Florida Department of
Environmental Protection

Implementing Regional Water Supply Plans:

Is Progress Being Made?

Annual Status Report on
Regional Water Supply Planning and
Water Resource Development Work Programs

May 2002

Contents

Introduction

Since 1997, the Department of Environmental Protection has been reporting annually on the status of regional water supply planning (s. 373.0361(5), F.S.). As a result of statutory changes in 2001, the Department is also required to provide an evaluation of the Water Management Districts' Five-Year Water Resource Development Work Programs (s. 373.536(6)4, F.S.). This year's annual report combines the reporting requirements of these two statutory requirements and includes:

1) A compilation of estimated costs and potential sources of funding for water resource development and water supply development projects identified in the regional water supply plans;

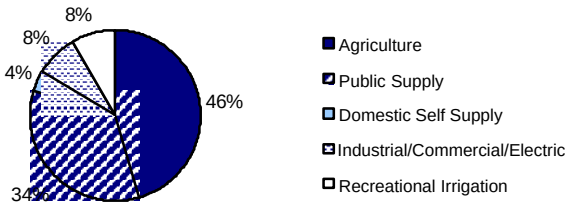
2) A description of each District's progress toward achieving its water resource development objectives; and

3) An evaluation of each District's Five-Year Water Resource Development Work Program. The Department is required to evaluate the work program's consistency with the regional water supply plan and the adequacy of the proposed expenditures.

Florida Water Facts

Florida is the fourth most populous state and the largest user of irrigation water east of the Mississippi River. Our population is expected to continue to increase from 15.9 million residents in 2000 to about 21.8 million[1] in 2020. As the state continues to grow, demand for fresh water is expected to grow. In 2020, the estimated demands are expected to increase by 26.4% to approximately **9.1 billion gallons per day**[2]. In that year, about 34% of the water will be used for public supply, while approximately 46% of the water will be used for agriculture (Figure 1).

Figure 1. Statewide 2020 Demands for Fresh Water (Total Demand = 9.1 bgd)

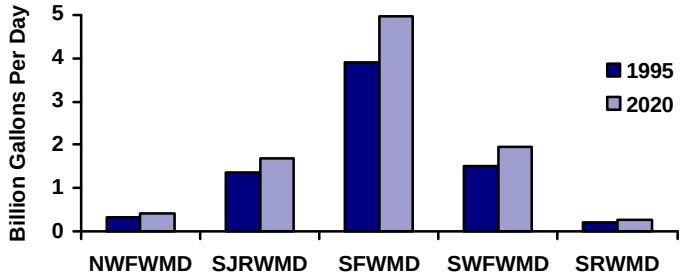


Demands for water are not uniform across Florida or among water use categories. For example, the South Florida Water Management District (SFWMD) uses as much water as all the other water management districts combined (Figure 2). In 1995, public water supply was the largest water use category in the Northwest Florida Water Management District (NWFWMD), the industrial/commercial/electric category was the largest user in the Suwannee River Water Management District (SRWMD), and agriculture was the largest water user in SFWMD, the Southwest Florida Water Management District (SWFWMD), and the St. Johns River Water Management District (SJRWMD).

[1] Source: Office of Economic and Demographic Research. Demographic Estimating Conference Database, updated 11/2001.
[2] Sources: SWFWMD Regional Water Supply Plan (2001); SWFWMD Water Supply Assessment(1998); NWFWMD District Water Supply Assessment (1998); SRWMD Water Supply Assessment (1998); SJRWMD District Water Supply Plan (2000); Kissimmee Basin Regional Water Supply Plan (April, 2000); Lower West Coast Regional Water Supply Plan (April, 2000); Lower East Coast Regional Water Supply Plan (May, 2000); SFWMD Districtwide Water Supply Assessment (1998)

The Floridan aquifer is the major source of water in the NWFWMD, 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.

Figure 2. Fresh Water Demand by WMD, 1995 and 2020



Regional Water Supply Planning

In anticipation of the rapid population growth and increasing water demands facing the state and the potential threats to both the economy and natural resources, the legislature amended the Florida Water Resources Act (Chapter 373, F.S.) 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 were 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 (Section 373.019(21), F.S.). *Water supply development assistance* represents District financial assistance for regional or local water supply development projects (Executive Office of the Governor).

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 (Section 373.019(19), F.S.).

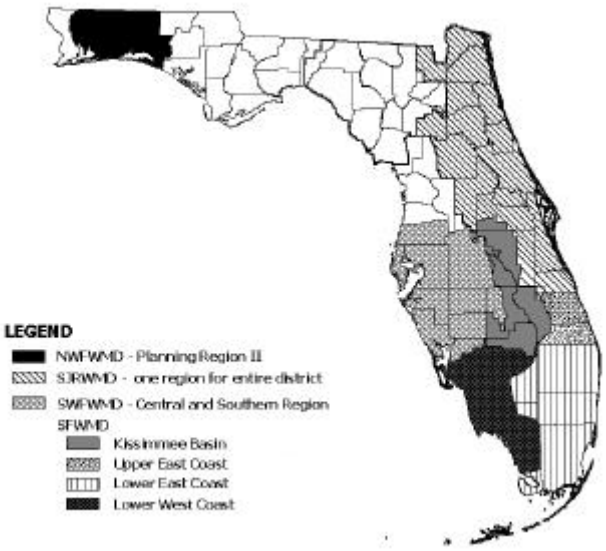
Water resource development projects are considered a subset of water resource development. More specifically, water resource development projects are designed to create, from traditional or alternative sources, an identifiable, quantifiable supply of water for existing and/or future reasonable-beneficial 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.

A summary of the Districts' Fiscal Year (FY) '02 proposed expenditures for the various water resource development activities are described later in the report after the sections describing each District's activities. The specific budget numbers are presented in Table 11.

Status of Regional Water Supply Plans

As of August 2001, all the required regional water supply plans were completed. Four of the Districts were required to complete regional water supply plans: Northwest Florida, Southwest Florida, St. Johns River, and South Florida (Figure 3). In 1998, the Suwannee River Water Management District determined that sufficient sources exist to meet the 2020 projected needs and that preparation of a water supply plan was not warranted at that time.

Figure 3. Water Supply Planning Regions



Some of the water supply sources identified in the water supply plans include further development of fresh ground water and surface water, demineralization of brackish ground water, 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 using stormwater runoff and reclaimed water.

Water Events of 2001

The year 2001 was an important year for regional water supply planning. During this year, the final two regional water supply plans were completed and adopted by the Northwest Florida and Southwest Florida Water Management Districts. This was also the first year that the four Districts with regional water supply plans prepared Five-Year Water Resource Development Work Programs which describe how the District will implement the plans' water resource development component.

The completion of the regional water supply plans occurred at a time when the state was facing an unprecedented water supply crisis. Florida experienced a historically severe drought across most of the state. In the South Florida Water Management District, Lake Okeechobee dropped to the lowest levels ever recorded. In the Southwest Florida Water Management District, the Withlacoochee, Hillsborough, and Peace Rivers reached record low levels. In the St. Johns River Water Management District, ground water and surface water levels were at or below record low levels. In the Suwannee River Water Management District, many of the springs had either ceased flowing or had greatly reduced flows.

Although the drought has ended for most of the state, many water resources still have not recovered. We can be sure that we will experience these conditions again. The implementation of the regional water supply plans should help abate the effects of future droughts by diversifying available water supply sources, as well as providing for projected growth.

NWFWMD

Regional Water Supply Plan

In February 2001, the Governing Board approved the Regional Water Supply Plan for Santa Rosa, Okaloosa, and Walton Counties (Region II). By 2020, average water use in the District is projected to be 438 mgd, an increase of 35% over 1995 demands. Public supply is currently the largest user of fresh water and is expected to continue to be so through 2020.

Currently, the coastal portions of Region II rely upon the Floridan Aquifer. Continued use of the Coastal Floridan Aquifer is expected to increase the risk for saltwater intrusion. The regional water supply plan focuses on development of alternative supply sources for the coastal region. This included an evaluation of the following water source options: Floridan Aquifer (inland); Sand-and-Gravel Aquifer; conservation; reclaimed water; aquifer storage and recovery; surface water; and desalination. Continued investigation and development of models to analyze the sustainability of these sources is the major focus of the regional water supply plan.

Water Supply Development Assistance

In August 2001, the District provided $350,000 in supplemental funding to assist the City of Port St. Joe's acquisition of Gulf County Canal. This project will ensure the availability of a dependable supply of fresh water for public and industrial use, while helping to sustain local ground water resources.

For FY '02, the District will provide approximately $3.2 million for water supply development assistance. In FY '02, the District's major water supply development assistance activity is to provide approximately $2.9 million for the development of the Sand-and-Gravel Aquifer as an alternative water source. The funding will provide assistance for the development of the Fair Point Peninsula Wellfield project, which requires financial assistance to be economically feasible.

In order to assist the City of Tallahassee with the development of the infrastructure necessary to provide reuse water to a new golf course facility, the District will provide $300,000. The District will continue to fund its cooperative water supply development program, which helps local governments and utilities develop alternative water supplies, particularly in the western coastal counties.

Five-Year Water Resource Development Work Program

Summary of Work Program

During FY '02, the District will allocate approximately $705,000 to implement the water resource development component of the District's regional water supply plan. All of the District's water resource development activities are related to implementing the recommendations of the regional water supply plan. Table 1 shows the proposed funding levels for major projects identified in the District's Five-Year Water Resource Development Work Program.

The District will focus on quantifying the amount of water available from the Floridan and Sand-and-Gravel aquifers and funding the development of alternative water supply sources. In 2002, the District expects to complete the development of a three-dimensional salinity (solute transport) model of the Floridan Aquifer for Santa Rosa, Okaloosa, and Walton Counties. When completed, the District will use the salinity model to evaluate the long-term sustainability of withdrawals from the Floridan Aquifer system. Recognizing the need for the District to develop such a model, several of

the principal utilities in Region II's coastal area have contributed financial support to the project. This cooperative and coordinated effort will provide a better understanding of the Floridan Aquifer and will help water managers and suppliers develop plans to meet future water needs.

Table 1. NWFWMD: Costs of Major Water Resource Development Activities

Water Resource Development Projects	FY '02 Costs ($)	Additional Funding Source
Floridan Aquifer Sustainability Model Analysis	380,000	Local governments, utilities
Inland Sand-and-Gravel Aquifer Project	140,000	
Coastal Sand-and Gravel Aquifer Sources	10,000	Utilities
Development of Regional Strategies and RWSP Updates	40,000	
Water Reuse Coordination Program	30,000	grants
Water Conservation Program	15,000	
Surface Water Monitoring for Water Supply Feasibility	20,000	
Hydrologic Data Collection and Analysis	40,000	
Abandoned Well Plugging	30,000	State, Federal and local governments
Aquifer Storage and Recovery Viability	0	Local governments, utilities
Total	**705,000**	

Evaluation of Progress

The Department's evaluation (see Appendix) of the District's Five-Year Water Resource Development Work Program concluded that the work program is consistent with the Regional Water Supply Plan and the expenditures appear generally to be adequate. However, the Department noted that the District should increase the proposed funding for conservation and reuse projects.

The District indicated (see Appendix) that they were currently evaluating the need to increase water conservation in the region and if they identified additional conservation projects, they might consider increasing funding in the future. The District agreed to increase the level of funding for reuse by $10,000/year for Fiscal Years 2003-2006. This would result in a total increase of $40,000 over the next 5 years.

Challenges

As the District proceeds with implementing the regional water supply plan recommendations, it is important for utilities that are competing for the same resources to continue to cooperate with each other and the District. In the long term, the District will need to work with users to identify "preferred" water supply source options to meet future increases in demands. As part of the District's efforts to determine the sustainability of the water resources, it is also critical to establish minimum flows and levels (MFLs).

SJRWMD

Regional Water Supply Plan

By 2020, average water use in the District is projected to be 1678 mgd, an increase of 22% over 1995 demands. In 2001, SJRWMD launched an ambitious effort to implement the District Water Supply Plan which was approved in April 2000 by the Governing Board. This effort is guided by the SJRWMD Water Resource Development Work Program document, which describes proposed projects and presents five-year projected budgets for each project in the program. Many of these projects extend for several years and some of them, concerned with monitoring, will go on indefinitely. Since 2001 was the inaugural year for the bulk of the projects in the program, most of the effort focused on engaging contractors to work on the projects listed in Table 2. Results from some projects will be available during 2002. However, most of the projects in the program are of longer duration and products from them will be available in 2003 or later.

Water Supply Development Assistance

SJRWMD provides cost sharing for several categories of water supply related projects. The maximum available cost share from SJRWMD is usually 50%.

Alternative Water Supply Construction. Alternative water supply construction cost sharing may be used to construct or modify facilities to make an alternative water source available. These funds may not be used for planning or design. Alternative water supply sources include reclaimed and recycled municipal, industrial, and commercial wastewater; agricultural runoff; stormwater; and brackish or salt water. Annually, the District distributes applications, which are due in early December. A citizen advisory committee, consisting of representatives from water supply utilities, agricultural interests, and the environmental community, evaluates and ranks the applications. Since the program's inception in 1996, the District has provided approximately $3.7 million from ad valorem taxes to fund 76 projects. In FY '01, the District funded twelve projects for a total of $500,000. Many of the funded projects are for expansion of reuse systems. Other typical projects include agricultural tailwater/surface water irrigation ponds, bringing reuse to golf courses, augmenting reclaimed water with stormwater, and greenhouse recirculation systems.

Reuse Feasibility Studies. These studies examine the economic, technical, and environmental feasibility of potential reclaimed water reuse projects. Since the program's inception in 1996, the District has provided approximately $380,000 from ad valorem taxes to fund 31 studies. In FY '01, the District funded four studies for a total of $60,000. The selection of projects is usually based on referral from the SJRWMD Water Use Regulation program.

Conservation Projects. This program sponsors projects that increase water use efficiency, such as toilet replacement, installation of rain sensor automatic irrigation system shutoff devices, or educational demonstrations and events. In FY '01, the District provided approximately $250,000 from ad valorem taxes for numerous and diverse projects.

Federal Funding For Alternative Water Supply Development. In addition to providing ad valorem tax funds for local water supply development assistance, SJRWMD annually seeks federal funding assistance for local water supply projects. Availability of funds is uncertain and varies from year to year. Selection of projects to receive these funds is based on the SJRWMD District Water Supply Plan. Projects must be of regional significance. Cost sharing from this source, when it can be obtained, may be up to one million dollars per project.

Five-Year Water Resource Development Work Program

Summary of Work Program

During FY '02, approximately $15.7 million will be spent to implement the water resource development component of the District's water supply plan. Approximately $6.1 million will come from ad valorem taxes and $5.2 million will come from Florida Forever funds. The District anticipates that approximately $4.4 million will be provided mostly from local governments.

It is anticipated that SJRWMD and cooperators will spend approximately $121 million over the next five years implementing water resource development projects. Initial projects include feasibility testing for aquifer storage and recovery, seawater desalination, and surface water 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.

Table 2 shows the major water resource development projects identified in the District 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 2. SJRWMD: FY '02 Costs of Major Water Resource Development Activities

Project	Cost[a] ($)	Additional Funding Source
Abandoned artesian well plugging program	627,000	various
Adaptive management project	722,000	utilities
Aquifer protection program	56,000	various
Aquifer storage and recovery feasibility testing	3,009,000	various
Central Florida aquifer recharge enhancement program	438,000	various
Cooperative well retrofit project	25,000	various
Feasibility of seawater demineralization projects	100,000	various
Hydrologic data collection and analysis	2,837,000	various
Regional aquifer management project	5,964,000	Volusian Water Alliance
Surface water in-stream monitoring and treatability studies	1,135,000	Volusian Water Alliance
Wetland augmentation demonstration program	200,000	local governments
Total	**15,113,000**	

[a]Costs do not include project management and peer review costs, which will be approximately $590,000 in FY02.

Evaluation of Progress

The Department's evaluation (see Appendix) of the District's Five-Year Water Resource Development Work Program concluded that the work program is consistent with the District Water Supply Plan and the expenditures appear generally to be adequate. However, the Department expressed concerns about some of the proposed expenditures using Florida Forever Funds and the funding of wetland augmentation projects.

The District revised their work program to explain how the proposed expenditures met the Florida Forever Funding criteria. Additionally, the District agreed to remove the proposed Florida Forever expenditures from the wetland augmentation program. The District agreed to proceed cautiously with the wetland augmentation program and agreed to complete the studies before expanding the program further.

Challenges

The District indicates that a major challenge to plan implementation has been in getting utility managers and local government officials to realize that continued utilization of traditional cheap ground water sources will not be sustainable. Plan implementation will require the development of alternative water supply sources and improved levels of cooperation. Higher priced alternative water supplies will need to be developed and utilities must work together to develop regionally significant sources to augment local water supplies. Fortunately, some utilities and local governments have realized the necessity for developing regional sources and have started to make progress toward solving their future supply needs.

The recent droughts have helped gain acceptance of the need for more efficient water use and development of alternative sources. During the drought, the region experienced record low lake levels and reduced spring flows. Water use restrictions have created a heightened sense of awareness and public concern regarding the difficulties in meeting immediate demands. The increased public awareness has resulted in improved receptiveness by public water suppliers to the idea of developing regional and alternative supplies, which has led to the development of the East-Central Florida Water Supply Planning Initiative.

Determining the sustainable yields for the water resources will continue to be a challenge to the District. Establishing MFLs for the resources, especially the St. Johns River and significant springs, will greatly help this effort.

SWFWMD

Regional Water Supply Plan

By 2020, average water use in the District's regional water supply planning region is projected to be approximately 1594 mgd, an increase of 23% over 1995 demands. In August 2001, the Governing Board approved the Southwest Florida Water Management District Regional Water Supply Plan. The regional water supply plan was developed for a ten-county area that extends from Pasco County to Charlotte County. The purpose for preparing the regional water supply plan was to provide the framework for future water management decisions in areas of the District where the hydrologic system is stressed due to ground water withdrawals. The regional water supply plan shows that sufficient water sources exist in the planning region to meet future demands and replace some of the current ground water withdrawals causing hydrologic stress. Because sources within the planning region are sufficient from a technical and economic perspective to meet these demands, sources outside the planning region were not investigated. Options identified in this report are provided as reasonable concepts that water users in the region can pursue in their water supply planning. Water users can select a water supply option as presented in the Plan or combine elements of different options that better suit their water supply needs. Options identified in the Plan are not intended to represent the District's most "preferable" options for water supply development. Additionally, the Plan provides information to assist water users in developing funding strategies to construct water supply development projects.

Besides meeting the projected 2020 demands, an additional 68 mgd must be developed to offset reductions in ground water withdrawals in the Northern Tampa Bay area. Combined, the District estimates that 432 mgd of new sources must be developed by 2020. As the District establishes minimum flows and levels (MFLs), development of additional new water supplies may be needed to offset potential further reductions in ground and/or surface water withdrawals that might be part of an associated recovery strategy.

The following potential sources of water were identified as capable of meeting the projected demands: surface water and stormwater, agricultural water conservation, non-agricultural water conservation, reclaimed water, brackish ground water, and seawater desalination. The plan identifies a variety of options for developing each of these potential sources. Due to known resource impacts caused by existing ground water withdrawals, fresh ground water was not included as a potential source for new supplies. In fact, it was this lack of additional fresh ground water in significant quantities within the planning region, coupled with growing water demands, which led to the preparation of the regional water supply plan. The goal of the regional water supply plan was to identify sufficient quantities of water other than fresh ground water to meet projected water demands.

Potential sources of water are summarized in Table 3. It was determined that approximately 678 mgd is potentially available from the various sources identified. This is more than enough water to meet the District estimated deficit of approximately 432 mgd.

Table 3. Estimated Quantities (mgd) of Water Available from Potential Sources

Agricultural Conservation	Non-Agricultural Conservation	Seawater Desalination	Brackish Ground Water Desalination	Reclaimed Water	Surface / Stormwater	Total
41.3	95.4	100	29.5	168.1	243.8	678.1

Water Supply Development Assistance

In FY '02, the District proposes to fund over 100 water supply development projects. The total amount of District funding for these projects is approximately $72 million. Many of these projects are funded through the Cooperative Funding Program of the Basin Boards, the New Water Sources Initiative (NWSI), and the Partnership Agreement (a subset of NWSI projects). For most of these projects, various local cooperators provide matching funds on a 50-50 cost share basis. A number of projects have also received state and federal funding. In anticipation of large needs for new supplies associated with growth in the region and the need to develop alternative supplies as a part of recovery strategies associated with minimum flows and levels, the District recently established a new water resource and supply development reserve fund. The District anticipates continuing to use portions of its Florida Forever funds for water resource development.

Five-Year Water Resource Development Work Program

Summary of Work Program

To implement the water resource development component of the regional water supply plan, the District proposes to allocate approximately $18.5 million during FY '02. Table 4 shows the major projects proposed to be funded in the District's Five-Year Water Resource Development Work Program. Additionally, approximately $122, 862 will be allocated to implement two water resource development projects: evaluation of water quality interactions in ASR wells and aquifer recharge of naturally treated wastewater/stormwater.

Evaluation of Progress

The Department's evaluation (see Appendix) of the District's Five-Year Water Resource Development Work Program concluded that the work program is consistent with the District's Regional Water Supply Plan. However, the Work Program did not provide enough information to determine if the expenditures for the next five years were adequate to implement the water supply plan. The work program needed more information for all five years -- not just the current fiscal year. The District committed to working with the Department to ensure that an appropriate level of information is provided to assess the adequacy of expenditures in future work programs.

Challenges

Through implementation of the regional water supply plan, the District is committed to ensuring that adequate water resources are available to meet both existing and future reasonable and beneficial needs. As the District proceeds with plan implementation, several challenges will be met along the way such as establishing MFLs, developing partnerships, and surviving record setting droughts.

It is particularly important for the District to continue establishing minimum flows and levels for water resources of the region, particularly in the Southern Water Use Caution Area (all or part of eight counties within the planning region), and the anticipated need for recovery and prevention strategies. The establishment of these levels and flows will give the District better knowledge about balancing environmental and water supply needs.

Table 4. SWFWMD: FY '02 Costs of Major Water Resource Development Activities[a]

Project	District's Costs ($)	Additional Funding Source
Hydrologic Data Collection	2,793,021	USGS
Regional Observation and Monitoring Program	1,692,408	local partnerships (WRWSA)
Quality of Water Improvement Program	547,557	
Flood Control Projects		
Data Collection[b]		USGS
Remediating Existing Problems	9,906,815	local govt. cooperators
CWM Initiative	763,197	
Lake Levels Program	2,048,957	
Hydrologic Investigations		
USGS Hydrologic Studies	724,866	USGS, local govt. cooperators
Water Resource Assessment Projects	770,345	
Total	18,476,821	

Notes: [a]Regional Water Supply Plan, Board Approved August 2001, SWFWMD; [b]Costs Included in Hydrologic Data Collection; WRWSA: Withlacoochee River Water Supply Authority; USGS: United States Geological Survey

In order to implement the projects identified within the Plan, partnerships with users in all sectors will be necessary. If the funding mechanisms identified in the regional water supply plan are maintained, adequate sources of funding will be available to meet the growing water demands through year 2020. Both the Cooperative Funding Program and the New Water Sources Initiative currently have matching fund requirements.

The recent drought has also presented both challenges and opportunities for the District. The drought more clearly demonstrated the need for greater diversification of sources and the development of alternative, drought-resistant sources. For example, the District is helping fund the country's largest seawater desalination facility, which will help to meet the burgeoning needs of the Tampa Bay area and assist in the recovery of natural resources harmed by years of over pumping. Additionally, the success achieved in reducing demands during the drought reinforced the idea that conservation can play an important role in meeting future demands. Water supply considerations, and specifically water conservation options, must become a more deliberate part of the growth management process at both the State and local levels in order to achieve the full potential that conservation has to offer.

SFWMD

Regional Water Supply Plan

In 2020, average water use in the District is projected to be approximately 4944 mgd, an increase of 26% over 1995 demands. By May 2000, SFWMD had completed regional water supply plans for all four of its planning regions: Upper East Coast, the Lower West Coast, the Kissimmee Basin, and the Lower East Coast.

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

The Kissimmee Basin (KB) Regional Water Supply Plan adopted in April 2000 indicated that 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 year drought) water supply needs for these areas. 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. The plan identified seven strategies to develop facilities for alternative sources of water. The strategies are grouped into three categories: those pertaining to the entire planning region; those pertaining to the Orange-Osceola County area; and those pertaining to the Lake Istokpoga-Indian Prairie Basin area.

Strategies in the Orange-Osceola County area focus on additional data collection and investigations into using reclaimed water, stormwater, and surface water. Strategies in the Lake Istokpoga-Indian Prairie Basin focus on changing the operation/management of Lake Istokpoga and investigating the availability of water from Lake Okeechobee and the Kissimmee River. Regional strategies focus on coordinating with other water management districts and ensuring consistency between planning and water use permitting.

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

Implementation of the Lower West Coast (LWC) Regional Water Supply Plan, in conjunction with other regional efforts, should assure that there is sufficient water to meet the reasonable-beneficial needs of this region during a 1-in-10 year drought condition. The plan identified seven water source options: conservation; ground water (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.

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

The 1998 Upper East Coast (UEC) Regional 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 year 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.

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

The Lower East Coast (LEC) Regional Water Supply Plan requires timely implementation of many projects to meet the region's future water supply needs and to avoid shortfalls in the intervening years as new infrastructure is built. The LEC Plan integrates 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 2020 needs of the region. The region's primary source of drinking water is 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.

Water Supply Development Assistance

During FY '02, the District has committed to funding fourteen water supply development projects (Table 5). The costs of these projects were shared through the District's grants for Alternative Water Supply Development. This year's funding includes eight more projects than last year's funding. This District's contribution to this effort increased from $600,000 last year to $3.9 million in FY '02.

Five-Year Water Resource Development Work Program

Summary of Work Program

For FY '02, the District will allocate approximately $217 million to implement the water resource development components of their regional water supply plans. Of that money, approximately $208 million will be used to implement the portions of the Comprehensive Everglades Restoration Program (CERP) that have been incorporated into several of the regional water supply plans. Tables 6-10 show the proposed funding levels for major projects identified in the District's Five-Year Water Resource Development Work Program.

Districtwide Projects

The District has three programs identified in each regional water supply plan, which will be implemented districtwide. These programs include the wetland drawdown study, the comprehensive water conservation program, and Comprehensive Everglades Restoration Program (CERP). Table 6 shows the estimated expenditures for each program during the current fiscal year. The wetland drawdown study should be completed by FY '05. The results of the study will be used to develop new criteria for the consumptive use permitting rules. The District has established long-term wetland monitoring sites and monitoring wells, installed weather stations, analyzed historical aerial photographs, and completed biological inventories and an interim technical publication. During the next five years, the District expects to spend $715,000 on the project.

Table 5. SFWMD: FY '02 Costs of Major Supply Development Activities

Project	Total Cost ($)	SFWMD Contribution
City of West Palm Beach Phase 2 Advanced Wastewater Treatment Wetlands	$6,142,000	$300,000
City of Pompano Beach Reclaimed Water Distribution System Phase 2	$3,000,000	$300,000
City of Cape Coral Gator Slough Reuse System Phase V	$588,500	$294,250
Florida Keys Aqueduct Authority Floridan Aquifer Blending/ASR Well	$8,150,000	$300,000
Town of Highland Beach Floridan Aquifer Production Well	$688,000	$300,000
Palm Beach County Reclaimed Water System Expansion	$2,631,000	$300,000
South Martin Regional Utility Reverse Osmosis Treatment Facility	$4,337,418	$300,000
East County Water Control District Aquifer Recharge Project	$1,458,000	$300,000
City of Boynton Beach Aquifer Storage and Recovery Well Construction	$2,204,500	$300,000
City of North Miami Beach Floridan Aquifer Well	$667,230	$300,000
Martin County Environmental Services Dept. North Martin Reverse Osmosis Well #4	$4,386,053	300,000
Collier County Water Dept. South County Treatment Plant-Brackish Water Supply Wells	$35,600,000	$300,000
US Sugar Corp Bryant Membrane Water Treatment Plant	$380,000	$190,000
St. Lucie County North Hutchinson Reclaimed Water West Extension	$165,000	$82,800
Total	**$70,397,701.00**	**$3,867,050.00**

During 2001, the District established a water conservation coordinator position to develop a water conservation program for the District. The program will incorporate the following: using retrofit conservation measures; implementing Xeriscape; educating the public; assisting utilities to develop their own conservation programs; establishing numeric efficiency goals; and developing a district conservation plan. During the next five years, the District anticipates spending $1.6 million on this program. Additionally, the mobile irrigation lab (MIL) program has been incorporated into the conservation program. During the next five years, the District expects to spend $1.1 million for MILs. The MIL program is cost-shared with other entities.

Table 6. FY '02 Expenditures on Districtwide Water Resource Development Activities

Districtwide Program	Costs ($)
Wetland Drawdown Study	165,000
Conservation Program (including mobile irrigation labs)	867,000
CERP (including Critical Projects)	207,707,847
Total	208,739,847

The CERP is a 38-year effort with components in all four planning areas. Most CERP components will be completed by 2020 and have been included in the Lower East Coast and Lower West Coast Regional Water Supply Plans. During the next five years, the District expects to spend approximately $835 million on implementing CERP projects. Within the CERP there are several "critical projects," which were authorized by the Water Resources Development Act of 1996. The eight critical projects will be completed by 2005 and will cost approximately $45.8 million over the next five years.

Kissimmee Basin

As part of implementing the recommendations of the regional water supply plan, the District accomplished the following:

- Installed climatic and shallow aquifer monitoring stations, which will provide data necessary for the development of a Reclaimed Water Optimization plan.
- Began Phase I of the Drain Well Treatment Pilot Project and funded the Artificial Recharge Project which will assist in the development of a Stormwater Reuse Master Plan.
- Installed six deep Floridan Aquifer wells, which are part of the hydrologic investigations needed to determine the optimized use of the Floridan Aquifer.
- Collected water quality data and evaluated water control structures to develop an operational plan for backpumping from Lake Okeechobee.
- Initiated a study, in conjunction with the SWFWMD, to study the fate of organisms in ASR wells.

During FY '02, the District plans to expend approximately $871,000 to implement water resource development projects identified in the Kissimmee Basin Regional Water Supply Plan. Table 7 shows the major water resource development projects identified for funding in the Five-Year Water Resource Development Work Program.

Other activities proposed during FY '02 that will require staff time, but no other expenditure of funds, include: development of a stormwater reuse plan; development of an operational plan for backpumping Lake Okeechobee; coordination with SJRWMD, SWFWMD, and the Department; and continuation of rule making efforts.

Table 7. Kissimmee Basin: FY '02 Costs of Major Water Resource Development Activities[a]

Project	District's Cost ($)	Additional Funding Sources
Develop a regional reclaimed water optimization plan	565,000	SJRWMD, USGS, local governments
Determine the optimal use of Floridan Aquifer	306,000	SJRWMD, SWFWMD, local governments
Total	871,000	

Notes: [a]Table does not include any Districtwide projects such as CERP. USGS: US Geological Survey

Lower West Coast

As part of implementing the recommendations of the regional water supply plan, the District accomplished the following:

- Completed, documented, and peer reviewed finer resolution ground water models for the surficial and intermediate aquifers. These models will be used in permit review.
- Enhanced the surficial aquifer system (SAS) and intermediate aquifer system (IAS) monitoring network through the addition of 13 SAS and 6 IAS real time monitor wells.
- Initiated data collection for development of a Floridan aquifer model by installing real time data loggers, which will record water levels on an hourly basis.
- Hired a consultant to conduct a feasibility analysis and master plan for construction and operation of a regional irrigation distribution system in urban areas of Lee and Collier counties. Several local entities have committed cost-share funding.
- Provided funding of $200,000 to two regional retention projects: Cape Coral/Gator Slough and East County Water Control District Aquifer Recharge.
- Developed project management plans for the Caloosahatchee River ASR Pilot Project and C-43 Basin Storage Reservoir.
- Initiated the Southwest Florida Feasibility Study.
- Adopted minimum flows and levels for the Caloosahatchee River and Estuary and the Lower West Coast aquifer system.
- Funded one additional urban mobile irrigation lab for Collier County in cooperation with the Collier County Soil and Water Conservation District.
- Hired a consultant to perform a feasibility study of co-locating seawater reverse osmosis treatment systems with power plants.

During FY '02, the District plans to expend approximately $1.6 million to implement water resource development projects recommended within the Lower West Coast Water Supply Plan. Table 8 shows the major water resource development projects identified for FY '02 funding in the Five-Year Water Resource Development Work Program.

Development of the Caloosahatchee River ASR project, the Southwest Florida Study, and the C-43 Regional Reservoir project are major projects of the plan that will be funded through CERP. Other activities proposed during FY '02, which will require staff time, but no other expenditure of funds, include: working with other agencies to evaluate 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.

Table 8. Lower West Coast: FY '02 Costs of Major Water Resource Development Activities[a]

Project	District's Cost ($)	Additional Funding Sources
SAS Monitoring	67,000	USGS
IAS Monitoring	67,000	USGS
Develop and Utilize SAS and IAS models	180,000	
Floridan Aquifer Monitoring	80,000	USGS, Utilities
Regional Irrigation System Study	570,000	Utilities
Regional and Local Retention[b]	600,000	298 Districts, Local Governments
Total	1,564,000	

Notes: [a]Table does not include any Districtwide projects such as CERP. [b]Funded via alternative water supply funding program; USGS: US Geological Survey

Upper East Coast

In the water supply plan, 30 water resource development recommendations were made. Many of the projects identified in the water supply plan will be completed by FY '02. Some of last year's major accomplishments include:

- Released a draft report of the Indian River Lagoon Feasibility Study in October 2001, which will be presented to Congress for authorization in FY '02. Wetland restoration, stormwater detention reservoirs, and stormwater treatment areas make up the bulk of the recommendations in the draft report.
- Completed alternative design analyses and 30% of the design plans for the Ten Mile Creek Critical Restoration Project.
- Completed technical documents describing minimum flows and levels criteria for the St. Lucie Estuary. These documents are being revised to address concerns of the peer review panel.
- Initiated the C-23 dredging project. Phase I (8.5 miles) of the dredging project was completed in mid-November. Phase II (7.4 miles) has begun and is projected to be completed in July 2002.
- Initiated water level and water quality monitoring as part of the Floridan Aquifer Monitoring Network.

During FY '02, the District plans to expend approximately $921,000 to implement water resource development projects recommended within the Upper East Coast Water Supply Plan. Table 9 shows the major water resource development projects identified for FY '02 funding in the Five-Year Water Resource Development Work Program.

Table 9. Upper East Coast: FY '02 Costs of Major Water Resource Development Activities[a]

Projects	District's Cost ($)	Additional Funding Source
St. Lucie Estuary Minimum Flows & Levels	1,000	
Improve C-Canal Capacity (C-23 Canal)	650,000	St. Lucie River Issue Team Fund
Floridan Aquifer Monitoring Network	228,000	NRCS and USGS
Floridan Well Abandonment Program	24,000	NRCS
Coordination of Plan Implementation	18,000	
Total	**921,000**	

Notes: [a]Table does not include any Districtwide projects such as CERP. NRCS: Natural Resource and Conservation Service; USGS: US Geological Survey

Development of the Indian River Lagoon Feasibility Study and the Ten-Mile Creek Project are major projects of the plan not identified in Table 9 that will be funded through CERP. Other activities proposed during FY '02, which will require staff time, but no other expenditure of funds, include: investigating the possibility of other regional attenuation facilities; investigating various aspects of aquifer storage and recovery strategies; evaluating desalination concentrate disposal options; developing incentives for reuse of reclaimed water; assisting with projects using reclaimed water for ground water recharge; and evaluating recharge areas.

Lower East Coast

During the past year, the District implemented many projects identified in the LEC plan. Some of the major accomplishments include:

- Adopted minimum flows and levels for the Everglades, Lake Okeechobee, and the Biscayne Aquifer.
- Completed technical documents describing minimum flows and levels criteria for the Loxahatchee River. The District is revising these documents to address concerns of the peer review panel and other interested parties.
- Completed construction and testing of the Hillsboro Canal ASR as part of the LEC Plan and the Comprehensive Everglades Restoration Plan (CERP).
- Completed the Phase II Detailed Master Plan of the Miami-Dade County Lake Belt Plan and Implementation Committee.
- Funded a mobile irrigation lab that evaluated 140 properties in the Palm Beach County area.
- Partnered with the Department on utilization of reclaimed water for regional indirect aquifer recharge.
- Initiated work on rainfall-driven water delivery formulas for Everglades National Park and Water Conservation Areas 2A, 2B, 3A, and 3B. This will improve the timing and range of water depths in these areas and restore more natural hydropatterns in accordance with established minimum flows and levels.
- Began three-year program to improve hydrologic monitoring of the shallow aquifer.
- Continued ongoing research of wetland impact criteria through hydrogeologic connectivity well drilling activities.
- Completed regional modeling for Water Preserve Area feasibility study.
- Executed a cooperative cost share agreement with Florida Power and Light (FPL) to determine feasibility of seawater reverse osmosis treatment when co-located with power plants.
- Developed a cooperative agreement with Broward County to design and construct secondary canal recharge and environmental urban enhancement infrastructure per the recommendations of the LEC Plan.

During FY '02, the District plans to expend approximately $4.4 million to implement water resource development projects recommended within the Lower East Coast Regional Water Supply Plan. This expenditure does not include CERP or other districtwide projects (see Table 6 for those costs). Table 10 shows the major water resource development projects, excluding the districtwide projects, identified for FY '02 funding in the Five-Year Water Resource Development Work Program. For FY '02, the primary objectives for the LEC planning region include:

- Develop technical minimum flows and levels criteria for Florida Bay.
- Adopt minimum flows and levels for the Loxahatchee River and Estuary.
- Implement at least one indirect aquifer recharge pilot project in partnership with the Department.
- Hire a consultant to assist staff in developing rainfall-driven water delivery formulas for the water conservation areas and Everglades National Park.
- Complete a master plan study for a Northern Palm Beach County reuse project.

Table 10. Lower East Coast: FY '02 Costs of Major Water Resource Development Activities[a]

Projects	District's Cost ($1000s)	Additional Funding Source
Ongoing Projects from the LEC Interim Plan		
Regional Saltwater Intrusion Management	189	local counties
Floridan Aquifer System Groundwater Model	19	CERP, water users, utilities
Northern Palm Beach County Comprehensive Water Management Plan	2,175	City of West Palm Beach, Indian Trail Improvement District, Palm Beach County, CERP, other federal sources
Northern Broward Secondary Canals Recharge Network	300	Broward County, Fort Lauderdale, other local governments
Southeast Broward County Interconnected Water Supply System	87	Broward County, Seminole Tribe of Florida, and Cities of Hallandale Beach, Hollywood, and Dania Beach
Broward County Urban Environmental Enhancement	47	Broward County
Subtotal	**2,817**	
Operational Recommendations		
Lake Okeechobee Vegetation Management Plan	**150**	Everglades National Park
Consumptive Use Permitting and Resource Protection Projects		
MFLs For the LEC Region	**182**	
Other Water Resource Projects		
Reclaimed Water System in Northern Palm Beach County	653	users and utilities in Palm Beach and Martin counties
Indirect Aquifer Recharge	600	DEP, county, or utility
Subtotal	**1,253**	
Total	**4,402**	

Notes: [a]Table does not include any Districtwide projects such as CERP; DEP: Florida Department of Environmental Protection; CERP: Comprehensive Everglades Restoration Program.

Evaluation of Progress

The Department's evaluation (see Appendix) of the District's Five-Year Water Resource Development Work Program concluded that the work program is consistent with the District's Regional Water Supply Plans and the expenditures appear generally to be adequate. However, the Department expressed concerns about funding levels for the conservation and reuse projects.

The District provided more details about their newly formed Water Conservation Section, which will include eight full time equivalent positions that represent a variety of different disciplines including economics, hydrogeology, environmental science, planning, and conservation. The District plans to complete a comprehensive conservation plan by September 2002.

Additionally, the District indicated that current funding levels for reuse are focused on conducting several feasibility studies. As the studies are completed and recommendations made, the District expects that more money will be allocated for future reuse projects. The District noted that during the past five years approximately $16.6 million has been spent on reuse projects through the District's Alternative Water Supply Grant Program.

Challenges

Implementing the world's largest restoration project will continue to provide significant challenges for the District. In addition to CERP, the District has many other responsibilities to ensure adequate management and protection of our water resources. The District will face significant challenges in maintaining their other programs while meeting the demands of CERP.

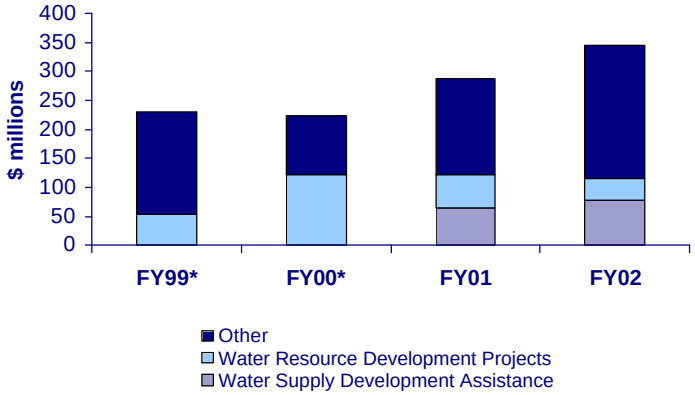
Water Management District FY '02 Budgets

In addition to funding projects identified in the regional water supply plans, the Districts also allocate many dollars to fund other projects that fall within their 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.

Table 11 summarizes the Districts' expenditures within the various categories that are included in the water supply area of responsibility. For FY '02, the Districts will allocate approximately **$344 million** for all water supply activities, which represents an increase of approximately $57 million from last year's budget. For specific water resource development projects, the Districts will expend approximately **$37 million** in FY '02, which represents a decrease of approximately $19 million from last year. For water supply development assistance, the Districts will allocate approximately **$79 million**, which represents an increase of approximately $14 million from last year.

Figure 4 shows the allocations for various categories in the water supply AOR for the past four fiscal years. Since FY '99, the total amount of money allocated to the Water Supply AOR has increased from approximately $231 million to approximately $344 million in the current fiscal year. Although, the amount of money allocated for water resource development projects increased from 1999 to 2000, it has since declined.

Figure 4. Statewide Water Supply AOR Allocations: FY99-FY02



Notes: *In FY99 and FY00, Water Supply Development Assistance was included within Water Resource Development Projects; the allocations presented are best estimates based on current District projects that fit the guidelines developed by the Office of the Governor.

Table 11. Statewide Summary of Budget Allocations for Water Resource Development (FY '02)

Water Management District	Total Budget ($)	Water Resource Development ($)				Water Supply Area of Responsibility	
		Water Supply Development Assistance	Water Resource Dev. Projects	Other Water Source Dev. Activities	Other Water Supply Activities	Budget	% of District's Total Budget
Northwest Florida	41,046,088	678,000	4,921,969	0	1,873,130	7,473,099	18.21%
Suwannee River	44,662,700	0	0	4,232,900	1,568,901	5,801,801	12.99%
St. Johns River	185,875,918	2,088,213	7,816,994	626,851	25,228,212	35,760,270	19.24%
South Florida	728,605,214	4,523,790	24,036,694	0	165,186,294	193,746,778	26.59%
Southwest Florida	227,729,776	71,896,454	122,862	547,557	28,926,627	101,493,500	44.57%
Total	**1,227,919,696**	**79,186,457**	**36,898,519**	**5,407,308**	**222,783,164**	**344,275,448**	**28.04%**

Challenges for the Future

Water Conservation Initiative

Water conservation is one of the most important actions we can take to sustain our water supplies, meet future needs, and reduce demands on Florida's fragile water-dependent ecosystems such as lakes, streams and the Everglades. Last year, during one of the worst droughts in Florida's history, the Department of Environmental Protection began an initiative to identify additional measures to increase water use efficiency. The Department worked in close coordination with the state's five water management districts, the Public Service Commission, and the Department of Agriculture and Consumer Services,

During the past year, interested parties participated in public workshops and investigated a variety of technological, behavioral, educational, regulatory, and economic methods of improving water use efficiency. Each idea was evaluated in terms of how much water could be saved, its cost effectiveness, and how easy it would be to implement. The result is a final report with 51 cost-effective recommendations for enhancing water conservation. The recommendations are divided into the following categories: Agricultural Irrigation, Landscape Irrigation, Indoor Water Use, Industrial/Commercial/Institutional Water Use, Water Pricing, and Reuse of Reclaimed Water. Currently, the Department is obtaining commitments from interested parties to participate in the various work groups toward implementing the report's recommendations. In August 2002, a public meeting will be held to continue the next phase of the Water Conservation Initiative. As the recommendations are implemented, the Department will track the progress, conduct periodic meetings, and continue overall coordination of the effort.

Linking Growth Management with Water Supply

For many years, there has been much discussion regarding the need to link growth management decisions with available water supply. This issue became more critical as Florida faced one of the worst droughts in history. Representatives from the Water Management Districts, Department of Environmental Protection, and the Department of Community Affairs evaluated existing rules and statutes and determined that substantial legal authority existed to more effectively link growth management decisions with water supply. In order to better integrate growth management and water supply issues, the agencies will actively pursue cooperative interagency training, provide outreach and technical assistance to local governments, and review evaluation and appraisal reports (EAR) and comprehensive plan amendments.

During the 2002, the legislature amended sections of Chapter 163, F.S. related to comprehensive planning. The new amendments improve the linkage between land use planning decisions and water supply considerations. The county comprehensive plans and the evaluation and appraisal reports are now required to include: principles and guidelines that show coordination of the comprehensive plan with applicable regional water supply plans; consideration of regional water supply plans or District Water Management Plans when assessing current and projected water needs; and a workplan for building water supply facilities, for which the local government is responsible, to serve existing and new development. This new legislation will enhance efforts to integrate growth management with water supply issues.

Central Florida Institutional Design

In the District Water Supply Plan, the SJRWMD indicated that several counties in East Central Florida area may not be able to rely upon the Floridan Aquifer for future water supply needs without causing unacceptable impacts to water resources and natural systems. In order for successful water supply planning to occur in this region, it is necessary for cooperation and coordination to occur among local governments, water supply utilities, and water management districts. Citizens and elected officials have now realized that something must be done to ensure water supplies for the future and the East-Central Water Supply Planning Initiative has begun.

The purpose of the Initiative is to develop a plan with specific goals, objectives and strategies to meet the region's future water supply needs. Three meetings have already been held.

Updating the Regional Water Supply Plans

As the state continues to grow and as new information becomes available, it will be necessary to revise the existing regional water supply plans. Every five years, the Districts are required to evaluate the need for a regional water supply plan. Over the next couple of years, each District will conduct water supply assessments to determine the need for a regional water supply plan. If the assessment indicates that there is not enough water to meet the projected 20 year reasonable-beneficial needs while sustaining the water resources and related natural systems, the Districts will develop new or update the existing regional water supply plans. Table 12 shows the current schedule for updating the water supply assessments and the regional water supply plans.

Table 12. Proposed Schedule for Updating Water Supply Assessments and Regional Water Supply Plans

Water Management District	District Water Supply Assessment Due Date	Regional Water Supply Plan (new or revised) Due Date
Northwest Florida	July 1, 2003	October 2005
Suwannee River	July 1, 2003	2005 (if necessary)
St. Johns River	July 1, 2003	April 2005
Southwest Florida	September 1, 2004	December 2005
South Florida	December 1, 2003	
Upper East Coast		June 2004
Kissimmee Basin		April 2005
Lower West Coast		October 2005
Lower East Coast		December 2005

The new or revised regional water supply plans will be required to include the same information as the current plans, but will also need to include a separate analysis of conservation and reuse as a water source option. Additionally the plans will include a cost effectiveness analysis of each water supply development and water resource development option.

Conclusions

By 2020, average demands for fresh water in the state will increase by approximately 26.4% over 1995 levels and reach 9.1 bgd. This increase will add significant pressure on our water resources, many of which are already experiencing some ecological stress. The regional water supply plans have identified the critical areas and developed strategies for solving or preventing water resource problems.

The plans are not just sitting on the shelves: they are being implemented. The water management districts' budgets reflect this in many ways. Since 1999, there has been a steady increase in funding for the Districts' Water Supply Area of Responsibility (Figure 4). Additionally, the regional water supply plans are being integrated into many facets of the Districts' programs and activities. Programs and activities such as water resource planning and monitoring, water resource development, regulation, outreach, restoration, and land acquisition are incorporating and funding elements of the regional water supply plans.

The plans are also influencing other aspects of natural resource management. As is evident in the recent growth management legislation, the regional water supply plans are becoming valuable tools to assist local governments when making land use decisions. Additionally, the plans are being used to determine: priorities for establishing minimum flows and levels; where to focus limited state and local resources; and where to focus much needed hydrological research. The regional water supply plans have appropriately focused agency resources on areas that need it.

The commitment to solving the water resource problems will continue well into the future. Table 13 shows each District's commitment to fund these projects for the next five years. By 2006, approximately $1.1 billion will have been spent on water resource development to ensure that future demands are met while continuing to protect our water resources.

Table 13. Expenditures for Implementing Water Resource Development Work Programs

Water Management District	Estimated Costs for FY '02	Estimated Costs for Next 5 years (FY '02-'06)
Northwest Florida	705,000	2,045,000
St. Johns River	11,936,000	123,000,000
Southwest Florida	18,551,955	68,500,000
South Florida	386,014,847	929,075,897
Total	**417,207,802**	**1,122,620,897**

APPENDIX - DEP Comments on Five-Year Water Resource Development Work Programs and WMD Responses