percolation pond
Port St. Joe, city of		Gulf	St. Andrews-St. Joseph Bay	4,800	34.75	28.41	0.00	0.00	28.41	Domestic	Gulf County Canal
Wewahitchka, city of		Gulf	Chipola River	1,800	0.20	0.09	0.00	0.00	0.09	Domestic	Chipola River
Premier Service Company	Port St. Joe	Gulf	St. Andrews-St. Joseph Bay	N/A	13.50	8.34	0.00	0.00	8.34	Industrial	Gulf County Canal
Jasper, city of		Hamilton	Alapaha River	3,000	0.40	0.62	0.00	0.00	0.62	Domestic	Swamp/Alapaha River
Jennings, town of		Hamilton	Alapaha River	900	0.15	0.10	0.10	0.00	0.00	Domestic	Spray field
White Springs, town of		Hamilton	Upper Suwannee River	1,500	0.15	0.09	0.00	0.00	0.09	Domestic	Suwannee River
Tenneco Inc.	Nekoosa Packing	Hamilton	Withlacoochee River	N/A	12.70	17.93	0.00	0.00	17.93	Industrial	Jumping Gully Creek
Bowling Green, city of		Hardee	Peace River	1,921	0.32	0.21	0.00	0.00	0.21	Domestic	Peace River
Florida Dept. of Corrections	Hardee Correctional	Hardee	Peace River	N/A	0.21	0.20	0.20	0.00	0.00	Domestic	Spray field/reuse system
Wauchula, city of		Hardee	Peace River	5,754	1.00	1.06	0.00	0.00	1.06	Domestic	Peace River
Zolfo Springs, town of		Hardee	Peace River	1,264	0.20	0.12	0.12	0.00	0.00	Domestic	Spray field
Clewiston, city of		Hendry	Everglades	13,000	1.50	1.22	1.22	0.00	0.00	Domestic	Spray field
Florida Dept. of Corrections	Hendry Correctional	Hendry	Caloosahatchee River	N/A	0.30	0.21	0.21	0.00	0.00	Domestic	Spray field
General Development Utilities	Port La Belle WWTP	Hendry	Caloosahatchee River	750	1.00	0.14	0.14	0.00	0.00	Domestic	Percolation pond
La Belle, city of		Hendry	Caloosahatchee River	700	0.15	0.20	0.00	0.00	0.20	Domestic	Caloosahatchee River
U.S. Sugar Corp.	Clewiston	Hendry	Everglades	N/A	N/A	2.46	2.46	0.00	0.00	Industrial	Percolation pond
Brooksville, town of	Cobb Road	Hernando	Crystal-Pithlachascottee Rivers	7,500	0.75	0.00	0.00	0.00	0.00	Domestic	Percolation pond
Brooksville, town of	Croom Street	Hernando	Crystal-Pithlachascottee Rivers	1,700	0.38	0.21	0.21	0.00	0.00	Domestic	Reuse system
Brooksville, town of	School Street	Hernando	Crystal-Pithlachascottee Rivers	N/A	0.84	0.80	0.80	0.00	0.00	Domestic	Percolation pond
Hernando County Water/Sewer	Berkeley Manor	Hernando	Crystal-Pithlachascottee Rivers	2,214	0.75	0.26	0.26	0.00	0.00	Domestic	Percolation pond
Hernando County Water/Sewer	Brookridge	Hernando	Crystal-Pithlachascottee Rivers	7,800	0.25	0.30	0.30	0.00	0.00	Domestic	Percolation pond
Hernando County Water/Sewer	Glenn Lakes	Hernando	Crystal-Pithlachascottee Rivers	4,000	1.00	0.21	0.21	0.00	0.00	Domestic	Percolation pond
Hernando County Water/Sewer	Hernando Airport	Hernando	Crystal-Pithlachascottee Rivers	N/A	0.30	0.10	0.10	0.00	0.00	Domestic	Percolation pond
Hernando County Water/Sewer	Hernando Beach/West	Hernando	Crystal-Pithlachascottee Rivers	2,000	0.25	0.17	0.17	0.00	0.00	Domestic	Spray field
Hernando County Water/Sewer	Ridge Manor	Hernando	Withlacoochee River	600	0.75	0.09	0.09	0.00	0.00	Domestic	Percolation pond
Hernando County Water/Sewer	Weeki Wachee	Hernando	Crystal-Pithlachascottee Rivers	2,500	0.25	0.09	0.09	0.00	0.00	Domestic	Percolation pond
Southern States Utilities	Spring Hill	Hernando	Crystal-Pithlachascottee Rivers	1,257	2.00	1.75	1.75	0.00	0.00	Domestic	Spray field
Avon Park, city of	WPCF	Highlands	Kissimmee River	12,000	1.50	0.72	0.72	0.00	0.00	Domestic	Rapid infiltration basin
Crystal Lake Golf Club		Highlands	Kissimmee River	352	0.09	0.05	0.05	0.00	0.00	Domestic	Percolation pond
Highlands Utility Company		Highlands	Kissimmee River	N/A	0.16	0.11	0.11	0.00	0.00	Domestic	Percolation pond
Lake Placid, town of		Highlands	Kissimmee River	1,250	0.09	0.04	0.04	0.00	0.00	Domestic	Percolation pond
Placid Utility Company		Highlands	Kissimmee River	800	0.10	0.09	0.09	0.00	0.00	Domestic	Percolation pond
Sebring Airport Auth.		Highlands	Kissimmee River	1,000	0.10	0.00	0.00	0.00	0.00	Domestic	Percolation pond
Sebring, city of		Highlands	Kissimmee River	2,500	2.00	0.97	0.00	0.00	0.97	Domestic	Arbuckle Creek
Sun'N Lake of Sebring		Highlands	Kissimmee River	3,500	0.46	0.17	0.17	0.00	0.00	Domestic	Percolation pond
Country Meadows Estates	Golden Lake WWTP	Hillsborough	Hillsborough River	2,266	0.17	0.08	0.08	0.00	0.00	Domestic	Spray field
Hillsborough County Utilities	Apollo Beach 2	Hillsborough	Tampa Bay	N/A	0.50	0.00	0.00	0.00	0.00	Domestic	Spray field
Hillsborough County Utilities	Dale Mabry WWTP	Hillsborough	Tampa Bay	50,000	6.00	2.49	1.08	0.00	1.41	Domestic	Brushy Creek/reuse system
Hillsborough County Utilities	Falkenburg Road	Hillsborough	Tampa Bay	50,000	6.00	3.94	1.06	0.00	2.88	Domestic	Palm River/reuse system
Hillsborough County Utilities	Northwest Regional	Hillsborough	Tampa Bay	50,000	5.00	4.32	0.42	0.00	3.90	Domestic	Reuse system
Hillsborough County Utilities	River Oaks	Hillsborough	Tampa Bay	70,740	10.00	7.15	0.00	0.00	7.15	Domestic	Canal A
Hillsborough County Utilities	South Hillsborough	Hillsborough	Little Manatee River	10,000	3.00	2.11	2.11	0.00	0.00	Domestic	Reuse system
Hillsborough County Utilities	Summerfield	Hillsborough	Tampa Bay	5,000	0.75	0.14	0.14	0.00	0.00	Domestic	Reuse system
Hillsborough County Utilities	Valrico WWTP	Hillsborough	Hillsborough River	16,000	3.00	2.84	2.39	0.00	0.45	Domestic	Turkey Creek/reuse system
Hillsborough County Utilities	Van Dyke	Hillsborough	Tampa Bay	5,000	1.50	0.65	0.65	0.00	0.00	Domestic	Reuse system
Pebble Creek Service Corp.	Pebble Creek Village	Hillsborough	Hillsborough River	1,300	0.54	0.20	0.20	0.00	0.00	Domestic	Spray field

APPENDIX II. Treated domestic and industrial wastewater discharge, population served, and discharge method by facility in Florida, 1995

[Sources: U.S. Geological Survey and the Florida Department of Environmental Protection; Abbrevations and location of cataloging units and counties are found on pages 76 and 77; plant capacity and discharge are in million gallons per day; ground discharge includes absorption beds, drainfields, percolation ponds, rapid infiltration basins, spray fields and land application/reuse systems]

Utility/Owner/Plant	Facility/Plant	County	Cataloging unit	Population served	Plant capacity	1995 Discharge				System type	Discharge method or receiving water body
						Total	Ground	Injection Well	Surface		
Plant City, city of		Hillsborough	Hillsborough River	30,000	8.00	4.09	0.00	0.00	4.09	Domestic	Baker/Mill/Pemberton Creeks
Tampa, city of	H.F. Curren WWTP	Hillsborough	Tampa Bay	300,000	70.00	57.44	0.00	0.00	57.44	Domestic	Hillsborough Bay/reuse system
U.S. Air Force	MacDill AFB	Hillsborough	Tampa Bay	N/A	1.20	0.68	0.00	0.00	0.68	Domestic	Hillsborough Bay
Wilder Corp.	Rice Creek Utility	Hillsborough	Alafia River	400	0.30	0.09	0.09	0.00	0.00	Domestic	Percolation pond
Windemere Utility Company	Scarecrow Utilities	Hillsborough	Hillsborough River	2,600	0.26	0.11	0.11	0.00	0.00	Domestic	Reuse system
Cargil Inc.	Riverview	Hillsborough	Alafia River	N/A	N/A	0.21	0.00	0.00	0.21	Industrial	Alafia River
CF Industries Inc.	Plant City	Hillsborough	Hillsborough River	N/A	N/A	0.45	0.00	0.00	0.45	Industrial	Big Ditch
Crystals International Inc.	Plant City	Hillsborough	Hillsborough River	N/A	N/A	2.16	0.00	0.00	2.16	Industrial	Westside Canal
Farmland Hydro LP	Seminole	Hillsborough	Tampa Bay	N/A	N/A	1.74	0.00	0.00	1.74	Industrial	Hillsborough Bay
IMC-Agrico Company	Lonesome	Hillsborough	Alafia River	N/A	N/A	5.79	0.00	0.00	5.79	Industrial	Alafia River South Prong
IMC-Agrico Company	Port Sutton	Hillsborough	Alafia River	N/A	N/A	2.41	0.00	0.00	2.41	Industrial	Alafia River South Prong
IMC-Agrico Company	Hopewell Mine	Hillsborough	Alafia River	N/A	N/A	3.31	0.00	0.00	3.31	Industrial	Pleasant Grove Reservior
Mobil Mining & Materials	Big Four Mine	Hillsborough	Alafia River	N/A	N/A	9.58	0.00	0.00	9.58	Industrial	Alafia River South Prong
Trademark Nitrogen Inc.		Hillsborough	Tampa Bay	N/A	N/A	0.08	0.00	0.00	0.08	Industrial	Palm River
Bonifay, city of		Holmes	Lower Choctawhatchee River	2,751	1.40	0.70	0.00	0.00	0.70	Domestic	Camp Branch/Holmes Creek
Indian River County Utilities	Gifford WWTP	Indian River	Vero Beach Coastal	3,650	2.00	0.50	0.50	0.00	0.00	Domestic	Reuse system
Indian River County Utilities	Laurelwood WWTP	Indian River	Vero Beach Coastal	1,000	0.10	0.06	0.06	0.00	0.00	Domestic	Percolation pond
Indian River County Utilities	North Regional WWTP	Indian River	Vero Beach Coastal	N/A	2.00	0.32	0.32	0.00	0.00	Domestic	Reuse system
Indian River County Utilities	Sea Oaks STP	Indian River	Vero Beach Coastal	2,100	0.21	0.07	0.07	0.00	0.00	Domestic	Reuse system
Indian River County Utilities	South Regional WWTP	Indian River	Vero Beach Coastal	N/A	0.45	0.44	0.44	0.00	0.00	Domestic	Percolation pond
Indian River County Utilities	Vista Royale Condo	Indian River	Vero Beach Coastal	3,800	0.50	0.31	0.31	0.00	0.00	Domestic	Percolation pond
Indian River County Utilities	Vista Royale Gardens	Indian River	Vero Beach Coastal	800	0.15	0.14	0.14	0.00	0.00	Domestic	Percolation pond
Indian River County Utilities	West Regional WWTP	Indian River	Vero Beach Coastal	N/A	2.00	0.64	0.64	0.00	0.00	Domestic	Reuse system
Sebastian Highlands W/S		Indian River	Vero Beach Coastal	3,000	0.30	0.07	0.07	0.00	0.00	Domestic	Percolation pond
Vero Beach, city of		Indian River	Vero Beach Coastal	45,000	4.50	3.08	2.05	0.00	1.03	Domestic	Indian River/reuse system
Indian River County Utilities	South R/O Brine Plant	Indian River	Vero Beach Coastal	N/A	0.88	0.83	0.00	0.00	0.83	Industrial	Indian River
Cottondale, city of		Jackson	Chipola River	995	0.13	0.09	0.00	0.00	0.09	Domestic	Caney Pond
Florida Dept. of Corrections	Jackson Correctional	Jackson	Chipola River	N/A	0.22	0.19	0.19	0.00	0.00	Domestic	Reuse system
Graceville, city of		Jackson	Lower Choctawhatchee River	2,695	1.10	0.57	0.00	0.00	0.57	Domestic	Holmes Creek
Marianna, city of		Jackson	Chipola River	6,226	2.70	1.47	0.00	0.00	1.47	Domestic	Chipola River
Sneads, town of		Jackson	Apalachicola River	2,044	0.50	0.55	0.55	0.00	0.00	Domestic	Spray field
Monticello, city of		Jefferson	Apalachee Bay-St. Marks River	2,900	1.00	0.46	0.00	0.00	0.46	Domestic	Unnamed swamp/wetlands
Florida Dept. of Corrections	Mayo Correctional	Lafayette	Econfina-Steinhatchee Rivers	N/A	0.21	0.15	0.15	0.00	0.00	Domestic	Percolation pond
Mayo, city of		Lafayette	Econfina-Steinhatchee Rivers	1,500	0.15	0.09	0.09	0.00	0.00	Domestic	Spray field
Clermont, city of	East WWTP	Lake	Oklawaha River	7,500	0.10	0.00	0.00	0.00	0.00	Domestic	Percolation pond/reuse system
Clermont, city of	Main WWTP	Lake	Oklawaha River	9,500	0.95	0.77	0.77	0.00	0.00	Domestic	Spray field
Eustis, city of		Lake	Oklawaha River	9,858	1.80	1.41	1.41	0.00	0.00	Domestic	Spray field
Florida Dept. of Corrections	Lake Correctional	Lake	Oklawaha River	N/A	0.18	0.12	0.12	0.00	0.00	Domestic	Spray field
Groveland, city of		Lake	Withlacoochee River	2,390	0.25	0.07	0.07	0.00	0.00	Domestic	Spray field
Leesburg, city of	Main WWTP	Lake	Oklawaha River	11,000	3.50	3.16	3.16	0.00	0.00	Domestic	Spray field
Leesburg, city of	WWTP 2	Lake	Oklawaha River	N/A	0.25	0.00	0.00	0.00	0.00	Domestic	N/A
Mid-Florida Lakes MHP		Lake	Oklawaha River	1,000	0.18	0.12	0.12	0.00	0.00	Domestic	Spray field
Mt. Dora, city of		Lake	Oklawaha River	15,000	1.50	0.80	0.80	0.00	0.00	Domestic	Spray field
Oak Springs MHP		Lake	Upper St. Johns River	1,150	0.15	0.10	0.10	0.00	0.00	Domestic	Percolation pond
Plantation at Leesburg		Lake	Oklawaha River	960	0.20	0.09	0.09	0.00	0.00	Domestic	Percolation pond
Southern States Utilities	Sunshine Parkway	Lake	Oklawaha River	N/A	0.25	0.09	0.09	0.00	0.00	Domestic	Percolation pond
Southern States Utilities	Valencia Terrace S/D	Lake	Oklawaha River	728	0.10	0.06	0.06	0.00	0.00	Domestic	Percolation pond
Tavares, city of	Caroline Street WWTP	Lake	Oklawaha River	5,500	0.75	0.62	0.62	0.00	0.00	Domestic	Percolation pond
Tavares, city of	Woodlea Road WWTP	Lake	Oklawaha River	7,000	1.00	0.44	0.44	0.00	0.00	Domestic	Rapid infiltration basin
Thousand Trails Inc.		Lake	Oklawaha River	700	0.14	0.05	0.05	0.00	0.00	Domestic	Percolation pond
Umatilla, city of		Lake	Oklawaha River	3,000	0.30	0.18	0.18	0.00	0.00	Domestic	Percolation pond/spary field
Villages of Lake-Sumter		Lake	Withlacoochee River	10,000	1.30	0.78	0.78	0.00	0.00	Domestic	Reuse system
Water Oaks Utilities	Water Oaks Estates	Lake	Withlacoochee River	3,054	0.20	0.07	0.07	0.00	0.00	Domestic	Spray field
Coca-Cola Foods Inc.	Leesburg Plant	Lake	Oklawaha River	N/A	5.80	0.43	0.43	0.00	0.00	Industrial	Spray field
Golden Gem Growers Inc.	Umatilla	Lake	Oklawaha River	N/A	0.90	0.31	0.00	0.00	0.31	Industrial	Lake Yale

APPENDIX II. Treated domestic and industrial wastewater discharge, population served, and discharge method by facility in Florida, 1995

[Sources: U.S. Geological Survey and the Florida Department of Environmental Protection; Abbrevations and location of cataloging units and counties are found on pages 76 and 77; plant capacity and discharge are in million gallons per day; ground discharge includes absorption beds, drainfields, percolation ponds, rapid infiltration basins, spray fields and land application/reuse systems]

Utility/Owner/Plant	Facility/Plant	County	Cataloging unit	Population served	Plant capacity	1995 Discharge				System type	Discharge method or receiving water body
						Total	Ground	Injection Well	Surface		
Silver Springs Citrus Corp.	Ocoee	Lake	Oklawaha River	N/A	0.50	0.34	0.34	0.00	0.00	Industrial	Spray field
Bonita Springs Country Club		Lee	Big Cypress Swamp	360	0.30	0.09	0.09	0.00	0.00	Domestic	Percolation pond
Bonita Springs Utilities		Lee	Big Cypress Swamp	25,000	2.50	1.57	1.57	0.00	0.00	Domestic	Spray field
Buccaneer MHP		Lee	Big Cypress Swamp	N/A	0.17	0.14	0.14	0.00	0.00	Domestic	Percolation pond
Cape Coral, city of	Everest WRF	Lee	Caloosahatchee River	15,000	14.60	6.43	0.00	0.00	6.43	Domestic	Caloosahatchee River
Citrus Park S/D		Lee	Big Cypress Swamp	2,000	0.20	0.07	0.07	0.00	0.00	Domestic	Percolation pond
Cross Creek Country Club		Lee	Big Cypress Swamp	2,065	0.25	0.10	0.10	0.00	0.00	Domestic	Spray field
Del Tura Country Club		Lee	Charlotte Harbor	415	0.20	0.12	0.12	0.00	0.00	Domestic	Spray field
Eagle Ridge Utilities		Lee	Big Cypress Swamp	2,000	0.10	0.16	0.16	0.00	0.00	Domestic	Reuse system
Florida Cities Water Company	Fiesta Village	Lee	Caloosahatchee River	15,000	5.00	1.93	0.00	0.00	1.93	Domestic	Caloosahatchee River
Florida Cities Water Company	Waterway Estates	Lee	Caloosahatchee River	15,800	1.50	1.10	0.00	0.00	1.10	Domestic	Caloosahatchee River
Florida Dept. of Corrections	Gulf Coast Center	Lee	Caloosahatchee River	N/A	0.10	0.08	0.08	0.00	0.00	Domestic	Percolation pond
Forest Utilities		Lee	Big Cypress Swamp	250	0.50	0.20	0.20	0.00	0.00	Domestic	Reuse system
Fort Myers, city of	Central WWTP	Lee	Caloosahatchee River	50,000	11.00	7.93	0.00	0.00	7.93	Domestic	Caloosahatchee River
Fort Myers, city of	South AWWT	Lee	Caloosahatchee River	60,000	12.00	7.46	0.00	0.00	7.46	Domestic	Caloosahatchee River
Gasparilla Island W/D		Lee	Charlotte Harbor	2,750	0.28	0.33	0.33	0.00	0.00	Domestic	Spray field/injection well
Gateway Service District		Lee	Charlotte Harbor	800	1.00	0.11	0.11	0.00	0.00	Domestic	Percolation pond
Gulf Utility Company	San Carlos WWTP	Lee	Big Cypress Swamp	3,000	0.30	0.20	0.20	0.00	0.00	Domestic	Reuse system
Jamaica Bay West		Lee	Caloosahatchee River	2,830	0.30	0.18	0.18	0.00	0.00	Domestic	Percolation pond
Lake Fairway Country Club		Lee	Charlotte Harbor	1,800	0.30	0.13	0.13	0.00	0.00	Domestic	Percolation pond/spray field
Lee County Utilities	Fort Myers Beach STP	Lee	Big Cypress Swamp	59,218	6.00	2.83	2.83	0.00	0.00	Domestic	Reuse system
Lee County Utilities	Matlacha	Lee	Charlotte Harbor	1,500	0.15	0.13	0.13	0.00	0.00	Domestic	Percolation pond
North Fort Myers Utility		Lee	Caloosahatchee River	N/A	2.00	0.75	0.40	0.35	0.00	Domestic	Spray field
Sanibel Utilites	Donax WRF	Lee	Charlotte Harbor	10,000	1.60	0.94	0.94	0.00	0.00	Domestic	Reuse system
South Seas Utility Company	South Seas Plantation	Lee	Charlotte Harbor	1,600	0.45	0.23	0.23	0.00	0.00	Domestic	Percolation pond/spray field
Southern States Utilities	Lehigh Acres	Lee	Caloosahatchee River	N/A	1.40	1.51	1.51	0.00	0.00	Domestic	Percolation pond
Tamiami Utility Company	Tamiami Village	Lee	Caloosahatchee River	1,500	0.15	0.04	0.04	0.00	0.00	Domestic	Percolation pond
Tallahassee, city of	Airport STP	Leon	Apalachee Bay-St. Marks River	N/A	0.06	0.04	0.04	0.00	0.00	Domestic	Spray field
Tallahassee, city of	Lake Bradford STP	Leon	Apalachee Bay-St. Marks River	25,000	4.50	3.49	3.49	0.00	0.00	Domestic	Spray field
Tallahassee, city of	T.P. Smith WWTP	Leon	Apalachee Bay-St. Marks River	100,000	27.50	13.49	13.49	0.00	0.00	Domestic	Reuse system
Talquin Electric Cooperative	Killearn Lakes STP	Leon	Lower Ochlockonee River	1,000	0.35	0.21	0.21	0.00	0.00	Domestic	Percolation pond
Talquin Electric Cooperative	Lakewood Area STP	Leon	Lower Ochlockonee River	2,000	0.30	0.23	0.23	0.00	0.00	Domestic	Percolation pond
Cedar Key, city of		Levy	Waccasassa River	1,000	0.10	0.10	0.10	0.00	0.00	Domestic	Gulf of Mexico
Chiefland, city of		Levy	Lower Suwannee River	3,000	0.30	0.22	0.22	0.00	0.00	Domestic	Percolation pond
Williston, city of		Levy	Oklawaha River	2,000	0.45	0.27	0.27	0.00	0.00	Domestic	Spray field
Florida Dept. of Corrections	Liberty Correctional	Liberty	Apalachicola River	N/A	0.20	0.11	0.11	0.00	0.00	Domestic	Percolation pond
Madison, city of		Madison	Aucilla River	3,960	0.70	0.92	0.00	0.00	0.92	Domestic	Unnamed Lake
Bradenton, city of		Manatee	Manatee River	58,864	6.00	6.35	0.67	0.00	5.68	Domestic	Manatee River/reuse system
Manatee County Utilities	North Regional WWTP	Manatee	Manatee River	15,000	5.40	2.34	2.34	0.00	0.00	Domestic	Reuse system
Manatee County Utilities	Southeast Regional	Manatee	Sarasota Bay	15,000	5.40	2.41	2.41	0.00	0.00	Domestic	Reuse system
Manatee County Utilities	Southwest Subregional	Manatee	Sarasota Bay	100,000	18.00	13.38	2.21	11.17	0.00	Domestic	Injection well/reuse system
Palmetto, city of		Manatee	Tampa Bay	9,747	1.40	1.33	0.08	0.00	1.25	Domestic	Terra Ceia Bay/reuse system
Nu-Gulf Industries Inc.	Wyngate Creek Mine	Manatee	Myakka River	N/A	N/A	1.73	0.00	0.00	1.73	Industrial	Wyngate Creek
Tropicana Products Inc.	Bradenton	Manatee	Manatee River	N/A	0.80	1.39	0.00	0.00	1.39	Industrial	Manatee River
Belleview, city of		Marion	Withlacoochee River	5,500	0.58	0.10	0.10	0.00	0.00	Domestic	Reuse system/spray field
Decca Utilities	Oak Run Estates	Marion	Withlacoochee River	4,450	0.37	0.29	0.29	0.00	0.00	Domestic	Percolation pond
Dunnellon, city of		Marion	Withlacoochee River	1,146	0.25	0.14	0.07	0.00	0.07	Domestic	Rainbow River/spray field
Florida Dept. of Corrections	Marion Correctional	Marion	Oklawaha River	N/A	0.44	0.44	0.44	0.00	0.00	Domestic	Spray field
Marion County Utilities	Silver Springs Shores	Marion	Oklawaha River	12,000	1.20	0.62	0.62	0.00	0.00	Domestic	Percolation pond/spray field
Ocala, city of	WWTP 1	Marion	Oklawaha River	15,000	2.40	1.58	1.58	0.00	0.00	Domestic	Reuse system
Ocala, city of	WWTP 2	Marion	Withlacoochee River	32,000	6.50	3.54	3.54	0.00	0.00	Domestic	Spray field
On Top of The World W/S		Marion	Withlacoochee River	2,635	0.75	0.29	0.29	0.00	0.00	Domestic	Percolation pond
Rainbow Springs Utilities	Rainbow Springs Estates	Marion	Withlacoochee River	4,030	0.09	0.06	0.06	0.00	0.00	Domestic	Percolation pond
Rolling Green MHP		Marion	Oklawaha River	2,500	0.25	0.10	0.10	0.00	0.00	Domestic	Percolation pond
Southern States Utilities	Marion Oaks	Marion	Withlacoochee River	6,460	0.20	0.16	0.16	0.00	0.00	Domestic	Percolation pond

APPENDIX II. Treated domestic and industrial wastewater discharge, population served, and discharge method by facility in Florida, 1995

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Utility/Owner/Plant	Facility/Plant	County	Cataloging unit	Population served	Plant capacity	1995 Discharge				System type	Discharge method or receiving water body
						Total	Ground	Injection Well	Surface		
Spruce Creek South		Marion	Withlacoochee River	1,250	0.22	0.09	0.09	0.00	0.00	Domestic	Percolation pond/reuse system
Florida Dept. of Corrections	Martin Correctional	Martin	Everglades	N/A	0.30	0.35	0.35	0.00	0.00	Domestic	Reuse system
Hydratech Utilities		Martin	Everglades	6,000	0.60	0.48	0.48	0.00	0.00	Domestic	Percolation pond
Indiantown Water Company		Martin	Everglades	4,500	1.00	0.49	0.49	0.00	0.00	Domestic	Percolation pond
Martin County Utilities	Dixie Park	Martin	Everglades	14,000	1.24	0.71	0.71	0.00	0.00	Domestic	Percolation pond
Martin County Utilities	North	Martin	Everglades	1,500	0.60	0.30	0.00	0.30	0.00	Domestic	Injection well
Martin Downs Utilities		Martin	Everglades	2,500	0.45	0.61	0.61	0.00	0.00	Domestic	Percolation pond
Miles Grant W/S		Martin	Everglades	903	0.30	0.10	0.10	0.00	0.00	Domestic	Reuse system
Radnor Plantation Inc.	Indian River Plantation	Martin	Everglades	2,500	0.30	0.13	0.13	0.00	0.00	Domestic	Reuse system
Sailfish Point Utility Corp.		Martin	Everglades	1,250	0.25	0.13	0.13	0.00	0.00	Domestic	Spray field
Southern States Utilities	Leilani Heights	Martin	Everglades	1,131	0.15	0.12	0.12	0.00	0.00	Domestic	Percolation pond
St. Lucie Falls TP		Martin	Everglades	400	0.17	0.03	0.03	0.00	0.00	Domestic	Percolation pond
Stuart, city of		Martin	Everglades	11,396	3.00	1.83	0.00	1.83	0.00	Domestic	Injection well
Calkins-Indiantown Citrus Inc.		Martin	Everglades	N/A	0.30	0.35	0.00	0.00	0.35	Industrial	Unnamed Swamp
Key Colony Beach, city of		Monroe	Florida Bay	1,467	0.22	0.22	0.00	0.22	0.00	Domestic	Injection well
Key Haven Utility Corp.		Monroe	Florida Bay	1,100	0.20	0.09	0.00	0.09	0.00	Domestic	Injection well
Key West Resort Utility		Monroe	Florida Bay	N/A	0.25	0.15	0.05	0.10	0.00	Domestic	Injection well/reuse system
Key West, city of		Monroe	Florida Bay	42,487	7.20	8.08	0.00	0.00	8.08	Domestic	Gulf of Mexico
Ocean Reef Utility Company		Monroe	Florida Bay	3,532	0.45	0.26	0.00	0.26	0.00	Domestic	Boreholes
U.S. Navy	Boca Chica NAS	Monroe	Florida Bay	2,577	0.40	0.25	0.00	0.00	0.25	Domestic	Gulf of Mexico
Callahan, town of		Nassau	Nassau River	3,000	0.30	0.25	0.00	0.00	0.25	Domestic	Alligator Creek
Fernandina Beach, city of		Nassau	St. Marys River	10,000	1.70	2.18	0.00	0.00	2.18	Domestic	Amelia River
Hilliard, town of		Nassau	St. Marys River	1,330	0.16	0.23	0.23	0.00	0.00	Domestic	Spray field
Southern States Utilities	Amelia Island	Nassau	Nassau River	6,000	0.60	0.70	0.70	0.00	0.00	Domestic	Reuse system/spray field
ITT Rayonier Inc.	Fernandina Beach	Nassau	St. Marys River	N/A	26.30	12.67	0.00	0.00	12.67	Industrial	Amelia River
Jefferson Smurfit Corp.	Container Corp.	Nassau	St. Marys River	N/A	25.00	23.18	0.00	0.00	23.18	Industrial	Amelia River
Crestview, city of		Okaloosa	Yellow River	7,000	2.10	1.22	0.00	0.00	1.22	Domestic	Trammel Creek/Yellow River
Destin Water Users		Okaloosa	Choctawhatchee Bay	9,361	3.70	1.71	1.71	0.00	0.00	Domestic	Spray field
Florida Dept. of Corrections	Okaloosa Correctional	Okaloosa	Yellow River	N/A	0.18	0.11	0.11	0.00	0.00	Domestic	Spray field
Fort Walton Beach, city of		Okaloosa	Choctawhatchee Bay	22,000	4.50	3.37	3.37	0.00	0.00	Domestic	Spray field
Mary Esther, town of		Okaloosa	Pensacola Bay	4,347	0.80	0.71	0.71	0.00	0.00	Domestic	Spray field
Niceville-Valparaiso	Regional 1 WWTP	Okaloosa	Choctawhatchee Bay	11,575	3.00	2.75	2.75	0.00	0.00	Domestic	Spray field
Okaloosa County Utilities	Main WWTP	Okaloosa	Choctawhatchee Bay	35,000	6.50	5.12	5.12	0.00	0.00	Domestic	Spray field
Okaloosa County Utilities	Stephenson WWTP	Okaloosa	Choctawhatchee Bay	5,000	1.00	0.40	0.40	0.00	0.00	Domestic	Percolation pond
U.S. Air Force	Eglin AFB Field 3 STP	Okaloosa	Choctawhatchee Bay	N/A	0.13	0.02	0.02	0.00	0.00	Domestic	Spray field
U.S. Air Force	Eglin AFB Field 6 STP	Okaloosa	Choctawhatchee Bay	N/A	0.07	0.04	0.04	0.00	0.00	Domestic	Percolation pond
U.S. Air Force	Eglin AFB Main STP	Okaloosa	Choctawhatchee Bay	N/A	1.00	0.51	0.51	0.00	0.00	Domestic	Spray field
U.S. Air Force	Eglin AFB Plew STP	Okaloosa	Choctawhatchee Bay	N/A	1.50	0.82	0.82	0.00	0.00	Domestic	Spray field
U.S. Air Force	Hurlburt Field STP	Okaloosa	Pensacola Bay	N/A	0.13	0.63	0.63	0.00	0.00	Domestic	Spray field
Eckerd Youth Foundation		Okeechobee	Northern Okeechobee Inflow	N/A	0.10	0.09	0.09	0.00	0.00	Domestic	City of Okeechobee
Okeechobee, city of		Okeechobee	Northern Okeechobee Inflow	4,140	0.60	0.48	0.48	0.00	0.00	Domestic	Spray field
Apopka, city of		Orange	Upper St. Johns River	4,400	4.00	1.90	1.90	0.00	0.00	Domestic	Spray field
Econ Utilities	Wedgefield	Orange	Upper St. Johns River	768	0.60	0.15	0.15	0.00	0.00	Domestic	Percolation pond/reuse system
Fairways MHP		Orange	Upper St. Johns River	200	0.15	0.13	0.13	0.00	0.00	Domestic	Reuse system
Ocoee, city of	STP 2	Orange	Oklawaha River	10,000	3.00	0.93	0.93	0.00	0.00	Domestic	Reuse system
Orange County Utilities	Cypress Walk STP	Orange	Kissimmee River	4,900	1.00	0.48	0.48	0.00	0.00	Domestic	Reuse system
Orange County Utilities	Easterly STP	Orange	Upper St. Johns River	80,000	19.00	8.33	7.93	0.00	0.40	Domestic	Wetlands/reuse system
Orange County Utilities	Meadow Woods	Orange	Kissimmee River	3,000	1.00	0.63	0.63	0.00	0.00	Domestic	Spray field
Orange County Utilities	Northwest STP	Orange	Upper St. Johns River	22,000	3.50	2.95	2.95	0.00	0.00	Domestic	Percolation pond
Orange County Utilities	South WRF	Orange	Kissimmee River	248,000	30.10	17.18	17.18	0.00	0.00	Domestic	Rapid infiltration basin/reuse system
Orlando Utilities Commission	Conserv I	Orange	Kissimmee River	31,500	7.50	3.99	3.99	0.00	0.00	Domestic	Percolation pond
Orlando Utilities Commission	Conserv II	Orange	Oklawaha River	N/A	44.00	29.67	29.67	0.00	0.00	Domestic	Reuse system
Orlando Utilities Commission	Lake Nona	Orange	Kissimmee River	3,300	0.33	0.03	0.03	0.00	0.00	Domestic	Reuse system
Orlando Utilities Commission	McLeod Road	Orange	Kissimmee River	154,000	25.00	15.34	15.34	0.00	0.00	Domestic	Spray field

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Utility/Owner/Plant	Facility/Plant	County	Cataloging unit	Population served	Plant capacity	1995 Discharge				System type	Discharge method or receiving water body
						Total	Ground	Injection Well	Surface		
Park Manor Water Works	Park Manor Estates	Orange	Upper St. Johns River	4,900	0.35	0.25	0.00	0.00	0.25	Domestic	Little Econolahatchee River
Ready Creek I/D		Orange	Kissimmee River	N/A	15.00	9.24	9.24	0.00	0.00	Domestic	Rapid infiltration basin/reuse system
Rock Springs MHP		Orange	Upper St. Johns River	1,200	0.15	0.11	0.11	0.00	0.00	Domestic	Percolation pond
Southern States Utilities	University Shores AWWT	Orange	Upper St. Johns River	7,750	1.00	0.85	0.85	0.00	0.00	Domestic	Percolation pond
Star Light Ranch MHP		Orange	Upper St. Johns River	1,200	0.12	0.09	0.09	0.00	0.00	Domestic	Reuse system
University of Central Florida		Orange	Upper St. Johns River	N/A	0.50	0.38	0.38	0.00	0.00	Domestic	Reuse system
Winter Garden, city of		Orange	Oklawaha River	20,000	2.00	1.53	1.53	0.00	0.00	Domestic	Percolation pond/drain field
Winter Park, city of		Orange	Upper St. Johns River	2,800	7.50	0.38	0.38	0.00	0.00	Domestic	Reuse system
Zellwood Station Utilities		Orange	Oklawaha River	1,300	0.30	0.13	0.13	0.00	0.00	Domestic	Percolation pond
Cypress Cove MHP		Osceola	Kissimmee River	900	0.09	0.08	0.08	0.00	0.00	Domestic	Percolation pond
Good Samaritan Retirement		Osceola	Kissimmee River	1,800	0.21	0.14	0.14	0.00	0.00	Domestic	Reuse system
Kissimmee, city of	Camelot STP	Osceola	Kissimmee River	32,800	5.00	2.33	2.33	0.00	0.00	Domestic	Reuse system
Kissimmee, city of	Parkway STP	Osceola	Kissimmee River	6,250	1.50	0.56	0.56	0.00	0.00	Domestic	Reuse system
Kissimmee, city of	Sandhill STP	Osceola	Kissimmee River	10,000	1.86	1.10	1.10	0.00	0.00	Domestic	Rapid infiltration basin
Kissimmee, city of	South Bermuda STP	Osceola	Kissimmee River	N/A	7.00	4.67	4.67	0.00	0.00	Domestic	Rapid infiltration basin
Kissimmee, city of	Western STP	Osceola	Kissimmee River	7,500	1.20	0.81	0.81	0.00	0.00	Domestic	Spray field/percolation pond
Orlando Hyatt Hotel		Osceola	Kissimmee River	N/A	0.30	0.32	0.32	0.00	0.00	Domestic	Spray field
Poinciana Utilities	Industrial Park STP	Osceola	Kissimmee River	1,053	0.35	0.19	0.19	0.00	0.00	Domestic	Percolation pond
Poinciana Utilities	Plant 2	Osceola	Kissimmee River	4,750	0.50	0.36	0.36	0.00	0.00	Domestic	Spray field
Poinciana Utilities	Plant 3	Osceola	Kissimmee River	N/A	0.66	0.23	0.00	0.00	0.23	Domestic	Wetlands
Poinciana Utilities	Plant 5	Osceola	Kissimmee River	1,180	0.35	0.47	0.47	0.00	0.00	Domestic	Percolation pond
Siesta Lago MHP		Osceola	Kissimmee River	1,175	0.10	0.10	0.10	0.00	0.00	Domestic	Percolation pond
Southern States Utilities	Buenaventura Lakes	Osceola	Kissimmee River	15,000	1.80	1.45	1.43	0.00	0.02	Domestic	Reuse system/wetlands
St. Cloud, city of	Plant 1	Osceola	Kissimmee River	16,500	2.20	1.55	1.55	0.00	0.00	Domestic	Spray field/reuse system
St. Cloud, city of	Plant 2	Osceola	Kissimmee River	N/A	0.80	0.00	0.00	0.00	0.00	Domestic	Reuse system
Acme I/D		Palm Beach	Everglades	17,000	4.75	2.39	0.00	2.39	0.00	Domestic	Injection well
Belle Glade, city of		Palm Beach	Everglades	12,000	3.00	2.95	0.00	2.95	0.00	Domestic	Injection well
Boca Raton, city of		Palm Beach	Everglades	65,000	20.00	13.66	0.00	0.00	13.66	Domestic	Atlantic Ocean
Delray Beach, city of	South Central WWTP	Palm Beach	Everglades	175,000	24.00	16.55	0.00	0.00	16.55	Domestic	Atlantic Ocean
Loxahatchee River ECD		Palm Beach	Everglades	40,000	8.00	4.33	2.47	1.86	0.00	Domestic	Injection well/reuse system
Pahokee, city of		Palm Beach	Everglades	7,000	1.20	1.14	0.00	1.14	0.00	Domestic	Injection well
Palm Beach County Utilities	System 7 (Century)	Palm Beach	Everglades	N/A	1.00	0.41	0.00	0.41	0.00	Domestic	Injection well
Palm Beach County Utilities	System 9 (North)	Palm Beach	Everglades	N/A	4.50	1.54	0.00	1.54	0.00	Domestic	Injection well
Palm Beach County Utilities	Southern Regional	Palm Beach	Everglades	115,000	40.00	14.07	1.22	12.85	0.00	Domestic	Injection well/reuse system
Royal Palm Beach Utilities		Palm Beach	Everglades	16,015	2.20	1.62	0.00	1.62	0.00	Domestic	Injection well
Seacoast Utilities	PGA WWTP	Palm Beach	Everglades	48,000	8.00	8.01	0.00	8.01	0.00	Domestic	Injection well
South Bay, city of		Palm Beach	Everglades	4,000	1.40	0.77	0.00	0.77	0.00	Domestic	Injection well
U.S. Sugar Corp.	Ritta Village	Palm Beach	Everglades	820	0.08	0.05	0.05	0.00	0.00	Domestic	Percolation pond
U.S. Sugar Corp.	Bryant, town of	Palm Beach	Everglades	1,300	0.12	0.10	0.10	0.00	0.00	Domestic	Percolation pond
West Palm Beach, city of	East Central Regional	Palm Beach	Everglades	267,000	40.00	40.11	0.00	40.11	0.00	Domestic	Injection well
United Technologies Corp.	Pratt-Whitney STP 1	Palm Beach	Everglades	N/A	0.22	0.10	0.00	0.10	0.00	Industrial	Injection well
Aoha Utiltities	Seven Springs	Pasco	Crystal-Pithlachascottee Rivers	9,260	1.20	0.96	0.96	0.00	0.00	Domestic	Percolation pond
Dade City, city of		Pasco	Withlacoochee River	5,932	1.40	0.75	0.07	0.00	0.68	Domestic	Wetlands/reuse system
Forest Hills Utilities Inc.		Pasco	Crystal-Pithlachascottee Rivers	3,000	0.30	0.22	0.22	0.00	0.00	Domestic	Percolation pond/Spray field
Jasmine Lake Utility Inc.		Pasco	Crystal-Pithlachascottee Rivers	1,000	0.37	0.14	0.14	0.00	0.00	Domestic	Percolation pond
Lindrick Service Corp.	Gulf Harbor	Pasco	Crystal-Pithlachascottee Rivers	4,500	1.00	0.52	0.00	0.00	0.52	Domestic	Cross Bayou
New Port Richey, city of		Pasco	Crystal-Pithlachascottee Rivers	14,390	7.50	4.59	0.00	0.00	4.59	Domestic	Cross Bayou
Pasco County Utilities	Deer Park	Pasco	Crystal-Pithlachascottee Rivers	2,500	1.20	0.88	0.88	0.00	0.00	Domestic	Reuse system
Pasco County Utilities	Embassy Hills	Pasco	Crystal-Pithlachascottee Rivers	10,000	3.50	2.60	2.60	0.00	0.00	Domestic	Reuse system
Pasco County Utilities	Hudson WWTP	Pasco	Crystal-Pithlachascottee Rivers	10,000	3.00	2.24	2.24	0.00	0.00	Domestic	Reuse system
Pasco County Utilities	Land O Lakes	Pasco	Hillsborough River	3,773	1.00	0.80	0.80	0.00	0.00	Domestic	Reuse system
Pasco County Utilities	River Ridge	Pasco	Crystal-Pithlachascottee Rivers	N/A	0.30	0.09	0.09	0.00	0.00	Domestic	Percolation pond/Spray field
Pasco County Utilities	Shady Hills	Pasco	Crystal-Pithlachascottee Rivers	5,000	0.40	0.53	0.53	0.00	0.00	Domestic	Percolation pond
Pasco County Utilities	Southeast Pasco	Pasco	Hillsborough River	5,000	0.80	0.33	0.33	0.00	0.00	Domestic	Reuse system
Pasco County Utilities	Trout Creek	Pasco	Hillsborough River	N/A	0.17	0.00	0.00	0.00	0.00	Domestic	Discharged to Wesley Chapel

APPENDIX II. Treated domestic and industrial wastewater discharge, population served, and discharge method by facility in Florida, 1995

[Sources: U.S. Geological Survey and the Florida Department of Environmental Protection; Abbrevations and location of cataloging units and counties are found on pages 76 and 77; plant capacity and discharge are in million gallons per day; ground discharge includes absorption beds, drainfields, percolation ponds, rapid infiltration basins, spray fields and land application/reuse systems]

Utility/Owner/Plant	Facility/Plant	County	Cataloging unit	Population served	Plant capacity	1995 Discharge				System type	Discharge method or receiving water body
						Total	Ground	Injection Well	Surface		
Pasco County Utilities	Wesley Chapel	Pasco	Hillsborough River	5,000	0.68	0.48	0.48	0.00	0.00	Domestic	Reuse system
Southern States Utilities	Palm Terrace Gardens	Pasco	Crystal-Pithlachascottee Rivers	2,000	0.13	0.11	0.11	0.00	0.00	Domestic	Percolation pond
Zephyrhills, city of		Pasco	Hillsborough River	8,694	2.20	1.03	1.03	0.00	0.00	Domestic	Spray field
Lykes Pasco Inc.	Dade City	Pasco	Withlacoochee River	N/A	N/A	10.10	0.00	0.00	10.10	Industrial	Withlacoochee River
Belleair, town of		Pinellas	Crystal-Pithlachascottee Rivers	4,043	0.90	0.67	0.34	0.00	0.33	Domestic	Clearwater Bay/reuse system
Clearwater, city of	East WWTP	Pinellas	Crystal-Pithlachascottee Rivers	16,322	5.00	3.04	0.00	0.00	3.04	Domestic	Clearwater Bay
Clearwater, city of	Marshall Street WWTP	Pinellas	Crystal-Pithlachascottee Rivers	36,360	10.00	7.13	0.13	0.00	7.00	Domestic	Stevenson Creek/reuse system
Clearwater, city of	Northeast WWTP	Pinellas	Tampa Bay	48,480	13.50	6.17	0.50	0.00	5.67	Domestic	Tampa Bay/reuse system
Dunedin, city of	Mainland WWTP	Pinellas	Crystal-Pithlachascottee Rivers	34,988	6.00	4.68	1.00	0.00	3.68	Domestic	St. Joseph Sound/reuse system
Dyna-flo Services Inc.	Mid-County	Pinellas	Crystal-Pithlachascottee Rivers	7,500	0.90	0.75	0.00	0.00	0.75	Domestic	Curlew Creek
Largo, city of		Pinellas	Tampa Bay	67,465	15.00	13.66	6.00	0.00	7.66	Domestic	Feather Sound/reuse system
Oldsmar, city of		Pinellas	Tampa Bay	8,925	2.25	1.15	0.00	0.00	1.15	Domestic	Old Tampa Bay
On Top of The World W/S		Pinellas	Tampa Bay	4,700	0.60	0.37	0.37	0.00	0.00	Domestic	Reuse system
Pinellas County Water/Sewer	Eastlake Woodlands	Pinellas	Tampa Bay	3,000	0.95	0.13	0.13	0.00	0.00	Domestic	Reuse system
Pinellas County Water/Sewer	Mckay Creek	Pinellas	Crystal-Pithlachascottee Rivers	14,000	6.00	4.91	0.00	4.91	0.00	Domestic	Injection well/Boca Ciega Bay
Pinellas County Water/Sewer	Northwest WWTP	Pinellas	Crystal-Pithlachascottee Rivers	30,000	9.00	5.54	5.54	0.00	0.00	Domestic	Reuse system/spray field
Pinellas County Water/Sewer	Pine Ridge WWTP	Pinellas	Crystal-Pithlachascottee Rivers	2,000	0.70	0.23	0.23	0.00	0.00	Domestic	Reuse system
Pinellas County Water/Sewer	South Cross Bayou	Pinellas	Tampa Bay	150,000	24.50	21.88	0.22	21.66	0.00	Domestic	Injection well/spray field
Pinellas County Water/Sewer	Tarpon Lake Village	Pinellas	Crystal-Pithlachascottee Rivers	3,000	0.80	0.44	0.44	0.00	0.00	Domestic	Reuse system
Pinellas County Water/Sewer	Tarpon Woods	Pinellas	Crystal-Pithlachascottee Rivers	5,000	0.25	0.18	0.18	0.00	0.00	Domestic	Reuse system
St. Petersburg, city of	Northeast WWTP	Pinellas	Tampa Bay	45,000	16.00	10.65	7.35	3.30	0.00	Domestic	Injection well/reuse system
St. Petersburg, city of	Northwest WWTP	Pinellas	Crystal-Pithlachascottee Rivers	64,000	20.00	13.10	1.80	11.30	0.00	Domestic	Injection well/reuse system
St. Petersburg, city of	Southwest WWTP	Pinellas	Tampa Bay	101,581	20.00	15.10	11.00	4.10	0.00	Domestic	Injection well/reuse system
St. Petersburg, city of	Whited WWTP	Pinellas	Tampa Bay	150,000	12.40	9.75	2.00	7.75	0.00	Domestic	Injection well/reuse system
Tarpon Springs, city of		Pinellas	Crystal-Pithlachascottee Rivers	19,146	4.00	2.20	1.78	0.00	0.42	Domestic	Anclotte River/reuse system
Auburndale, city of		Polk	Peace River	9,267	1.40	1.35	0.00	0.00	1.35	Domestic	Spray field
Bartow, city of		Polk	Peace River	14,927	4.00	3.00	3.00	0.00	0.00	Domestic	Reuse system (mining)
Cypress Lakes Venture Inc.	Cypress Lakes WWTP	Polk	Hillsborough River	N/A	0.16	0.07	0.07	0.00	0.00	Domestic	Reuse system
Florida Dept. of Corrections	Avon Park Correctional	Polk	Kissimmee River	N/A	0.50	0.37	0.00	0.00	0.37	Domestic	Arbuckle Creek
Florida Dept. of Corrections	Polk Correctional	Polk	Withlacoochee River	N/A	0.31	0.20	0.20	0.00	0.00	Domestic	Percolation pond
Fort Meade, city of		Polk	Peace River	5,517	1.00	0.48	0.00	0.00	0.48	Domestic	Manmade wetlands
Garden Grove Water Company	Cypresswood	Polk	Peace River	N/A	0.72	0.69	0.69	0.00	0.00	Domestic	Reuse system
Grenelefe Resort		Polk	Kissimmee River	N/A	0.30	0.34	0.34	0.00	0.00	Domestic	Reuse system
Haines City, city of		Polk	Peace River	12,601	1.46	1.20	1.20	0.00	0.00	Domestic	Reuse system
Lake Alfred, city of		Polk	Peace River	3,716	0.60	0.27	0.27	0.00	0.00	Domestic	Reuse system
Lake Wales Utility Company	Fedhaven	Polk	Kissimmee River	N/A	0.50	0.10	0.00	0.00	0.10	Domestic	Weoyakapka Creek
Lake Wales, city of		Polk	Peace River	9,894	1.90	0.94	0.00	0.00	0.94	Domestic	Peace Creek
Lakeland, city of	Glendale WWTP	Polk	Peace River	50,000	10.80	10.43	0.33	0.00	10.10	Domestic	Wetlands/reuse system (power plant)
Lakeland, city of	Northside WWTP	Polk	Peace River	24,626	4.00	2.63	0.00	0.00	2.63	Domestic	Reuse system (power plant)
Mulberry, city of		Polk	Alafia River	3,327	0.75	0.37	0.00	0.00	0.37	Domestic	Alafia River North Prong
Polk County Utilities	Central Regional	Polk	Peace River	N/A	0.20	0.52	0.52	0.00	0.00	Domestic	Percolation pond
Polk County Utilities	Meadowlands	Polk	Alafia River	N/A	0.20	0.09	0.00	0.00	0.09	Domestic	Poley Creek
Polk County Utilities	Northeast	Polk	Peace River	N/A	0.60	0.13	0.13	0.00	0.00	Domestic	Percolation pond
Polk County Utilities	Polo Park	Polk	Oklawaha River	300	0.60	0.17	0.17	0.00	0.00	Domestic	Percolation pond
Polk County Utilities	Southwest	Polk	Alafia River	17,700	2.00	1.01	1.01	0.00	0.00	Domestic	Percolation pond/reuse system
Skyview Utilities Inc.	Skyview	Polk	Hillsborough River	1,353	0.40	0.30	0.30	0.00	0.00	Domestic	Spray field
Swiss Golf Club		Polk	Peace River	N/A	0.18	0.10	0.10	0.00	0.00	Domestic	Percolation pond
Winter Haven, city of	Conine (# 2)	Polk	Peace River	5,400	1.70	0.53	0.53	0.00	0.00	Domestic	Lake Conine/reuse system
Winter Haven, city of	Pollard (# 3)	Polk	Peace River	20,000	5.00	3.18	3.18	0.00	0.00	Domestic	Spray field/Peace Creek
Cargil Inc.	Bartow	Polk	Alafia River	N/A	N/A	2.06	0.00	0.00	2.06	Industrial	Alafia River North Prong
CF Industries Inc.	Bartow	Polk	Peace River	N/A	N/A	1.80	0.00	0.00	1.80	Industrial	N/A
Citrus Hill Manufacturing Inc.	Frostproof	Polk	Kissimmee River	N/A	N/A	0.74	0.74	0.00	0.00	Industrial	Spray field
Coca-Cola Foods Inc.	Auburndale	Polk	Peace River	N/A	N/A	1.29	1.29	0.00	0.00	Industrial	Spray field
Florida Distillers Company	Auburndale	Polk	Peace River	N/A	N/A	0.54	0.00	0.00	0.54	Industrial	Lake Lena Run
Florida Distillers Company	Lake Alfred	Polk	Peace River	N/A	N/A	0.52	0.00	0.00	0.52	Industrial	Lake Alfred

APPENDIX II. Treated domestic and industrial wastewater discharge, population served, and discharge method by facility in Florida, 1995

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Utility/Owner/Plant	Facility/Plant	County	Cataloging unit	Population served	Plant capacity	1995 Discharge				System type	Discharge method or receiving water body
						Total	Ground	Injection Well	Surface		
Florida Juice Inc.	Lakeland	Polk	Peace River	N/A	N/A	0.49	0.00	0.00	0.49	Industrial	Itchepackesa Creek
IMC-Agrico Company	Nichols	Polk	Alafia River	N/A	N/A	4.78	0.00	0.00	4.78	Industrial	Thirty Mile Creek
IMC-Agrico Company	South Pierce	Polk	Peace River	N/A	N/A	0.00	0.00	0.00	0.00	Industrial	Hookers Prairie
Mulberry Phosphates Inc.	Royster Chemicals	Polk	Alafia River	N/A	N/A	0.00	0.00	0.00	0.00	Industrial	Alafia River North Prong
SFE Citrus Processors Inc.	Adams Packing House	Polk	Peace River	N/A	N/A	0.50	0.00	0.00	0.50	Industrial	Lake Lena Run
Sun Pac Foods Inc.	Winter Haven	Polk	Peace River	N/A	N/A	0.11	0.11	0.00	0.00	Industrial	Spray field
Crescent City, city of		Putnam	Lower St. Johns River	1,100	0.25	0.19	0.00	0.00	0.19	Domestic	Crescent Lake
Palatka, city of		Putnam	Lower St. Johns River	12,500	3.00	3.03	0.00	0.00	3.03	Domestic	St. Johns River
Feldspar Corp./EPK Clay	Edgar	Putnam	Oklawaha River	N/A	N/A	1.75	0.00	0.00	1.75	Industrial	N/A
Georgia-Pacific Corp.	Palatka Mill	Putnam	Lower St. Johns River	N/A	50.00	26.83	0.00	0.00	26.83	Industrial	Rice Creek
General Development Utilities	Julington Creek	St. Johns	Lower St. Johns River	1,000	0.20	0.10	0.10	0.00	0.00	Domestic	Percolation pond
Hastings, city of		St. Johns	Lower St. Johns River	1,000	0.10	0.07	0.00	0.00	0.07	Domestic	Cracker Creek
Intercoastal Utilities	Sawgrass	St. Johns	Daytona-St. Augustine Coastal	5,000	0.70	0.62	0.62	0.00	0.00	Domestic	Spray field
North Beach W/S		St. Johns	Daytona-St. Augustine Coastal	N/A	0.15	0.12	0.12	0.00	0.00	Domestic	Percolation pond
St. Augustine, city of	WWTP 1	St. Johns	Daytona-St. Augustine Coastal	15,700	5.00	2.54	0.00	0.00	2.54	Domestic	Matanzas River
St. Augustine, city of	WWTP 2	St. Johns	Daytona-St. Augustine Coastal	N/A	1.50	0.53	0.00	0.00	0.53	Domestic	Matanzas River
St. Johns County Utilities	Anastasia WWTP	St. Johns	Daytona-St. Augustine Coastal	11,100	2.00	1.42	0.11	0.00	1.31	Domestic	Matanzas River/spray field
St. Johns County Utilities	Mainland WWTP	St. Johns	Lower St. Johns River	2,500	0.25	0.05	0.05	0.00	0.00	Domestic	Spray field
St. Johns County Utilities	SR 16 WWTP	St. Johns	Lower St. Johns River	4,545	0.50	0.12	0.00	0.00	0.12	Domestic	Wetlands
St. Johns County Utilities	St. Augustine Shores	St. Johns	Daytona-St. Augustine Coastal	N/A	0.50	0.44	0.44	0.00	0.00	Domestic	Spray field
St. Johns Service Company	Inlet Beach	St. Johns	Daytona-St. Augustine Coastal	5,000	0.50	0.35	0.35	0.00	0.00	Domestic	Spray field
St. Johns Service Company	Marsh Landing	St. Johns	Lower St. Johns River	2,457	0.50	0.42	0.42	0.00	0.00	Domestic	Percolation pond/spray field
St. Johns Service Company	Players Club	St. Johns	Lower St. Johns River	5,000	0.90	0.45	0.45	0.00	0.00	Domestic	Percolation pond/spray field
United Water of Florida Inc.	Ponte Vedra WWTP	St. Johns	Lower St. Johns River	5,000	0.50	0.45	0.45	0.00	0.00	Domestic	Spray field
United Water of Florida Inc.	St. Johns North	St. Johns	Lower St. Johns River	800	0.08	0.14	0.14	0.00	0.00	Domestic	Percolation pond
Fort Pierce Utility Auth.		St. Lucie	Vero Beach Coastal	60,228	9.00	7.37	0.00	0.00	7.37	Domestic	Indian River
Holiday Pines S/D		St. Lucie	Vero Beach Coastal	2,100	0.21	0.13	0.13	0.00	0.00	Domestic	Percolation pond
Nettles Island/Outdoor Resort		St. Lucie	Vero Beach Coastal	N/A	0.20	0.11	0.11	0.00	0.00	Domestic	Drain field
North Hutchinson Island		St. Lucie	Vero Beach Coastal	1,900	0.19	0.07	0.07	0.00	0.00	Domestic	Percolation pond
Savanna Club		St. Lucie	Everglades	1,500	0.15	0.08	0.08	0.00	0.00	Domestic	Percolation pond
Spanish Lakes Country Club		St. Lucie	Everglades	2,000	0.16	0.11	0.11	0.00	0.00	Domestic	Percolation pond
Spanish Lakes Fairways		St. Lucie	Everglades	3,160	0.25	0.11	0.11	0.00	0.00	Domestic	Reuse system
Spanish Lakes MHP		St. Lucie	Everglades	2,500	0.29	0.18	0.18	0.00	0.00	Domestic	Percolation pond
St. Lucie County Utilities	North	St. Lucie	Everglades	9,375	1.00	0.73	0.00	0.73	0.00	Domestic	Injection well
St. Lucie County Utilities	Southport	St. Lucie	Everglades	7,540	2.20	1.12	0.00	1.12	0.00	Domestic	Injection well
St. Lucie County Utilities	Westport	St. Lucie	Everglades	2,000	0.50	0.14	0.14	0.00	0.00	Domestic	Percolation pond
St. Lucie West Utilities		St. Lucie	Everglades	6,600	1.00	0.40	0.40	0.00	0.00	Domestic	Reuse system
Holley-Navarre W/S		Santa Rosa	Pensacola Bay	9,000	0.50	0.29	0.29	0.00	0.00	Domestic	Reuse system
Milton, city of		Santa Rosa	Blackwater River	8,379	2.50	0.92	0.00	0.00	0.92	Domestic	Blackwater River
Navarre Beach W/S	Navarre Beach STP	Santa Rosa	Pensacola Bay	1,250	0.90	0.18	0.00	0.00	0.18	Domestic	Santa Rosa Sound
Pace, city of		Santa Rosa	Pensacola Bay	5,000	1.00	0.23	0.23	0.00	0.00	Domestic	Reuse system
Santa Villa S/D		Santa Rosa	Pensacola Bay	1,200	0.12	0.07	0.07	0.00	0.00	Domestic	Percolation pond
South Santa Rosa Utility		Santa Rosa	Pensacola Bay	6,000	2.00	0.96	0.96	0.00	0.00	Domestic	Reuse system
U.S. Navy	Whiting Field NAS	Santa Rosa	Blackwater River	N/A	0.87	0.18	0.00	0.00	0.18	Domestic	Clear Creek
Air Products & Chemicals Inc.		Santa Rosa	Pensacola Bay	N/A	1.50	1.23	0.00	0.00	1.23	Industrial	Escambia Bay
Sterling Fibers Inc. (Cytec)	Santa Rosa Plant	Santa Rosa	Blackwater River	N/A	5.50	1.25	0.36	0.69	0.20	Industrial	Blackwater Bay/injection well/spray field
Atlantic Utilities Corp.	Brentwood	Sarasota	Sarasota Bay	7,000	1.75	1.21	0.00	1.21	0.00	Domestic	Injection well
Camelot Lakes Utilities		Sarasota	Sarasota Bay	1,920	0.17	0.10	0.10	0.00	0.00	Domestic	Reuse system
Central County Utilities		Sarasota	Sarasota Bay	12,000	2.00	1.28	1.28	0.00	0.00	Domestic	Reuse system
Dolomite Utilities	Fruitville	Sarasota	Sarasota Bay	2,500	0.26	0.25	0.25	0.00	0.00	Domestic	Reuse system
Dolomite Utilities	Tri-Par STP	Sarasota	Sarasota Bay	2,500	0.30	0.26	0.26	0.00	0.00	Domestic	Reuse system
Englewood W/D	Englewood Isles STP	Sarasota	Sarasota Bay	2,500	0.40	0.16	0.16	0.00	0.00	Domestic	Percolation pond
Florida Cities Water Company	Gulf Gate	Sarasota	Sarasota Bay	13,000	1.80	1.79	0.00	0.00	1.79	Domestic	Philippe Creek
Florida Cities Water Company	South Gate	Sarasota	Sarasota Bay	7,000	1.30	1.16	0.00	0.00	1.16	Domestic	Philippe Creek
Kensington Park Utilities	27th Street	Sarasota	Sarasota Bay	1,000	0.18	0.14	0.14	0.00	0.00	Domestic	Reuse system

APPENDIX II. Treated domestic and industrial wastewater discharge, population served, and discharge method by facility in Florida, 1995

[Sources: U.S. Geological Survey and the Florida Department of Environmental Protection; Abbrevations and location of cataloging units and counties are found on pages 76 and 77; plant capacity and discharge are in million gallons per day; ground discharge includes absorption beds, drainfields, percolation ponds, rapid infiltration basins, spray fields and land application/reuse systems]

Utility/Owner/Plant	Facility/Plant	County	Cataloging unit	Population served	Plant capacity	1995 Discharge				System type	Discharge method or receiving water body
						Total	Ground	Injection Well	Surface		
Kensington Park Utilities	Monica Parkway	Sarasota	Sarasota Bay	5,930	0.56	0.31	0.31	0.00	0.00	Domestic	Reuse system
Longwood Run Utilities		Sarasota	Sarasota Bay	1,000	0.15	0.12	0.12	0.00	0.00	Domestic	Percolation pond
Meadowood Utilities		Sarasota	Sarasota Bay	1,000	0.98	0.54	0.54	0.00	0.00	Domestic	Reuse system
North Port, city of		Sarasota	Myakka River	12,400	1.10	1.38	0.10	1.28	0.00	Domestic	Injection well/reuse system
Sarasota County Utilities	Bee Ridge Raod WRF	Sarasota	Sarasota Bay	10,000	1.05	0.23	0.23	0.00	0.00	Domestic	Reuse system
Sarasota County Utilities	The Plantation	Sarasota	Sarasota Bay	5,600	0.45	0.16	0.16	0.00	0.00	Domestic	Reuse system
Sarasota County Utilities	Venice Gardens	Sarasota	Sarasota Bay	14,400	1.95	1.55	1.55	0.00	0.00	Domestic	Reuse system
Sarasota, city of		Sarasota	Sarasota Bay	52,000	10.20	8.03	1.45	0.00	6.58	Domestic	Whitaker Bayou/reuse system
Siesta Key Utilities Auth.	Siesta Key STP	Sarasota	Sarasota Bay	27,000	2.70	1.77	0.00	0.00	1.77	Domestic	Grand Canal
Southbay Utilities		Sarasota	Sarasota Bay	1,360	0.25	0.14	0.14	0.00	0.00	Domestic	Reuse system
Venice, city of	Eastside WWTP	Sarasota	Sarasota Bay	10,000	2.10	1.71	1.71	0.00	0.00	Domestic	Reuse system
Venice, city of	Island WWTP	Sarasota	Sarasota Bay	10,000	2.80	0.50	0.40	0.00	0.10	Domestic	Red Lake/reuse system
Sarasota, city of	R/O Brine Plant	Sarasota	Sarasota Bay	N/A	N/A	2.95	0.00	0.00	2.95	Industrial	Whitaker Bayou
Southbay Utilities	R/O Brine Plant	Sarasota	Sarasota Bay	N/A	N/A	0.16	0.00	0.00	0.16	Industrial	Dryman Bay
Venice, city of	R/O Brine Plant	Sarasota	Sarasota Bay	N/A	N/A	2.03	0.00	0.00	2.03	Industrial	Hatchett Creek
Altamonte Springs, city of		Seminole	Upper St. Johns River	90,000	12.50	6.20	5.73	0.00	0.47	Domestic	Little Wekiva River/reuse system
Casselberry, city of		Seminole	Upper St. Johns River	3,167	0.64	0.68	0.68	0.00	0.00	Domestic	Percolation pond/reuse system
Longwood Utilities	Shadow Hills STP	Seminole	Upper St. Johns River	6,000	0.50	0.41	0.41	0.00	0.00	Domestic	Percolation pond/reuse system
Orlando Utilities Commission	Iron Bridge WWTP	Seminole	Upper St. Johns River	N/A	40.00	15.03	0.00	0.00	15.03	Domestic	Wetlands/Little Econlockhatchee
Palm Valley MHP		Seminole	Upper St. Johns River	1,410	0.13	0.10	0.10	0.00	0.00	Domestic	Percolation pond
Sanford, city of		Seminole	Upper St. Johns River	36,000	7.30	5.18	1.00	0.00	4.18	Domestic	Lake Monroe/reuse system
Sanlando Utilities Corp.	Wekiva Hunt Club	Seminole	Upper St. Johns River	25,000	2.90	2.09	0.00	0.00	2.09	Domestic	Sweetwater Creek/reuse system
Sanlando Utilities Corp.	Woodlands-Des Pinar	Seminole	Upper St. Johns River	4,340	0.50	0.46	0.46	0.00	0.00	Domestic	Percolation pond/spray field
Seminole County Utilities	Greenwood Lakes	Seminole	Upper St. Johns River	35,000	3.50	2.03	2.03	0.00	0.00	Domestic	Percolation pond/reuse system
Utilities Inc. of Florida	Alafaya WWTP	Seminole	Upper St. Johns River	12,000	2.41	0.94	0.94	0.00	0.00	Domestic	Percolation pond/reuse system
Utilities Inc. of Florida	Lincoln Heights S/D	Seminole	Upper St. Johns River	795	0.12	0.08	0.00	0.00	0.08	Domestic	Smith Canal
Winter Springs, city of	Main STP	Seminole	Upper St. Johns River	22,500	3.00	1.08	1.08	0.00	0.00	Domestic	Rapid infiltration basin
Winter Springs, city of	Tuscawilla STP	Seminole	Upper St. Johns River	7,700	2.20	1.45	1.45	0.00	0.00	Domestic	Reuse system
Continental Country Club Inc.		Sumter	Withlacoochee River	N/A	0.40	0.14	0.00	0.00	0.14	Domestic	Chitty Chatty Marsh
Florida Dept. of Corrections	Sumter Correctional	Sumter	Withlacoochee River	N/A	0.35	0.12	0.12	0.00	0.00	Domestic	Spray field
Wildwood, city of		Sumter	Withlacoochee River	2,700	1.30	0.53	0.00	0.00	0.53	Domestic	Wetlands
Advent Village W/S		Suwannee	Lower Suwannee River	375	0.17	0.05	0.05	0.00	0.00	Domestic	Percolation pond
Branford, town of		Suwannee	Lower Suwannee River	600	0.12	0.07	0.07	0.00	0.00	Domestic	Spray field
Live Oak, city of		Suwannee	Lower Suwannee River	7,500	0.75	0.84	0.84	0.00	0.00	Domestic	Spray field
Gold Kist Poultry Inc.	Ellaville	Suwannee	Lower Suwannee River	N/A	N/A	1.34	0.00	0.00	1.34	Industrial	Suwannee River
Florida Dept. of Corrections	Taylor Correctional	Taylor	Econfina-Steinhatchee Rivers	N/A	0.20	0.05	0.05	0.00	0.00	Domestic	Percolation pond
Perry, city of		Taylor	Econfina-Steinhatchee Rivers	8,000	1.20	0.95	0.00	0.00	0.95	Domestic	Spring Creek
Buckeye Cellulose Corp.	Perry Plant	Taylor	Econfina-Steinhatchee Rivers	N/A	58.00	49.02	0.00	0.00	49.02	Industrial	Fenholloway River
Florida Dept. of Corrections	North Florida Reception	Union	Santa Fe River	N/A	0.20	0.06	0.00	0.00	0.06	Domestic	Richards Creek
Lake Butler, city of		Union	Santa Fe River	4,100	0.50	0.34	0.00	0.00	0.34	Domestic	Silver Run Creek
Daytona Beach, city of	Bethune Point WWTP	Volusia	Daytona-St. Augustine Coastal	50,000	10.00	6.12	0.57	0.00	5.55	Domestic	Halifax River/reuse system
Daytona Beach, city of	Westside Regional STP	Volusia	Daytona-St. Augustine Coastal	50,000	10.00	7.72	3.25	0.00	4.47	Domestic	Halifax River/reuse system
De Land, city of	Brandy Trails	Volusia	Upper St. Johns River	3,150	0.63	0.15	0.15	0.00	0.00	Domestic	Percolation pond/reuse system
De Land, city of	WM Nash Regional	Volusia	Upper St. Johns River	16,000	4.00	2.68	0.27	0.00	2.41	Domestic	St. Johns River/reuse system
Edgewater, city of		Volusia	Cape Canaveral Coastal	4,956	2.25	2.39	0.80	0.00	1.59	Domestic	Indian River/reuse system
Holly Hill, city of		Volusia	Daytona-St. Augustine Coastal	9,829	2.40	2.01	0.00	0.00	2.01	Domestic	Halifax River
New Smyrna Beach, city of		Volusia	Cape Canaveral Coastal	17,500	4.00	2.91	1.10	0.00	1.81	Domestic	Indian River/reuse system
Ormond Beach, city of	Breakaway Trail	Volusia	Daytona-St. Augustine Coastal	3,000	0.30	0.12	0.12	0.00	0.00	Domestic	Reuse system
Ormond Beach, city of	Main WWTP	Volusia	Daytona-St. Augustine Coastal	36,400	6.00	6.72	0.29	0.00	6.43	Domestic	Halifax River/reuse system
Port Orange, city of		Volusia	Daytona-St. Augustine Coastal	50,000	12.00	7.17	1.00	0.00	6.17	Domestic	Halifax River/reuse system
Southern States Utilities	Deltona Lakes	Volusia	Upper St. Johns River	11,858	0.90	0.96	0.96	0.00	0.00	Domestic	Percolation pond/reuse system
Southern States Utilities	Sugar Mill	Volusia	Daytona-St. Augustine Coastal	300	0.27	0.12	0.12	0.00	0.00	Domestic	Percolation pond/reuse system
Volusia County Utilities	Deltona North	Volusia	Upper St. Johns River	5,000	0.50	0.27	0.27	0.00	0.00	Domestic	Percolation pond
Volusia County Utilities	Four Towns	Volusia	Upper St. Johns River	5,000	0.60	0.19	0.19	0.00	0.00	Domestic	Percolation pond
Volusia County Utilities	Southwest Regional	Volusia	Upper St. Johns River	5,000	0.50	0.31	0.31	0.00	0.00	Domestic	Percolation pond/reuse system

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Utility/Owner/Plant	Facility/Plant	County	Cataloging unit	Population served	Plant capacity	1995 Discharge				System type	Discharge method or receiving water body
						Total	Ground	Injection Well	Surface		
Volusia County Utilities	Spruce Creek	Volusia	Daytona-St. Augustine Coastal	3,500	0.35	0.18	0.18	0.00	0.00	Domestic	Percolation pond
Sherwood Medical Company	De Land	Volusia	Upper St. Johns River	N/A	0.18	0.13	0.13	0.00	0.00	Industrial	Percolation pond
Wakulla County BOCC	Wakulla County STP	Wakulla	Apalachee Bay-St. Marks River	1,000	0.20	0.13	0.13	0.00	0.00	Domestic	Spray field
Primex Technologies Inc.	Wakulla/St. Marks	Wakulla	Apalachee Bay-St. Marks River	N/A	0.80	1.40	0.50	0.00	0.90	Industrial	Big Boggy Branch/spray field
De Funiak Springs, city of		Walton	Lower Choctawhatchee River	5,325	0.75	0.56	0.00	0.00	0.56	Domestic	West Sandy Creek
Florida Com. Service Company	Point Washington STP	Walton	Choctawhatchee Bay	2,500	0.85	0.29	0.29	0.00	0.00	Domestic	Percolation pond
Florida Com. Service Company	Sanddestin STP	Walton	Choctawhatchee Bay	2,000	1.20	0.65	0.65	0.00	0.00	Domestic	Reuse system
Florida Dept. of Corrections	Walton Correctional	Walton	Lower Choctawhatchee River	N/A	0.18	0.15	0.15	0.00	0.00	Domestic	Percolation pond
Freeport, city of		Walton	Choctawhatchee Bay	952	0.15	0.11	0.11	0.00	0.00	Domestic	Percolation pond
South Walton Utility Company		Walton	Choctawhatchee Bay	4,917	2.50	0.66	0.66	0.00	0.00	Domestic	Percolation pond
Purdue Farms Inc.		Walton	Choctawhatchee Bay	N/A	1.35	0.93	0.93	0.00	0.00	Industrial	Spray field
Chipley, city of		Washington	Lower Choctawhatchee River	3,500	1.20	0.81	0.00	0.00	0.81	Domestic	Alligator Creek
Florida Dept. of Corrections	Washington Correctional	Washington	Lower Choctawhatchee River	N/A	0.27	0.07	0.07	0.00	0.00	Domestic	Spray field
Vernon, city of		Washington	Lower Choctawhatchee River	900	0.10	0.10	0.00	0.00	0.10	Domestic	Holmes Creek

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