



## Water Resource and Water Supply Development Projects

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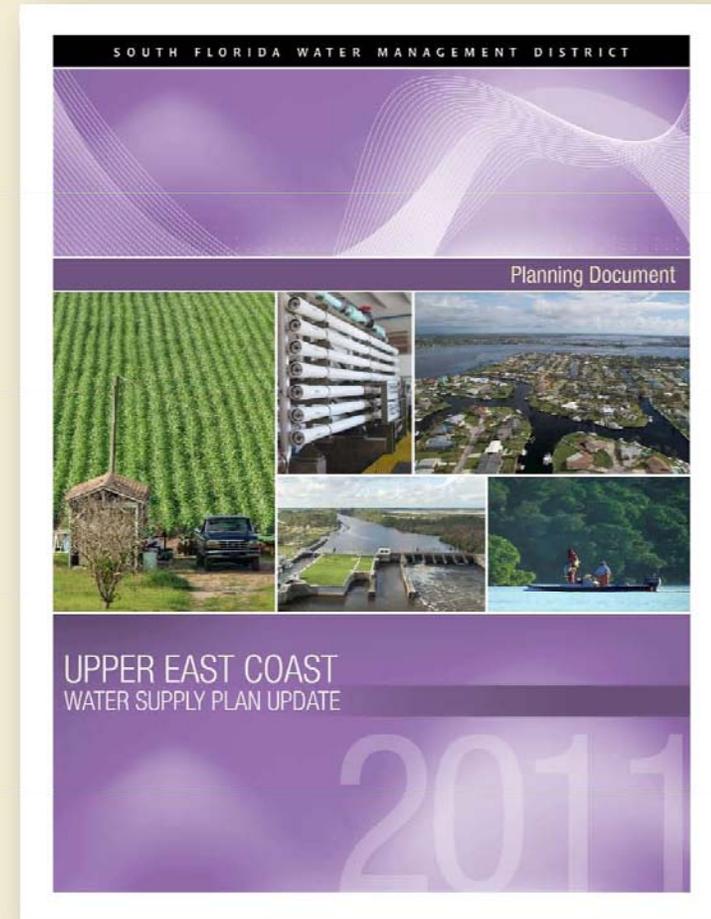
# Regional Water Supply Plan Requirements

- ✓ **Water Resource Development**
  - **Regional-level Projects and Studies**
- ✓ **Water Supply Development**
  - **Local-level Projects**
  - **20-year Planning Period**
  - **1-in-10 Level of Certainty**
  - **Minimum Flows and Levels (MFLs)**
    - **Recovery and prevention strategies**
  - **DEP Guidelines**



# UEC Water Supply Plan Update Planning Document Outline

- ✓ Introduction
- ✓ Demand Estimates and Projections
- ✓ Water Resources Development Projects
  - ✓ Type of projects for 5 year planning period
    - ✓ Groundwater and wetland monitoring
    - ✓ Groundwater & ET assessments
    - ✓ Drilling and testing
    - ✓ Comprehensive water conservation
    - ✓ MFLs, water reservations and modeling,
    - ✓ Feasibility studies
- ✓ Water Supply Development Projects
  - ✓ PWS projects to meet the needs of the next 20 years
  - ✓ Utility summaries
  - ✓ Other water uses
- ❖ Resource Evaluation and Issues
- ❖ Water Source Options and Conservation

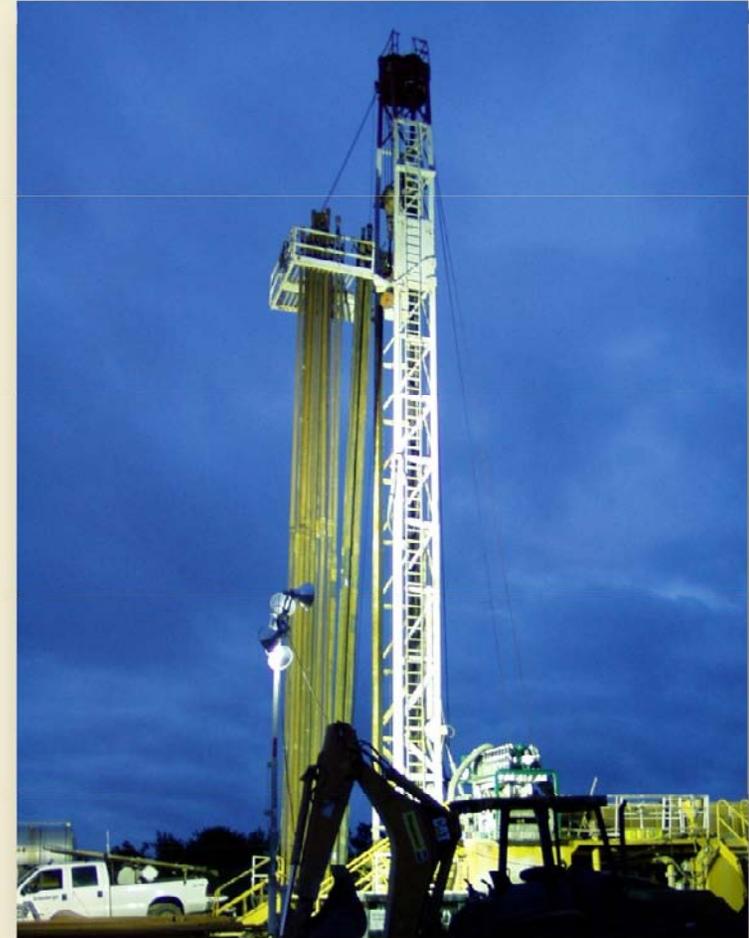


# Water Resource Development & Water Supply Development Projects

- **Water Resource Development Project**
  - Regional in nature and generally the responsibility of a water management district
  - Meets the formulation and implementation of regional water resources management strategies
- **Water Supply Development Project**
  - Local in nature and generally involve public or private facilities for water collection, treatment and transmission

# Resource Evaluation Projects

- **Hydrogeology**
  - Groundwater assessments
  - Evapotranspiration Assessments
  - Groundwater and Wetland Monitoring
  - Drilling and testing
- **Modeling**
  - Floridan Aquifer System model development



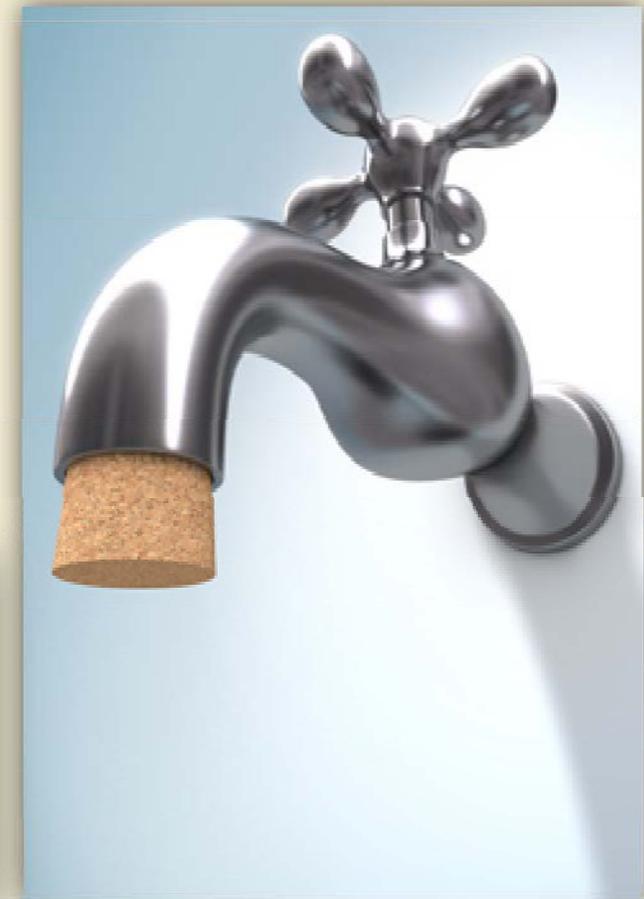
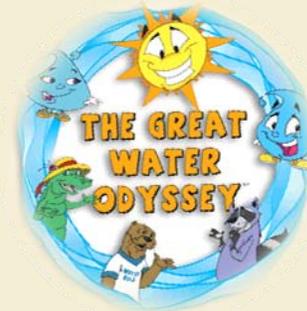
# MFL & Water Reservation Activities

- **CERP Indian River Lagoon – South**
  - Rule development process completed
- **Loxahatchee MFL station**
  - Continue ongoing USGS monitoring



# Water Conservation Program

- Water Savings Incentive Program
- Conserve Florida Clearinghouse
  - EZ Guide
- Great Water Odyssey
- Florida Water Star
- Leading by Example
- FAWN



# Water Supply Development Projects

- **Local in nature and generally involve public or private facilities for water collection, production, treatment and transmission**



# UEC Public Water Supply Projects

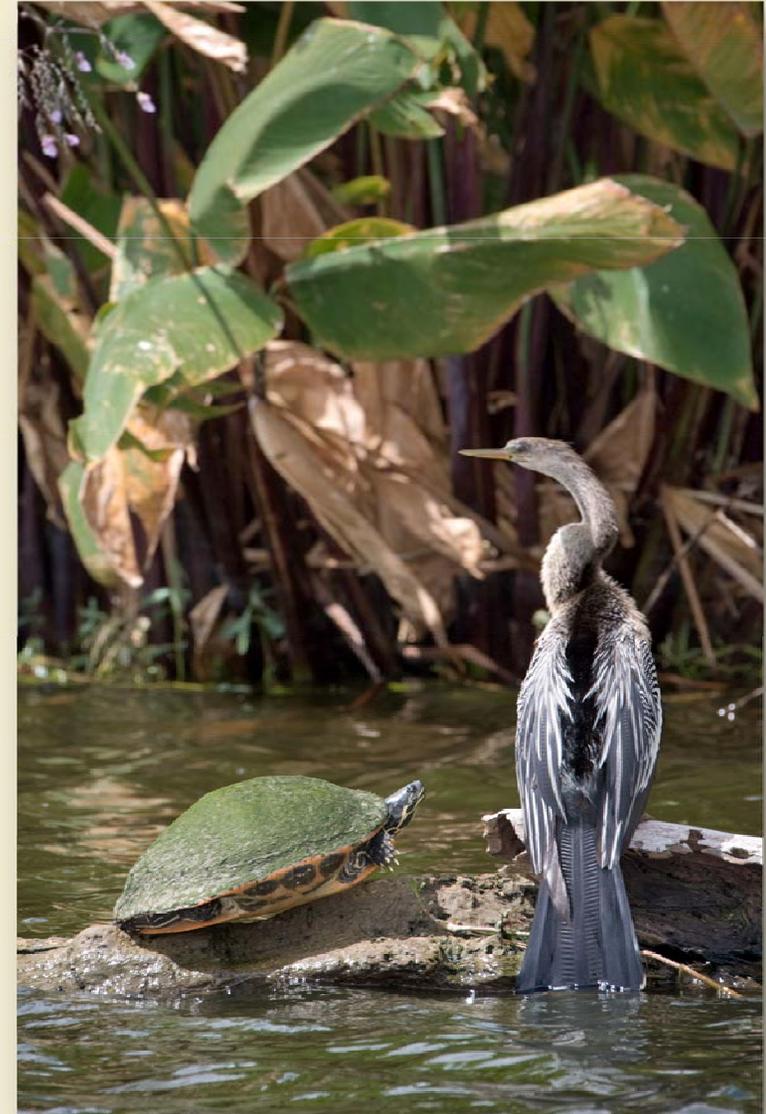
## New Capacity - FY 2006 - 2009

- **33 Projects**
  - **10 Brackish**      **49 MGD**
  - **23 Reclaimed**      **26 MGD**
- Total**      **75 MGD**



# UEC Potential Water Supply Projects FY 2010 -2030

- **Plant facility phased projects submitted**
  - **19 Proposed Public Water Supply Projects**



# UEC Proposed Public Water Supply Projects Potential New Capacity - FY 2010 - 2030

|               |               |
|---------------|---------------|
| ■ Traditional | 1 MGD*        |
| ■ Brackish    | 58 MGD*       |
| ■ Reclaimed   | <u>34 MGD</u> |
| <b>Total</b>  | <b>93 MGD</b> |



\*45 MGD New Capacity needed by 2030



# Public Water Supply Demands (MGD)

| County  | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 |
|---|------|------|------|------|------|------|
| Finished (Net) Demands for Average Conditions (MGD) |      |      |      |      |      |      |
| St. Lucie   | 24.4 | 29.2 | 35.6 | 43.3 | 53.1 | 62.9 |
| Martin  | 17.8 | 19.5 | 21.3 | 23.5 | 26.0 | 24.2 |
| Okeechobee – Eastern                                | 0    | 0    | 0    | 0    | 0    | 0    |
| Total UEC Planning Area                             | 42.2 | 48.6 | 56.9 | 66.8 | 79.1 | 87.1 |



UTILITY SUMMARY WORKING DRAFT

**County:** Sample County  
**Supply Entity:** Sample County Utilities  
**Local Government Served:** Unincorporated Sample County (portion), Plain City, Park Place and City of Coolville (portion).

**Description:** Water supplies are comprised of 45 percent traditional groundwater supplies and 55 percent brackish groundwater, and are projected to be 31 percent traditional and 69 percent alternative water supplies in the future.

**Bulk Water:** Sample County has an interlocal agreement with the City of Coolville to provide bulk alternative water from 0.50 to 1.2 MGD from 2009-30.

**Utility Purchases:** Sample County has contracted to purchase one existing utility, Regional Utility by late 2010. Sample County plans on connecting this utility to their water system by mid 2011.

| POPULATION AND DEMANDS   | Historical   |  | Projected |         |
|--|--------------|--|-----------|---------|
|  | 2005         | 2010   | 2020      | 2030    |
| Population   | 68,820       | 75,500                                       | 90,868    | 109,316 |
| Per Capita (gallons per day finished water)                                  | 129          | 129  | 129       | 129     |
| <b>Potable Water Demands</b><br>(daily average annual finished water in MGD) | 8.79         | 9.74   | 11.72     | 14.10   |
| FACILITY PRODUCTION CAPACITY   |              |  |           |         |
| FDEP Facility Design Capacity plus projects design capacity                  | Capacity MGD | Cumulative Facility & Project Capacity (MGD) |           |         |
|  | 2005         | 2010   | 2020      | 2030    |
| Water Source: Surficial  | 4.50         | 4.50   | 4.50      | 4.50    |
| Floridan   | 5.50         | 6.50   | 9.00      | 11.00   |
| <b>Total Capacity</b>  | 10.00        | 11.00  | 13.50     | 15.50   |
| Non-potable Water  |              |  |           |         |
| Source: Reclaimed  | 2.00         | 8.00   | 9.00      | 9.00    |

| PROJECTS SUMMARY                         |           |                        |                                  |             |             |
|--|-----------|------------------------|----------------------------------|-------------|-------------|
| Water Supply Facility Projects           | Alt. Src. | Total Cap. Cost (\$ M) | Cumulative Design Capacity (MGD) |             |             |
|  |           |                        | 2010                             | 2020        | 2030        |
| Completed Brackish Projects (2006-07)    | B         | \$6.00                 | 1.00                             | 3.50        | 4.50        |
| WTP RO expansion from 4.0 to 4.80        | B         | \$0.50                 | 0.00                             | 0.00        | 1.00        |
| <b>Brackish Total</b>                    | <b>B</b>  | <b>\$2.50</b>          | <b>1.00</b>                      | <b>3.50</b> | <b>5.50</b> |
| Completed Reclaimed Projects (2006-08)   | R         | \$2.00                 | 6.00                             | 6.00        | 6.00        |
| South WWTP expansion from 1.6 to 2.8 MGD | R         | \$7.20                 | 0.00                             | 1.00        | 1.00        |
| <b>Reclaimed Total</b>                   | <b>R</b>  | <b>\$9.20</b>          | <b>6.00</b>                      | <b>7.00</b> | <b>7.00</b> |

Alternative sources legend: T=Traditional; B=Brackish; R=Reclaimed; C=Captured Storm/Surface Water; O=Other.  
 Note: Methodology is being considered to reflect planned conservation water savings.  
 SFWMD Consumptive Use Permit Number: 43-xxxxx-W, Annual Allocation: 15.0 MGD, Permit Expires: 2028

# UEC Proposed Water Supply Projects

| County | Utility/Entity             | Water Source Type | Facility Plant           | Project  | Total Capital Costs \$M | Total Design Capacity (MGD) |         |         |         |         |
|--------|----------------------------|-------------------|--------------------------|--|-------------------------|-----------------------------|---------|---------|---------|---------|
|        |                            |                   |                          |  |                         | 2010                        | 2011-15 | 2016-20 | 2021-25 | 2026-30 |
| Martin | Indiantown                 | Traditional       | Indiantown               | WTP expansion from 1.3 to 1.9 MGD  | \$3.20                  | 0.00                        | 0.00    | 0.00    | 0.0     | 0.6     |
| Martin | Indiantown                 | Reclaimed         | Indiantown               | Completed WWTP reclaimed water production facility; water main to Cogeneration Power Plant; and reuse upgrades (2007-08) | \$5.70                  | 2.00                        | 2.00    | 2.00    | 2.0     | 2.0     |
| Martin | Martin County Correctional | Brackish          | Port St. Lucie           | Agreement for up to 0.35 MGD   |                         | 0.15                        | 0.15    | 0.15    | 0.2     | 0.2     |
| Martin | Martin County Utilities    | Brackish          | Tropical Farms           | Completed projects including WTP expansion and RO membrane cleaning system (2006-09)                                     | \$10.50                 | 10.80                       | 10.80   | 10.80   | 10.0    | 10.8    |
| Martin | Martin County Utilities    | Brackish          | Tropical Farms           | WTP expansion from 10 to 14 MGD  | \$9.50                  | 0.00                        | 4.00    | 4.00    | 4.0     | 4.0     |
| Martin | Martin County Utilities    | Reclaimed         | Tropical Farms and North | Completed WWTP expansion projects 2006-08  | \$2.41                  | 7.70                        | 7.70    | 7.70    | 7.7     | 7.7     |
| Martin | Martin County Utilities    | Reclaimed         | North/Jensen             | WWTP expansion from 2.4 to 3.6 MGD   | \$8.80                  | 0.00                        | 0.00    | 1.20    | 1.2     | 1.2     |
| Martin | Martin County Utilities    | Reclaimed         | Tropical Farms           | WWTP expansion from 5 to 7.5 MGD Phase 2   | \$9.20                  | 0.00                        | 0.00    | 0.00    | 2.5     | 2.5     |

# UEC Proposed Water Supply Projects

| County | Utility/Entity                | Water Source Type | Facility Plant | Project  | Total Capital Costs \$M | Total Design Capacity (MGD) |         |         |         |         |
|--------|-------------------------------|-------------------|----------------|--|-------------------------|-----------------------------|---------|---------|---------|---------|
|        |                               |                   |                |  |                         | 2010                        | 2011-15 | 2016-20 | 2021-25 | 2026-30 |
| Martin | South Martin Regional Utility | Brackish          | SMRU           | RO WTP Expansion from 2.0 to 4.2 MGD   | \$3.50                  | 0.00                        | 0.00    | 2.20    | 2.2     | 2.2     |
| Martin | South Martin Regional Utility | Reclaimed         | SMRU           | Completed WWTP irrigation quality water improvement program phases (2006-09) | \$2.53                  | 1.40                        | 1.40    | 1.40    | 1.4     | 1.4     |
| Martin | South Martin Regional Utility | Reclaimed         | SMRU           | WWTP Supplemental IQ sources   | \$1.00                  | 0.00                        | 0.00    | 1.00    | 1.0     | 1.0     |
| Martin | Stuart Utilies                | Brackish          | MOU            | MOU with Martin County to purchase Floridan water from 0.15 to 0.84 MGD      | \$0.05                  | 0.15                        | 0.15    | 0.49    | 0.49    | 0.84    |
| Martin | Stuart Utilies                | Reclaimed         | Stuart         | WWTP expansion final phase and reclaimed water transmission main             | \$3.00                  | 2.35                        | 2.35    | 2.35    | 2.35    | 2.35    |

# UEC Proposed Water Supply Projects

| County    | Utility/Entity                 | Water Source Type | Facility Plant    | Project   | Total Capital Costs \$M | Total Design Capacity (MGD) |         |         |         |         |
|-----------|--------------------------------|-------------------|-------------------|---|-------------------------|-----------------------------|---------|---------|---------|---------|
|           |                                |                   |                   |   |                         | 2010                        | 2011-15 | 2016-20 | 2021-25 | 2026-30 |
| St. Lucie | Ft. Pierce Utilities Authority | Brackish          | Henry Gahn        | Completed FAS wells and WTP expansion (2006-08)   | \$4.70                  | 4.30                        | 4.30    | 4.30    | 4.30    | 4.30    |
| St. Lucie | Ft. Pierce Utilities Authority | Brackish          | Henry Gahn        | WTP expansion from 6.99 to 14.99 MGD (includes Floridan aquifer wells and capacity increase will be with phase 5) | \$19.80                 | 0.00                        | 0.00    | 8.00    | 8.00    | 8.00    |
| St. Lucie | Ft. Pierce Utilities Authority | Reclaimed         | Mainland          | Water Reclamation Facility Phase 1  | \$55.60                 | 0.00                        | 0.00    | 5.00    | 5.00    | 5.00    |
| St. Lucie | Port St. Lucie Utilities       | Brackish          | JEA               | Completed projects (2008)   | \$27.20                 | 33.65                       | 33.65   | 33.65   | 33.65   | 33.65   |
| St. Lucie | Port St. Lucie Utilities       | Brackish          | Rangeline         | Construct 10 MGD RO WTP and expand to 30 MGD with water mains and facilities.                                     | \$75.20                 | 0.00                        | 0.00    | 20.00   | 20.00   | 30.00   |
| St. Lucie | Port St. Lucie Utilities       | Reclaimed         | Glades & Westport | Completed projects (2006-09)  | \$8.70                  | 14.35                       | 14.35   | 14.35   | 14.35   | 14.35   |
| St. Lucie | Port St. Lucie Utilities       | Reclaimed         | Westport          | WWTF expansion from 2 to 12 MGD with reuse mains and facilities.  | \$2.80                  | 10.00                       | 10.00   | 10.00   | 10.00   | 10.00   |
| St. Lucie | Port St. Lucie Utilities       | Reclaimed         | Glades            | WWTF expansion from 12 to 24 MGD with reuse water mains and facilities  | \$16.90                 | 0.00                        | 0.00    | 0.00    | 0.00    | 12.00   |

# UEC Proposed Water Supply Projects

| County    | Utility/Entity                  | Water Source Type | Facility Plant          | Project   | Total Capital Costs \$M | Total Design Capacity (MGD) |         |         |         |         |
|-----------|---------------------------------|-------------------|-------------------------|---|-------------------------|-----------------------------|---------|---------|---------|---------|
|           |                                 |                   |                         |   |                         | 2010                        | 2011-15 | 2016-20 | 2021-25 | 2026-30 |
| St. Lucie | Reserve Community Dev.          | Brackish          | St. Lucie West          | MOU with St. Lucie West to purchase from .25 MGD up to 0.75 MGD alternative water | Not Specified           | 0.20                        | 0.25    | 0.30    | 0.50    | 0.50    |
| St. Lucie | St. Lucie County Utilities      | Brackish          | Northwest               | Construct 2.0 MGD RO WTP (2011-2015) and expansion to 4.0 MGD                     | \$24.00                 | 0.00                        | 0.00    | 4.00    | 4.00    | 4.00    |
| St. Lucie | St. Lucie County Utilities      | Brackish          | Central                 | Construct 2.0 MGD RO WTP (2011-2025) and expansion to 4.0 MGD                     | \$24.00                 | 0.00                        | 0.00    | 4.00    | 4.00    | 4.00    |
| St. Lucie | St. Lucie County Utilities      | Brackish          | South                   | Construct 2.0 MGD RO WTP (2011-2025) and expansion to 4.0 MGD                     | \$24.00                 | 0.00                        | 0.00    | 4.00    | 4.00    | 4.00    |
| St. Lucie | St. Lucie County Utilities      | Reclaimed         | North Hutchinson Island | WTP expansion from 0.5 to 0.8 MGD   | \$4.00                  | 0.30                        | 0.30    | 0.30    | 0.30    | 0.30    |
| St. Lucie | St. Lucie West Service District | Brackish          | St. Lucie West          | RO WTP Expansion from 3.4 to 3.6 MGD  | \$2.00                  | 0.00                        | 0.00    | 0.00    | 0.00    | 0.20    |

# Questions?

