



# The Droplet

## Florida Water Environment Association Integrated Water Resources Committee

November 2009

Volume 1 Issue 4



### Committee News & Information

The Integrated Water Resource Committee (IWRC), together with the First Coast Chapter, the Water Reuse Committee, and FS/AWWA, organized a luncheon on September 29<sup>th</sup> in Jacksonville. Cammie Dewey, St. Johns River Water Management District, presented Florida's State Stormwater Rule Update. Over 60 people attended the event!

The IWRC has a website! The website can be reached through [www.FWEA.org](http://www.FWEA.org), then click on Committees on the left hand side of the main page, then click on the Integrated Water Resources Committee (<http://www.fwea.org/dynamics.asp?id=13>). The website provides details of upcoming events, lists the goals of the committee, and provides a roster of the committee members. In addition, past issues of *The Droplet* can be accessed.

I wanted to take this opportunity to thank all the committee members and sponsors for their support of the newsletter over the last year. I hope that everyone has found the newsletter informative and interesting. Please feel free to contact me at [turnerla@cdm.com](mailto:turnerla@cdm.com) if you are interested in contributing either through a technical article or a sponsorship.



*IWRC Secretary and  
Newsletter Chair,  
Leslie Turner*

### Agricultural Stormwater Reuse Alternative Water Supply

The agricultural areas surrounding Lake Okeechobee have been identified as significant sources of nutrients from stormwater runoff into the lake. In addition, the supply of water for potable use and for irrigation has been declining due to drought and increased demand. In 2006, the Florida legislature enacted SB444, which provided funding for alternative water supply projects through the water management districts.

Royal Consulting Services, Inc. (RCS) was asked to identify an agricultural site where stormwater reuse as an alternative water supply would be feasible. The 670 ac Raulerson & Sons Ranch in Okeechobee County was approved for funding and RCS commended final design and permitting in the fall of 2006.

The project originally was to provide stormwater reuse and 1-inch of treatment capacity. However, RCS was asked to modify the design to meet the proposed nutrient TMDL for the northern tributaries to Lake Okeechobee. RCS was able to modify the design and obtain additional funding from FDACS and the NRCS. The final permitted and constructed project included the following features:

- A three cell stormwater facility that provided 1-inch of treatment capacity and 1.5-inches of reuse capacity.
- The facility included a sedimentation basin (Cell 1), a treatment/storage area (Cell 2), and a wetlands polishing pond (Cell 3).
- Provided 260 mgy of stormwater for irrigation.
- Met stringent peak discharge requirements and had a decrease in total annual stormwater discharges by 90%.
- Included a new irrigation system and water control structures to rehydrate on-site wetlands.

The landowner received an award from the Florida Farm Bureau for outstanding efforts in implementing Best Management Practices.

**Chair:**  
Lauren Holman

**Vice Chair:**  
Liz Bartell

**Secretary:**  
Leslie Turner

**Treasurer:**  
Nestor Sotelo



### Florida Numeric Nutrient Criteria

As required by EPA, in order to address impairment of State waters due to nutrients, the FDEP implemented a detailed, EPA-approved plan for the development of numeric nutrient criteria. A Technical Advisory Committee (TAC), consisting of scientific experts from a variety of backgrounds including environmental groups, EPA, consultants, and state and local governments, was formed in 2002 and has met over 20 times during the rule development. Recently, EPA set a deadline for criteria development at January 14, 2010 for lakes and streams and January 14, 2011 for estuaries. A recent settlement between EPA and Earth Justice obligated EPA to promulgate criteria for Florida streams and lakes by October 15, 2010.

EPA guidance documents detailed 3 general approaches for the development of the criteria. The first and the State's preferred method was a "dose-response" relationship, which establishes a cause-effect relationship between nutrients and ecology. The second was the "reference site approach" in which reference sites (minimally disturbed) are selected and nutrient concentrations at these sites are characterized. The last approach (not used by FDEP) was the "all sites" method in which a large number of sites are used to set a standard for all water bodies.

After significant data collection and evaluation, the following criteria were identified and drafted in revisions to Chapter 62-302, FAC (Water Quality Standards) and Chapter 62-303, FAC (Impaired Waters Rule) to establish numeric nutrient criteria for lakes and streams:

*Streams (based on reference site):*

<i>Geographic Area</i>	<i>Total Phosphorus (TP) shall not exceed an annual geometric mean concentration of:</i>	<i>Total Nitrogen (TN) shall not exceed an annual geometric mean concentration of:</i>
Panhandle Region	0.069 mg/L	0.82 mg/L
North Central Region	0.322 mg/L	1.73 mg/L
North East Region	0.101 mg/L	1.73 mg/L
Peninsular Region	0.116 mg/L	1.73 mg/L
Bone Valley Region	0.415 mg/L	1.73 mg/L
South Florida Region	To be determined	To be determined

Not to be exceeded more than once in 3-year period

*Clear Streams and Springs (based on dose-response):*

- Establishes Nitrate/Nitrite criteria for streams of 0.35 mg/L as monthly median; Applies to clear streams and spring runs when color less than 40 PCUs; Expressed as not to be exceeded more than 10% of the time.

*Lakes (based on dose-response):*

- Establishes chlorophyll a, TN, and TP criteria for three types of lakes; Criteria expressed as annual geometric means and must not be exceeded more than once in any 3 calendar year period.

<i>Lake Type</i>	<i>Chlorophyll a</i>	<i>Total Phosphorus (mg/L)</i>		<i>Total Nitrogen (mg/L)</i>	
		Lower	Upper	Lower	Upper
Colored	20 µg/L	0.050	0.157	1.23	2.25
Clear-High Alkalinity	20 µg/L	0.030	0.087	1.00	1.81
Clear-Low Alkalinity	9 µg/L	0.015	0.043	0.85	1.14

- Establishes TP and TN criteria when chlorophyll a criteria is attained; For years when chlorophyll a met, TN and TP criteria are set at the annual geometric mean of measured values (lower than upper threshold).

Currently, since EPA has indicated they will promulgate numerical nutrient rules for Florida, DEP has slowed down its plan to adopt such criteria, although they have not stopped. FWEA has notified EPA that it intends to go to court on EPA's settlement – so it appears the whole process is now in the courts hands.

For additional information on the Numeric Nutrient Criteria Rule and to obtain the original documentation used to prepare the summary above, please visit: <http://www.dep.state.fl.us/water/wqssp/nutrients/index.htm>.

## Calendar of Events

<u>Date</u>	<u>Description</u>
December 1, 2009	IWRC Committee Meeting Teleconference
January 5, 2010	IWRC Committee Meeting Teleconference
February 2, 2010	IWRC Committee Meeting Teleconference
February, 2010	Social Event details to be placed on our website
March 2, 2010	IWRC Committee Meeting Teleconference

## Officer Contact Information

<u>Position</u>	<u>Name</u>	<u>Email</u>
Chair	Lauren Holman	<a href="mailto:LHolman@jonesedmunds.com">LHolman@jonesedmunds.com</a>
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Secretary	Leslie Turner	<a href="mailto:turnerla@cdm.com">turnerla@cdm.com</a>
Treasurer	Nestor Sotelo	<a href="mailto:nsotelo72@verizon.net">nsotelo72@verizon.net</a>
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Newsletter	Leslie Turner	<a href="mailto:turnerla@cdm.com">turnerla@cdm.com</a>

## Welcome New Members!

<u>Name</u>	<u>Company</u>
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