



# The Droplet

Florida Water Environment Association  
Integrated Water Resources Committee

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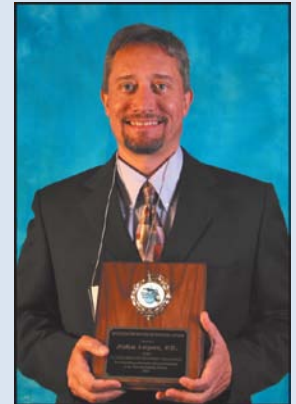
## Committee News & Information

The FWEA Integrated Water Resources Committee (IWRC) presented its annual award for 2010 to John Loper P.E., the President of Interflow Engineering, LLC.

The award is presented to individuals and organizations for outstanding contributions to the water resources profession in Florida.

Mr. Loper has over 15 years of experience in the field of water resources and is known for his technical excellence in the areas of groundwater modeling, watershed planning, and permitting. Mr. Loper is also known for his leadership role as one of the founders and early chairs of the Stormwater Committee, the predecessor to the IWRC.

To become an official sponsor of *The Droplet* or to consider becoming a member of the IWRC, please visit our website at <http://www.fwea.org/> or contact Susan Gerena ([sgerena@interfloweng.com](mailto:sgerena@interfloweng.com)) or Saurabh Srivastava ([Srivastava@pbworld.com](mailto:Srivastava@pbworld.com)).



John Loper P.E.

## A Win-Win Solution for Stormwater Management Systems: I-595 Shared-Use Drainage

The innovative I-595 Shared-Use Drainage project, developed by RS&H, is a win-win solution for the traveling public, community, and environment. The \$1.2 billion reconstruction of I-595 in Broward County, Florida, is one of the nation's largest infrastructure projects. It encompasses a total drainage area of 2,100 acres and requires 180 acre-feet of wet detention treatment volume. With limited right-of-way available, the project posed significant permitting and drainage challenges with millions of dollars in potential right-of-way acquisition costs. To minimize these costs and the associated impacts to the local communities, RS&H and the FDOT developed a shared-use stormwater management system by partnering with three golf courses adjacent to the corridor. By expanding the golf course ponds, the team found it could accommodate the stormwater requirements of the project while also improving the golf course facilities. Construction began in the summer of 2009, and, by October, the shared-use facilities were ready to receive stormwater conveyance from I-595. The innovative project led to significant time and costs savings, maximized the land-use and tax-based opportunities for the local communities, and serves as an example of "soft" engineering solutions that maximize transportation needs with the surrounding environment.



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## Role of Hidden Water in Water Conservation

By now, most of us are familiar with the usual water-saving tips, such as don't leave water running while brushing your teeth, check for and stop leaks, install low-flow fixtures, and resist the urge to unnecessarily water your lawn or garden. But how many of us are aware of our "hidden water" use and the quantity of water it entails?

The term hidden or virtual water was developed by Professor John Anthony Allan. Professor Allan, from King's College London and the School of Oriental and African Studies, was named the 2008 Stockholm Water Prize Laureate. Professor Allan pioneered the development of key concepts in the understanding and communication of water issues and how they are linked to agriculture, climate change, economics, and politics. <sup>1</sup>

Hidden or virtual water is a concept used to describe the amount of water needed in the production, manufacture, and process of the everyday products we buy. The table below illustrates this concept with a few common products. <sup>2</sup>

Product	Hidden/Virtual Water
Coffee	One cup of coffee takes approximately 37 gallons, and coffee accounts for about 2 percent of the total water used in crop production
Jeans	2,866 gallons
Paper	1,321 gallons for 500 sheets
Cotton T-shirt	400 gallons of water to grow the cotton needed for one shirt
Tires	More than 2,000 gallons for one tire
Dog food (40-lb. bag)	More than 4,000 gallons of water

Being aware of the hidden water in the products we use is a paradigm shift in how we view water conservation, but, by being mindful of our hidden water use, we can begin to take steps to reduce the total amount of water we use. Due to today's energy- and green-conscious movement, most of us are familiar with the term carbon footprint; now, a similar idea of a water footprint is being introduced. A water footprint is an indicator of water use that includes both direct and indirect water use of a consumer or producer. According to The Water Footprint Network, an organization that promotes conservation and sustainability: "An individual water footprint is equal to the water required to produce the goods and services consumed by the individual." <sup>3</sup> The calculations are based on the water requirements per unit of product in the country of residence.

Through the promotion of the water footprint concept, researchers are hopeful that the idea will gain in use and popularity, perhaps even a future where products will be labeled with their water footprint. Conservationists are trying to figure out how to best include the environmental impact in water footprints so they can be incorporated into food labels.

There is still a lot to learn and understand, especially from the consumers' point of view in relationship to hidden water and water footprinting. Until an agreed upon standard is developed to calculate and report the water footprint of a product, some researchers feel it is best to simply report the total volume of water used.

No matter what is ultimately decided, it is still our responsibility as consumers to educate ourselves and make appropriate decisions that will conserve both our tangible and hidden water usage.

### References:

1. <http://www.siwi.org/sa/node.asp?node=25>
2. <http://earth911.com/news/2010/07/12/hidden-water-in-your-products/>
3. Retrieved from the World Wide Web: <http://www.waterfootprint.org/>

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## Calendar of Events

<u>Date</u>	<u>Description</u>
August 25, 2010	IWRC Luncheon (See Below for Additional Detail)
August 26, 2010	IWRC Luncheon (See Below for Additional Detail)
September 7, 2010	IWRC Meeting Teleconference
October 5, 2010	IWRC Meeting Teleconference
November 2, 2010	IWRC Meeting Teleconference
December 7, 2010	IWRC Meeting Teleconference

### **Coquina Coast Seawater Desalination Project**

**Speaker: Scott C. Shannon, Malcolm Pirnie, Inc.**

Hosted jointly by the FWEA Central Florida Chapter and the IWRC  
**August 25, 2010**, at the Sheraton Orlando Downtown (Formerly Marriott)  
 400 W. Livingston Street, Orlando, Florida 32801  
 Registration Starts at 11:30 am; Cost \$25.00

Contact: Nicole Kolankowsky, 407.660.6359, [KolankowskyNE@cdm.com](mailto:KolankowskyNE@cdm.com)

### **The Statewide Stormwater Rule...Is It Heading into Deep Water?**

**Speaker: Jack Merriam, Sarasota County Environmental Services**

Hosted jointly by the FWEA Manasota Chapter and the IWRC  
**August 26, 2010**, at the Fete/Polo Grill in Lakewood Ranch  
 10670 Boardwalk Loop, Lakewood Ranch, Florida 34202  
 Registration Starts at 11:30 am; Cost \$25.00

Contact: Kristiana Dragash, 941-378-3579, [kdragash@greeley-hansen.com](mailto:kdragash@greeley-hansen.com)



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