



East-central Florida water supply initiative

Meeting future water needs

FAST FACTS

Fresh groundwater may not be able to meet all future water needs.

The St. Johns River Water Management District is investigating the development of alternative sources of water.

This project is being coordinated for the District by Taurant Consulting, Inc., of Longwood. For more information about this project, contact Jerry M. Salsano, project manager, at (407) 884-8800 or e-mail at jsalsano@cfl.rr.com.



Introduction

In April 2000, the St. Johns River Water Management District's Governing Board approved the District's first long-term water supply plan. The plan identifies areas within the District — priority water resource caution areas (PWRCA's) — that may not be able to meet water supply needs through the year 2020 from current and anticipated sources without causing harm to those resources and related natural systems. Large portions of east-central Florida were identified in the plan as PWRCA's.

To meet future water needs within the east-central Florida planning area (see map on back), which includes the PWRCA's, the District has initiated many projects to sustain or enhance current water sources and to develop new sources.

Demand projections

Category	Water Use (mgd)		Change (mgd)
	1995	2020	
Public supply	285	640	355
Domestic self-supply	31	26	-5
Agricultural irrigation	258	231	-27
Recreational irrigation	66	98	32
Commercial/industrial/institutional and other uses	22	26	4
Total	662	1,021	359

County	Population		Percent Change
	1995	2020	
Brevard	444,992	653,800	47
Lake	176,931	297,100	68
Orange	758,962	1,231,900	62
Seminole	324,130	514,800	59
Volusia	402,970	574,400	43
Total	2,107,985	3,272,000	55

Existing resource is limited and worth protecting

The Floridan aquifer provides almost all of the region's existing public supply and a large



The Wekiva River — a natural oasis in an urban environment.

part of the agricultural supply. This source will not be able to meet all future needs without damaging wetlands, lowering lake levels, reducing spring flows, or increasing saltwater intrusion.

East-central Florida has valuable water resources worth protecting. For example, the Wekiva River system is home to several ecological systems identified as needing protection. Spring flows from the aquifer sustain these communities. Also, there are about 500,000 acres of wetlands and numerous sensitive lakes and springs in the region.

Competition for water

Without a plan to sustain current sources and develop new sources of water, east-central Florida is poised for costly competition among major water supply utilities.

Seventy-eight public supply utilities serve the region, and most would prefer to continue to use the Floridan aquifer to meet their future needs. Developing alternative water sources and implementing alternative management

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strategies require cooperation and consensus among water suppliers. The District is facilitating subgroups in east-central Florida to encourage joint decision making about how to meet future water needs.

Sustaining, enhancing current supplies

In addition to managing current supplies through the consumptive use permitting process, the District is aggressively pursuing projects to increase water conservation and reuse. These activities include enhanced public education, cost-share programs and water supply system interconnections. Other projects include:

Aquifer recharge enhancement — Additional aquifer recharge in central Florida could significantly increase the available fresh groundwater supplies. Using reclaimed water or storm water as a source of recharge could enhance natural recharge. However, one major issue to be addressed is the potential for bacterial contamination of the aquifer. The demonstration phase of this project will focus on determining the fate of contaminants in the aquifer, determining the feasibility and costs of treatment, and developing treatment standards.

Regional aquifer management — Projected groundwater withdrawals for public supply in Volusia County will result in unacceptable adverse impacts to the water resources and related natural systems in the area. Impacts to wetlands and lakes and saltwater intrusion are of particular concern. This project has been initiated with the Volusian Water Alliance.

A plan is being developed that will incorporate various strategies, including wetland hydration with storm water and reclaimed water, water supply facility interconnection, artificial recharge and wellfield optimization.

Wetland augmentation — Augmenting water levels in wetlands is one way to avoid wetland impacts resulting from lowering of aquifer water levels. Several demonstration projects have been initiated to develop monitoring, design, construction and operation procedures that can be used to fully evaluate this technique as an alternative water supply development strategy.

Alternative water sources

Transporting fresh groundwater and use of brackish groundwater, surface water and seawater are options for meeting future needs. Surface

water is one of the most promising options. The St. Johns River may provide significant quantities of water without causing harm to the river system. The lower Ocklawaha River may also provide significant quantities. The District is currently completing technical investigations needed to support the use of the St. Johns River, including surface water treatability, treatment plant siting and service area identification.

If the St. Johns River is to be developed, a method for storing the water must be established. Aquifer storage recovery is an alternative way of storing water underground in certain locations where the conditions are appropriate. Testing is planned to determine where this technique can best be used.

The District is also investigating seawater desalinization. Potential plant sites are being identified.

Costs of meeting demand

Alternative sources of water will require greater capital investments than traditional sources. For example, developing enough groundwater supplies to meet future needs could cost about \$400 million, but may result in unacceptable environmental harm. Alternative sources could cost \$1 to \$2 billion.

