

TITLE: Annual Status Report on Regional Water Supply Planning

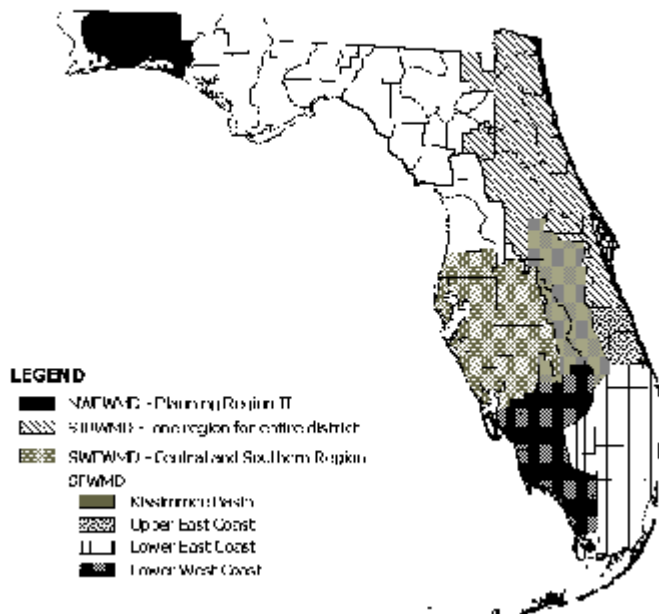
AGENCY: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP's Annual Status Report on Regional Water Supply Planning - November 2000

Each year, the Department of Environmental Protection prepares a Status Report on regional water supply planning (s. 373.0361(5), F.S.). Since 1997, significant progress has been made in identifying water supply options to meet projected demands. The Suwannee River Water Management District determined that adequate sources of water exist to meet projected demands and a water supply plan is not necessary at this time. Within the past year, the South Florida and St. Johns River Water Management Districts completed their Regional Water Supply Plans (RWSPs). An initial draft plan for Northwest Florida is scheduled for release in late 2000. The Southwest Florida Water Management District distributed a draft plan in July 2000 and expects to approve the plan by March 2001.

Based on the available draft and final RWSPs, it appears that adequate sources of water have been identified to meet Florida's rising demand for water through the year 2020 while sustaining the state's natural systems. In Fiscal Year 2001, the water management districts will allocate approximately \$287.3 million for all water supply related activities, which represents an increase of approximately \$64.4 million over last year. Approximately \$56.1 million will be allocated for specific water resource development projects and approximately \$65 million will be allocated for water supply development assistance.

Figure 1. Areas Requiring Regional Water Supply Plans



This year's Status Report, developed with the assistance of the five water management districts, addresses some key concerns about planning for Florida's future water supply. The following sections identify the need for water supply planning, summarize the recommendations of the completed water supply plans, describe the estimated costs and funding sources for water supply development assistance and water resource development projects, and describe each district's progress toward achieving its water resource development objectives.

Why Plan for the Future of Our Water Supply?

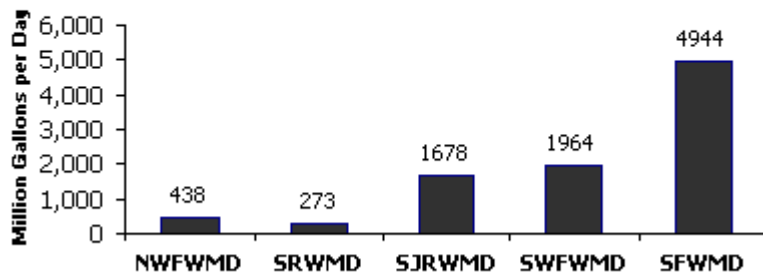
Florida is the fourth most populous state and the largest user of irrigation water in the East. Our population is expected to increase approximately 46% from 14.2 million residents in 1995 to about 20.7 million in 2020. Additional water supplies will be needed to meet the demands of the state's resident, industries, agriculture and at least forty million visitors per year. However, it appears that water demand will not increase as fast as population: in 2020 the estimated demands are expected to increase by 28.8% to approximately 9.3 billion gallons per day (bgd). In that year, about 33% of the water will be used for public supply, while approximately 47% of the water will be used for agriculture (Figure 2). Demands for water are not uniform across Florida or among water use categories. For example, the South Florida Water Management District (SFWMDC) uses as much water as all the other water management districts combined. In 1995, public water supply was the largest water use category in the Northwest Florida Water Management District (NWFWMDC); the commercial/industrial category was the largest user in the Suwannee River Water Management

District (SRWMD); and agriculture was the largest water user in SFWMD, Southwest Florida Water Management District (SWFWMD), and St. Johns River Water Management District (SJRWMD).

The Floridan aquifer is the major source of water in the NFWMD, SRWMD, SJRWMD, and SWFWMD. Since the Floridan aquifer is too brackish for use in most of the SFWMD, surface water and the surficial aquifers are the principal sources of fresh water for most of that region. In many areas of the state, these existing sources will not be adequate to meet the projected demands. Each region of the state faces unique challenges in finding “new” water to meet human demands while sustaining natural systems.

Many of our natural systems are highly dependent on water: they require specific amounts of water for a particular length of time during the right season of the year. In South Florida, water is needed to support the Everglades; in Central and North Florida, groundwater is needed to support the flow of 600 springs; in North Florida, water is needed to maintain base flows in major river systems including the Apalachicola, Suwannee, and St. Johns. Along the entire coastline, adequate fresh water flows are needed to maintain the proper salinity in our estuaries, which support diverse wildlife habitats and valuable sport and commercial fisheries. These extraordinary natural features have attracted people to this state, and sustaining them while ensuring adequate water supply, is a fundamental challenge for water management.

Figure 3. 2020 Demands for Each Water Management District



How Will We Meet Our Water Supply Needs?

The Florida Water Resources Act (Chapter 373, F.S.) provides a comprehensive framework for meeting the challenges of water management. In anticipation of the rapid population growth facing the state and the potential threats to both the economy and natural resources, the legislature amended the Act in 1997. The amendments required the five water management districts to initiate regional water supply planning in all areas of the state where reasonably anticipated sources of water are deemed inadequate to meet year 2020 projected demands.

The water supply plans must include a list of water source options, which will meet anticipated demands while sustaining water resources and related natural systems. The statute also requires that the plans contain a list of water supply development projects meeting criteria in Section 373.0831(4), F.S., and a list of water resource development projects that support water supply development.

The statute makes a distinction between water supply and water resource development. Water supply development is primarily the responsibility of water utilities and other water users and is defined as the planning, design, construction, operation and maintenance of public or private facilities for water collection, treatment and distribution for sale, resale or end use (s. 373.019(21), F.S.). Water resource development is primarily the responsibility of the water management districts and includes such things as collection and evaluation of water resource data, structural and non-structural programs to manage water resources, construction and operation of major public works facilities for flood control and water storage, and technical assistance to water utilities (s. 373.019(19), F.S.). The contents of each regional water supply plan are summarized in the district sections of this report.

Some of the sources being considered by the water management districts include the development of additional fresh groundwater and surface water, demineralization of brackish groundwater, desalination of seawater, reuse of reclaimed water, and water conservation. The districts are also investigating the possibility of increasing water storage capabilities through surface reservoirs and Aquifer Storage and Recovery (ASR) facilities. Three of the districts are evaluating the feasibility of recharging the aquifer by injecting stormwater runoff and reclaimed water. By March 2001, all of the regional water supply plans should be completed.

Regional water supply plans are to include:

- A twenty-year planning horizon.
- A quantification of the water supply needs.
- A list of water source options for water supply development which will exceed the identified needs.
- For each water source option, the estimated amount of water available and the estimated costs.
- A list of water supply development projects that meet the criteria in Section 373.0831(4), F.S.
- A listing of those water resource development projects that support water supply development.
- For each water resource development project listed:
 1. An estimate of the amount of water to become available.

2. The timetable and the estimated costs.
3. Sources of funding and funding needs.
4. Who will implement the project and how it will be implemented.

--A funding strategy.

--Consideration of how the options serve the public interest or save overall costs.

--Technical data and information.

--Minimum flows and levels and associated recovery and prevention strategies established within the planning region (s. 373.0361, F.S.).

What is the Cost of Meeting Our Water Supply Needs?

The cost of water supply development projects depends largely on the source of water. Historically, we have been able to rely on the least expensive sources of ground and surface water to meet our needs without significantly degrading natural systems. As we look for additional supplies of water to satisfy future demand, we will have to develop new and perhaps more expensive sources. The supply options and accompanying cost estimates presented in the regional water supply plans indicate that we will be able to meet our future water demands – at a reasonable cost.

Figure 4 displays the estimated range in unit cost (\$/1,000 gallons) for a variety of water supply alternatives presented in regional water supply plans. While many of these costs were estimated differently and may not be directly comparable, this figure illustrates the variation in the cost of developing different water supply sources and the expected increase in the cost of meeting future needs.

Where available, traditional ground water sources are expected to remain relatively inexpensive. Depending on the level of treatment required and other project specifications, the cost of traditional sources of ground and surface water typically ranges from \$0.02 to a little less than \$1.00 per 1,000 gallons (Figure 4).

As technology improves to make the development of brackish ground water more cost effective, we can expect to see more use of this source. Typically, the cost of developing this source ranges between \$1.00 to \$2.00 per 1000 gallons. Alternative surface water supplies are projected to be slightly more expensive, largely due to higher costs of treatment. Costs are expected to range between \$0.20 and \$3.00 per 1000 gallons. Since a variety of technologies were associated with the options identified in SWFWMD's draft water supply plan, a large range of cost estimates was provided (Figure 4). The surface water options presented in SWFWMD's draft water supply plan included different levels of water treatment and some included water storage and transport components. The cost estimates shown in Figure 4 are for a subset of projects that were studied in greater detail than the other options identified in SWFWMD's draft plan.

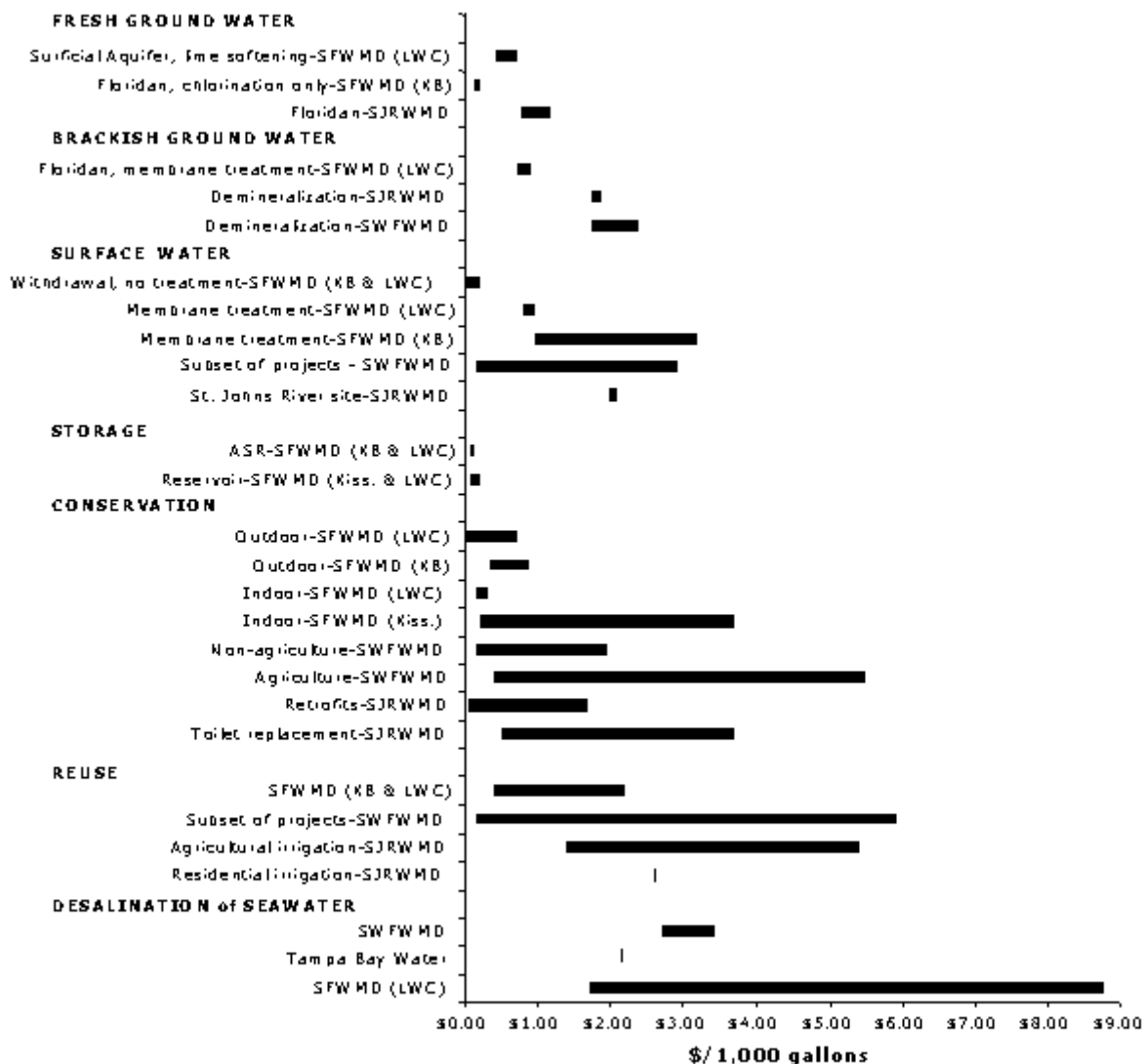
Conservation reduces the need to develop new supplies and can be considered a new "source" of water. Although water conservation has been a part of the districts' consumptive use programs for many years, there is still the potential for substantial water conservation at a relatively low cost. As Figure 4 illustrates, water can often be conserved at a cost comparable to traditional ground and surface water withdrawals, but it can also be relatively costly. The wide range in cost underscores the importance of carefully examining conservation alternatives prior to implementing other options.

Water users throughout the state increasingly rely on reuse of reclaimed water. Similar to conservation, some reuse options compare favorably with the cost of traditional sources of water, while others are more expensive. This range is reflected in SWFWMD's unit cost estimates for reuse (\$0.17 to \$5.92 per 1,000 gallons). Of the 25 reuse options that SWFWMD studied in more detail, only one exceeds a unit cost of \$2.25. The district estimates that eight of the options will cost less than \$0.40 per 1,000 gallons.

Desalination is an alternative that is attracting more attention in Florida. As technology improves, the cost of this source decreases. Tampa Bay Water is planning to construct a 25 mgd capacity desalination plant at Tampa Electric Company's Big Bend Power Plant Site. The facility will deliver potable water at a cost of \$2.08 per 1,000 gallons. With the benefit of financial assistance from SFWMD, the cost will be about \$1.60 per 1,000 gallons. Other desalination options identified by SWFWMD in its draft plan are slightly more expensive and range between \$2.69 and \$3.40 per 1000 gallons. The cost range presented in SFWMD's Lower West Coast Water Supply Plan is much broader.

While the cost of developing new water supplies is project and site specific, the costs of developing similar sources throughout Florida appears to fall within comparable ranges. The regional costs of satisfying future demand will largely depend on the suite of supply options selected and the growth in demand. Throughout the state, it appears that we will be able to meet future demand, at a reasonable price, by developing alternative sources, such as reuse, conservation, and desalination.

**Figure 4
Estimated Costs of Selected Water Supply Alternatives
Identified in Regional Water Supply Plans
(\$/1,000 gallons)**



NOTE: The unit cost estimates presented in this figure are intended only to illustrate the general range of costs of water supply alternatives. They are not suitable for precise comparison of alternatives. KB - Kissimmee Basin, LWC - Lower West Coast

What is the Effect on Water Users?

Comprehensive estimates of the costs of water supply development needed for 2020 are not yet available. It is difficult to estimate the effect of developing new water supplies on the overall cost of water for end users. This is especially true for independently supplied users such as many agricultural and industrial operations. Better estimates of these costs will be available in future years.

Increases in the cost of “raw” water are likely to be less than the cost of delivered water. Only part of a utility bill reflects the cost of supply development. Other costs to utilities include meter reading, billing, and administration. It should also be noted that an unknown fraction of municipal utility bills in Florida is “profit” transferred to other governmental purposes.

One regional estimate, made by SJRWMD, is that an investment of \$1.3 to \$1.7 billion will be needed, by 2020, to provide an additional capacity of 421 mgd in public water supplies. This very large public investment should be kept in perspective; the cost would be spread over twenty years and be borne by more than a million customers. The state and the districts are also striving to secure federal financial assistance for water supply development.

Water Management District Budgets

Table 1 includes budget information for the water management districts for Fiscal Year (FY) 2001. The table shows each district’s total budget for the upcoming year and the portion of the budget dedicated to the Water Supply Area of Responsibility (AOR). District responsibilities within the water supply AOR include: water supply planning, water resource development projects, assisting local governments with water supply development, regulating consumptive use, protecting wellheads, acquiring and restoring land, and maintaining water supply structures. During FY 2001, the

districts will allocate approximately \$287.3 million for all water supply activities, which represents an increase of approximately \$64.4 million from last year's budget.

The underlying intent of Section 373.0361, F.S., was for the districts to assist in increasing water supply through water resource development activities. The Governor's Office and the districts developed guidelines regarding which expenditures qualify as allocations for water resource development activities. Water resource development activities can be categorized as either water resource development projects or water supply development assistance. These activities give an indication of how much each district is expending toward increasing water supply.

Water Resource Development Projects (a subset of water resource development) are:

...projects designed to create, from traditional or alternative sources, an identifiable, quantifiable supply of water for existing and/or future reasonable-beneficial uses. Water resource development projects are intended to provide water supply and are not intended for direct environmental restoration applications. However, the water supplied might offset the use of other sources of water needed for environmental purposes, provided that the cost of the new source remains economically feasible to users. Supplying water strictly for environmental purposes should be accomplished through other types of water resource development, such as environmental restoration projects.

Water Supply Development Assistance represents district financial assistance for regional or local water supply development projects as defined by s. 373.019 (21), F.S. (Executive Office of the Governor)

Table 1 also shows the portion of the water supply AOR allocated for water supply development assistance and water resource development projects. Approximately \$56.1 million of the water supply area of responsibility is allocated for water resource development projects and approximately \$65 million is allocated for water supply development assistance. The remaining portion of the water supply AOR allocation is for other related activities including: water supply planning; minimum flows and levels establishment; data collection, analysis, and monitoring; land acquisition; cooperative projects; consumptive use permitting; operation and management of land and works; and public outreach.

Table 1. Water Management District Budgets and Water Supply Area of Responsibility (FY 2001)

| District Budget (\$) | | Water Supply Area of Responsibility (\$) | | | | |
|----------------------|---------------|--|-------------------------------------|-------------------------------|--------------|------------|
| Total | | Water Supply Development Assistance | Water Resource Development Projects | Other Water Supply Activities | Water Supply | |
| | | | | | Total Budget | % of Total |
| Northwest | 41,250,219 | 328,000 | 3,574,685 | 3,400,028 | 7,302,713 | 17.7 |
| Suwannee | 24,953,000 | 3,614,500 | 0 | 1,736,402 | 5,350,902 | 21.4 |
| St. Johns | 238,553,542 | 1,123,209 | 1,559,508 | 46,014,960 | 48,697,677 | 20.4 |
| South | 524,645,962 | 2,037,844 | 50,911,992 | 77,051,418 | 130,001,254 | 24.8 |
| Southwest | 239,269,320 | 57,866,468 | 41,581 | 38,019,756 | 95,927,805 | 40.1 |
| Total | 1,068,672,043 | 64,970,021 | 56,087,766 | 166,222,564 | 287,280,351 | 26.9 |

Note: The allocations presented in this table are best estimates based on current district projects that fit the guidelines developed by the Executive Office of the Governor.

Northwest Florida Water Management District

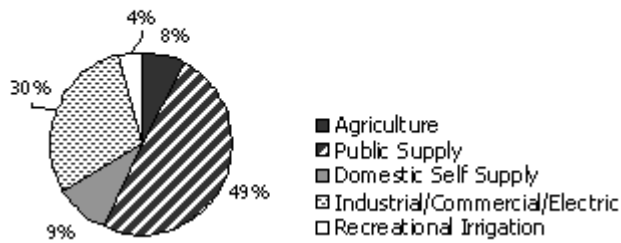
Regional Water Supply Planning

By 2020, the district's population will be approximately 1.6 million, which represents an increase of 41% over 1995 levels. Estimated 2020 demands for fresh water will be 438 million gallons per day (mgd). Currently, public supply is the largest user of fresh water, which is expected to continue through 2020 (Figure 5).

The 1998 districtwide water supply assessment determined that existing water resources were sufficient for meeting

the projected demands for most of northwest Florida. However, in the coastal areas of Water Supply Planning Region II (Santa Rosa, Okaloosa, and Walton counties), adequate water supply sources have not been identified. In October 1998, the district began developing a regional water supply plan for this region.

**Figure 5. NFWFMD 2020 Demands
(Total Demand = 438 mgd)**



In May 2000, the district completed development of a three-dimensional groundwater flow model of the Floridan Aquifer in Santa Rosa, Okaloosa, and Walton counties. The model is being used as the foundation for developing the initial Region II regional water supply plan and a three-dimensional salinity (solute transport) model. When completed, the salinity model will be used to evaluate the long-term sustainability of withdrawals from the Floridan Aquifer system. Recognizing the need for the district to develop these tools, some of the principal utilities in the coastal areas of Region II have pledged financial support for completion of the models. This cooperative and coordinated effort with the Region II utilities will provide a better understanding of the sustainability of the Floridan Aquifer and will help plan for future water resource development needs.

During FY 2000, the district developed initial drafts of the RWSP for review by utilities, local governments, the public, and other agencies. The draft RWSP will be released in the fall of 2000 and meetings will be held to give stakeholders an opportunity to provide input.

Water Resource Development

For FY 2001, the district will allocate approximately \$7.3 million for their water supply area of responsibility. Of that money, approximately \$3.6 million will be allocated for water resource development projects and \$328,000 will be allocated for water supply development assistance. Although the district has not completed its Regional Water Supply Plan, it has budgeted reserves of approximately \$2 million toward its continuing efforts to implement future water resource development projects.

The district's water resource development projects include cooperative funding agreements to assist local governments and utilities in planning, analysis, and design of alternative water supplies. Projects planned for FY 2001 include:

- Floridan Aquifer Sustainability Model Analysis
- Sand-and-Gravel Aquifer Water Resources Development Project
- Water Reuse Coordination
- Development of Regional Water Management Strategies and RWSP Updates
- Hydrologic Data Collection and Analysis
- Abandoned Well Plugging

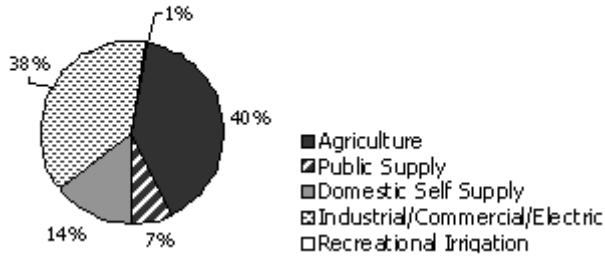
Funding for the district's cooperative water supply development program has been increased to assist local governments and utilities with efforts to develop alternative water supplies, particularly in the coastal counties in the western parts of the district.

Suwannee River Water Management District

Regional Water Supply Planning

By 2020, the district's population is forecast to increase 53% to about 384,000 residents. Many public, domestic, commercial, and recreational uses will increase in proportion to the population increase. If the trend of increasing irrigated acreage observed over the past three decades continues, agricultural irrigation uses are expected to increase by about 27%. In 2020, the total demand is estimated to be 272.9 mgd. Agriculture and industrial/commercial/electric are expected to be the dominant users (Figure 7).

**Figure 7. SRWMD 2020 Demands
(Total Demand = 273 mgd)**



The highly productive Floridan aquifer system is the primary source of water within the district. A large portion of the district has a high aquifer recharge potential and high vulnerability to contamination. In many cases, water quality issues can influence the feasibility of water supply alternatives.

The Floridan aquifer system supports an important and complex ecological system that makes the Suwannee River one of Florida's natural treasures. Springs and seeps provide clear ground water that buffers and dilutes the more naturally acidic and darker surface water. This delicate balance in the river system feeds a highly productive estuary, including a multi-million dollar clam aquaculture industry.

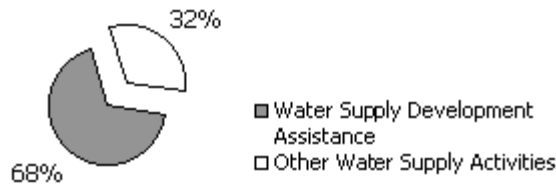
The 1998 Water Supply Assessment concluded that existing and projected 2020 water demands within the district are within the productive capacity of available supplies and that regional water supply planning was not warranted at the time. Other conclusions of the 1998 Assessment include:

- Improved analytical tools such as groundwater and surface water hydrologic models are needed.
- In order to account for present and future needs, water use should be tracked more closely, particularly irrigation uses.
- Future priorities for minimum flows and levels (MFL) projects, based on water demands and water resource vulnerability, need to be set.
- The assessment should be revised every five years, or as more data become available.

Water Resource Development

For FY 2001, the district will allocate approximately \$5.4 million for their water supply area of responsibility. Since the district is not presently engaged in regional water supply planning, no money has been allocated for water resource development projects. Nevertheless, the district provides water supply development assistance through its Quality Communities Program. District resources are used to help local governments address water supply, stormwater management, and wastewater management issues. In FY 2001, the district will allocate approximately \$3.6 million for water supply development assistance (Figure 8). There are currently seventeen active water supply projects receiving district assistance. This assistance includes funding for feasibility analyses, hydrogeologic assessments, preliminary design and engineering, and land acquisition for wellfield protection.

**Figure 8.
SRWMD Budget for Water Supply AOR
(Total Water Supply AOR = \$5.4 million)**



**St. Johns River Water Management District
Regional Water Supply Planning**

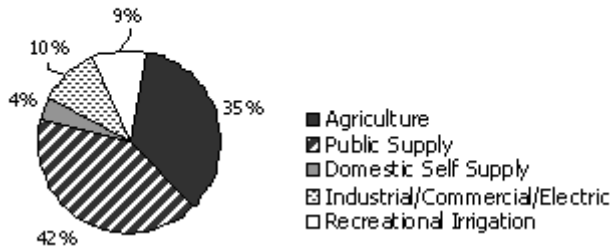
The district Governing Board approved its water supply plan in April 2000. The water supply plan encompasses the entire district; however, the plan focuses on the priority water resource caution areas (approximately 40% of the district). The rate of withdrawal of groundwater in some areas is approaching a rate that cannot be sustained without causing unacceptable impacts to the water resources and related natural systems. At some locations these unsustainable levels will likely be reached before 2020.

By 2020, total water demand in the district is projected to increase 22 percent from 1,371 mgd in 1995 to 1,678 mgd. Public supply accounts for the major portion of the anticipated demand increase and, therefore, was the focus of water supply planning efforts (Figure 9).

To facilitate water supply planning, six work group areas were established, based on the priority water resource

caution areas. The water supply plan identifies sustainable water supply options for each work group area that will meet the projected reasonable-beneficial needs of all water users through 2020 (Table 2). However, the plan clearly stresses that decisions about which options will be developed should be made through a cooperative regional effort. Failure to reach decisions through such a cooperative regional effort will likely result in unnecessary competition among water users.

**Figure 9. SJRWMD 2020 Demands
(Total Demand = 1678 mgd)**



In the east-central Florida area, where projected public supply growth is the greatest, significant quantities of surface water will probably be needed to avoid impacts from additional groundwater development. The district estimates that up to 350 mgd of surface water from the St. Johns River could be developed to meet future public supply demands. The capital cost of required facilities for all work group areas is expected to range between \$1.3 billion and \$1.7 billion.

Table 2. Primary Water Supply Source Options Identified in SJRWMD RWSP

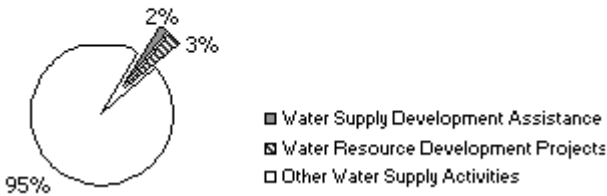
| Work Group Area | County | Demand Increase ¹ (mgd) | Water supply constraints | Traditional sources | Alternative sources |
|-----------------|---|------------------------------------|--|--|-------------------------------------|
| I | Lake, Orange, Seminole, N. Osceola, and portions of Polk, Sumter and Marion | 3502 | wetlands, spring flow, saline water movement | Floridan aquifer | Surface water, reclaimed water |
| IA | Brevard County | 30 | wetlands, saline water movement | Surficial aquifer | Brackish groundwater, surface water |
| II | Volusia, Southern Flagler and SE Putnam | 40 | wetlands, saline water movement, spring flow | Floridan aquifer | Surface water, reclaimed water |
| III | East-central Flagler | 8 | wetlands, saline water movement | Surficial aquifer | Brackish groundwater |
| IV | St. Johns, Putnam | < 1 | existing legal users | Floridan aquifer | |
| V | Duval, and NE St. Johns | 46 | saline water movement, wetlands | Floridan aquifer (Duval) Surficial aquifer (coastal St. Johns) | Brackish groundwater |

¹ Demand is additional public supply water needed by 2020 as estimated by the utilities. ² Includes demands from adjacent water management districts and work group areas.

Water Resource Development

For FY 2001, the district will allocate approximately \$48.7 million for their water supply area of responsibility. Of that money, approximately \$1.6 million will be allocated for water resource development and approximately \$1.1 million will be allocated for water supply development assistance (Figure 10). Initial activities related to plan implementation may not be directly categorized as water resource development projects or water supply development assistance, but are within the water supply AOR. For the upcoming fiscal year, the district has set aside a significant amount of funding to begin implementation of the plan. Initial projects include feasibility testing for aquifer storage and recovery, seawater demineralization, and general treatability studies within the Eastern I-4 water project. In future years, money will be spent assisting with the construction of specific projects identified in the regional water supply plan.

Figure 10.
SJRWMD Budget for Water Supply AOR
(Total Water Supply AOR = \$48.7 million)



To facilitate development of the water source options identified in the water supply plan, thirteen water resource development recommendations were made. A five-year water resource development work program was completed for FY 2001. For the next five years, it is anticipated that \$86 million will be spent implementing these water resource development projects. Table 3 shows the major water resource development projects identified in the regional water supply plan. Sources of funding for these water resource development projects include the district's ad valorem tax revenues, cooperative funds, and Florida Forever funds.

Table 3. SJRWMD: Costs of Major Water Resource Development Recommendations

| Project | Cost (\$) ¹ | Funding Source |
|--|------------------------|--------------------------------|
| Abandoned artesian well plugging program | 3,672,000 | SJRWMD, various |
| Adaptive management project | 4,650,000 | SJRWMD, utilities |
| Aquifer protection program | 4,573,000 | SJRWMD, various |
| Aquifer storage and recovery feasibility testing | 12,500,000 | SJRWMD, various |
| Central Florida aquifer recharge enhancement program | 14,445,000 | SJRWMD, various |
| Cooperative well retrofit project | 35,000 | SJRWMD, various |
| Demineralization concentrate management project | 250,000 | SJRWMD, various |
| Facilitation of regional decision-making process | 500,000 | SJRWMD |
| Feasibility of seawater demineralization projects | 300,000 | SJRWMD, various |
| Hydrologic data collection and analysis | 39,656,000 | SJRWMD, various |
| Investigation of areas where domestic self-supply wells are sensitive to water level fluctuation | 150,000 | SJRWMD |
| Regional aquifer management project | 600,000 | SJRWMD, Volusia Water Alliance |
| Surface water in-stream monitoring and treatability studies | 3,558,000 | SJRWMD, Volusia Water Alliance |
| Wetland augmentation demonstration program | 1,168,000 | SJRWMD, local governments |
| Total | 86,057,000 | |

¹ Five year budget for projects (source: SJRWMD Water Resource Development Work Program, 2000). Some projects are ongoing.

South Florida Water Management District

Regional Water Supply Plans

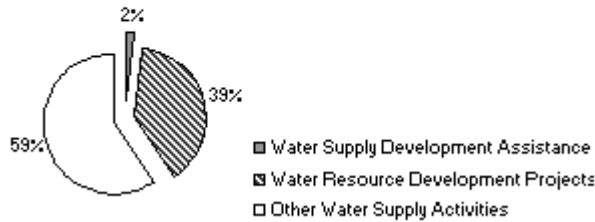
Four regional water supply plans have been completed: Upper East Coast Water Supply Plan (February 1998), the Lower West Coast Water Supply Plan (April 2000), the Kissimmee Basin Water Supply Plan (April 2000), and the Lower East Coast Water Supply Plan (May 2000). For all of the plans, the district established advisory committees that provided input throughout the development of each plan.

Water Resource Development

For FY 2001, the district will allocate \$130 million for their water supply area of responsibility. Of that money, approximately \$50.9 million will be allocated for water resource development and approximately \$2.0 million will be allocated for water supply development assistance projects (Figure 11). A portion of the money allocated for water

resource development projects and water supply development assistance will be spent implementing specific projects identified in the regional water supply plans. Section 373.536(5)(c)5, F.S., requires the development of a five-year water resource development work program describing the district's implementation strategy for the water resource development component of each regional water supply plan. A draft five-year program for the four planning areas of the district was completed in July 2000. The work program identified 94 recommendations with an estimated cost of over \$950 million.

Figure 11.
SFWMD Budget for Water Supply AOR
(Total Water Supply AOR = \$130 million)



Three of the projects identified in each regional water supply plan will be implemented districtwide. To implement many of the recommendations identified in each plan, some additional rules need to be developed and other rules need to be modified. During summer 2000, the district initiated this rule making effort and anticipates completing the necessary rule revisions by December 2000.

Another districtwide project is the continuation of the wetland drawdown study, which will be used to develop new criteria for the water drawdown rules. Long-term wetland monitoring sites have been established, monitoring wells and weather stations have been installed, historical aerial photographs have been analyzed, biological inventories have been completed, and an interim technical publication has been completed. By 2005, the study should be completed at a cost of \$865,000.

One of the most significant districtwide projects will be the development of a comprehensive water conservation program. The program will further public education, assist utilities in developing their own conservation programs, establish numeric efficiency goals, and develop a districtwide conservation plan. During the next five years, the district anticipates spending \$1.7 million on this program.

In addition, a related districtwide program is the Comprehensive Everglades Restoration Program (CERP). The CERP is a 38-year effort with components in all four planning areas. CERP components have been included in the lower east coast and lower west coast regional water supply plans.

Water Supply Development

In addition to its regional water resource development projects, the district has funded six water supply development projects (Table 4). The costs of these projects were shared through the district's grants for Alternative Water Supply Development.

Table 4. Costs of Water Supply Development Projects

| Applicant | Project | Funding (\$) |
|--|--|--------------|
| City of West Palm Beach | L-8 ASR Well Pilot Project | 100,000 |
| City of Cape Coral | Gator Slough Reuse System Enhancements Phase 4 | 100,000 |
| City of Pompano Beach | Effluent Plant Expansion | 100,000 |
| East (Lee) County Water Control District | Aquifer Recharge Project, Phase 11.2 | 100,000 |
| City of Royal Palm Beach | Filter Backwash Water Recovery System | 100,000 |
| Lee County | Waterway Estates | 100,000 |

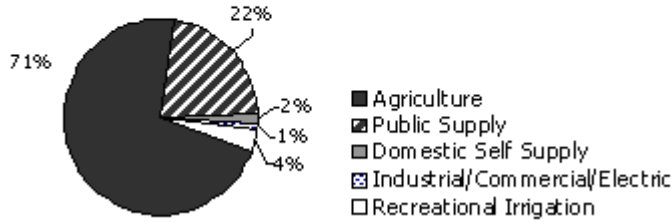
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|-------|---------|
| Total | 600,000 |
|-------|---------|

Kissimmee Basin (parts of Orange, Osceola, Polk, Highlands, Okeechobee and Glades Counties)

Regional Water Supply Plan

The ground water supplies in the Orange-Osceola County Area and surface water supplies in the Lake Istokpoga-Indian Prairie Basin may not be sufficient to meet the 2020 (1-in-10 drought year) water supply needs for these areas. The total demand is expected to reach 663 mgd by 2020 (a 63% increase from 1995). In 2020, agriculture is expected to be the largest user and is estimated to need 477 mgd, which will be 71% of the total 2020 demand (Figure 12).

Figure 12. KB 2020 Demands (Total Demand = 663 mgd)



In the Orange-Osceola County Area, the continued use of the Floridan aquifer has been projected to contribute to possible harm to wetlands, reduction in spring flow, and may be a factor in the formation of sinkholes. To fully determine whether there is sufficient water available, a number of issues must be resolved .

Historically, in the Lake Istokpoga-Indian Prairie Basin, there have been concerns over the availability of water from Lake Istokpoga and the canal system to meet the existing demands. In this area it was determined that sufficient supplies are available for the projected 2020 demands in the basin if supplies from Lake Istokpoga are supplemented from Lake Okeechobee and ground water.

Water Resource Development

A five-year water resource development work program was completed for FY 2001. Approximately \$976,000 has been allocated to implement Kissimmee Basin Water Supply Plan projects during the next fiscal year. For the next five years, it is anticipated that \$7.1 million will be spent implementing the water resource development projects of the Kissimmee Basin plan. Table 5 shows the major water resource development projects identified in the regional water supply plan.

Table 5. Kissimmee Basin: Costs of Major Water Resource Development Projects

| Projects | Estimated Date of Completion | SFWMD Cost (\$) | Funding Source |
|--|------------------------------|-----------------|---|
| Orange-Osceola County Area | | | |
| Develop a regional reclaimed water optimization plan | 2005 | 1,625,000 | SFWMD, SJRWMD, USGS, local governments |
| Develop a stormwater reuse plan | 2005 | 610,000 | SFWMD, SJRWMD, city of Orlando, Orange County |
| R & D Alternative Sources | 2005 | 500,000 | SFWMD |
| Optimize use of Floridan Aquifer | 2005 | 3,300,000 | SFWMD, SJRWMD, SWFWMD, local governments |
| Lake Istokpoga-Indian Prairie Basin | | | |
| Develop an Operation Plan to backpump from Lake Okeechobee | 2004 | 403,000 | SFWMD |
| Investigate availability of water from Kissimmee River | 2004 | 150,000 | SFWMD |
| Develop Water Management Plan for Lake Istokpoga | 2003 | 390,000 | SFWMD & USACE |

| | | | |
|--|------|-----------|--|
| Evaluate regional storage | 2003 | 150,000 | SFWMD, SWFWMD, FDEP, local governments |
| Total | | 7,128,000 | |
| USACE: U.S. Army Corps of Engineers; NRCS: Natural Resource and Conservation Service; USGS: US Geological Survey; FDEP: Florida Department of Environmental Protection | | | |

Implementation of the plan involves coordination with the SJRWMD and the SWFWMD, which share borders with SFWMD's Kissimmee Basin Planning Area. In addition, the SFWMD has an agreement with the Seminole Tribe of Florida for the Brighton Reservation that outlines the Tribe's entitlement of water within the Lake Istokpoga-Indian Prairie Basin.

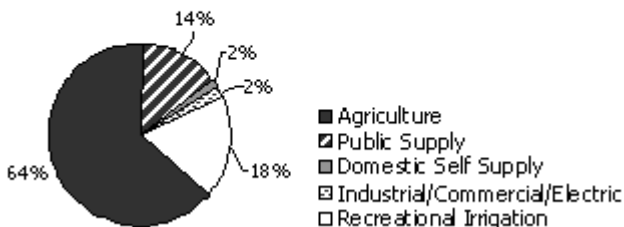
Implementation activities for the Orange-Osceola County area include: initiating a public process for plan implementation; developing a hydrologic evaluation plan; and laying out the process for establishing minimum flows and levels. For the Lake Istokpoga-Indian Prairie Basin, implementation activities include determining potential pump locations and evaluating a water quality monitoring network.

Lower West Coast (Lee County, most of Collier and Hendry Counties, and portions of Charlotte, Glades, and Monroe Counties)

Regional Water Supply Plan

The Lower West Coast (LWC) region is expected to experience substantial growth between 1995 and the year 2020. Population is expected to increase by almost 70 % to about 1 million people. Likewise, agriculture is projected to increase by 10 % to 260,000 acres. Total water demands are projected to increase by 28 % to approximately 1.1 bgd. Agriculture was the largest user in 1995 and that trend is expected to continue in 2020. Agriculture is anticipated to use 64% of the water for a total of 709 mgd. Remarkably, recreational irrigation uses are expected to exceed those for public supply (Figure 13).

Figure 13. LWC 2020 Demands (Total Demand = 1099 mgd)



The plan concludes that there is sufficient water to meet the needs of this region during a 1-in-10 drought condition. Implementation of the Lower West Coast Water Supply Plan, in conjunction with other regional efforts, should avert potential problems. The plan identified seven water source options: conservation; groundwater (Surficial, Intermediate, and Floridan aquifer systems); reuse of reclaimed water; regional irrigation system; desalination of seawater; surface water; storage of water in reservoirs and aquifer storage and recovery facilities; and surface water retention. The Floridan aquifer appears to be a promising source for additional potable water needs. From a regional perspective, the use of fresh ground water sources, reclaimed water, surface water, and storage through development of a regional or sub-regional irrigation water distribution system(s) are recommended to meet the urban irrigation demands.

In the southeastern portion of the LWC Region, the existing surficial aquifer and intermediate aquifer ground water sources should be sufficient to meet the 2020 projected agricultural demands with minimal potential impacts. In the northeastern portion of the region in the Caloosahatchee River Basin, existing surface water supplies from the C-43 are inadequate to meet existing and future demands, while protecting the needs of the environment. However, the analysis indicated that the projected surface water needs of the Caloosahatchee River Basin and Estuary can be met by increasing surface water storage capabilities of the basin by developing ASR facilities and reservoirs.

Improved management of surface water through storage could increase fresh water availability in the region and reduce potential impacts resulting from water use. ASR technology shows promise both for treated and untreated water by providing storage options during periods of water availability. Strong emphasis should be placed on water conservation.

Water Resource Development

To facilitate development of the water source options identified in the water supply plan, twenty-nine water resource development recommendations were made. A five-year water resource development work program was completed for FY 2001. Approximately \$2.6 million has been allocated to implement Lower West Coast projects during the next fiscal year. For the next five years, it is anticipated that \$157.8 million will be spent implementing the water resource development projects of the Lower West Coast plan. Table 6 shows the major water resource development projects.

Table 6. Lower West Coast; Coasts of Major Water Resource Development Projects

| Projects | Estimated Date of Completion | SFWMD Cost (\$) | Funding Source |
|--|------------------------------|--------------------|---|
| Ground Water | | | |
| Surficial Aquifer Monitoring | 2005 | 460,000 | SFWMD, USGS |
| Intermediate Aquifer Monitoring | 2005 | 490,000 | SFWMD, USGS |
| Floridan Aquifer Model | 2009 | 2,575,000 | SFWMD |
| Floridan Aquifer Monitoring | 2005 | 299,000 | SFWMD, USGS, Utilities |
| Floridan Aquifer Data Partnerships | 2005 | 450,000 | SFWMD, USGS |
| Reuse of Reclaimed Water | | | |
| Regional Irrigation System Study | 2003 | 200,000 | SFWMD, Utilities, FDEP |
| Surface Water and Storage | | | |
| Regional and Local Retention | 2005 | 1,400,000 | SFWMD, 298 Districts, Local Governments |
| Caloosahatchee River ASR Pilot Project | 2005 | 2,815,000 | SFWMD, USACE |
| C-43 Regional Reservoir Project | 2005 | 135,940,000 | SFWMD, USACE |
| Related Strategies | | | |
| Southwest Florida Project | 2005 | 6,827,000 | SFWMD, USACE |
| Minimum Flows and Levels | 2004 | 6,300,000 | |
| Total | | 157,756,000 | |
| USACE: U.S. Army Corps of Engineers; NRCS: Natural Resource and Conservation Service; USGS: US Geological Survey; FDEP: Florida Department of Environmental Protection | | | |

The water supply plan includes many projects not identified in Table 6. Some of these projects will not require the expenditure of funds except for the commitment of district staff time. In the lower west coast region these projects include: working with other agencies to change ASR and desalination disposal options; locating uncontrolled abandoned wells and identifying strategies to plug the wells; and investigating alternatives to minimize salt water intrusion in the Caloosahatchee River.

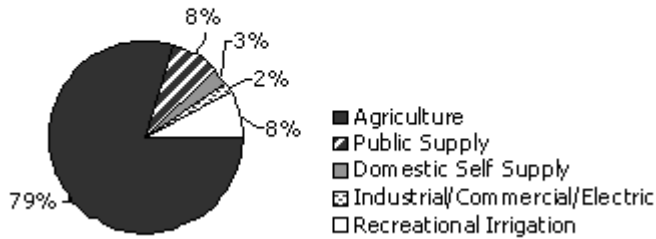
Upper East Coast (Martin and St. Lucie Counties, and a portion of Okeechobee County)

Regional Water Supply Plan

The planning area faces many challenges in maintaining adequate water supply for growing urban and agricultural demands while meeting the needs of the environment. In 2020, rapid growth in population and moderate growth in irrigated acreage has been projected to result in a total demand of 660 mgd. Agriculture was by far the largest user in

1995 and that trend is expected to continue in 2020 (Figure 14).

**Figure 14. UEC 2020 Demands
(Total Demand = 660 mgd)**



The 1998 Upper East Coast Water Supply Plan concluded that historically used sources of water, especially the surficial aquifer system in the coastal portions of the region, are not sufficient to meet projected water demands during a 1-in-10 drought. The surficial aquifer has limited potential for expansion due to potential impacts on wetland systems and increased vulnerability to saltwater intrusion near public water supply wellfields. However, with appropriate management and diversification of water supply sources, there is sufficient water to meet the needs of the region.

The plan identified seven water source options: surface water storage, aquifer storage and recovery (ASR), Floridan aquifer, surficial aquifer system wellfield expansion, conservation, reuse of reclaimed water, and utility interconnects.

Water Resource Development

In the water supply plan, thirty water resource development recommendations were made. A five-year water resource development work program was completed for FY 2001. Approximately \$2.1 million has been budgeted to implement Upper East Coast projects during the next fiscal year. For the next five years, it is anticipated that \$15 million will be spent implementing the water resource development projects of the Upper East Coast plan. Table 7 shows the major water resource development projects identified in the regional water supply plan.

The water supply plan includes many projects not identified in Table 7. Some of these projects will not require the expenditure of funds except for the commitment of district staff time. In the Upper East Coast region, these projects include: investigate the possibility of other regional attenuation facilities; develop and adopt a minimum flow and level for the St. Lucie Estuary; investigate various aspects of aquifer storage and recovery strategies; evaluate desalination concentrate disposal options; develop incentives for reuse of reclaimed water; assist with projects using reclaimed water for ground water recharge; and evaluate recharge areas.

Table 7. Upper East Coast: Costs of Major Water Resource Development Projects

| Projects | Estimated Date of Completion | Remaining SFWMD Cost (\$) | Funding Source |
|--|------------------------------|---------------------------|---|
| Surface Water Storage | | | |
| Indian River Lagoon Feasibility Study | 2002 | 738,000 | SFWMD, USACE, and local sponsors |
| Ten Mile Creek | 2003 | 9,420,000 | SFWMD, USACE, and local sponsors |
| Improve C-Canal Capacity (C-23 Canal) | 2003 | 3,824,000 | SFWMD and St. Lucie River Issue Team Fund |
| Floridan Aquifer Projects | | | |
| Aquifer Monitoring Network | Ongoing | 1,023,000 | SFWMD, NRCS, and USGS |
| Florida Well Abandonment Program | 2002 | 18,000 | SFWMD and NRCS |
| Tota | | 15,023,000 | |
| USACE: U.S. Army Corps of Engineers; NRCS: Natural Resource and Conservation Service; USGS: US Geological Survey | | | |

During the past year the district implemented many portions of the UEC plan. Some of the major accomplishments include:

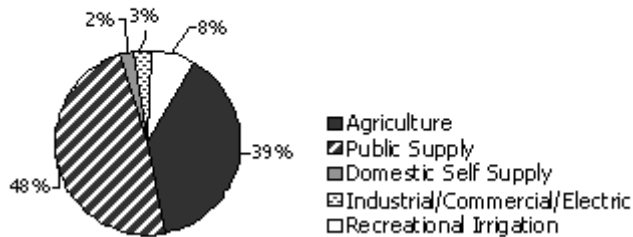
- Scientific approach for establishing the minimum flow and level for the St. Lucie Estuary was completed. The rule is scheduled for adoption in December 2001.
- Several alternatives were evaluated and the optimization model was developed in the Indian River Lagoon Restoration Feasibility Study.
- The C-23 dredging project is planned for the first quarter of FY 2001.
- 37 monitoring locations were established to collect data on water quality, water use and water levels in the Floridan Aquifer.
- As part of the Floridan Well Abandonment program, 40 wells (37 in St. Lucie County and 3 in Martin County) were plugged.
- As part of the district's efforts to promote conservation, 520 acres (480 in St. Lucie and 40 in Martin County) of citrus were converted from flood irrigation to microjet irrigation.

Lower East Coast (Miami-Dade, Broward and Palm Beach Counties, and portions of Collier, Glades, Hendry, Lee, Martin, Okeechobee and Monroe Counties)

Regional Water Supply Plan

The Lower East Coast Region (LEC) encompasses a fast-growing urban complex, extensive agricultural lands and unique natural resources, including the Everglades and Lake Okeechobee. The region includes more than 75 % of the district's population and 53% of the irrigated agricultural acreage. By 2020, the population of the region is expected to increase by 58 percent to nearly 7 million people. The total demand is expected to reach 2.52 bgd by 2020 (a 20% increase). In 2020, public supply is expected to be the largest user and is estimated to need 1.2 bgd. Agriculture is estimated to need 977 mgd, which will be 39% of 2020 demand (Figure 15).

**Figure 15. LEC 2020 Demands
(Total Demand = 2521 mgd)**



The recently completed LEC Plan found that extensive actions are required to meet the region's future water supply needs. The actions recommended in the LEC Plan will meet those needs, but must be implemented in a timely fashion to avoid shortfalls in the intervening years as new infrastructure is built. The plan incorporated water resource development projects previously approved in the Interim Plan for Lower East Coast Regional Water Supply (March 1998) and water resource projects from the Comprehensive Everglades Restoration Plan (CERP). The construction of a combination of CERP projects plus additional sub-regional water resource projects and the diversification of water supply sources should meet the needs of the region by 2020. The region's primary source of drinking water will continue to be the shallow surficial aquifer, with supplemental water delivered from the regional water management system. The CERP projects will expand the regional system with more than 100,000 acres of new reservoirs by 2020. With these facilities, the analyses showed that a 1-in-10 year level of service could be achieved by 2010 for urban water supplies and by 2015 for agricultural water users.

Additional LEC Plan recommendations include renewing the district's water conservation program and a new initiative for expanding the region's use of reclaimed water. Cooperation with local governments and other entities will be important to implementation of the plan, as will adequate funding of CERP by the state and federal governments.

Water Resource Development

A five-year water resource development work program was completed for FY 2001. Approximately \$34.9 million has been budgeted to implement Lower East Coast projects during the next fiscal year. For the next five years, it is anticipated that \$775.5 million will be spent implementing the water resource development projects of the Lower East Coast plan. Table 8 shows the major water resource development projects identified in the regional water supply plan. The water supply plan includes some projects not identified in Table 8. Some of these projects will not require the expenditure of funds except for the commitment of district staff time. In the Lower East Coast region these projects include: promote mobile irrigation labs; resolve ASR issues; modify the system-wide operation protocols; and investigate modifications to some CERP projects.

Table 8. Lower East Coast: Costs of Major Water Resource Development Projects

| Projects | SFWMD Cost (\$1000s) | Funding Source |
|----------|----------------------|----------------|
| | | |

| Ongoing Projects from the LEC Interim Plan | | |
|---|---------|---|
| Regional Saltwater Intrusion Management | 973 | SFWMD & local counties |
| Floridan Aquifer System Groundwater Model | 555 | CERP, SFWMD, water users, utilities |
| Northern Palm Beach County Comprehensive Water Management Plan | 3,180 | City of West Palm Beach, Indian Trail Improvement District, Palm Beach County, CERP, other federal sources, SFWMD |
| Eastern Hillsboro Regional ASR Pilot Project | 1,682 | Palm Beach County, SFWMD |
| Hillsboro (Site 1) Reservoir Pilot Project | 4,581 | SFWMD |
| Lake Worth Lagoon Minimum/Maximum Flow Targets | 100 | Palm Beach County, SFWMD |
| Northern Broward Secondary Canals Recharge Network | 1,918 | Broward County, Fort Lauderdale, SFWMD, other local governments |
| Southeast Broward County Interconnected Water Supply System | 217 | Cities of Hallandale Beach, Hollywood, & Dania Beach; Broward County; SFWMD; Seminole Tribe of Florida |
| Broward County Urban Environmental Enhancement | 229 | Broward County, SFWMD |
| Miami-Dade Water and Sewer Department Utility ASR | 6,566 | Miami-Dade WASD, SFWMD, USEPA |
| Biscayne Bay Minimum/Maximum Flow Targets | 200 | Florida Forever Act, SWIM, CERP |
| Subtotal | 20,201 | |
| Critical Federal, State, or District Projects | 4,994 | SFWMD, CERP |
| Implement CERP Projects in the LEC Planning Area (non-Federal Share) | 746,228 | CERP, SFWMD |
| Operational Protocols | | |
| Lake Okeechobee Vegetation Management Plan | 750 | SFWMD, FDEP, USACE |
| Consumptive Use Permitting and Resource Protection Projects | | |
| Water Reservations | 125 | SFWMD |
| Establish MFLs | 80 | SFWMD |
| MFLs Criteria for the Rockland Marl Marsh | 115 | SFWMD |
| MFLs for Florida Bay | 850 | SFWMD |
| MFLs Recovery Strategies | 200 | SFWMD |
| MFLs Monitoring Systems | 550 | SFWMD |
| Subtotal | 1,920 | |
| Related Strategies | | |
| Seawater Reverse Osmosis Treatment Facilities (study to evaluate feasibility) | 116 | SFWMD |
| Reclaimed Water System in Northern Palm Beach County | 301 | SFWMD, water users, & utilities in Palm Beach and Martin counties |

| | | |
|---|---------|---------------------------------|
| Indirect Aquifer Recharge | 266 | FDEP, SFWMD, county, or utility |
| High Volume Surface Water ASR Testing in Taylor Creek | 750 | SFWMD |
| Subtotal | 1,433 | |
| Total | 775,526 | |

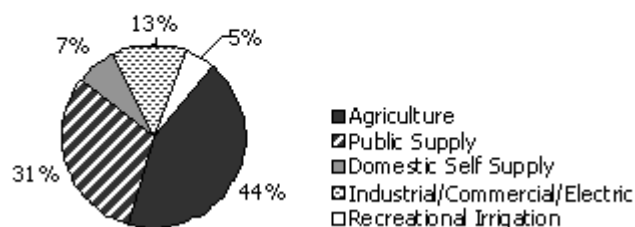
USACE: U.S. Army Corps of Engineers; NRCS: Natural Resource and Conservation Service; USGS: US Geological Survey; FDEP: Florida Department of Environmental Protection; WASD: Water and Sewer Department; SWIM: Surface Water Improvement and Management; CERP: Comprehensive Everglades Restoration Program.

Southwest Florida Water Management District Regional Water Supply Planning

The district's Water Supply Assessment (1998) determined that existing sources were adequate to meet projected 2020 demands of the Northern region, but not the three other regions. These other regions were combined into a single planning region, which has two primary areas of interest: the Southern Water Use Caution Area (SWUCA), comprised primarily of the East-Central and Southern regions; and the Northern Tampa Bay area, analogous to the West-Central region. A single Regional Water Supply Plan (RWSP) is being developed for this planning region.

By 2020, water use, for an average rainfall year, is expected to be 1964 mgd (a 31% increase from 1995). The largest use category in 2020 will be agriculture (Figure 16).

**Figure 16. SWFWMD 2020 Demands
(Total Demand = 1964 mgd)**



Last July, the district completed a draft RWSP. The draft plan examined six potential sources of water: surface and storm water; reclaimed water; conservation; brackish ground water; seawater; and fresh ground water. For each of these sources, except ground water, the district identified possible water supply options. Ground water options were not identified because existing ground water withdrawals are resulting in salt water intrusion and lowered lake levels in the SWUCA, and environmental degradation of wetlands and lakes in the Northern Tampa Bay area.

The SWUCA Working Group, the Northern Tampa Bay Input Group, and the general public are reviewing the draft plan, which will also be presented to and reviewed by the district's Governing Board, eight local Basin Boards, and its five advisory committees: Public Supply, Environmental, Industrial, Green Industry, and Agriculture. SWFWMD expects to complete the Plan in early 2001.

Current Projects

Reclaimed Water

To offset existing or future demands for limited potable water supplies, the district's objective is to expand the use of reclaimed water for irrigation, groundwater recharge, and industrial cooling and processing. The district has provided millions of dollars in assistance for construction and expansion of reuse storage facilities, transmission lines, and pump stations. To qualify for funding assistance, at least 25 percent of the reclaimed water must offset existing or planned ground or surface water withdrawals. Existing reuse projects have been conservatively estimated to have offset potable water use by more than 90 mgd. The district expects to continue to provide financial assistance for reclaimed water projects, investigate efficiency improvements in the reclaimed water system, support feasibility studies, and cooperatively fund local providers.

Conservation

The district has developed and implemented both regulatory and non-regulatory water conservation programs. The district's non-regulatory program spans all water uses, including agricultural, urban, industrial, and recreational categories. Given the district's rapidly growing population, the district needs to continue education efforts and reinforce a conservation ethic aimed at changing water use habits.

Aquifer Storage and Recovery

The district has provided funding for seventeen ASR projects. Eight projects involve the storage of reclaimed water, while seven others involve potable water. Of the potable water projects, two are operational and a third will be completed by the end of the year. Two raw water ASR projects have been proposed and the feasibility studies for these projects began in the fall of 1999.

Partnership Agreement Projects

The Partnership Agreement, entered into by the district, Tampa Bay Water (TBW), and its member governments, provides for the development of a safe, sustainable, cost-effective water supply. The development of new alternative water supplies will enable TBW to meet phased reductions in pumpage at 11 wellfields. Under the Agreement, the total pumpage must be reduced from 158 mgd to 121 mgd by December 31, 2002; and to 90 mgd by December 31, 2007. To accomplish these reductions and meet growing demands of its member governments, TBW must develop at least 85 mgd of new water supply by December 31, 2007. Of the total, 38 mgd must be developed by December 31, 2002.

TBW's New Water Plan, submitted to and approved by the district in August 1998, describes projects that may be developed to achieve the objectives of the Agreement. Projects in the New Water Plan that are eligible for district funding are listed in Table 9. Under the Agreement, TBW must also achieve ten mgd in conservation savings by the end of 2000 and an additional seven mgd savings by the end of 2005.

Table 9. SWFWMD Partnership Agreement Projects

| Project Name (completion date) | Quantity of Water Produced |
|---|---|
| Enhanced Surface Water System | |
| Alafia River Project (December 2002) | 17.5 mgd (annual average, no reservoir) |
| Tampa Bypass Canal/Hillsborough River (August 2002) | 25.5 mgd (annual average, no reservoir) |
| Tampa Bay Regional Reservoir Project (January 2004) | 15 billion gallons of storage |
| Tampa Bay Regional Water Treatment Plant (September 2002) | N/A |
| South-Central Hillsborough Intertie (November 2002) | N/A |
| Seawater Desalination Project (October 2002) | 25 mgd |
| North-Central Hillsborough Intertie (December 2001) | N/A |
| Loop 72 Phase A (pipeline) (To be determined) | N/A |
| Brandon/South-Central Connection (pipeline) (June 2003) | N/A |

Water Supply and Resource Development

For FY 2001, the district will allocate \$95.9 million for their water supply area of responsibility. Of that money, \$41,581 will be allocated for water resource development and approximately \$57.9 million will be allocated for water supply development assistance projects (Figure 17). The district contributes substantial funds for the development of sustainable water supplies through the Cooperative Funding Program of the Basin Boards, the New Water Sources Initiative (NWSI) and the Partnership Agreement (a subset of NWSI projects).

Cooperative Funding Program

The SWFWMD is unique among the five districts with its composition of eight basin boards. The boards share ad valorem millage capacity with the Governing Board and fund water resource management projects for each basin. Water supply related projects include reuse, aquifer storage and recovery, conservation, stormwater management, hydrologic investigations, and education. Through the Program, the Basin Boards have invested a total of approximately \$129.2 million (matched by local cooperators). Significant funding from this source is expected to continue. For example, to help TBW meet its goals and satisfy the Partnership Agreement, four Basin Boards in the Tampa Bay area have agreed to provide at least \$9 million per year through 2007 for cooperatively funded conservation and reuse projects that reduce potable water use.

New Water Sources Initiative Projects

To enhance financial assistance opportunities for alternative water source projects, the Governing Board established the New Water Sources Initiative in FY 1994. The Governing Board has allocated \$10 million per year for eligible projects. Beginning in FY 1995, basin boards receiving benefits from the selected projects have matched the Governing Board's \$10 million per year. Projects generally receive 25 percent of their funding from the Governing Board, 25 percent from the appropriate basin board(s), and the remaining 50 percent from the cooperator. Additionally, a number of projects have received federal funding assistance. The initiative has provided approximately \$93 million in district funds for such projects as reclaimed water and stormwater reuse, surface water, and desalination.

Partnership Agreement

To assist Tampa Bay Water in meeting the objectives of the Partnership Agreement, the district is providing, between FY 1995 - 2007, up to \$183 million in funding assistance. Eligible projects include alternative sources such as seawater desalination, surface water, and indirect potable reuse. Traditional groundwater sources are not eligible.

Will We Have Enough Water in 2020?

Based on the completed and draft regional water supply plans there is some very good news: Florida's future water

needs can be met while sustaining our water resources and related natural systems. This will be possible, however, only with careful planning, great care to protect natural systems, increased water conservation, and the use of diverse sources of water. The financial costs of meeting these challenges will be significant, but do not appear to be extraordinarily higher than the current costs of water.

This relatively optimistic conclusion rests on a key assumption: successful cooperation between the many users of water. Rivers, aquifers, reclaimed water facilities, and most other sources of water can be developed at minimal cost, and while protecting environmental values, only if water is conserved, and water resources are managed as entire systems. Cooperation between public water suppliers, and with other water use sectors, is essential.

For more information about Regional Water Supply Plans please call or write:

| | |
|---|---|
| Florida Department of Environmental Protection Office of Water Policy 2600 Blair Stone Road, MS 46 Tallahassee, Florida 32399-2400 (850) 488-0784 | South Florida Water Management District P.O. Box 24680 West Palm Beach, Florida 33416-4680 (407) 686-8800 |
| Northwest Florida Water Management District 81 Water Management Drive Havana, Florida 32333-9700 (850) 539-5999 | Southwest Florida Water Management District 2379 Broad Street (U.S. 41 South) Brooksville, Florida 34609-6899 (352) 796-7211 |
| St. Johns River Water Management District P.O. Box 1429 Palatka, Florida 32178 (904) 329-4500 | Suwannee River Water Management District 9225 County Road 49 Live Oak, Florida 32060 (904) 362-1011 |