

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

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.) and 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 statutory provisions 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.

Water Use in Florida

In 1995, Florida used an estimated 7.2 billion gallons per day (bgd) of fresh water. The United States Geological Survey recently estimated the state's use of fresh water for the year 2000. In that year, fresh water use increased to a total of 7.7 bgd. By 2020, demands are forecast to be approximately **9.1 billion gallons per day** (Figure 1).

During the initial development of regional water supply plans in 1999, the state estimated that the 2020 population would be about 20.9 million. The latest projections from the Legislature's Office of Demographic Research forecast that the state's 2020 population will reach about 21.8 million. This projected increase could correlate to an increase in fresh water demands for 2020. However, as figure 2 shows, population growth and water demand have not and need not

increase proportionally. Increased emphasis on water conservation, use of reclaimed water, and development of alternative water supplies can help to keep the demand for fresh water from rising as fast as population. As the Districts prepare to update their regional water supply plans, new demand projections will be available by the end of 2003. These new estimates will project water use out to 2025.

Figure 1. Water Use by Water Management District

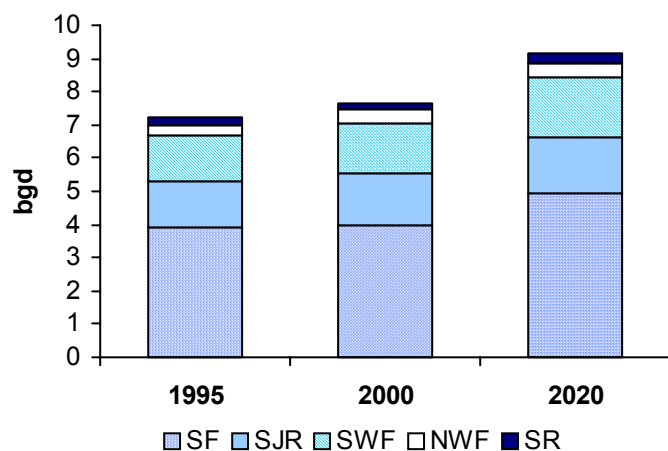
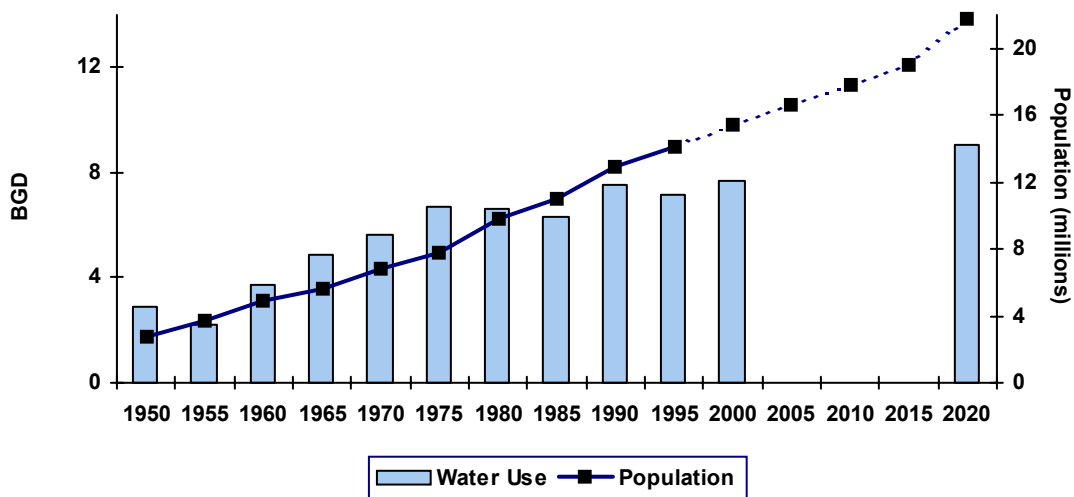
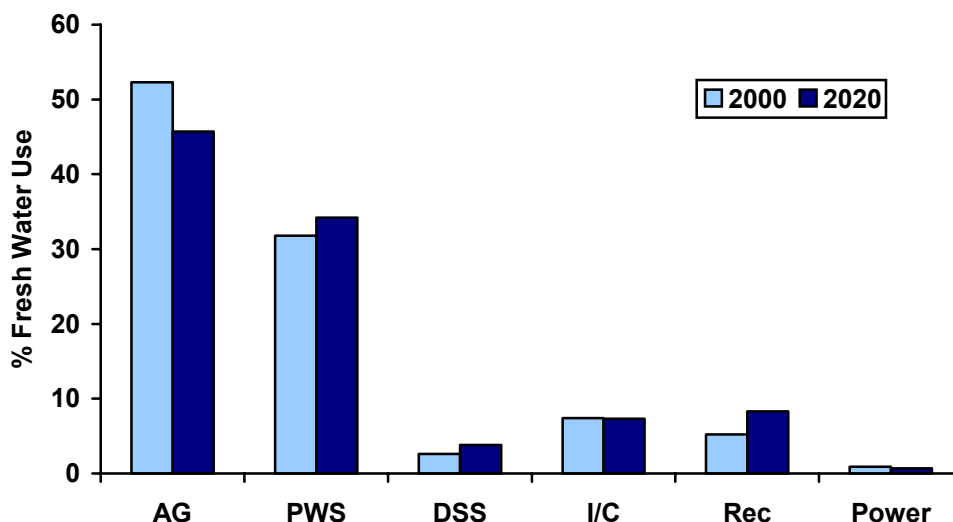


Figure 2. Total Fresh Water Withdrawals and Population



In 2000, about 31% of fresh water withdrawals were for public supply, while approximately 52% of the water was used for agriculture. In 2020, about 34% of water will be used for public supply, while approximately 46% will be used for agriculture. In 2020, figure 3 shows that even though the percentage of water used by agriculture (AG) is expected to decline by approximately 6%, it will still be the largest user of fresh water. The percentage of fresh water used by the public supply (PWS), domestic self-supply (DSS), and recreational irrigation (Rec) sectors is expected to increase. The percentage of fresh water used by the industrial/commercial (I/C) and power generation (Power) sectors is expected to remain about the same.

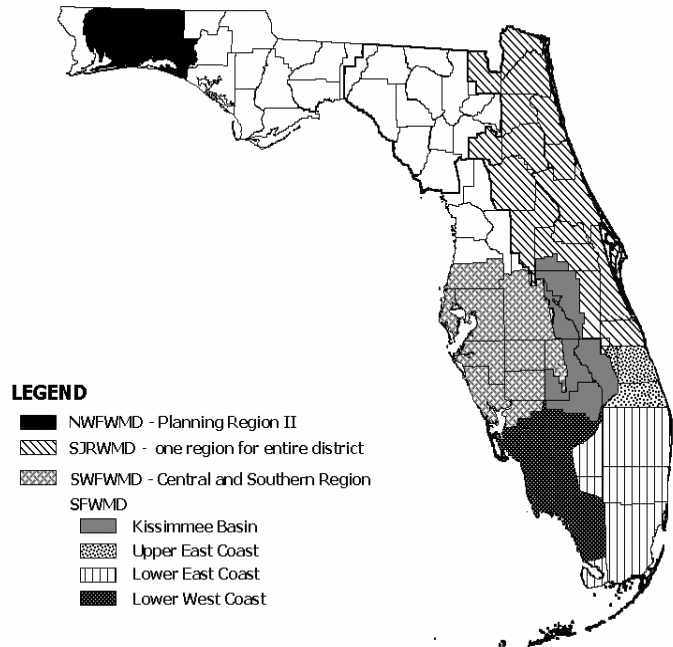
Figure 3. Percentage Water Use by User Category



Status of Regional Water Supply Plans

As of August 2001, all the required regional water supply plans were completed. Four of the Districts contained planning areas whose existing sources were determined to be insufficient to meet 20-year needs and were required to complete regional water supply plans: Northwest Florida, Southwest Florida, St. Johns River, and South Florida (Figure 4). 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. Each District that completed a regional water supply plan is required to prepare a 5-Year Water Resource Development Work Program. The work program should describe the District's implementation strategy for the water resource development component of their regional water supply plan.

Figure 4. Water Supply Planning Regions



The Districts are preparing to update their regional water supply plans by first updating their water supply assessments. These assessments should be completed for all Districts by the end of 2003 (Table 1). The assessments will include an analysis of population and water demand projections until the year 2025. Based upon the results of the assessment, the Districts will update their regional water supply plans according to the schedule shown in Table 1.

Table 1. Schedule for Updating Water Supply Assessments and Regional Water Supply Plans

Water Management District	District Water Supply Assessment	Regional Water Supply Plan
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	July 1, 2003	December 2005
South Florida	August 1, 2003	
Upper East Coast		June 2004
Kissimmee Basin		April 2005
Lower West Coast		October 2005
Lower East Coast		December 2005

NWFWMD

The District's regional water supply plan was adopted in February 2001. Of the seven planning regions in the District, only Region II, which includes Santa Rosa, Okaloosa, and Walton Counties, needed a regional water supply plan. During fiscal year '03, the District will allocate approximately \$600,000 to implement the water resource development component of the District's regional water supply plan. During the next five years, the District expects to spend approximately \$1.8 million on implementation.

The District will continue to focus on quantifying the amount of water available from the Floridan and the Sand-and-Gravel aquifers and on funding the development of alternative water supply sources. Funding for the District's water reuse coordination program was increased slightly. Major funding sources used by the District to implement their regional water supply plan include: water management lands trust fund; special reserves; federal grants; and cost-sharing with local government and water supply utility.

The District has also provided water supply development assistance to areas outside of Region II planning area. During fiscal year '03, the District will provide \$750,000 to the city of Crestview for water supply improvements and \$350,000 for a City of Tallahassee reuse assistance project. The complete work program may be viewed at the following website:

<http://www.dep.state.fl.us/water/waterpolicy/index.htm>

SJRWMD

The District's regional water supply plan was adopted in April 2000. During fiscal year '03, the District will allocate approximately \$20 million to implement the water resource development component of the District's regional water supply plan. This year's proposed expenditures have significantly increased since last year's work program funding, which was approximately \$7 million. This increase is due to the additional funding of water resource development projects from the Florida Forever Trust Fund. Additional funding from various cooperative entities is also anticipated. During the next five years, the District expects to spend approximately \$114 million on implementation.

During fiscal year '02, the District completed the Aquifer Storage and Recovery (ASR) Construction and Test Demonstration Plan, which will help the District award contracts for the construction and testing phase. This project will help the District determine the feasibility of using ASR in locations where ASR has not been traditionally used. ASR is a critical component for the storage needed to develop multiple surface water sources, including the St. Johns River. The District will continue to focus on this project during the next fiscal year, increasing expenditures to approximately \$9.8 million.

The District continued to be actively involved in the facilitation of water supply planning sub-groups in the Central Florida region. At the request of the Orange County Commission Chairman, water supply planning was elevated to elected officials in the region, which resulted in the East-Central Florida Water Supply Planning Initiative. The Initiative, which consists of participants from a ten-county region, developed an agenda that identified water supply issues and recommended solutions. During the next fiscal year, the Initiative will begin to implement the recommendations. The District also is involved in facilitating meetings of the Northeast Florida Water Utility Managers. Next year, the District will begin facilitating a water supply planning subgroup in Flagler County.

During the upcoming fiscal year, the District expects to: 1) complete Phase I of the Adaptive Management project (a hydrologic and environmental monitoring program designed to assist with water management decisions); 2) complete the Recharge Area Protection plan as part of the Aquifer

Protection Program (a program to identify and protect the surficial aquifer, the Floridan Aquifer, and associated recharge areas); 3) complete the demineralization concentrate management project (a project to determine management strategies for disposing of waste concentrate that results from demineralizing brackish groundwater); and 4) begin construction of the regional aquifer management project elements (a project that identified ways for Volusia County to better manage the groundwater withdrawals while protecting the water resources) developed by the Volusian Water Alliance. For more information on the progress of these water resource development projects, view the complete work program at <http://www.dep.state.fl.us/water/waterpolicy/index.htm>.

SWFWMD

In August 2001, the Governing Board approved the Southwest Florida Water Management District Regional Water Supply Plan. The District estimates that 438 mgd of new sources must be developed by 2020. Potential sources of water are summarized in Table 2. At the time the regional water supply plan was adopted, the District had already developed or planned to develop projects that would provide approximately 215.5 mgd. To meet the 2020 demands, the District needs to develop an additional 222.5 mgd, which is available from the sources identified in Table 2.

Table 2. 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

During fiscal year '03, the District plans to allocate approximately \$21.5 million to implement the water resource development component of their regional water supply plan. During the next five years, the District expects to spend approximately \$107.7 million on implementation.

Many of the District's water resource development efforts are closely related to hydrologic data collection and analysis. In their 5-year Water Resource Development work program, the District has also identified 21 water resource development projects. Water resource development projects (as defined by the Governor's Office) are designed to create, from traditional or alternative sources, an identifiable, quantifiable supply of water for existing and/or future reasonable-beneficial uses. During fiscal year '03, the District plans to spend approximately \$17.5 million on water resource development projects. Over the next 5 years, the District expects to spend approximately \$147 million on these projects. These types of projects include activities related to:

- Alternative water supply research and/or pilot projects.
- Agricultural water supply/environmental restoration projects.
- Restoration of minimum flows to the upper Peace River.
- Tampa Bay regional reclaimed water system projects.

While many of these specific projects are not explicitly identified in the regional water supply plan, they do meet many of the goals and objectives of the plan. For more information on the progress of these water resource development projects, view the complete work program at <http://www.dep.state.fl.us/water/waterpolicy/index.htm>.

The District also supports many water supply development projects throughout the region. During fiscal year '03, the District plans to spend approximately \$50 million on water supply development.

Approximately \$12.7 million of this money will be for reclaimed water projects; approximately \$2.1 million will be for conservation projects; and approximately \$35 million will be for potable water projects. Most of these projects are funded cooperatively with local governments, regional water supply authorities, and other local entities. Many projects also receive state and federal funding.

The District funds the water resource and water supply development projects with the Cooperative Funding Program of the Basin Boards, the New Water Sources Initiative, the Water Supply and Resource Development Fund, Florida Forever Act funds, and Federal sources.

SFWMD

The South Florida Water Management District prepared four regional water supply plans for their District: Kissimmee Basin, Upper East Coast, Lower East Coast, and Lower West Coast. The Upper East Coast Regional Water supply plan was completed in 1998. The three remaining water supply plans were completed in 2000.

During fiscal year '03, the District plans to allocate approximately \$333.6 million to implement the water resource development component of their regional water supply plans. This includes \$325.8 million needed to fund the Comprehensive Everglades Restoration Plan (CERP) projects. The CERP is a critical component of many of the District's regional water supply plans, especially the Lower East Coast. During the next five years, the District expects to spend approximately \$1.17 billion to implement the water resource development component of their regional water supply plans. Approximately \$1.13 billion of that will go toward CERP projects.

Through the District's Alternative Water Supply Funding Program, the District has committed to providing approximately \$4 million to fund water supply development projects during fiscal year '03. Of that, approximately 50 percent is committed to reuse projects.

The District utilizes a variety of funding sources to implement their water resource development work program. To fund their water resource development work program, the District utilizes a variety of sources. In addition to ad valorem taxes, the district also uses federal and state grants. The District also cost-shares projects with local sponsors.

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 CERP. During fiscal year '03, the District will spend approximately \$1.4 million on the non-CERP districtwide projects, and over the next five years, the District expects to spend approximately \$6.8 million on these projects.

During the past year, the District used the information obtained from the wetland drawdown study to develop criteria for evaluating consumptive use impacts to wetlands and other surface waters. The District is continuing to collect data for this study and expects to complete it during fiscal year 2003.

During the last fiscal year, the District's comprehensive conservation program developed three rules, initiated reuse studies to determine the feasibility of regional reuse distribution systems, initiated an outreach and education campaign, continued to operate Mobile Irrigation Labs, and provided alternative water supply and demand management grants to public and private partners. During this fiscal year, the District will spend approximately \$1.2 million implementing the water conservation and mobile irrigation lab programs. In addition to continuing the activities undertaken last year, these

programs will also provide assistance in updating the District Water Management Plan and the Regional Water Supply Plans, assist with the implementation of the Statewide Water Conservation Initiative, assist users and suppliers in establishing conservation programs, and provide support for the development of a comprehensive water conservation manual. During the next five years, approximately \$6.6 million will be spent on water conservation and mobile irrigation labs.

The CERP is a 38-year effort with components in all four planning areas. Most CERP components will be completed by 2020 and are 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 \$1.1 billion on implementing CERP projects. During the last year, the District completed project management plans for several projects, completed feasibility studies for the Indian River Lagoon, the Water Preserve Areas and C-4 Critical restoration project, and continued land acquisition for priority CERP projects.

Kissimmee Basin

During the last fiscal year, the District continued progress on all of their water supply plan recommendations. Major efforts in the next year will focus on the development of a regional reclaimed water optimization plan and implementation of the stormwater reuse master plan. Both of these projects are a major part of the District's strategy to recharge the Floridan Aquifer and minimize drawdowns.

During fiscal year '03, the District plans to spend approximately \$695,000 to implement water resource development projects identified in the Kissimmee Basin Regional Water Supply Plan. During the next five years, the District plans to spend approximately \$2.1 million to implement the regional water supply plan. These expenditures do not include any of the costs associated with CERP.

Upper East Coast

Except for long-term programs such as the Floridan Aquifer Monitoring program, the Ten Mile Creek Critical Restoration Project, and the Indian River Lagoon Project, the District expects to complete the plan's remaining recommendations by the end of fiscal year 2003. During the past year, the District completed the Indian River Lagoon Feasibility Report, adopted minimum flows for the St. Lucie River and Estuary, and completed the design of the Ten-Mile Creek Critical Restoration Project. This plan will be updated in June 2004.

During fiscal year '03, the District plans to spend approximately \$132,000 to implement water resource development projects identified in the Upper East Coast Regional Water Supply Plan. During the next five years, the District plans to spend approximately \$762,000 to implement the regional water supply plan. These expenditures do not include any of the costs associated with CERP.

Lower West Coast

During the past year, the District adopted year-round mandatory water conservation measures for landscape irrigation in Lee, Collier, and Charlotte Counties, completed the project management plan for the Southwest Florida Feasibility Study, and completed phase I of the regional irrigation system study. The feasibility study was a recommendation of CERP and will conduct a comprehensive study of water issues in southwest Florida.

The regional irrigation system study evaluated ways to meet irrigation demands from sources other than groundwater. The study determined that it was feasible to construct a regional irrigation system that utilizes a combination of reclaimed water from municipal wastewater treatment plants, reclaimed water ASR, surface water, surface water ASR, and seepage from water bodies, such as canals and mining pits. The District is proceeding with more detailed analysis, design, and eventually, construction of the regional irrigation system.

During fiscal year '03, the District plans to spend approximately \$500,000 to implement water resource development projects recommended within the Lower West Coast Water Supply Plan. During the next five years, the District plans to spend approximately \$4.5 million to implement the regional water supply plan. These expenditures do not include any of the costs associated with CERP.

Lower East Coast

During the past year, the District developed and revised their consumptive use permitting rules to be consistent with the findings and recommendations of the regional water supply plans; developed and adopted minimum flows and levels for the Loxahatchee River; completed the Northern Palm Beach Comprehensive Water Management Plan and began implementation; and approved adaptive protocols for Lake Okeechobee operations. During fiscal year '03, the District plans to expend approximately \$5.1 million to implement water resource development projects recommended within the Lower East Coast Regional Water Supply Plan. During the next five years, the District plans to spend approximately \$28.5 million to implement the regional water supply plan. These expenditures do not include any of the costs associated with CERP.

For more information on the progress of the SFWMD's water resource development projects, view the complete work program at <http://www.dep.state.fl.us/water/waterpolicy/index.htm>.

Evaluation of Work Programs

The Department's evaluation of each District's Five-Year Water Resource Development Work Program concluded that the work programs are consistent with the District Water Supply Plans and that expenditures appear generally to be adequate. During the initial review in December 2002, the Department requested that SFWMD revise their work program to provide more details about funding levels proposed for fiscal years beyond the current fiscal year and to describe more fully the linkages between the work program and the regional water supply plan. The SFWMD revised their work program in April 2003 and adequately addressed the Department's concerns.

The Department also requested that SFWMD provide more specific details about some of the projects in their work program. SFWMD revised their work program to address the Department's concerns in March '03 and the governing board adopted the revised work program May '03.

Table 3 provides a summary of each District's efforts toward funding their water resource development work programs. During the next fiscal year, all the Districts will spend approximately \$379 million implementing the water resource development work programs. Of that amount, approximately \$326 million will be used to implement CERP projects. Over the next five years, approximately \$1.4 billion is expected to be spent implementing the work programs.

Table 3. Expenditures for Implementing Water Resource Development Work Programs

WMD	FY '03 Expenditures (Millions of dollars)	FY '03-'07 Expenditures (Millions of dollars)
NWF	0.6	1.8
SJR	20.0	114
SWF	21.5	107.7
SF	333.6	1170.8
Total	378.7	1390.3

The Five-Year Water Resource Development Work Programs and the Department's evaluation of the work programs may be viewed at the following website:

<http://www.dep.state.fl.us/water/waterpolicy/index.htm>.

Water Management District Fiscal Year '03 Budgets

In addition to funding projects identified in the regional water supply plans, the Districts also fund other significant 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, developing and implementing minimum flows and levels, monitoring water resources, regulating consumptive use, protecting wellheads, acquiring and restoring land, education and outreach, and maintaining water supply structures.

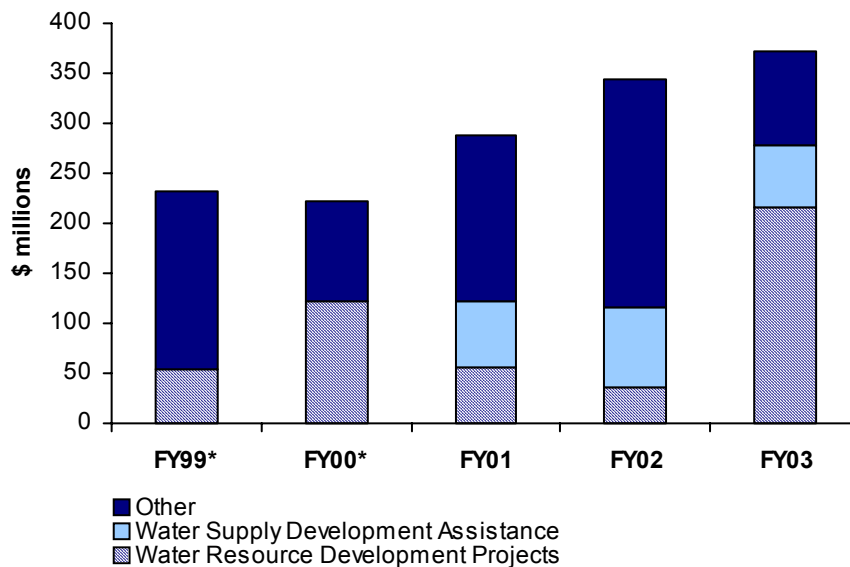
Table 4 summarizes the Districts' expenditures within the various categories that are included in the water supply area of responsibility. For fiscal year '03, the Districts will allocate approximately **\$372 million** for all water supply activities, which represents an increase of approximately \$28 million over last year's budget. For specific water resource development projects, the Districts will expend approximately **\$218 million** in fiscal year '03, which includes approximately \$177 million needed to implement CERP. For water supply development assistance, the Districts will allocate approximately **\$61 million**, which represents an increase of approximately \$14 million over last year.

Figure 5 shows the allocations for various categories in the water supply AOR for the past four fiscal years. Since fiscal year '99, the total amount of money allocated to the Water Supply AOR has increased from approximately \$231 million to approximately \$372 million in the current fiscal year. The large increase in funding for water resource development projects for the current fiscal year can be attributed largely to the implementation of CERP.

**Table 4. Statewide Summary of Budget Allocations (Millions of Dollars)
for Water Resource Development (FY '03)**

		Water Resource Development			Water Supply Area of Responsibility	
WMD	Total Budget	Water Supply Development Assistance	Water Resource Dev. Projects	Other Water Source Dev. Activities	Budget	% of District's Total Budget
NWF	52.5	4.8	2.7	0	9.5	18.1%
SR	49.5	0	0	1.5	5.2	10.5%
SJR	192.7	2.3	13.4	.8	37.6	19.5%
SF	808.1	4.6	182.3	0	228.3	28.3%
SWF	222.9	50.0	18.4	.6	91.7	41.1%
Total	1325.7	61.7	216.8	2.9	372.3	28.1%

Figure 5. Statewide Water Supply AOR Allocations: FY99-FY03



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.

Conclusions

The Districts' budgets and water resource development work programs demonstrate that continuous progress is being made in implementing the regional water supply plans. Since 1999, there has been a steady increase in funding for the Districts' Water Supply Area of Responsibility (Figure 5). 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.

We can expect this commitment to solving water resource problems to continue well into the future. As Table 3 showed, by 2007, approximately \$1.4 billion will have been spent on water resource development to ensure that future demands are met while continuing to protect our water resources.

