Public Comments received on Alachua County's Water Conservation Initiative

9/15/2009
Hi Mr. Olmos,
I was reading the paper today and noticed an article about the county agency conducting a water conservation study. It states that environmental staffers are going to develop a list of ideas that residents can put to use. The continued headline is: Lawn irrigation may pose an obstacle. I am writing to you because I went on the web and tried to find contact info for director Chris Bird or someone that is in this department. I thought I would suggest the idea that people start using artificial grass for small to medium areas where grass is hard to grow or is costing a lot of money and irrigation water to keep up. This is also a great idea for restaurants as they only have small patches of grass that need to be maintained, watered, fertilized, pesticide, etc. I am writing this to benefit the city, environment, and residents as well as myself because I own an artificial grass dealership in North Florida and live here in Gainesville. Our turf is completely drainable and we lay it over 3-4 inches of recycled concrete which is also completely drainable, so the water will stay in its table. Please give this email to whoever is in charge of the study and tell them to please contact me, Steven Holzer, and check out our website www.foreverlawn.com for any additional information. I firmly believe that our turf systems can save everyone money and have a good impact on the environment as well.
Thanks, Steven Holzer—Manager North Florida Foreverlawn

10/23/2009
Gus,

thanks for the update. Scrubs is happy to participate in any program or charity initiative that you come up with.

I just came across this study that was posted in one of the car wash trade magazines.

You might find it of interest and use.

http://cityoffederalway.com/folders/home/yourcityservices/surfacewatermanagement/surfacewaterqualitymonitoring/2009%20FW%20Car%20Washwater%20Monitoring%20Study.pdf

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12/17/2009
Hello, Mr. Olmos. I suggest the County make it legal to do greywater reuse. That might take some coordination with the Health Dept. Thanks for your consideration.

12/17/2009
Robin,
This would be a great project to not only be environmentally friendly but also help stimulate jobs in the area. We at Florida Septic, Inc. deliver precast tanks throughout the state. We have

produced tanks for similar projects as these for residential, commercial and industrial sites. I think that collecting rainwater run-off and used water in underground storage tanks and using this as irrigation needs or other needs that do not require potable water would be an obvious first step in the process. From here I am sure that some entrepreneurs could develop some practices of recycling the water that is collected and not being used and be able to manufacture it for potable water. Please let me know if I can be of any help in the future as you look to improve the conservation efforts of the area.

12/18/2009

Stacie, Gus,

I work with a Gainesville-based company called Drops & Watts (http://www.dropsandwatts.com). We provide comprehensive energy and water audits to residences and small businesses throughout our region. We have provided this sort of services to Gainesville Regional Utilities, and currently have a contract with Beaches Energy in Jacksonville Beach.

Please find the attached "TAMPA WATER DEPARTMENT: RESIDENTIAL WATER CONSERVATION STUDY". I'm not sure if you have it already, but I think it has valuable information, pre and post retrofitting, that demonstrate big savings (40%-50% of indoor water) can be achieved with a low investment. Keep in mind that conserving Hot Water brings important energy savings (electricity and/or gas), so the Return on Investment improves significantly.

This study was presented in 2004 but retrofitting was performed using technology from around 1999-2002. I think with technology available today (1.5 gpm efficient showerheads, 1 and 1.5 gpm aerators, and toilet diverters, among others) both water savings and customer satisfaction should improve significantly.

From my prospective, PERMANENT EDUCATION is the key to accomplish the goals. Energy and Water Conservation should be part of our schools curriculums (Elementary, Middle, and High School). If we, as a community, can raise the awareness and work with children today, we will not need to fight adults 10-20 years from now.

Feel free to call me if I can be of any assistance.

12/28/2009

Dear Gus,

Thank you for sharing the draft of Alachua County Water Conservation Initiative with me.

I wanted to compliment the work of your team on this project – this report presents a thorough summary of water conservation strategies and policy tools available for various water use sectors.

I appreciate the opportunity to comment on the draft, and my main comment is related to the process of evaluating / selecting conservation strategies from the menu presented in the Initiative. In the current draft, the only criterion suggested for the ranking and selecting the conservation strategies is the principle used in FDEP (2002): "make sure that the biggest opportunities for improved water use efficiency receive the most attention" (Introduction, p.

3). My interpretation of this principle is that the strategies that lead to the greatest reductions in water use / improvement in water use efficiency will be preferred / ranked higher.

This principle implies evaluation of water conservation (i.e., "benefits") resulting from implementation of different strategies. As an alternative, I suggest examining both benefits *and costs*. In the report, I did not find any references to the costs of alternative conservation strategies, and the need to examine tradeoffs inevitable for each strategy. Costs include design, implementation, monitoring and enforcement of a strategy by agencies / governments. For example, the Initiative suggests conducting water audits and certifications, as well as issuing citations, which will result in human resources and financial costs for the state and regional agencies and for local governments.

Another category of costs is the "costs" for the parties implementing / affected by the conservation strategies (such as homeowners, agricultural producers, industries, developers, etc.). These costs can include disutility from "not visually appealing" lawns, time spent to implement conservation-oriented landscaping practices, reduction in market price for houses with "dormant" lawn, increase in revenue variability for the utilities implementing inclining block rate structures, etc. These costs should be evaluated and addressed.

In the survey conducted by American Water Works Association, a water professional commented that "more often than not, regulations that are first (and not the best) are implemented by authorities who do not take into account real-world limitations like costs" (p. 70, Runge and Mann 2008). I believe that such concern should be explicitly addressed in the Initiative.

Runge J. and J. Mann. 2008. State of the Industry Report 2008. *Journal AWWA*, 100: 10 (October), 61 – 74.

Another comment that I have is related to the introductory section of the Initiative. There is a need to offer some implementation framework for the Initiative, a future plan of actions (something like "Where do we go from here?" section in FDEP Florida Water Conservation Initiative (2002)).

The draft does not explicitly address water conservation for multi-family housing. Many apartment complexes do not meter individual water usage, and include payments for water use into the rent. As a result, residents cannot monitor their water use, and have very little incentives to conserve water. I believe that metering of individual water usage in multi-family housing should be included into the menu of strategies presented in the Initiative.

I am very glad to see the research on "behavior aspects of water conservation" as one of the strategies listed in the Initiative (Introduction, strategy Q "Conduct research to improve turf and landscape water conservation"). I believe that such research can be very important in advancing water conservation goal.

Below, there are some specific comments for individual sections of the draft. Again, thank you for the opportunity to review and comment on the document. Please, let me know if I can be of

any further help. I will be happy to help with literature review, or to provide additional feedback for any section of the document.

Introduction

On p. 6, "Water Use in Florida", the Initiative cites statistics from FDEP (2002), stating that "More water is withdrawn and used in Florida than in any other state east of the Mississippi River". It is important to note that about 63% of water withdrawals in Florida are saline water used for thermoelectric power production (mostly for cooling purposes). Freshwater withdrawals in Florida are very comparable (and often lower) than in other states east of Mississippi. USGS report by Kenny et al. (2009) presents a good summary of water use by state / sector and can be cited in Alachua County Water Conservation Initiative report.

Kenny J., Barber N., Hutson S., Linsey K., Lovelace J., and M. Maupin. 2009. Estimated Use of Water in the United States in 2005. USGS Circular 1344.
http://pubs.usgs.gov/circ/1344/pdf/c1344.pdf

Landscape Irrigation

On p. 2, the document suggests to "eliminate Homeowner Association (HOA) restrictions that restrict the use of Florida Friendly Landscaping and other water conservation techniques". I would include the reference to Florida Senate Bill 2080, which requires WMDs to provide model Florida-friendly landscaping ordinances to local governments. The Bill also states that "...certain regulations prohibiting the implementation of Florida-friendly landscaping or conflicting with provisions governing the permitting of consumptive uses of water are prohibited; … " (see http://laws.flrules.org/files/Ch_2009-243.pdf):

Studies from California are cited in this section to demonstrate potential reduction in irrigation water use resulting from conversion of turf grass to drought tolerant (p. 3, (Marina) and (Western)). California is the nation's leader in water conservation studies and water conservation policies. However, I am not sure if the results of the studies conducted in California are directly applicable to Florida (due to climate difference, for example). So, I would explicitly state that the results cited in the Initiative are not Florida-specific. I would also suggest contacting UF researchers about water conservation studies conducted in the state (Prof. Dorota Haman, the Chair of Department of Agricultural and Biological Engineering, should be able to help).

Water pricing

The study conducted by John Whitcomb "Florida Water Rates Evaluation of Single-Family Homes" should be referenced (http://www.swfwmd.state.fl.us/documents/reports/water_rate_report.pdf). Although the study is imperfect, this is almost the only water demand elasticity study conducted in Florida.

Section D "Phase in conservation rate structures" (p. 4) prescribes that "conservation rates should be phased in, concentrating on the largest utilities first. Inverted block rates should be used unless specific circumstances warrant an alternative rate structure, and only if the utility

can demonstrate that it will be able to achieve its water use objective under that alternative rate structure. (FDEP, 2002) (SJRWMD, 2009)"

Literature explores possible negative effects of conservation water rates on low-income customers, as well as on variability and predictability of utilities' revenues. Hence, EPA report suggests that "for effective pricing, utilities, communities, and water planners will need to consider at least three issues: the service population's ability to afford higher rates, the effects of conservation rates on a utility's revenues, and their actual effectiveness in reducing water demand." (p. 5-6, Stallworth 2003). Also, evaluation of water conservation stipulated by inclining block structures is very important. Inclining block rates can be designed in a variety of ways (number of blocks, price difference between the blocks, etc.), and not all of these designs induce water conservation. For example, a high uniform rate may provide greater incentives for water conservation than a low (on average) inclining block.

Stallworth, H. 2003. Water and Wastewater Pricing: An Informational Overview. U.S. Environmental Protection Agency. EPA 832-F-03-027.

http://www.epa.gov/waterinfrastructure/pricing/pdfs/waterpricing_final2.pdf

Homeowner Water Use

In the very beginning of this section, I would clarify that conservation strategies for landscape irrigation are discussed in the previous chapter.

p. 2, item L "Set a water budget": the goal of achieving the goal of 65 gallons per capita per day is based on a document developed for Massachusetts (EOEAWR, 2006). Appropriateness of this goal for Florida (which has different climate and population characteristics) should be discussed.

Reuse of Reclaimed Water

Somewhere before Table 1, it would be nice to explain the difference between "Total Permitted Reclaimed Water" and "Permitted Reclaimed Water Reuse" (which can be confusing). Further, in Table 1, for the University of Florida WRF, the value for "Permitted Reclaimed Water Reuse" is greater than "Total Permitted Reclaimed Water". How is it possible?

p. 3, "Link reuse to regional water supply planning": One aspect that is not addressed in existing literature is the link between potable water consumption and volume of water available for reuse. The more effective water conservation programs are, the less water is available for reuse. This link should be accounted for in regional water supply planning (or in other planning documents).

p.4, strategy "Encourage reuse system interconnects": some explanation of the term "interconnect" is needed ("connections between reclaimed water systems" according to FDEP

2002). I would also suggest deleting the sentence “This strategy develops a framework for encouraging such interconnections”, since it is not clear what strategy is referred to here.

1/5/10

1. Agriculture and power generation are the biggest water users, however they are not subject to local regulations
2. What are we going to do with the water saved, give it to Jacksonville?
3. Look at water savings from eliminating food compactors
4. Review Maryland Statewide Water Conservation Advisory Committee, Final Report, November 2000 http://www.mde.state.md.us/assets/document/drought/droughtreport.pdf and other documents at: http://www.mde.maryland.gov/Programs/WaterPrograms/Water_Conservation/Gov_Committee/index.asp

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1/6/2010

Hello Gus

I am principal of a creative firm in Gainesville, and also on the Association Board as VP at my residence, which is Sparrow Condominiums in Alachua County. We have the perhaps unusual situation that our community, comprising 158 units, a mix of 1 bedroom up to 3 bedroom residences, does not have individual water meters - all usage of potable water is measured and billed from one water meter. As such we are all at each other's mercy when it comes to water usage practices. Our water bill devours 1/5 of our annual association budget.

For that reason I initiated a water usage campaign to encourage conservation in 2008. I hired a local artist to illustrate some water saving tips and strategies. This was distributed on flyers periodically, then given a permanent home on our website, which my firm also created. The result has been positive, but with renters coming and going, and the passage of time people forget to conserve and we republish the information. My next approach is to create videos to illustrate the conservations tips.

If you are interested in using the illustrations we came up with as is or modified, please contact me.

You can see them at:
http://sparrowcondos.com/news-sparrow.php#watercampaign
download printable reminders at:
http://sparrowcondos.com/design/water/Save-water-reminders.gif
water campaign articles
http://sparrowcondos.com/forum/index.php?board=16.0

2/22/2010

Hi Gus

Thank you so much for presenting to the rural concerns committee.

Some of the points that I brought up for residential settings are

- Increase Soil Moisture Sensors for high end users especially institutions and commercial settings (incentivized)
- Increased reclaimed water distribution
- Tightening up on private shallow well permitting
- Low volume plumbing or dual flush was mentioned
- Gray water harvesting
- Rain water harvesting cistern etc.
- Temporary irrigations systems encouraged for drought tolerant landscapes
- If there is a mobile irrigation lab for farmers could it be extended to high end homeowners
- Zoysia is not necessarily a drought tolerant turf.
- And I would not suggest prohibiting St. Augustine grass it can survive with water once a week and the normal 52 inches of rain a year. Should it be limited and a Florida friendly landscaping encouraged- Absolutely.

You know I am happy to discuss these points further.
Again thanks for coming out to the Rural group,
Wendy

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3/1/2010 *
Gus,

Thank you for meeting Friday. Here are the comments I have compiled so far; two documents with detailed remarks are attached, general observations are below. We look forward to continuing to work with the county on this, and especially when the county staff moves closer to making specific recommendations.

The District is a good source of technical information about water conservation practices and we appreciate your consulting us. Please be aware that we now have a water conservation cost-sharing program.

We would urge Alachua County (and all county governments) to work with water utilities within their jurisdiction to merge utility account level consumption data with tax appraisal data to identify and map consumption. This process would show geographically where there is room for improvement in water conservation ("found water") year to year. Counties and utilities should work together to fully fund this process.

The comprehensive planning references and requirements in the Introduction and Reuse sections are accurate.

The Water Pricing chapter presents sound economic theory and brief explanation(s) on demand and in/elasticity, and clear explanations of the typical water industry pricing structures and their relative effectiveness for conservation. We note that most of the utilities have base charges and inclining block (conservation rates) except Hawthorne and the City of Alachua (perhaps due to size?). Since the county may not be able to control stimulus (pricing structures) to induce deliberate conservation actions by county residents and businesses, a long term, dynamic public relations strategy is needed to provide a clear understanding of the water supply industry and environmental constraints. The county should emphasize the use of "full cost accounting" versus "cash flow" accounting as the basis for future water pricing programs.

The document is clearly a comprehensive draft and an ambitious undertaking for Alachua County. The completion and implementation of the resulting program should place the county at the forefront of water conservation.

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3/22/2010 *
Hi Gus—

I apologize for the delay, but here are the comments from GRU on the County's Water Conservation Initiative Report. The attached documents have some embedded comments as well as a few tracked changes. Some overall comments regarding the report are listed below.

- To optimize the effectiveness of this initiative, the overall layout of the report should: (1) Assess where we are currently with water conservation strategies (there was no mention of the current water conservation programs that the utilities within the County are implementing); (2) Discuss our water conservation goals for the County (i.e., our regional water conservation potential and feasible goals—GRU is currently working with the SJRWMD to place numerical values with this concept); (3) Develop a prioritized list of water conservation strategies to meet the goals set in (2). Our goal is to conserve

water, let's develop a document (applicable County-wide) that will help everyone understand how to achieve that goal.

- We understand that one aspect of this document was to brainstorm possible water conservation strategies; however, some of the strategies that were discussed were impractical or are likely to be minimally effective at reducing water use. We recommend that the report take into consideration the practicality and feasibility of the strategies presented, and provide a "short" list of measures that are likely to be implementable and effective. We believe that the development of specific water conservation goals would better serve the intent of this initiative. Specific, effective conservation strategies will be easier and more palatable for utilities and local government to implement.

- Some of the recommendations in the report highlight conservation techniques or technologies that have not been sufficiently tested or accepted by Water Conservation Professionals (e.g., foam flush toilets, waterless urinals, etc). Sufficient laboratory and field testing should be performed before any technologies are recommended in a public document. The Conserve Florida Clearinghouse has information on tested and well accepted technologies by the Water Conservation community.

- The report should include an explanation of the various quality levels for treated effluent (i.e., public access reuse versus effluent treated for disposal, etc)—the term "reclaimed water" was used for all levels. This leads to a confusing picture for the reader and leads to recommendations that are not always appropriate or universally feasible.

We would be happy to meet with you next week to discuss these comments in more detail or to provide assistance with sections, as needed. Thank you for including us in the review process, we are happy to be involved with this project.

Thank you,
Jenn

Jennifer McElroy, E.I.
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4/1/2010 *

Gus - attached are the SRWMD's comments on the County's draft conservation plan elements. One overall suggestion is to steer clear of water use preemption recommendations and focus on conservation.

Thank you for the opportunity to comment. The SRWMD looks forward to working with the County in developing a viable and effective conservation plan.

Again, SRWMD appreciates the County's efforts in undertaking this important task.

Please contact me should you have any questions or would like clarification.

Best Regards,

Steve Minnis
386.362.8313

4/19/2010

Dear Gus,

I am attaching a study I did with audit data from the Palm Beach Soil & Water Conservation District. It supports the view that irrigation systems over time are not maintained and an audit system with a qualified auditor can save water.

There has been research done by the University of Florida showing that soil moisture sensors can save up to 70% compared to irrigation with no sensors. However, they must be installed properly (landscape location) and the threshold setting must be set correctly. The proper settings on the time clocks are also very important.

It is important that all county buildings and irrigated turfgrass incorporate these technologies as a showcase for county residences. It is also important to bring on the commercial properties. The county needs to assist with the “certifying” and education of landscapers, irrigation installers, etc. with this new technology. This could involve the county supplying the facilities and IFAS extension and/or irrigation vendors supplying the training and information.

Tom Olmsted
PhD Student
Agricultural and Biological Engineering Department
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olmsted@ufl.edu

4/19/2010

Dear Gus,

I would also like to comment on “D.” about only allowing drought tolerant turfgrass species. Using soil moisture sensors with properly set time-clock and other management practices will allow a good quality turfgrass with minimum water used. A larger factor in water use is the area planted to turfgrass. To maintain a healthy quality turfgrass, all the species will require about the same amount of water. When the water is turned off, some species will go dormant and the St. Augustine may die. I think the builders and homeowners need to know the possibility and probability that under what conditions all landscape irrigation will stop. I think prohibiting St. Augustinegrass is premature before the other water conservation options have been tried.

Tom Olmsted
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