

UF Water Summit  
December 12<sup>th</sup> and 13<sup>th</sup>, 2012

**Handout for Session 2 and 3:**

**PRELIMINARY SITUATION, OUTCOMES, PROGRAMS AND AUDIENCES –for discussion**

*This preliminary document has been prepared by members of the Water Initiative Leadership Team in preparation for the Extension Water Summit- Initiative 2: Enhancing and protecting water quality, quantity, and supply. Each priority sub-committee team reflected on the Outcomes, Programs and Audiences for the three Priorities in the Water Initiative as a point to begin collaborative discussions. The information presented below represents an example list that broadly relates to existing extension programs. It is meant to be a discussion starter!*

**SITUATION**

*(Consolidated from drafts from all three areas):*

Water is among Florida's most valued resources. Florida has a wide diversity of water resources with 54,836 miles of rivers and streams (more than 1,700 streams and rivers), 49,128 miles of canals and ditches, over 1.8 million acres of lakes (7,800 freshwater lakes), reservoirs, and ponds, more than 1,000 springs, 11 million acres of wetlands and 1,350 miles of coastal shoreline, the largest in the contiguous 48 states, and underlying aquifers yielding quantities of freshwater necessary for both human and environmental needs. Although renewable, these water resources are finite, and continued growth in population, tourism, and agriculture will place increased demands on these water supplies.

Many of these water resources are downstream of watersheds where approximately 19 million people live and the land is used for agriculture, silviculture, industrial and other intensive land uses. High annual rainfall and extreme weather events increases the hydrologic connectivity between land based activities and downstream water resources where the expression of nutrient and other inputs can be further enhanced due to Florida's subtropical and warm temperate climate.

**Water Conservation:** Florida Department of Environmental Protection (DEP) estimates that by 2020, Florida's population is expected to increase 25 percent from 15.9 million residents today to about 21.8 million residents. Even though Florida averages 54 inches of rain per year, to meet this expected increased demand, Florida will need 9.1 billion gallons of fresh water per day (bgd), a 26.4 percent increase from today.

As the demand continues to increase, water supply needs are already exceeding in capacity in some areas of the state. There are areas throughout Florida where water resources are stressed – particularly fresh groundwater – and forecasted growth and demand must be addressed by the development of additional water supplies. Florida freshwater supplies are used for agriculture, natural resources, salt water intrusion protection, drinking water, industrial, and other uses. Water quantity issues in Florida have traditionally been regional in nature but are rapidly becoming statewide.

**Water Quality:** The 2012 Integrated Water Quality Assessment Report conducted by the Florida Department of Environmental Protection, identified 19.5% of the state's surface waters were impaired by pathogens, 13.1% impaired by nutrients and virtually all 91.8% impaired by mercury relative to their designated uses. An additional 44.6 % ( pathogens) and 62.3% (nutrients) of surface water bodies have insufficient data to determine attainment of designated use at this time.

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With regard to groundwater, the states trend monitoring network indicate some localized nitrate impacts as well as increasing trends for saltwater encroachment mainly in coastal areas.

Furthermore water-quality problems have been associated with highly urbanized areas and with intense agricultural, horticultural, and industrial land uses. Water pollution prevention and control measures are critical to preserving our natural resources, improving water quality and reducing the need for costly wastewater and drinking water treatment. As the state seeks to balance economic growth and development with protection of its natural resources, managing water becomes a high priority for policy makers and utility managers.

Progressive and reactive efforts by state and local agencies to address water quality issues in the context of the Federal Clean Water Act and state and local mandates have resulted in a complex and often contentious suite of protective standards (Numeric Nutrient Criteria), impaired water mitigation targets and strategies (Total Maximum Daily Loads, Basin Management Action Plans and Best Management Practices) and local regulations (Local Fertilizer Ordinances). Clarifying the often complex science behind these efforts, working with stakeholders so that they are aware and adopt various practices that are known to be effective in reducing impacts on water quality, and increasing the overall understanding of Floridians about the impacts of degraded water quality on economic and environmental resources is critical yet presently limited relative to the increasing demand for this information.

**Public Awareness of Water Issues:** Florida legislators, county commissioners and managers, city councils and managers and regulatory agencies must build their capacity to make scientific-based management decisions regarding our water resources. The general public needs to build their capacity to provide meaningful input and engage in these decision making processes. Some of the water resource issues on which Extension can provide educational assistance include: Total Maximum Daily Loads, Numeric Nutrient Criteria, Minimum Flows and Levels, Consumptive Use Permitting, desalinization, wastewater reuse, aquifer storage and recovery, surface and rain water capture and storage, water use restrictions, storm water management, flood control, sea level rise, and the value of restoring and maintaining healthy groundwater, spring, wetland, lake, river and estuarine ecosystems.

**PRIORITY 1: WATER CONSERVATION  
EXAMPLE OUTCOMES, PROGRAMS, and AUDIENCES**

**Priority 1: Water conservation.** Conserve Florida’s finite water resources by teaching rural, suburban and urban audiences about the value of water resources to Florida’s ecology and economy and how to more efficiently use water and recycled wastewater to reduce overall water consumption.

*Priority sub-committee team: Michael Dukes, Joan Bradshaw, Kati Migliaccio, Pierce Jones*

**Outcome 1. Reduce potable water use for landscape irrigation**

PROGRAMS (examples)

1. Florida Friendly Landscaping  
AUDIENCES: homeowners, builders/developers, decision makers
2. Green Industry BMP training  
AUDIENCES: lawn-care and landscape installation and maintenance services, grounds maintenance workers
3. Demonstration and training on smart irrigation controllers  
AUDIENCES: homeowners, lawn-care and landscape installation and maintenance services, irrigation professionals, grounds maintenance workers, decision makers

**Outcome 2. Increase agricultural irrigation efficiency**

PROGRAMS (examples)

1. BMP implementation teams  
AUDIENCES: row crops, citrus, tropical fruit crops, field and container nurseries, forage, sod industries, decision makers.
2. Certified crop advisors training  
AUDIENCES: row crops, citrus, tropical fruit crops, field and container nurseries, forage, sod industries
3. FAWN schools and tools  
AUDIENCES: agencies, agricultural producers, agricultural advisors

**Outcome 3. Reduce indoor potable water use in residential and commercial properties**

PROGRAMS (examples)

1. County/region specific partnerships with other agencies (rebates and other programs)  
AUDIENCES: homeowners, youth

**Outcome 4. Increase water reuse and recycling programs**

PROGRAMS (examples)

1. Water harvesting – rain barrels and cisterns  
AUDIENCES: homeowners

**PRIORITY 2: WATER QUALITY**  
**EXAMPLE OUTCOMES, PROGRAMS, and AUDIENCES**

**Outcome 1, Increase implementation of agricultural water quality related BMPs**

PROGRAMS (examples)

- 1) BMP implementation teams  
AUDIENCES: all agriculture commodities
- 2) Certified Crop Advisor training  
AUDIENCES; crop advisors to agricultural community
- 3) Citrus Water Seminar  
AUDIENCES: citrus producers

**Outcome 2. Increase understanding of water quality related impacts to natural systems**

PROGRAMS (examples)

- 1) Water Schools  
AUDIENCES: community leaders, natural resource managers, decision makers
- 2) Explore and Protect Springs  
AUDIENCES: citizens living in karst regions and springsheds
- 3) Florida Master Naturalist  
AUDIENCES: interested public

**Outcome 3. Increase integration of urban water quality related BMPs and alternative development practices**

PROGRAMS (examples)

- 1) Green industries BMP program
  - a. AUDIENCES: lawn-care and landscape installation and maintenance services, grounds maintenance workers
- 2) Florida Friendly Landscaping Program
  - a. AUDIENCES: home owners, builders/developers, decision makers
- 3) Local Government Workshops (Program for Resource Efficient Communities)
  - a. AUDIENCES: local government staff and elected officials
- 4) LID Techniques Workshops (Program for Resource Efficient Communities)
  - a. AUDIENCES: developers, architects and stormwater engineers
- 5) Stormwater Pond Management Workshop (Collier County)
  - a. AUDIENCES: homeowners, community managers, landscape professionals

**PRIORITY 3: PUBLIC AWARENESS OF WATER ISSUES  
EXAMPLE OUTCOMES, PROGRAMS, and AUDIENCES**

**Priority 3 - Public Awareness of Water Issues:** Improve Floridian's knowledge about the value of water resources to Florida's ecology and economy and how water allocation, use, and quality impact Florida's water resources.

*Joan Dusky, Wendy Graham, Dorota Haman, Shannon McGee, and Joe Schaefer*

1. **Outcome 1.** At least 50% Florida legislators, surveyed annually, will indicate that their knowledge of water allocation, use, quality, and ecosystem impacts has increased as a result of UF/IFAS Extension's educational programming.

PROGRAMS (examples)  
AUDIENCES:

2. **Outcome 2.** Annually, 60% of youth<sup>i</sup> participating in 4-H Youth Development through workshops<sup>ii</sup>, camps<sup>iii</sup>, or 4-H Projects<sup>iv</sup> will demonstrate social action and environmental stewardship behaviors such as reduced home water use, increased conservation actions, or sharing knowledge of water resource issues as evidenced through self-evaluations, reports of community service projects, and other reporting tools.

PROGRAMS (examples)  
AUDIENCES:

3. **Outcome 3.** Over a 2 year period, 60% of County elected officials (currently in office) interviewed will indicate that UF/IFAS Extension is the best source for science-based non-partisan information on water quality, quantity, and environmental impacts related to water management activities.

PROGRAMS (examples)  
AUDIENCES:

4. **Outcome 4.** Over the course of a ten year public awareness and education drive, 50% of Floridians surveyed will indicate a knowledge increase about Florida's natural ecosystems and water resources as a result of UF/IFAS Extension's educational programming.

PROGRAMS (examples)  
AUDIENCES:

5. **Outcome 5.** After attending at least one UF/IFAS Extension educational program, 75% of participating public land managers will demonstrate via pre and post program tests knowledge gained regarding water resource connectivity and water resource management impacts on ecosystem functions.

PROGRAMS (examples)  
AUDIENCES:

## PROGRAMS (examples)

1. Water Schools: Extend programs taught in Polk County, Manatee County and TriCounty area (Pinellas, Pasco, and Hillsborough) to other regions of the state.
2. 4-H Youth Development Environmental Science programs focusing on water, e.g., 4H2O Ambassador Program, Earth Connections (ages 5-10), Water Wise Guys (ages 5-11), Give Water a Hand (ages 9-14), and Soil, Water and Land Use Series (ages 11-18)
3. Miscellaneous individual county programs such as Collier County's Stormwater Pond Management workshop, Collier County's Project Greenscape, Marion County's Explore and Protect Springs Program, and Manatee County Numeric Nutrient Criteria Workshops, Highlands County Citrus Water Seminar, Alachua County Water Workshop.

## AUDIENCES:

Legislators, regulatory agencies, county commissioners and managers, city councils and managers, youth, general public

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<sup>i</sup> 4-H is open to all youth 5-18 years of age. Youth are considered as 4-H'ers when they complete 6 or more hours of educational experiences whether it is through a workshop, camp, or a club project. Youth do not necessary have to be enrolled in a 4-H club to participate in such workshops or camps.

<sup>ii</sup> Six hours or more of education. I.E. guest presentations or seminars at 4-H club meetings, schools, or other youth organizations that cumulatively is at least six hours of education. Six 1-hour presentations are counted as one workshop.

<sup>iii</sup> Day camps or summer camps

<sup>iv</sup> Any 4-H Project relating back to water. I.E. home economics and reduced water use; gardening and efficient irrigation; farming and reclaimed water use; etc.