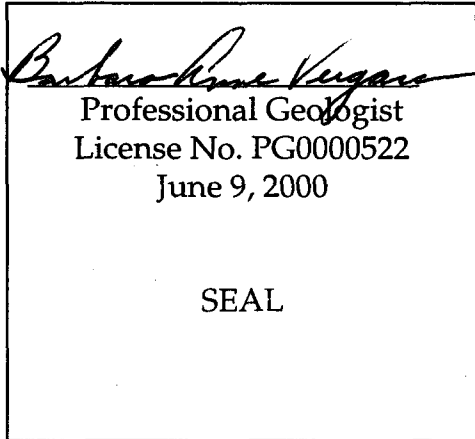


Special Publication SJ2000-SP1

District Water Supply Plan

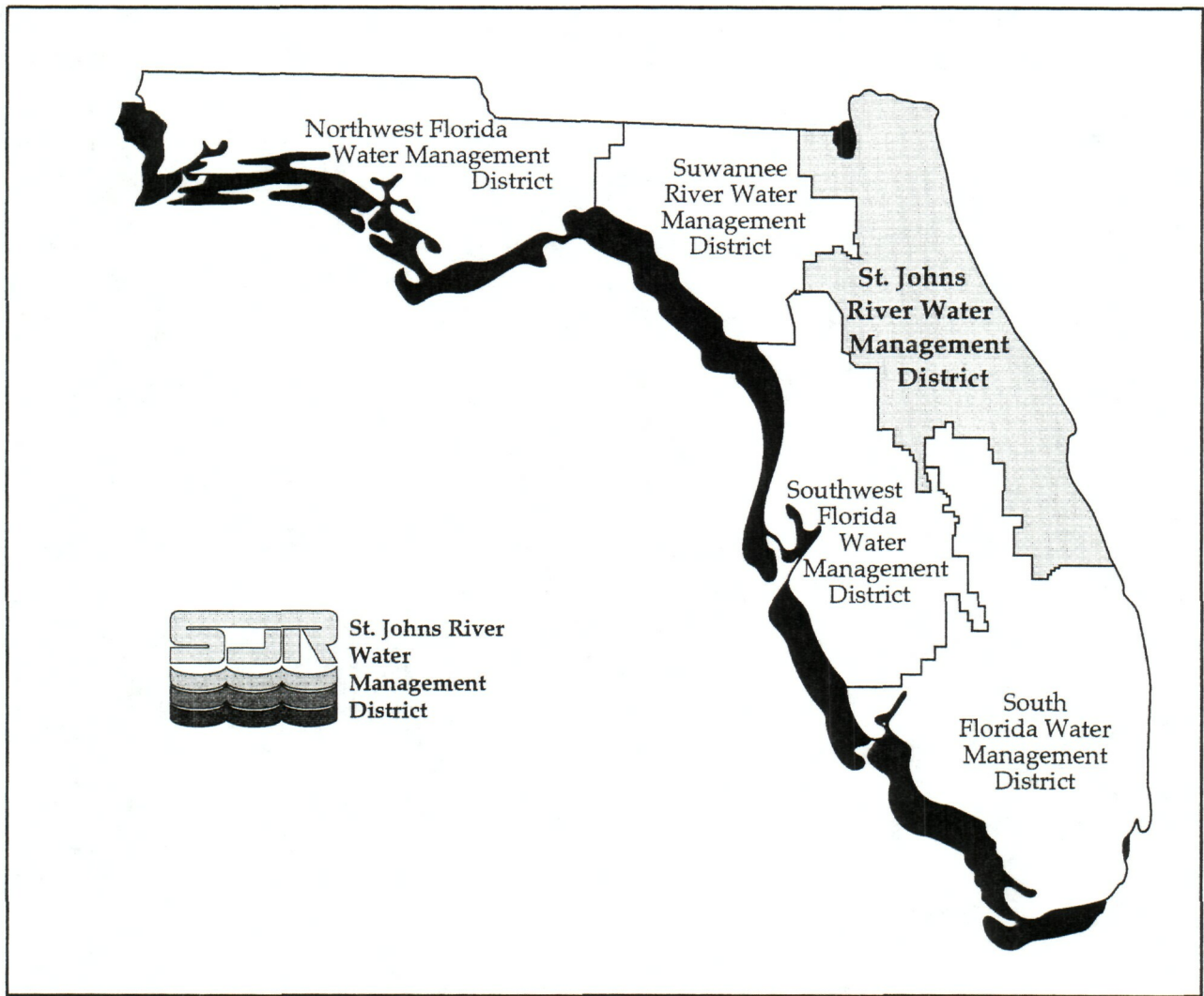
Executive Summary

Edited by
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St. Johns River Water Management District
Palatka, Florida

2000



The St. Johns River Water Management District (SJRWMD) was created by the Florida Legislature in 1972 to be one of five water management districts in Florida. It includes all or part of 19 counties in northeast Florida. The mission of SJRWMD is to manage water resources to ensure their continued availability while maximizing environmental and economic benefits. It accomplishes its mission through regulation; applied research; assistance to federal, state, and local governments; operation and maintenance of water control works; and land acquisition and management.

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WATER SUPPLY PLANNING MANDATES

The St. Johns River Water Management District's (SJRWMD) District Water Supply Plan (DWSP) is designed to meet the requirements of the water supply planning provisions of Section 373.0361, *Florida Statutes (FS)*. DWSP is based on a 20-year planning horizon extending through 2020 and includes the following components:

- A water supply development component
- A water resource development component
- A minimum flows and levels component

Subsection 373.0361(1), *FS*, requires SJRWMD to initiate water supply planning for each water supply planning region where priority water resource caution areas are identified (Figure ES-1). Priority water resource caution areas are areas where existing and reasonably anticipated sources of water and conservation efforts may not be adequate (1) to supply water for all existing legal uses and reasonably anticipated future needs and (2) to sustain the water resources and related natural systems. SJRWMD's *Water Supply Assessment: 1998* (Vergara 1998) includes a detailed description of the identification of priority water resource caution areas.

These priority water resource caution areas should not be confused with the water resource caution area pursuant to the requirements of Section 62-40.416, *Florida Administrative Code (F.A.C.)*. This subsection requires the water management districts (WMDs) to designate water resource caution areas as regions where reuse would be required if economically, environmentally, and technically feasible. Prior to the implementation of Section 62-40.416, *F.A.C.*, SJRWMD's Consumptive Use Permitting Rule required reuse throughout SJRWMD, where available and feasible. Therefore, when implementing Florida Department of Environmental Protection's (DEP) Section 62-40.416 requirement, SJRWMD designated its entire jurisdictional area a water conservation area (40C-23.001, *F.A.C.*). SJRWMD later changed the water conservation area designation to a water resource caution area designation to conform to statewide nomenclature.

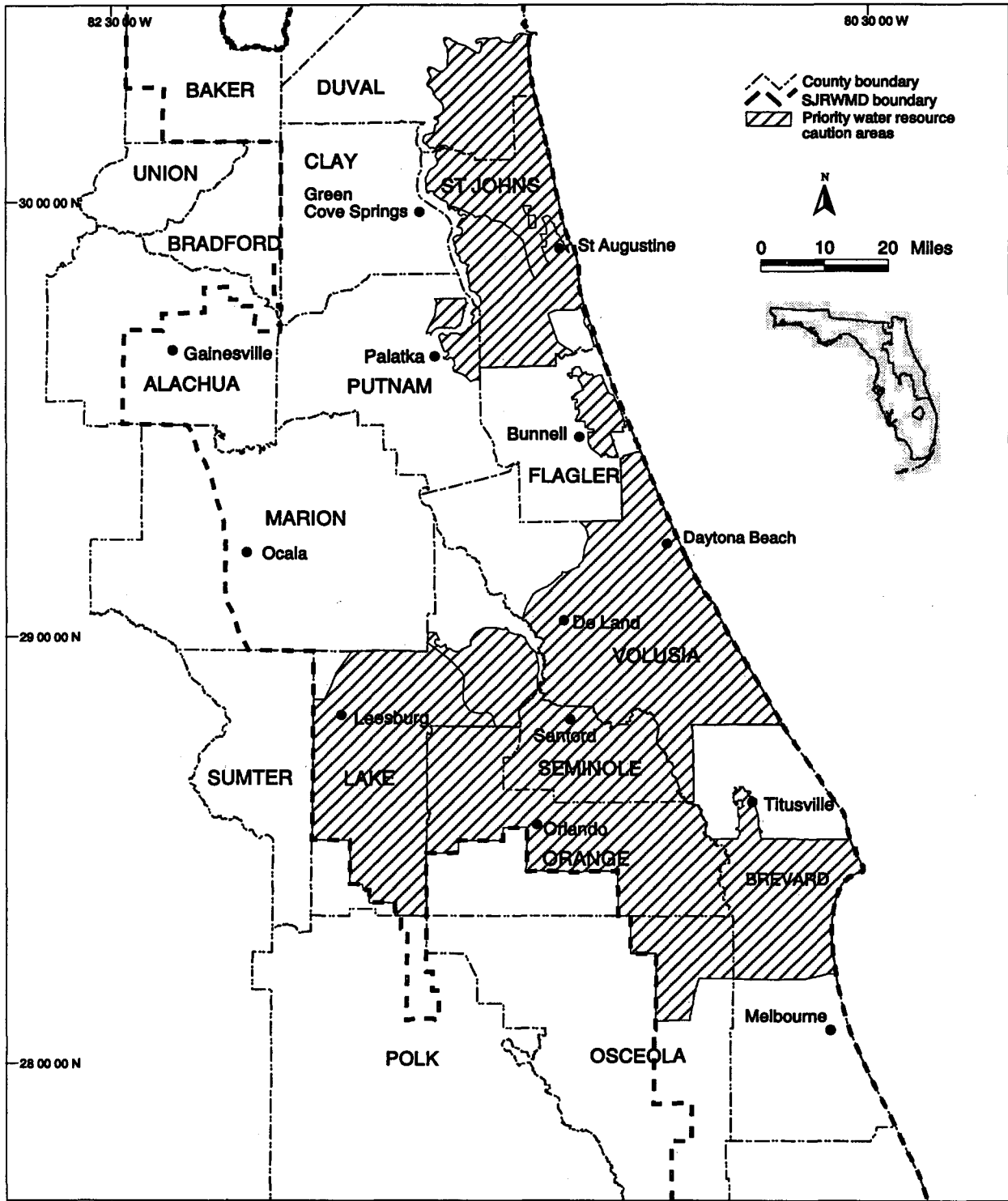


Figure ES-1. Priority water resource caution areas in the St. Johns River Water Management District

DESCRIPTION OF PLANNING REGION

The Florida Legislature, in response to the need to protect and preserve the state's water resources, passed the Florida Water Resources Act of 1972, codified as Chapter 373, FS. This legislation established a statewide system of five WMDs and provided them with specific authorities and responsibilities. SJRWMD is one of these five WMDs.

Located in northeastern Florida, SJRWMD covers approximately 12,400 square miles (approximately 8 million acres), or about 21 percent of the state's total area (Figure ES-2).

The most prominent natural feature of SJRWMD is the St. Johns River. The St. Johns River flows northward about 300 miles from its headwaters in Indian River County through Lakes Washington, Monroe, and George, and other lakes, to Jacksonville and the Atlantic Ocean. Because of the river's very low gradient, tidal effects normally extend into and beyond Lake George, over a hundred miles from the river's mouth.

The SJRWMD area includes all or part of 19 counties, numerous cities and towns, and the major urban centers of Jacksonville and Orlando, with a total population of almost 3.5 million people. This population is projected to increase by about 50 percent, to nearly 5.2 million, by 2020.

Because SJRWMD has identified its entire jurisdictional area as one water supply planning region, DWSP encompasses the entire district. The plan focuses considerable attention on the identified priority water resource caution areas. DWSP identifies sustainable water supply options that will meet the projected reasonable-beneficial needs of all water users in SJRWMD through 2020.

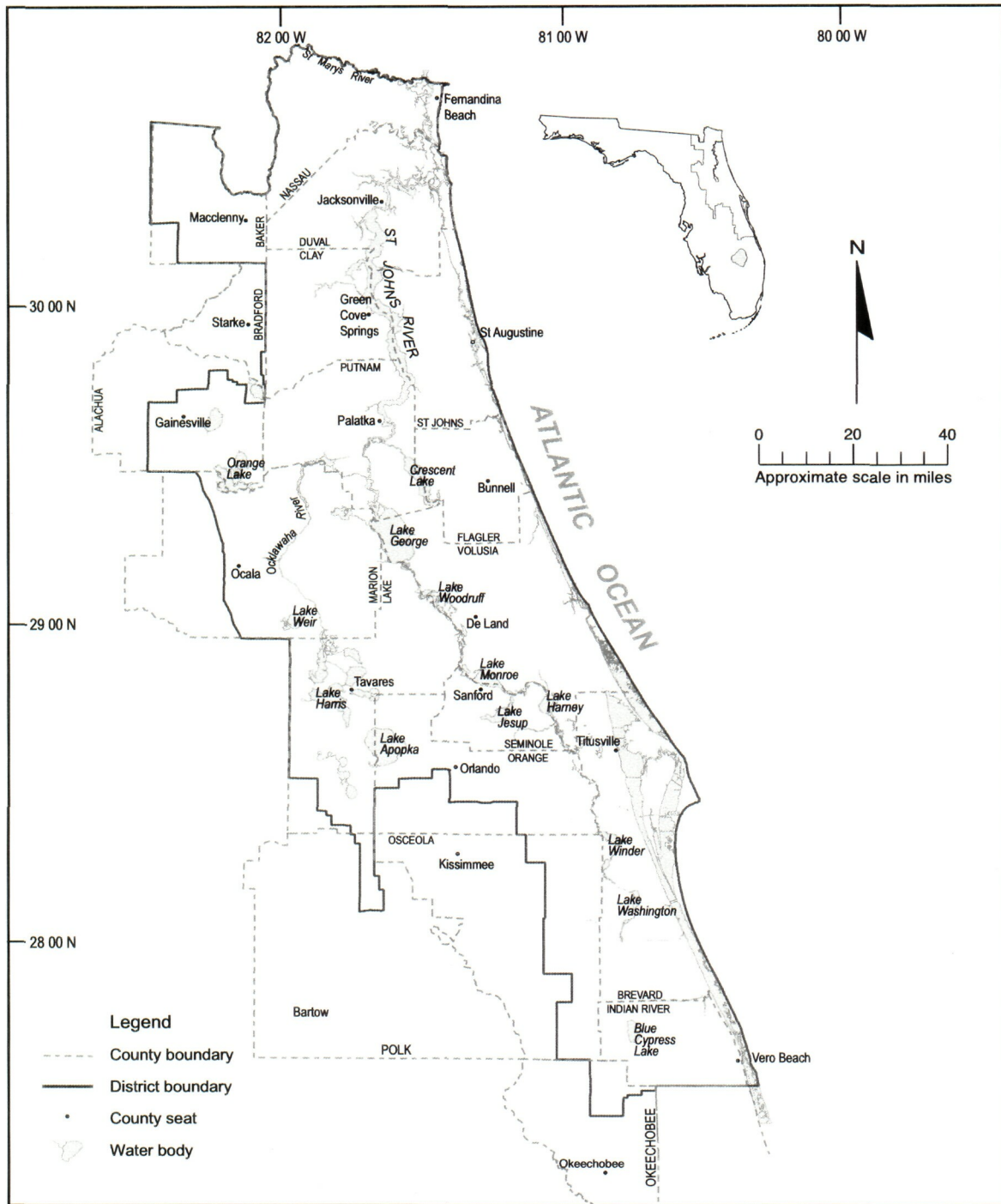


Figure ES-2. The St. Johns River Water Management District

WATER 2020

SJRWMD focused its water supply planning efforts within water supply planning work group areas. These work group areas include priority water resource caution areas and surrounding areas considered closely associated hydrologically and culturally. SJRWMD identified six water supply planning work group areas: Work Group Areas I, IA, II, III, IV, and V (Figure ES-3).

Water supply planning in these work group areas has been accomplished through SJRWMD's *Water 2020* Project. The *Water 2020* process has been a cooperative public process designed to maximize the participation and input of local governments, government-owned and privately owned utilities, self-suppliers, and other interested and potentially affected parties, pursuant to the requirements of Subsection 373.0361(1), *FS*. SJRWMD's Water Utility Advisory Board and Agricultural Advisory Committee contributed significantly to the active involvement of public water suppliers and agricultural self-suppliers, respectively, in the *Water 2020* process.

SJRWMD developed a general *Water 2020* process structure for all six of its *Water 2020* work groups to follow (Figure ES-4). This structure was designed to

- Ensure that planning was conducted in an open public process
- Use the best information available
- Provide consistency among work groups in the methods and procedures used to identify sustainable water supply options
- Facilitate coordination and cooperation with local governments, government-owned and privately owned utilities, self-suppliers, and other interested and potentially affected parties
- Identify water source options, available quantities, estimated costs, and potential funding sources for water supply development, including traditional and alternative sources, from which local government, government-owned and privately owned utilities, self-suppliers, and others may choose, which will exceed identified needs through 2020

The *Water 2020* process was fully funded by SJRWMD, and the work groups were the focal points. All information produced in association with the *Water 2020* process was presented to and considered by the

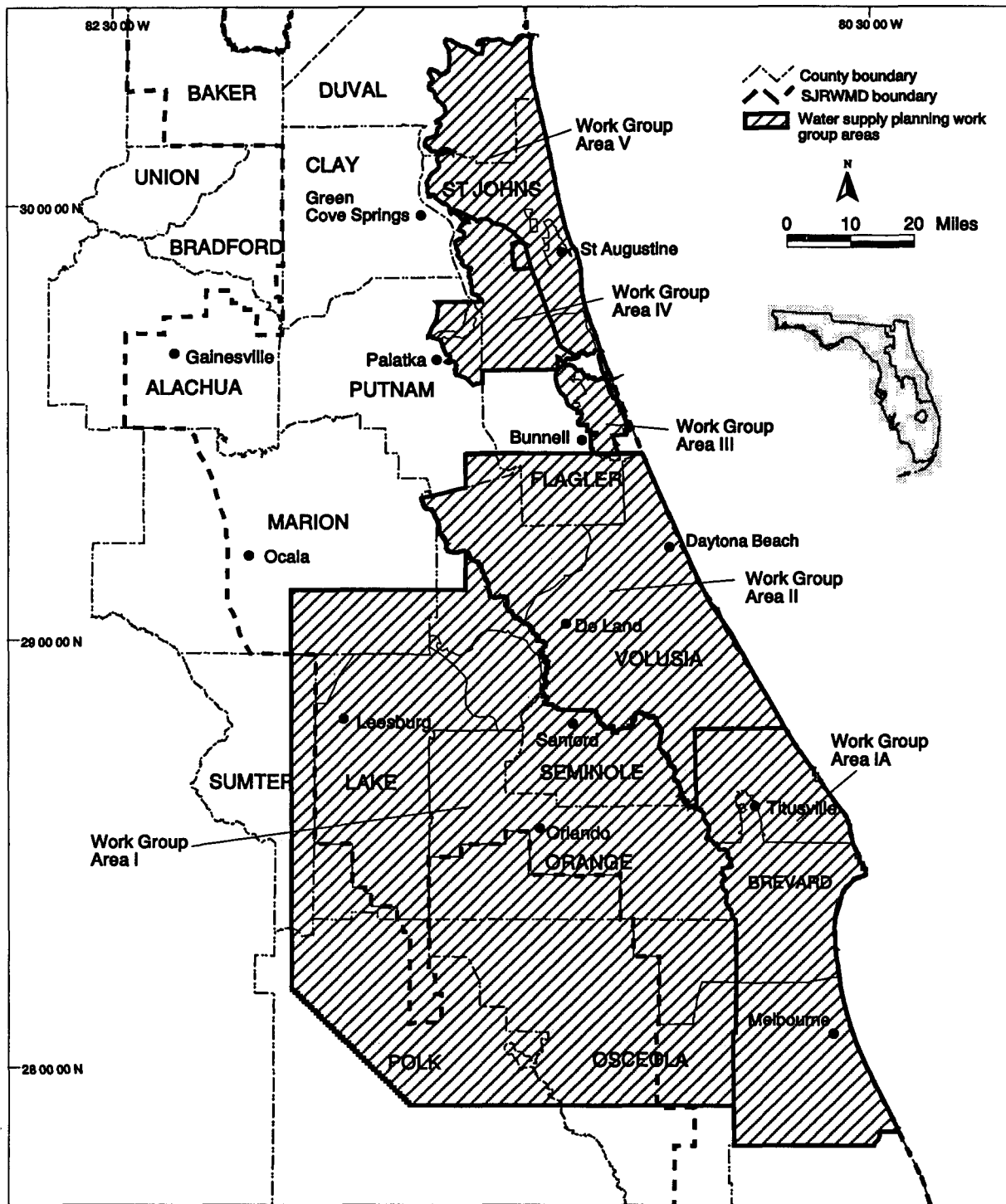


Figure ES-3. St. Johns River Water Management District water supply planning work group areas

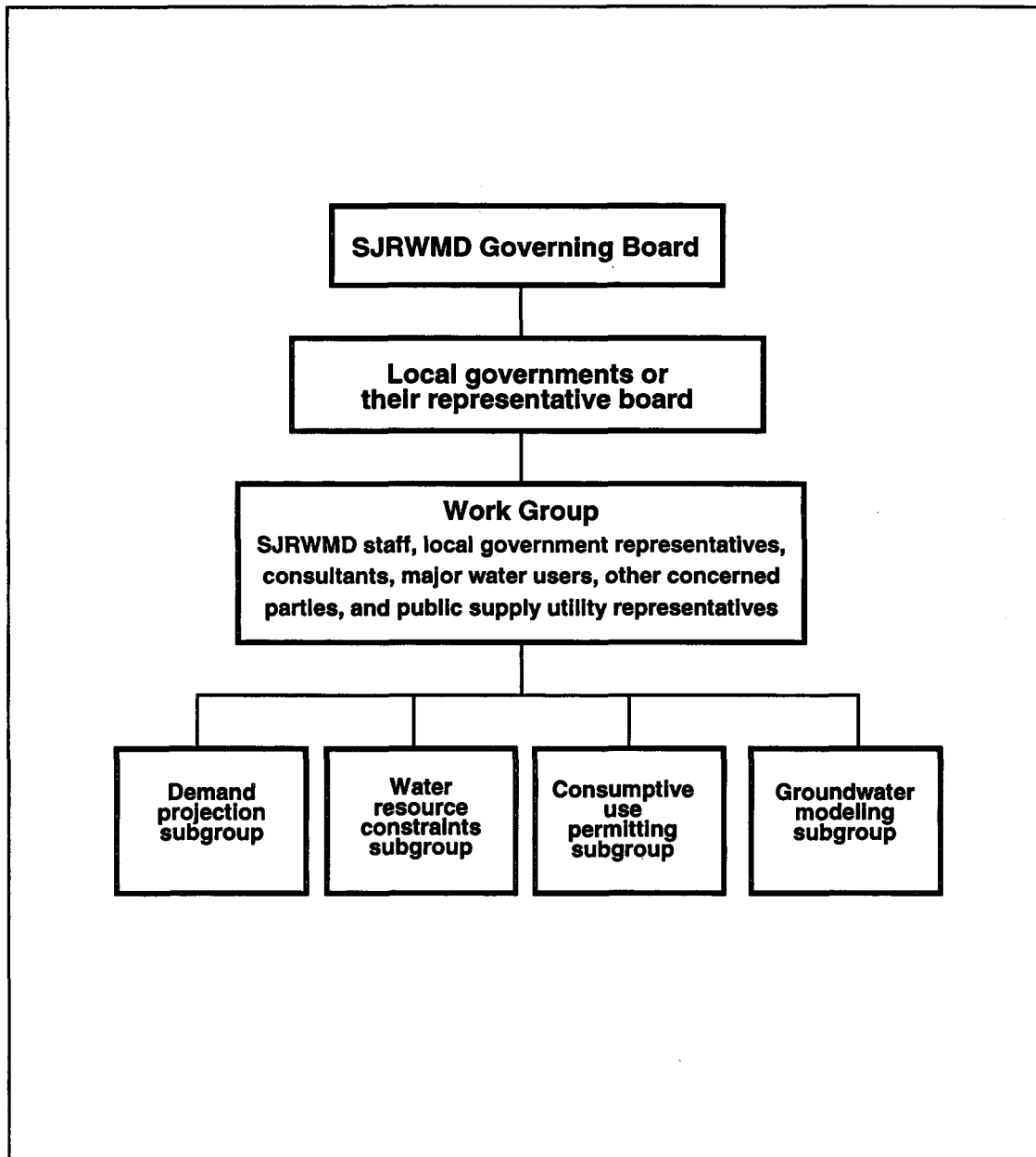


Figure 7. General planning process organization for *Water 2020* work groups

appropriate work group. An SJRWMD water resource consultant or SJRWMD staff member facilitated the activities of the work groups in Work Group Areas I, IA, III, IV, and V. In Work Group Area II, the Volusian Water Alliance's water resource consultant acted as facilitator.

For issues requiring considerable focused attention, the work groups developed subgroups to the work groups. Each of these subgroups consisted of work group members who had a particular interest in the subgroup subjects. An SJRWMD water resource consultant or an SJRWMD staff member chaired each subgroup. The following subgroups were active in the work group process:

- Demand Projection
- Water Resource Constraints
- Consumptive Use Permitting
- Groundwater Modeling

The work group planning process resulted in future water demand projections, future water supply deficit estimates, recommended water supply source options, and one or more recommended viable water supply alternatives. To develop a water supply plan for each work group area, each work group applied the most relevant methods and tools to its respective work group area. Although exact methods and procedures varied for each work group, all shared basic criteria.

A major objective of the planning process involved providing a consistent method for comparing water supply options and alternatives. A consistent set of alternative water supply evaluations, as well as cost estimating and economic evaluation criteria, helped reach that objective.

WATER SUPPLY DEMANDS AND DEFICITS

Demand Projections

SJRWMD staff developed future water supply demand projections in consultation with major water suppliers. Water supply demands for the year 2020 were estimated for the following use categories:

- Public supply
- Domestic self-supply and small public supply systems
- Commercial/industrial/institutional self-supply
- Thermoelectric power generation self-supply
- Agricultural self-supply
- Recreational self-supply

Total water demand for 1995 and 2020 for SJRWMD is projected to increase from 1,371 million gallons per day (mgd) in 1995 to 1,679 mgd (population-based projections) or 1,863 mgd (user-based projections) in 2020 (Table ES-1). This growth represents an increase of 22 percent, assuming SJRWMD's population-based rate of growth, or an increase of 36 percent using the user-based projections. Table ES-2 provides additional water use information relative to source (groundwater or surface water) and projected demand growth by county.

Public supply accounts for the major portion of the projected demand increase, accounting for about 80 percent of the increase in use under either demand projection scenario. Public supply demand is projected to increase by 52 percent, based on the population-based demand projections (Table ES-3). The difference between the population-based projections and the user-based projections, 184 mgd, represents the level of uncertainty inherent in demand projections.

Although this uncertainty in public supply demand projections is significant, its impact on the planning process relates primarily to the planning horizon. If the higher user-based estimates are used as the basis for planning and these estimates prove correct, then facilities identified in this DWSP will be needed by 2020 to fully meet projected water supply needs. If the higher user-based estimates are used and the lower population-based estimates prove correct, then all of the facilities identified in this report will not be fully needed until sometime beyond 2020.

Table ES-1. Total water use for 1995 and 2020 for the St. Johns River Water Management District (SJRWMD)*

County	1995 Actual Use Total (mgd)	2020 Demand Projections (mgd)			
		Average Rainfall Year		1-in-10-Year Drought	
		Population-Based Total	User-Based Total	Population-Based Total	User-Based Total
Alachua	35.34	51.37	55.40	54.46	57.65
Baker	4.63	5.42	5.80	5.77	5.99
Bradford	0.60	1.10	1.10	1.13	1.11
Brevard	194.18	184.55	190.89	196.45	195.91
Clay	21.65	31.45	32.98	32.99	34.45
Duval	144.12	179.99	202.73	188.37	212.17
Flagler	15.92	20.95	23.82	22.76	24.61
Indian River	259.66	269.60	281.25	324.78	283.00
Lake	108.19	156.11	191.13	175.35	195.66
Marion	35.05	50.70	54.95	54.20	57.44
Nassau	61.59	70.56	75.09	71.91	75.91
Okeechobee	14.25	13.42	13.42	16.17	13.43
Orange	155.64	227.35	258.88	243.67	271.61
Osceola	16.56	16.05	16.05	17.57	16.05
Polk	3.55	7.11	7.11	8.58	7.18
Putnam	82.73	109.00	110.44	113.63	111.11
Seminole	69.87	102.72	116.50	109.09	122.40
St. Johns	50.99	60.38	80.72	68.48	82.96
Volusia	96.64	121.22	144.26	132.39	150.44
SJRWMD Total	1,371.16	1,679.05	1,862.52	1,837.75	1,919.08

*Figures include only water withdrawn in SJRWMD.

Table ES-2. Total water demand for 1995 and 2020 for the St. Johns River Water Management District (SJRWMD) by source

County	1995 Actual Use (mgd)			2020 Demand Projections (mgd)												Percent Change 1995 to 2020 (average year)	
				Average Year						1-in-10-Year Drought							
	Population-Based			User-Based			Population-Based			User-Based			Population	User			
	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total			Ground	Surface	Total
Alachua	34.55	0.79	35.34	50.16	1.21	51.37	54.19	1.21	55.40	53.19	1.27	54.46	56.44	1.21	57.65	45	57
Baker	3.77	0.86	4.63	4.56	0.86	5.42	4.94	0.86	5.80	4.84	0.93	5.77	5.13	0.86	5.99	17	25
Bradford	0.60	0.00	0.60	1.10	0.00	1.10	1.10	0.00	1.10	1.13	0.00	1.13	1.11	0.00	1.11	83	83
Brevard	164.06	30.12	194.18	146.73	37.82	184.55	153.07	37.82	190.89	156.34	40.11	196.45	157.08	38.83	195.91	-5	-2
Clay	21.13	0.52	21.65	30.60	0.85	31.45	32.13	0.85	32.98	32.12	0.87	32.99	33.60	0.85	34.45	45	52
Duval	143.06	1.06	144.12	178.55	1.44	179.99	201.29	1.44	202.73	186.89	1.48	188.37	210.73	1.44	212.17	25	41
Flagler	14.70	1.22	15.92	18.15	2.80	20.95	21.02	2.80	23.82	19.88	2.88	22.76	21.81	2.80	24.61	32	50
Indian River	87.23	172.43	259.66	93.30	176.30	269.60	104.95	176.30	281.25	108.51	216.27	324.78	106.70	176.30	283.00	4	8
Lake	92.40	15.79	108.19	133.58	22.53	156.11	168.60	22.53	191.13	150.43	24.92	175.35	173.13	22.53	195.66	44	77
Marion	33.18	1.87	35.05	48.01	2.69	50.70	52.26	2.69	54.95	51.37	2.83	54.20	54.75	2.69	57.44	45	57
Nassau	56.87	4.72	61.59	64.24	6.32	70.56	68.77	6.32	75.09	65.49	6.42	71.91	69.59	6.32	75.91	15	22
Okeechobee	14.25	0.00	14.25	13.42	0.00	13.42	13.42	0.00	13.42	16.17	0.00	16.17	13.43	0.00	13.43	-6	-6
Orange	136.44	19.20	155.64	215.92	11.43	227.35	247.45	11.43	258.88	230.48	13.19	243.67	260.18	11.43	271.61	46	66
Osceola	6.57	9.99	16.56	6.06	9.99	16.05	6.06	9.99	16.05	6.98	10.59	17.57	6.06	9.99	16.05	-3	-3
Polk	3.31	0.24	3.55	6.54	0.57	7.11	6.54	0.57	7.11	7.88	0.70	8.58	6.61	0.57	7.18	100	100
Putnam	32.67	50.06	82.73	50.42	58.58	109.00	51.86	58.58	110.44	54.82	58.81	113.63	52.53	58.58	111.11	32	33
Seminole	68.30	1.57	69.87	100.35	2.37	102.72	114.13	2.37	116.50	106.64	2.45	109.09	120.03	2.37	122.40	47	67
St. Johns	48.73	2.26	50.99	56.32	4.06	60.38	76.66	4.06	80.72	64.32	4.16	68.48	78.90	4.06	82.96	18	58
Volusia	90.81	5.83	96.64	114.26	6.96	121.22	137.30	6.96	144.26	124.40	7.99	132.39	143.48	6.96	150.44	25	49
SJRWMD Total	1,052.63	318.53	1,371.16	1,332.27	346.78	1,679.05	1,515.74	346.78	1,862.52	1,441.88	395.87	1,837.75	1,571.29	347.79	1,919.08	22	36

Note: Figures include only water withdrawn in SJRWMD.

Table ES-3. Total water demand for 1995 and 2020 for the St. Johns River Water Management District by category of use

Category	1995 Actual Water Use (mgd)			2020 Water Use (mgd)									Percent Change 1995 to 2020*		Percent of Total 2020 Change*	
				Average Rainfall Year						1-in-10-Year Drought						
	Population-Based			User-Based			Population-Based									
	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total	Average	1-in-10	Average	1-in-10
Public supply	444.61	12.15	456.76	677.45	16.81	694.26	860.92	16.81	877.73	718.12	17.82	735.94	52	61	77	60
Domestic and other small public supply	71.98	0.00	71.98	64.84	0.00	64.84	64.84	0.00	64.84	68.73	0.00	68.73	-10	-5	-2	-1
Agricultural irrigation	363.58	223.39	586.97	368.45	220.69	589.14	368.45	220.69	589.14	430.76	267.55	698.31	0	19	1	24
Recreational irrigation	68.78	30.35	99.13	107.77	48.67	156.44	107.77	48.67	156.44	110.51	49.89	160.40	58	62	19	13
Commercial/industrial/institutional	96.02	38.14	134.16	102.63	44.19	146.82	102.63	44.19	146.82	102.63	44.19	146.82	9	9	4	3
Thermoelectric power generation	7.66	14.50	22.16	11.13	16.42	27.55	11.13	16.42	27.55	11.13	16.42	27.55	24	24	2	1
Total	1,052.63	318.53	1,371.16	1,332.27	346.78	1,679.05	1,515.74	346.78	1,862.52	1,441.88	395.87	1,837.75	22	34	101	100

Note: Figures include only water withdrawn in the St. Johns River Water Management District.

*Based on population-based projection.

If the lower population-based needs estimates are used to identify water supply alternatives and the higher user-based needs estimates prove correct, then the identified facilities will not be adequate to meet 2020 needs and additional sources of supply and facilities will need to be identified and built before 2020. To avoid this situation and to comply with the statutory directive to identify water supply sources that meet or exceed water supply demands, SJRWMD has chosen to use the higher user-based projections for its planning purposes at this time. SJRWMD plans to monitor the actual water use that occurs compared to the projections made in this DWSP and to revise the projections in future updates of DWSP.

For the remaining use categories, demand shifts are minor. The net change in agricultural irrigation demand is expected to be insignificant; changes in acreage and crops in specific locations are expected to balance one another out so that the net change is negligible. Conservation efforts in agriculture are anticipated to result in improved efficiencies at the farm level. However, at this time, no major changes are anticipated in technology that would substantially reduce irrigation needs.

Deficit Identification

A water supply deficit exists when proposed water supply sources or facilities are not able to meet projected demands. Water supply deficits can be of two types: source deficits and facility deficits.

A source deficit is the difference between the projected 2020 needs and the quantity of water the source can supply in a sustainable manner. SJRWMD used regional decision models to determine groundwater source deficits in Work Group Areas I and II. These regional models were used to identify maximum average annual groundwater withdrawals compatible with applicable water resource constraints. In Work Group Area IA, where local surficial aquifers provide most of the groundwater supply, it was assumed that these aquifers have been developed to their maximum potential and that additional demands will result in a source deficit requiring the development of alternative water supplies. In Work Group Areas III and V, local groundwater models, along with the applicable water resource constraints, were used to help determine the potential for groundwater source deficits. Work Group Area IV is a unique case involving interference with existing legal uses during peak demand periods and did not involve deficit identification.

A facility deficit is the amount of projected 2020 water supply needs that cannot be met by existing water supply facilities. Facility deficits depend

on the existing capacity of the individual water supply system and the projected 2020 needs. The need to provide for peak day demand determines needed facility capacity and therefore often controls facility deficits.

APPLICATION OF WATER RESOURCE CONSTRAINTS

Need for Resource Constraints

The *Water 2020* program and DWSP focus on developing an economically and technically feasible water supply plan that will meet future water supply needs in a manner which sustains the water resources and related natural systems. Sustainable sources must be able to supply the needed amounts of water, as defined by projected demands, without causing unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses.

The water resource constraints define thresholds, for planning purposes, beyond which unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses are expected to occur. For the planning process, a water resource constraint serves as a tool for two types of evaluations:

1. Application of constraints to analysis of a given withdrawal scenario (without optimization) identifies locations where future unacceptable impacts are expected to occur if that scenario were implemented.
2. Incorporation of constraints into the decision models prevents consideration of withdrawal scenarios that will exceed the constraint values and, therefore, will not be sustainable.

Use in Water Resource Planning

SJRWMD has routinely used water resource constraints for water supply assessment and planning. For instance, in *Needs and Sources Assessment: 1994* (Vergara 1994), the characterization of the extent and intensity of potential impacts to native vegetation due to lowered surficial water tables contributed to defining the water resource caution area boundaries.

The SJRWMD *Water Supply Assessment: 1998* (Vergara 1998) highlighted the priority water resource caution areas in which existing and anticipated water sources and conservation efforts appear inadequate to supply water for all existing legal uses and projected future needs through 2020 in a manner that sustains the water resources and related natural systems.

For DWSP, SJRWMD used four water resource constraints to identify and estimate source deficits and to identify sustainable withdrawal scenarios:

- Established minimum flows and levels

- Impacts to wetland and aquatic systems
- Impacts to groundwater quality
- Impacts to existing legal uses of water

The initial water resource constraint was that established by adopted minimum flows and levels. The development of other water resource constraints and the analyses associated with them occurred on a regional planning-level basis, using data that were available or were developed for the planning area as a whole. These analyses were not performed at the same level of detail as that used when a proposed water use is reviewed in the context of SJRWMD's consumptive use permitting program. While DWSP water resource constraints and associated analyses are conceptually consistent with the consumptive use permitting environmental and existing legal uses protection criteria, they should not be interpreted as a final determination or application of the consumptive use permitting criteria.

WATER SUPPLY DEVELOPMENT

Water supply source options applicable to this DWSP include these naturally occurring sources:

- Fresh groundwater
- Brackish groundwater
- Surface water
- Seawater

In addition, a number of management techniques can enhance the source of supply, sustain the water resources and related natural systems, or otherwise optimize water supply yield. These techniques include the following:

- Artificial recharge
- Aquifer storage recovery
- Avoidance of the impacts of groundwater withdrawal through artificial hydration
- Water conservation
- Use of reclaimed water
- Water supply systems interconnections

ESTIMATED QUANTITY OF WATER AND COSTS

For portions of SJRWMD not included in a work group area, existing water supply sources and water supply development plans are considered reasonably adequate to meet projected needs while sustaining wetland and aquatic systems. Freshwater from the Floridan aquifer currently meets most of these needs, and this traditional source of supply will continue to be adequate through 2020 in these areas.

East-Central Florida (Work Group Area I)

Providing for the projected increase in water use in east-central Florida in a sustainable and affordable manner will be a significant challenge to SJRWMD, the water supply utilities, local governments, DEP, and all other interested and concerned parties. Application of the east-central Florida groundwater flow model indicates that current individual utility plans to increase withdrawals from the Floridan aquifer through 2020 will not be sustainable without causing unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses. If all current plans are implemented, surficial aquifer drawdowns will result in regional dewatering of sensitive wetlands sufficient to result in unacceptable adverse impacts. These wetlands impacts will occur regionally, but the ridge region of Lake County, which provides much natural recharge to the Floridan aquifer, will be impacted the greatest.

DWSP is designed to prevent these and other unacceptable adverse impacts to the water resources and related natural systems, including excessive springflow reductions, saltwater intrusion, and impacts to existing legal uses. Many different Work Group Area I water supply development scenarios are possible. In each case, however, significant quantities of alternative water sources will need to be developed to meet 2020 needs. Several technical and environmentally acceptable water supply development scenarios have been identified by the Area I work group. Each of the scenarios is based on differing sets of available water sources and development constraints. Implementing any of these alternatives will require regional cooperation among major water supply utilities.

Based on alternative investigations performed to date, about 158 to 241 mgd will need to be developed from alternative sources to meet the projected increased needs (340 mgd) of public supply utilities through 2020. These alternative sources include surface water, new brackish groundwater wellfields, and new fresh groundwater wellfields. Estimated

capital costs, in 1996 dollars, to develop these water supplies, including facilities capable of meeting 1-in-10-year drought needs, range from \$1.025 billion to \$1.353 billion. Associated estimated total unit production costs would range from about \$0.79 per 1,000 gallons for expansion of existing Floridan aquifer wellfields to \$2.10 per 1,000 gallons for development of surface water from the St. Johns River.

These cost estimates are preliminary conceptual planning-level cost estimates. The cost of treating water obtained from the St. Johns River is based, in part, on partial desalting using membrane treatment to meet all primary and secondary drinking water standards for dissolved constituents.

Decisions concerning the final water supply alternative will take the cooperative efforts of all concerned. SJRWMD's role will be to facilitate the decision process and to apply the available planning tools (groundwater flow and optimization models, water resource constraints, etc.) until an environmentally acceptable plan, also acceptable to the major Work Group Area I water supply utilities, is identified and implemented.

Brevard County (Work Group Area IA)

Several acceptable source options have been identified to meet the needs of public supply utilities in Brevard County (Table ES-4); however, the anticipated costs of these alternatives vary widely.

Table ES-4. Utility-specific water supply options identified for Work Group IA

Utility	Surface Water			Brackish Ground-water	Fresh Ground-water	System Interconnects
	St. Johns River	C-1 Canal	Taylor Creek Reservoir			
City of Cocoa	*		*	*		
City of Melbourne	*	*		*		
North Brevard Utilities					*	
City of Palm Bay		*		*		
City of Titusville	*			*		*

The estimated capital and total unit production costs associated with Work Group IA least-cost options are reported in Table ES-5.

Table ES-5. Estimated costs to meet 2020 public supply needs for major Brevard County public supply utilities

Utility	Estimated Capital Cost (\$ millions)	Estimated Unit Production Cost (\$/1000 gallons)
City of Cocoa	\$10.9	\$0.77
City of Melbourne	\$58.3	\$1.37
North Brevard Utilities	\$1.9	\$0.59
City of Palm Bay	\$8.5 to \$11.5	\$1.32 to \$2.02
City of Titusville	\$5.5	\$2.31
Total	\$85.1 to \$88.1	

Volusia County Area (Work Group Area II)

Application of the Volusia groundwater flow model indicates that current individual utility plans to increase withdrawal from the Floridan aquifer, if implemented, will result in regional dewatering of wetlands sufficient to result in unacceptable adverse impacts. In addition, chloride concentrations would increase to unacceptable levels in some Floridan aquifer wells. Preliminary decision model results indicate that about 20 mgd of alternative water sources may need to be utilized by public supply utilities in Volusia County by 2020.

Many different Work Group Area II water supply development scenarios are possible. In each case, however, alternative water sources, including surface water, will need to be developed to meet 2020 needs. Several acceptable water supply development scenarios have been identified by SJRWMD. Each of the scenarios is based on differing sets of available water sources and development constraints. Implementing any of these alternatives will require regional cooperation among major water supply utilities.

Based on alternative investigations performed to date, about 18.7 to 21.3 mgd will need to be developed from alternative sources to meet the projected increased needs (43 mgd) of public supply utilities through 2020. These alternative sources include surface water and new fresh

groundwater wellfields. Estimated capital costs, in 1996 dollars, to develop these water supplies, including facilities capable of meeting 1-in-10-year drought needs, range from \$136 million to \$145 million. Associated estimated total unit production costs would range from \$1.27 to \$1.34 per 1,000 gallons.

These cost estimates are preliminary conceptual planning-level cost estimates. The cost of treating water obtained from the St. Johns River is based, in part, on partial desalting using membrane treatment to meet all primary and secondary drinking water standards for dissolved constituents.

Although the cost of developing the St. Johns River source is higher than the cost of developing additional fresh groundwater, the river offers an opportunity to develop significant quantities of water to support future growth beyond 2020, whereas fresh groundwater will likely not support this growth. In addition, the cost of developing the St. Johns River source to meet public supply needs in Volusia County could be reduced through a cooperative effort with public suppliers in Seminole, Orange, and Lake counties.

Development of the final water supply alternative will take the cooperative efforts of all concerned parties. SJRWMD's role will be to facilitate the decision process and to apply the planning tools until an environmentally acceptable plan, also acceptable to the Volusian Water Alliance and major Work Group Area II water supply utilities, is identified and implemented.

East-Central Flagler County (Work Group Area III)

Several acceptable source options have been identified to meet the needs of public supply utilities in Flagler County (Table ES-6); however, the anticipated costs of these alternatives varies. To evaluate these options, total production costs, per 1,000 gallons, of the various supply and treatment options were estimated and compared, and the advantages and disadvantages of each were considered.

Each Work Group Area III utility is free to investigate and develop any option identified in this report. All options identified are considered part of DWSP. There are, however, some clear differences among the options evaluated, including a wide range of expected costs.

The estimated capital costs and unit production costs associated with Work Group Area III least-cost options are reported in Table ES-7.

Table ES-6. Utility-specific water supply options

Utility	Brackish Groundwater	Fresh Groundwater	System Interconnects
City of Flagler Beach		*	*
City of Bunnell		*	*
Florida Water Services, Palm Coast	*	*	*

Table ES-7. Estimated costs to meet 2020 public supply needs for Flagler County public supply utilities

Utility	Estimated Capital Cost (\$ millions)	Estimated Unit Production Cost (\$/1000 gallons)
City of Flagler Beach	3.5	1.95
City of Bunnell	4.4	1.61
Florida Water Services, Palm Coast	20.5	1.60
Total	28.4	

Southwestern St. Johns County and Eastern Putnam County (Work Group Area IV)

Work Group Area IV encompasses the premier potato farming area in Florida. Accordingly, potato irrigation demand represents a large portion of the total water demand in the work group area. The demand for irrigation water in this area peaks in the months of March through May, and is usually highest in April. As a result of this increased demand during a low rainfall period, water levels in the Floridan aquifer regionally can decline as much as 15 feet and in areas of concentrated withdrawals, levels can drop in excess of 25 feet in a 1-month period.

When these seasonal declines occur, other water users in the area may not be able to obtain adequate amounts of water to meet their needs due to lowered water levels in Floridan aquifer wells. The affected parties are typically domestic self-supply users. When problems occur, they typically fall into one of two categories: domestic systems that rely on free-flowing

wells to supply an aerator but lose free-flow due to water level decline, or domestic systems that have pumps and piping not designed to pump water from the depths produced by the water level decline.

The water supply issue centers not on an insufficient water supply, but rather on the fact that certain domestic water supply installations are not designed to accommodate the seasonal fluctuations in water level resulting from potato irrigation pumpage. With the proper pump and piping, adequate water is available even during peak irrigation season declines.

This problem is best addressed by development of regulations focused on the pumping equipment associated with domestic well installations so that these installations will be constructed to avoid the impact of seasonal drawdowns. Because SJRWMD's regulatory jurisdiction under Part III of Chapter 373, *FS*, does not extend to pumping equipment, the pump regulations to address seasonal drawdowns should be enacted by local government. Resolution of the issue will require the cooperation of Putnam and St. Johns counties in promulgating well construction/pump ordinances.

The solution eliminates the impact of seasonal declines on existing legal domestic users and avoids the construction of new domestic well systems that are inadequate for producing water during the seasonal declines. The two-pronged solution developed by Work Group Area IV is as follows:

- **Eliminating the Impact of Seasonal Declines on Existing Legal Domestic Users**—The majority of the work group has agreed in concept to a cooperative effort to repair existing well systems when a flow loss occurs due to seasonal declines. Each loss-of-flow complaint will be investigated to verify that flow loss is directly attributable to the decline and not to a well system construction, operation, or maintenance problem. If the loss of flow is clearly due to decline, the well system will be repaired and the cost will be shared by SJRWMD and participating area water users who contribute to the problem. This cooperative approach is appropriate, considering the large number of consumptive use permittees whose withdrawals contribute to the interference with existing legal uses. Specific details regarding the cost-share arrangement and other administrative details have yet to be finalized.

The funding needed to resolve this water supply issue is modest. A repair of this type typically involves adding a pump between the well and aerator and/or increasing the length of drop pipe in the well,

estimated to cost between \$400 and \$500 per well. It is estimated that there are less than 50 wells in the work group area subject to loss of flow during seasonal water level declines. The estimated maximum capital cost to resolve the existing problem is \$25,000.

- **Avoiding Construction of Inadequate New Domestic Well Systems**—SJRWMD has worked with St. Johns County and Putnam County to get county ordinances adopted to ensure that new domestic well installations are capable of producing water during the peak seasonal water level declines.

Putnam County's well construction ordinance, as originally adopted, did not apply to all areas of the county subject to seasonal water level declines due to potato irrigation. SJRWMD worked with county staff to revise the ordinance to include all affected areas. The revised ordinance has been adopted by the Putnam County Board of County Commissioners.

St. Johns County did not have a well construction ordinance in place to address this water supply issue. SJRWMD, supported by the Northeast Florida Growers Exchange, worked with county staff to impress the county commissioners with the need for this type of ordinance. SJRWMD provided the county with draft language for a well construction ordinance, and the ordinance has been adopted by the St. Johns County Commission.

Northern St. Johns County and Southern Duval County (Work Group Area V)

Water supply planning for Work Group Area V is characterized by uncertainty. The area is growing, and water supply needs will increase significantly. Fully adequate planning tools, including expanded regional groundwater and water quality models, are not available to evaluate water resource management alternatives, such as the long-term consequences of increasing fresh groundwater withdrawals. SJRWMD is developing the information and tools needed for future water supply planning. These include improved groundwater flow and solute transport models, additional wellfield monitoring and operational data, and continued wetland monitoring. This information will help mitigate the existing level of uncertainty and aid future water supply decision making. Adaptive management will likely play a major role in future water supply development; therefore, the planning process should build in some flexibility. DWSP is developed based largely on the collective judgment of

the work group. Results and recommendations reported here may change as more information is developed.

Future demand projections are also uncertain, especially for Work Group Area V, where increased population growth is both recent and rapid. Therefore, the exact rate and pattern of growth for this work group is subject to greater uncertainty than in areas with established growth patterns. If demand growth is faster than projected, then the water supply facilities discussed in this report will be needed sooner than presently expected. If growth is slower, then more time may be available to implement water supply plans.

Currently, there are no known regional adverse groundwater withdrawal impacts within Work Group Area V. Some local problems, including saltwater upconing and wetlands dehydration, currently occur or are suspected, but these adverse impacts are not widespread. However, additional adverse impacts will most likely increase without careful planning.

Public supply needs of Work Group Area V are currently met by fresh groundwater. This use will continue in the future, and some additional fresh groundwater resources will be available to meet these future needs. However, fresh groundwater is limited. The exact limits are currently unknown, and in most parts of Work Group Area V, fresh groundwater resource limits may be reached by 2020. As the fresh groundwater resource limits approach, each new wellfield or wellfield expansion strains resources and incurs financial risk. Utilities should evaluate these risks before planning to further develop fresh groundwater.

This DWSP assumes utilities can increase fresh groundwater withdrawals, especially some of the smaller service areas with small 2020 deficits and limited alternatives. However, future analysis, to be included in the first 5-year update of this DWSP, will be needed to accurately estimate the magnitude of acceptable fresh groundwater withdrawal and decrease current planning uncertainty.

Table ES-8 presents a matrix of the utility-specific options identified by the work group. Organized by service area/utility, nearly every listed option meets or exceeds the anticipated 2020 water supply needs for its respective service area. To evaluate these options, total production costs per 1,000 gallons of the various supply and treatment options were estimated and compared, and the advantages and disadvantages of each were discussed by the work group.

All options listed in Table ES-8 are available to each utility. That is, all of the water supply options in Table ES-8 are technically and financially feasible and each utility is free to investigate and pursue development of any of these options. All listed options comprise the Work Group Area V portion of DWSP. There are, however, some clear differences among the options evaluated, including a wide range of projected costs.

Table ES-8. Utility-specific water supply options identified by work group

Utility	Fresh Ground-water	Surface Water	Brackish Ground-water	Desalination	System Interconnects
GDU Julington Creek	*				
Intercoastal Utilities	*				
North Beach Water System	*				
City of St. Augustine	*				
St. Joe Utilities ¹					
St. Johns County Utilities	*	*	*		*
St. Johns Service Company	*				
United Water Florida	*				
City of Atlantic Beach	*				*
Florida Water Services	*				
City of Jacksonville Beach	*				*
JEA	*	*		*	*
City of Neptune Beach	*				*
Regency Utilities	*				
United Water Florida	*				*

Note: In addition to the utility-specific options, this DWSP discusses and evaluates selected management techniques. These techniques include additional water conservation and reuse strategies to reduce future demands and seawater desalting to meet increased demands.

¹Not evaluated by work group.

The estimated capital and total unit production costs associated with the Work Group V water supply options are reported in Table ES-9. Because of the uncertainty associated with this work group area, ranges of expected costs and unknowns are listed as necessary.

Table ES-9. Estimated costs to meet 2020 public supply needs for northern St. Johns County and southern Duval County public supply utilities

Utility	Estimated Capital Cost (\$ millions)	Estimated Unit Production Cost (\$/1000 gallons)
GDU Julington Creek	\$3.8	\$0.58
Intercoastal Utilities	\$3.2	\$0.40
North Beach Water System	\$4.7	\$2.72
City of St. Augustine*	—	—
St. Johns County Utilities	\$29.1 to \$34.6	\$1.73 to \$1.86
St. Johns Service Company	\$0.7	\$0.68
United Water Florida (St. Johns)	\$4.8	\$0.53
Subtotal, St. Johns County	\$46.3 to \$51.8	—
City of Atlantic Beach*	—	—
Florida Water Services	\$2.1	\$0.49
City of Jacksonville Beach	\$2.8	\$0.23
JEA (City of Jacksonville)	Up to \$37.9	Up to \$0.87
City of Neptune Beach	\$0.7	\$0.49
Regency Utilities	\$0.7	\$0.63
United Water Florida (Duval)	\$5.9	\$0.50
Subtotal, Duval County	Up to \$50.1	—
Total	\$58.5 to \$101.9	—

*Existing facilities are adequate.

WATER SUPPLY DEVELOPMENT FUNDING SOURCES

Subparagraph 373.0361(2)(a)3, *FS*, requires that SJRWMD identify potential sources of funding for water supply development for the identified source options. Although nontraditional funding sources such as a local option gross receipts tax on water could become available in the future, SJRWMD has identified only more-traditional funding sources that are likely to be available. The potential funding sources identified are as follows:

- Water supply utility revenues from customer charges
- Local government ad valorem tax revenues
- Local government special assessments
- SJRWMD ad valorem tax revenues
- State of Florida general revenues
- Preservation 2000 and Water Management Lands Trust Funds
- Federal revenues
- Private investment

WATER SUPPLY DEVELOPMENT PROJECTS

Subparagraph 373.0361(2)(a)4, *FS*, requires that this DWSP include a list of water supply development projects that meet the criteria in Subsection 373.0831(4), *FS*. Based on the provisions of Subsection 373.0831(4), *FS*, water supply development projects that are consistent with the relevant regional water supply plans and that meet one or more of the following criteria shall receive priority consideration for state or water management district funding assistance:

- The project supports establishment of a dependable, sustainable supply of water which is not otherwise financially feasible (Subparagraph 373.0831(4)(a)1, *FS*)
- The project provides substantial environmental benefits by preventing or limiting adverse water resource impacts, but requires funding assistance to be economically competitive with other options (Subparagraph 373.0831(4)(a)2, *FS*)
- The project significantly implements reuse, storage, recharge, or conservation of water in a manner that contributes to the sustainability of regional water sources (Subparagraph 373.0831(4)(a)3, *FS*)

SJRWMD has identified and described water supply source options for its entire jurisdiction. However, specific water supply development projects based on these identified source options, in most cases, have not been finally decided upon by water suppliers. SJRWMD anticipates that the proposed regional decision-making project will provide the mechanism for identifying specific water supply development projects in Work Group Areas I and II.

Several water supply development projects are being actively discussed, investigated, and, in one instance, implemented by public supply utilities in SJRWMD. These projects meet or exceed one or more of the criteria listed in Subsection 373.0831(4), *FS*, and are described as follows:

- St. Johns River Water Supply Facility Component of the Eastern I-4 Corridor Water Project
- Eastern Orange and Seminole Counties Regional Reuse Component of the Eastern I-4 Corridor Water Project
- City of Apopka Reuse Component of the Eastern I-4 Corridor Water Project
- North-Central St. Johns County Wellfield Project

- Strategic Water Conservation Assistance Project
- Strategic Reclaimed Water Assistance Project

St. Johns River Water Supply Facility Component of the Eastern I-4 Corridor Water Project

Water supply development alternatives included in this DWSP rely on the St. Johns River to supply up to 221 mgd to meet projected 2020 demands. SJRWMD anticipates that one or more surface water supply facilities will be developed on the St. Johns River from De Land in Volusia County upstream to Lake Washington in Brevard County. Consistent with the requirements of Subparagraph 373.0831(4)(a)2, *FS*, development of these facilities will provide substantial environmental benefits by preventing or limiting adverse water resource impacts, but will require funding assistance to be economically competitive with other options. SJRWMD, in cooperation with the Volusian Water Alliance and Seminole County, has completed preliminary investigations of two potential sites along the St. Johns River near Lake Monroe.

Eastern Orange and Seminole Counties Regional Reuse Component of the Eastern I-4 Corridor Water Project

This project will provide for the effective use of large quantities of reclaimed water, which are available in eastern Orange and Seminole counties and which otherwise would be discharged to the St. Johns River. The project focuses on system interconnections to transport reclaimed water from areas of surplus to areas of need. Consistent with the requirements of Subparagraph 373.0831(4)(a)3, *FS*, this project will significantly implement reuse in a manner that contributes to the sustainability of regional sources. SJRWMD, in cooperation with the City of Orlando, Orange County, the Orlando Utilities Commission, Seminole County, the City of Oviedo, and the University of Central Florida is currently developing specific reuse scenarios and cost estimates for this project.

City of Apopka Reuse Component of the Eastern I-4 Corridor Water Project

This project will relieve the use of substantial amounts of groundwater for irrigation in the area that supplies groundwater to springs in the headwaters of the Wekiva River. Consistent with the requirements of Subparagraph 373.0831(4)(a)3, *FS*, this project significantly implements reuse in a manner that contributes to the sustainability of regional sources.

The additional reuse capacity provided by this project also will ensure adequate flow to meet peak demands and prevent future shortfalls of reclaimed water supply as experienced by the City of Apopka during dry conditions for the last several years. Project components include the upgrade of an existing 2-mgd wastewater treatment facility to public area reuse standards, increased storage, additional pump station capacity, and installation of additional infrastructure to distribute reclaimed water.

North-Central St. Johns County Wellfield Project

Development of a new Floridan aquifer wellfield with a membrane softening treatment facility in the northern portion of St. Johns County has been identified as a feasible water supply option to meet projected 2020 needs for St. Johns County Utility. Land holdings adequate to provide for flexibility in wellfield design and management are critical to this project. In addition, management of desalting concentrate from the treatment process is likely to prove challenging and costly. Consistent with the requirements of Subparagraph 373.0831(4)(a)1, *FS*, this project will support the establishment of a dependable, sustainable supply of water which would otherwise not be financially feasible.

Strategic Water Conservation Assistance Project

SJRWMD is firmly committed to maximizing water conservation to the extent technically, environmentally, and economically feasible. This commitment to water conservation is districtwide, not focused only on priority water resource caution areas.

SJRWMD's consumptive use permitting rules require that all permitted water users implement water conservation measures in order to demonstrate efficient water use. As a result, all water users, including all public supply utilities in SJRWMD, currently implement water conservation practices. The water conservation programs implemented by public supply utilities are primarily designed to improve utility efficiency and reduce individual customer water use. The *Water 2020* estimates used in the demand-center-specific options analysis account for these current programs. However, it is reasonable to assume that additional water conservation initiatives could be developed and become available in the future to further enhance current practices.

Water Conservation Plan

SJRWMD proposes to provide water supply development assistance by developing a Water Conservation Plan that will guide SJRWMD activities

and assist water users by identifying additional water conservation strategies and projects that could be implemented to further reduce water demands. These strategies and projects will be designed to maximize conservation of water within environmentally, economically, and technically feasible limits. While conservation is the responsibility of the water users, SJRWMD anticipates that cooperative funding may be available to implement some strategies and projects that would otherwise be economically infeasible. The Water Conservation Plan is being developed in cooperation with SJRWMD's Water Utility Advisory Board and Agricultural Advisory Committee and other interested parties. SJRWMD proposes that this will be an ongoing project effort that will be reviewed and updated on a regular basis. A draft of the plan is scheduled for completion in June 2000. Individual project schedules and costs will be identified as part of the plan development process.

At a minimum, this water conservation plan will address the following components:

- Further documentation of feasible conservation projects for different categories of water use
- Data collection and analysis, including estimating savings in water consumption and costs of conservation
- Research concerning the effectiveness of water conservation practices
- Cooperative development of water conservation education between SJRWMD and public supply utilities
- Provisions for consideration of cost-shared assistance for practices that would be otherwise economically infeasible

Strategic Reclaimed Water Assistance Project

SJRWMD's consumptive use permitting rules currently require that water users use reclaimed water and other lower quality sources whenever feasible. As a result, many utilities within SJRWMD have active reuse programs. SJRWMD is committed to the continuation and expansion of these reuse programs. Development of future water supply options identified in this plan does not lessen SJRWMD's commitment to this effort; reuse options considered in this DWSP would supplement existing programs.

SJRWMD is firmly committed to assisting water users in maximizing the use of reclaimed water to the extent technically, environmentally, and

economically feasible. This commitment to reuse is districtwide, not focused solely on priority water resource caution areas.

SJRWMD proposes to provide water supply development assistance by developing a Reclaimed Water Plan that will identify additional strategic reuse initiatives and regional projects. These initiatives and projects will be designed to assist water users in maximizing the use of reclaimed water within environmentally, economically, and technically feasible limits. While the use of reclaimed water is the responsibility of the water users, SJRWMD anticipates that cooperative funding may be available for implementation of some of these strategies and projects that would otherwise be economically infeasible. This plan will be developed in cooperation with SJRWMD's Water Utility Advisory Board and Agricultural Advisory Committee and other interested parties. At a minimum, this plan should address the following components:

- Data collection, documentation, and analysis of the current status of reuse that can be used by utilities and others to plan for additional reuse
- Identification of additional regional reuse projects and coordination of planning between utilities and local governments
- Coordination of reclaimed water and reuse education between SJRWMD and public-supply utilities
- Cost-shared assistance for implementation of reuse projects that would otherwise be economically infeasible
- Provisions for limited cost-sharing, when needed, for feasibility assessments of specific reuse projects

SJRWMD proposes that this will be an ongoing project effort that will be reviewed on a regular basis. Individual project schedules and costs will be identified as part of the plan development process.

WATER RESOURCE DEVELOPMENT

SJRWMD has developed a water resource development program in association with its regional water supply planning effort. This water resource development program includes water resource development projects based on the provisions of Subsection 373.0361(2)(b), *FS*. Based on the definition of water resource development included in Subsection 373.019(19), *FS*, SJRWMD considers a water resource development project to be a project that contributes to the formulation and implementation of the following regional water resource management strategies:

- The collection and evaluation of surface water and groundwater data
- Structural and nonstructural programs to protect and manage water resources
- The development of regional water resource implementation programs
- The construction, operation, and maintenance of major public works facilities to provide for flood control, surface and underground water storage, and groundwater recharge augmentation
- Related technical assistance to local governments and to government-owned and privately owned water utilities

Following is a list of water resource development projects that have been identified by SJRWMD in this DWSP:

- Abandoned artesian well plugging program
- Adaptive management project
- Aquifer protection program
- Aquifer storage recovery feasibility testing
- Central Florida aquifer recharge enhancement program
- Cooperative well retrofit project
- Demineralization concentrate management project
- Facilitation of regional decision-making process
- Feasibility of seawater demineralization projects
- Hydrologic data collection and analysis
- Investigation of areas where domestic self-supply wells are sensitive to water level fluctuation
- Regional aquifer management project
- Surface water in-stream monitoring and treatability studies
- Wetland augmentation demonstration program

RECOMMENDATIONS

SJRWMD has developed strategies for implementation of this DWSP. These implementation strategies are included in the following categories:

- Minimum flows and levels
- Water resource development projects
- Water supply development projects
- Consumptive use permitting process
- Intergovernmental, water supplier, and public coordination

SJRWMD proposes the following actions for each of these categories.

Minimum Flows and Levels

- As part of the annual update to SJRWMD's Priority List and Schedule for the Establishment of Minimum Flows and Levels (MFLs), give due consideration to water supply sources identified in DWSP
- Continue with the establishment of MFLs in accordance with the approved priority list and schedule
- Perform ongoing monitoring and periodic re-evaluation of MFLs
- Develop and refine groundwater and surface water models, including an interface between groundwater and surface water models, where appropriate, to predict if water withdrawals will cause water levels and flows to fall below established MFLs

Water Supply Development

- Assist in identifying water supply development projects through the proposed regional decision-making process
- Complete timely and regular updates of DWSP, as needed, to incorporate the results of regional decision making and further feasibility investigations
- Assist in implementing water supply development projects through technical assistance and cooperative funding
- Consider the following projects for priority funding:
 - St. Johns River Water Supply Facility Component of the Eastern I-4 Corridor Water Project

- Eastern Orange and Seminole Counties Regional Reuse Component of the Eastern I-4 Corridor Water Project
- City of Apopka Reuse Component of the Eastern I-4 Corridor Water Project
- North-Central St. Johns County Wellfield Project
- Strategic Water Conservation Assistance Project
- Strategic Reclaimed Water Assistance Project

Water Resource Development

- Implement the following water resource development projects:
 - Abandoned artesian well plugging program
 - Adaptive management project
 - Aquifer protection program
 - Aquifer storage recovery feasibility testing
 - Central Florida aquifer recharge enhancement program
 - Cooperative well retrofit project
 - Demineralization concentrate management project
 - Facilitation of regional decision-making process
 - Feasibility of seawater demineralization projects
 - Hydrologic data collection and analysis
 - Investigation of areas where domestic self-supply wells are sensitive to water level fluctuation
 - Regional aquifer management project
 - Surface water in-stream monitoring and treatability studies
 - Wetland augmentation demonstration program

Consumptive Use Permitting Process

- Make available all data, scientific analyses, and modeling and other information developed in the DWSP process for use by permit applicants as part of establishing that their water use meets the applicable consumptive use permitting criteria
- Encourage participation by water supply utilities and other consumptive use permit applicants in a regional decision-making process in areas where such a process is important to the successful future development of regional public water supplies

- If one or more utilities attempt to disrupt or bypass the regional decision-making process, SJRWMD should consider initiation of rulemaking to amend its consumptive use permitting rules to establish specific public interest factors to be used in the case of competing applications pursuant to Section 373.233, FS
- Consider initiation of the rulemaking process to amend the permit duration provisions of SJRWMD's consumptive use permitting rules which may serve to encourage selection of water supply options consistent with DWSP and the subsequent regional decision-making process
- Use the coordinated review of consumptive use permits as provided for in the Memorandum of Understanding between SJRWMD, the South Florida Water Management District (SFWMD), and the Southwest Florida Water Management District (SWFWMD) to address and resolve concerns about interdistrict impacts

Intergovernmental, Water Supplier, and Public Coordination

Coordination With Other WMDs and DEP

- Continue active participation in the Water Planning Coordination Group
- Continue active participation in the Interdistrict MFLs Framework Group
- Continue to implement the provisions of the tri-district Memorandum of Understanding and develop a cooperative planning strategy with SFWMD and SWFWMD for areas which could experience interdistrict impacts, to be implemented in future updates of the water supply plans of these WMDs
- Continue coordination with other WMDs and DEP on an as-needed basis

Coordination With Local Governments

- Continue coordination with local governments through water supply planning work groups and through meetings on an as-needed basis
- Develop and implement strategies for improved coordination with local government elected officials, with special consideration given to the formation of groups such as the Brevard Water Supply Board and the Volusia Water Alliance

Coordination With Water Suppliers

- Continue current coordination links, particularly those with SJRWMD's Water Utility Advisory Board and Agricultural Advisory Committee, adjusting the intensity of coordination as necessary based on the regional decision-making process

Coordination With the State of Georgia

- Continue coordination with the State of Georgia Environmental Protection Division

Coordination With the Federal Government

- Continue to actively seek federal funding for identified water supply and water resource development projects
- Continue to coordinate with EPA and DEP to improve the ability to implement identified water supply development projects while ensuring necessary water resource protection

Coordination With Other Affected Parties and the Public

- Update SJRWMD water supply planning outreach plan annually and implement the updated plan
- Continue to manage the Division of Water Supply Management comprehensive communications database
- Continue to maintain the SJRWMD Web site, updating as necessary with pertinent water supply planning information