

Water Supply in the St Johns River Water Management District

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Presented by

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Presentation Overview

- Water supply needs of the District
- Resource issues associated with groundwater withdrawals
- Strategies to ensure sustainable water supplies in the future



Statutory Requirements

Subparagraph 373.036(2) (b) 4, *Florida Statutes*

- **Water Supply Assessment**
- **Districtwide assessment which determines**
 - Existing and projected water use
 - Existing and proposed sources of water and conservation efforts
 - Areas where projected uses cannot be sustained with proposed sources without unacceptable impacts to water resources and related natural systems



Regional Water Supply Planning Requirements

Chapter 373, *Florida Statutes*

- 20-year planning horizon
- Public process
- Coordination with water supply entities, local governments, and other affected parties
- Identifies:
 - Water supply development projects adequate to meet projected water supply needs
 - Water resource development projects
 - Sources of project funding



Relationship Between Assessment and Plan

- **Water Supply Assessment**
 - Identifies existing and potential water resource related issues based on projected water demand through planning horizon
- **Water Supply Plan**
 - Identifies solutions to issues identified in Water Supply Assessment



Water supply planning tools

- Water use data
- Population and water demand projections
- Groundwater flow models
- Water resource constraints



District Population and Water Use 1995 to 2030

1995	2030	Percent Change
Population		
3,516,495	6,371,119	81
Total Water Use (mgd)		
1,343.59	1,580.33	18
Public Supply Water Use (mgd)		
464.82	882.17	90

Northeast Florida Population in SJRWMD

County	1995 Population	2030 Population	Percent Change 1995–2030
Alachua	153,696	251,572	64
Baker	19,020	32,958	73
Bradford	1,031	1,443	40
Clay	123,400	271,800	120
Duval	725,925	1,165,000	60
Flagler	39,267	178,900	356
Nassau	50,802	113,100	123
Putnam	67,747	82,000	21
St. Johns	103,482	330,200	219
TOTAL	1,284,370	2,426,973	89

Northeast Florida

Total Water Use in SJRWMD

County	1995 Water Use (mgd)	2030 Water Use (mgd)	Percent Change 1995–2030
Alachua	30.59	44.35	45
Baker	4.66	8.56	84
Bradford	0.42	0.48	14
Clay	27.48	55.91	103
Duval	162.05	232.34	43
Flagler	15.75	37.26	137
Nassau	44.28	68.04	54
Putnam	83.15	52.75	-37
St. Johns	53.98	68.29	27
TOTAL	422.36	567.97	34

Northeast Florida

Public Supply Water Use in SJRWMD

County	1995 Water Use (mgd)	2030 Water Use (mgd)	Percent Change 1995–2030
Alachua	20.18	32.31	60
Baker	0.65	1.01	55
Bradford	0.04	0.09	130
Clay	11.83	34.64	193
Duval	106.73	166.08	56
Flagler	4.57	27.53	502
Nassau	4.82	11.87	146
Putnam	3.32	4.03	21
St. Johns	7.93	44.16	457
TOTAL	160.07	321.72	101

Water Resource Constraints

Identify limits of water level change at which unacceptable impacts are likely to occur

- **Natural systems constraints**
 - Native vegetation (wetlands)
 - Springs
 - Minimum flows and levels (MFLs)
- **Groundwater quality constraint**
 - Salt water intrusion



Statutory Requirements for MFL Recovery & Prevention Strategy (373.0421(2), F.S.)

- **If flow or level is projected to fall below MFLs within 20 years:**
 - **Expedientiously implement a prevention strategy**
- **If flow or level is below MFLs:**
 - **Expedientiously implement a strategy to achieve recovery to established MFLs as soon as practicable**

Strategies to Ensure Sustainable Water Supplies

- Water Conservation
- Minimum Flows and Levels
- Water Supply Development
- Water Resource Development



Water Conservation

- **Regulatory Tools**
 - Consumptive Use Permits (CUP)
 - Landscape irrigation restrictions
- **Technical Assistance**
 - Public supply conservation planning
 - Cost-sharing program
- **Education and Outreach**
 - Media messages and in school materials
 - Florida Water StarSM



Water Conservation Cost Sharing Program

- **FY 2011: Funded 18 projects, \$1.5 million**
- **FY 2012: Tentative budget \$2.6 million**
- **Eligible projects:**
 - **Implementation of Goal-based Water Conservation Plans**
 - **Automated tracking of customer data**
 - **Enforcement of landscape irrigation ordinances and related education effort**
 - **New and innovative technology and practices**



Lake County Water Conservation Initiative

Pilot project for Districtwide application:

- **Training for installation of Water Star irrigation systems and landscapes**
- **Assisting utilities in developing goal-based water conservation plans**



Water Supply Development Projects

- **Definition: projects that include planning, design, construction, operation, and maintenance of public or private facilities for water collection, production, treatment, transmission, or distribution for sale, resale, or end use**
- **83 alternative water supply projects**



Water Supply Development Projects

- **83 projects**
 - 20 surface water
 - 1 brackish groundwater
 - 6 seawater projects
 - 44 reuse of reclaimed
 - 11 reuse augmentation
 - 1 other



Water Resource Development Projects

- **Definition: a project that contributes to the formulation and implementation of regional water resource management strategies.**
- **8 WRD Projects identified**



Water Resource Development Projects

Examples:

- **Abandoned Artesian Well Plugging Program**
- **Aquifer Storage and Recovery Construction and Testing**
- **Water Storage Projects**



Conclusions

- **Study of the potential impacts from surface water withdrawals from the St Johns River is nearing completion**
- **Latest assessment indicates 33 MFL water bodies are below or projected to fall below established MFLs**
- **Groundwater withdrawals are reaching their sustainable limits in some parts of District**



Conclusions

- **Diversified set of water sources will be necessary to meet all future demands**
- **Recent economic downturn and leveling of growth delay need for more aggressive conservation measures and additional AWS**





Questions?



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