



September 3, 2008

## Water Congress Priorities Issues

In preparation for the Water Congress meeting later this month, delegates are tasked with providing 3 short term and 3 long term recommendations on water conservation and supply for Florida's future. SCCF proposes the following priority initiatives.

*What are the three most important short-term and three most important long-term actions the Water Congress should recommend that will lead to "a long-term water conservation, use and supply plan for environmental, agricultural and public consumption purposes."*

### Short Term

1. **Conservation** is the single most fundamental action that we can and must initiate in the short term to provide water for all users and protect natural resources. Only 2.5 % of all the water on the planet is freshwater. 70% of that water is frozen in the polar icecaps and Greenland, the majority of the rest is tied up in soil moisture and groundwater. Leaving less than 1% of the planet's fresh water (~0.007% of all water on earth) in lakes, rivers, reservoirs and shallow aquifers where it is available economically for human use. This is the limited pool of water available to be divided for multiple users into the future.

Research has documented that 50 percent of potable water is used in irrigation outside of the home. Inside the home approximately 20 -30 percent is used for non potable uses. We can and must begin to require and incentivize water conservation which will provide the "new sources" of water that are frequently discussed.

We must develop a uniform, statewide requirement through statewide ERP rules and local government land development codes to require and/or incentivize:

- Mandatory enforceable water conservation programs as a condition of consumptive use permits
- Mandatory reuse as a condition of wastewater permits

### *In the landscape:*

- Native/drought tolerant landscaping that does not need supplemental irrigation
- Restrictions on planting area (percent cover) & types of turf grass ( i.e. St Augustine) that have high water needs
- Require soil moisture sensors on all new construction and remodeled irrigation systems
- Limit number of watering days and hours -before 8 am or after 6 pm

- Require reclaimed water be used for irrigation and on all golf courses
- Eliminate mixing of ground water sources in surface waters for irrigation purposes to reduce the further degradation of surface water quality
- Maximize use of pervious pavement in place of asphalt and concrete

*In buildings and homes:*

- Require installation of low flow fixtures including 1.5 gallon toilets and water conserving faucets and showerheads
- Adoption of new technologies in construction to require cisterns, water walls & other onsite retention and reuse opportunities in all new construction with requirements that remodeling of older construction incorporate and upgrade.

2. **Reservations** of water for natural systems. All water in Florida is subject to Chapter 373 Florida Statutes. Two features of this statute are Water Reservations and Minimum Flows and Levels designed to establish a first priority of water needed for protection of fish and wildlife and public health and safety.

- Establish reservations & minimum flow and level for surface water bodies –lakes and rivers- and groundwater aquifers to demonstrate that water allocations are established first for the natural resources.
- Require all Water Management Districts establish Optimal Flows and Levels for permit review to provide a margin of safety.
- Require statewide water permits document the permitted allocation in a basins water budget to confirm local capacity and demonstrate that water demand will not harm natural sources.

3. **Augmentation** refers to the use and redirection of natural surface and groundwater sources to augment 'gray' or reuse water for urban irrigation. This is usually done by ditching to redirect surface flows from lakes and rivers or pumping of groundwater. This process negatively impacts water availability, hydroperiods and flows of natural systems from which water is taken for the benefit of urban irrigation needs. The natural system water used to augment reuse water is often only needed in the dry season when irrigation demands are highest -the same period that natural systems need the water that is being redirected for ecological function, health and diversity.

During the wet season when the additional water is not needed water continues to be redirected through ditches and dumped to tide. The damage is compounded by changes in salinity, vegetation and organisms in both the overflow receiving waters and historic drainage that loses freshwater flows.

A local example of this effect is the County's drainage of wetlands and water from northeast Lee County through drainage works into "Gator Slough" to provide Cape Coral with surface water to augment their reuse system. Redirected water that is not needed is flushed to Matalacha Pass Aquatic Preserve leaving over drained wetlands and

altered flowways in northeast Lee County.

To address this we recommend a uniform, statewide requirement through statewide ERP rules and local government land development codes that would:

- Prohibit augmentation of reclaimed water with water from natural surface & groundwater sources
- Require stormwater be used to augment reuse instead of tapping natural surface & groundwater sources
- Establish buffers between areas being irrigated with reuse water and natural wetlands/ water bodies to prevent nutrient enrichment of wetlands and surface waters.
- Require storage capacity and interconnects be built into reuse systems to balance supply and demand

### Long Term

1. **Interdistrict Transfer of Water** is a slippery slope that has spurred water wars in the western United States. However, Florida with all of its rainfall is not immune. Currently Charlotte, Desoto, Sarasota, Manatee and Hardee Counties are fighting over fresh water from the Peace River and compromising the natural system needs.

Florida does not manage growth based on a critical resource such as water. However to preserve our quality of life and economy, growth in areas of limited resources must be linked to resource availability to prevent the unintended consequences of impacting and sacrificing one area to benefit another. To balance these impacts we support:

- Reinforcing existing state water law that requires "local sources first" and expansion of the law to prohibit interdistrict transfers of water for water supply or withdrawal. An exception for natural system hydrologic restoration would provide for an option for holding onto water that would otherwise be lost to drainage while avoiding the unintended consequences and water wars of water supply.
2. **Encourage retention and rehydration in the natural system.** The historic flood control and drainage projects that have pockmarked the Florida landscape hold the key to reversing water problems both in terms of quantity and quality. We are currently witnessing this in the northern Everglades ecosystem where in a two month period south Florida has gone from two years of water restrictions and record drought to overflow conditions that have caused the dumping of billions of gallons of water supply per day, after just one tropical storm, Fay. This is a direct result of the legacy of over drainage and lack of storage that plagues this system and the State.

Restoring water retention in natural basins where it occurs provides multiple benefits including residence time for water quality, habitat function and diversity, aquifer

recharge and recreation. By contrast the displacement of waters contributes to water quality degradation, changes in floral and faunal population occurrence, diversity and distribution, exotic infestation and water shortages. Further, built systems fail to provide the value and benefits while generating costs for operation and maintenance.

- To the greatest extent possible we recommend that water management districts and local municipalities pursue and require maximum use of historic and existing basins for retention and hydroperiod restoration over constructed or pumped systems.

3. **Indirect Potable Reuse/ Ground Water Replenishment/ Toilet to Tap** is emerging technology being utilized around the Country to recycle wastewater into aquifers and then to water supply. Orange County California operates the world's largest water-purification project, a \$500-million plant that pumps 35-million gallons a day and serves 500,000 residents. Wastewater is treated, processed through a microfilter to remove solids and bacteria, then it is processed through reverse-osmosis treatment to remove any viruses, drugs or contaminants and it is finally treated with ultraviolet light and hydrogen peroxide. The water produced is nearly distilled water which is pumped into aquifers for storage.

Recycling wastewater takes pressure off of surface and aquifer resource, cuts the amount of wastewater running into local waters and can reduce water costs.

- We recommend that we start now to research and develop technologies and industries to direct new uses for consumption to reuse waters instead of tapping extraction from deeper mineral and saline aquifers and open ocean waters of the Atlantic and Gulf of Mexico.