



Plantation
the grass is greener

Broward Leaders Water Academy

Kick-Off Meeting
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A Water & Wastewater Utility's Perspective on Water Supply & Price

* Perspective:

- a view or a vista
- the relationship of aspects of a subject to each other and to a whole
- subjective evaluation of relative significance
- a point of view



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Who Are the Agencies in Broward County Concerned with Water Resource Management?

&

What facets are they most
interested in?



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For the most part, they are:

- United States Environmental Protection Agency – Quality, Quantity
- United States Army Corps of Engineers – Quantity, Quality
- Florida Department of Environmental Protection – Quality, Quantity
- Broward County Health Department – Quality, Quantity
- South Florida Water Management District – Quantity and Quality
- Florida Department of Community Affairs - Quantity
- Broward County Environmental Protection and Growth Management Department - Quality & Quantity
- (23) Drainage Districts – Quantity, Quality
- (28) Water & Wastewater Utilities - Quality, Quantity, **Price**



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What goes into a utility's **price** for water?



PD-Sw045



Capital costs for water and wastewater treatment plants, water and sewer mains, production wells, disposal wells etc.

Rehab of aging infrastructure – water and sewer mains, treatment plants

Operational Costs (electricity, chemicals, labor, maintenance)

New technology (meeting water quality regulations)

Cost of Money

Alternative Water Supply Projects

What is the **PRICE** of the Average Water & Sewer Utility Bill **NOW**?



- Using 7,000 gallons of water a month for a single-family residence, the average cost in Broward County is

\$74.43



A Conservation Rate Structure for Water only

Consumption, in gallons	Rate/1,000 gals
	Residential Conservation Rate
0-6K	\$1.57
7K-12K	\$3.14
13K-20K	\$4.72
21K-30K	\$6.29
31K-50K	\$7.86
Above 50K	\$9.43



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Water Conservation & Power Conservation, a Couple of Givens:

- The average Florida household uses +/- 1400 kwh a month of electricity.
- To treat and pump one million gallons of water to our customers and take back the water for treatment as wastewater and dispose of it utilizes, conservatively, 11,000 kwh*.

*See Energy Demands on Water Resource, Report to Congress on the Interdependency of Energy and Water, U.S. Dept. of Energy, Dec. 2006.



Now,

- If Plantation's 28,000 water customers were to cut back 10% and save an average of 1000 gallons a month, that would be a savings of 28 million gallons a month. **That's 28 million gallons a month!**
- The power savings from this water conservation effort would be enough to power 220 homes for one month with electricity! **That's 220 homes!**

**Water conservation and energy
conservation go hand and glove**

Strategies for Plantation to Achieve Water Goals:



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1. Demand management through conservation
2. Utilize Alternative Water Supply
(Pricy, energy intensive)

Per-Capita Consumption and Getting a Handle on How Much Water a Utility Uses



- Per-capita consumption for Plantation (finished water)
 - Lower East Coast Water Supply Plan Projection: 158 gallons per capita, per day
 - Present Use: 110 – 125 gallons per capita, per day
 - Reduced usage by 20% - 30%



How to Lower Per-Capita Consumption

- Mindfulness of water use/education
- Price of water
- Year-round irrigation measures: two days a week; use rain sensors
- Landscape Design
- Plumbing retrofits (toilets, shower heads, high efficiency washing machines)
- Tenacity, tenacity, tenacity.....



Alternative Water Supply Options

<u>AWS Options</u>	<u>Capital Cost Range</u> <u>(\$/gal)</u>	<u>O&M</u> <u>(\$/1,000 gal)</u>
1. Stormwater Capture (C-51 Reservoir)	3-8	1.0
2. Floridan Aquifer/R.O.	5-9	1.10
3. Seawater Desalination	10+	1.50
4. Biscayne Aquifer Recharge with Wastewater Effluent	7-15	1.50
5. Landscape Irrigation with Reclaimed Water	10-15	.50

Summary – A Utility Needs to Keep an Eye on:



- Regional view and solutions
- Per-capita consumption
- Conservation for Sustainability (**Go Green**)
- Price
- Tenacity, Tenacity, Tenacity.....