Science and Environment Council of Sarasota County

SCIENCE AND ENVIRONMENT COUNCIL
OF SARASOTA COUNTY

Consensus
2009 Water Conservation and Low Impact Development Workshops

The Science and Environment Council of Sarasota County (SEC) developed its third series of workshops related to watersheds for policy and decision-makers. The two-part workshop was developed with support from the Southwest Florida Water Management District and held in late May and early June 2009.

The workshops sought to forge an understanding among a diverse group of stakeholders regarding water conservation and low impact development. To this end, SEC invited a varied group of local government decision-makers in land use planning and water management, local water utility operators, civic leaders, developers, and the media. Both workshops were well attended and the dialogue represented a rich cross-section of expertise and opinions.

During the first workshop, participants heard from government officials about the need for and commitment to implementing water conservation and Low Impact Development (LID) practices. Workshop participants spent the rest of the morning identifying problems and solutions. At the beginning of the second workshop, speakers presented examples of water conservation and LID case studies with discussion about what worked and what was hard to implement. Workshop participants then continued the discussion about solutions. This document summarizes the consensus reached during the two workshops. Workshop participants were invited to comment on a draft of this consensus document; edits were made to reflect feedback.

Most Critical Problems

- Financial rewards do not encourage homeowners, developers, and utilities to conserve water and adopt LID.
- Deed restrictions, community development agency codes, and land development regulations, particularly green lawn requirements, discourage water conservation.
- Lack of simple, consistent regulatory guidelines in certain areas, such as the development of cisterns, makes it hard to conserve water and develop LID solutions.
- The price of water fails to account for environmental degradation including aquifer decline and saltwater intrusion.
- Water issues are not considered holistically. Thinking of sewer, potable, and storm water as being in different systems does not allow us to create holistic “water budgets” that consider all water uses.

Recommended Solutions

Workshop participants brainstormed a range of solutions to these problems.

Change deed restrictions, community development agency codes, land development regulations, and simplify regulations

Workshop participants noted that the many layers of government, community development agency, and neighborhood regulations often make it difficult to implement water conservation practices and LID. A broad range of recommendations related to both the individual homeowner and regulatory agencies emerged. The two are closely interlinked as developers create new homes and neighborhoods, and homeowners retrofit. Recommendations are organized in four categories, reflecting four distinct types of actions:

Adjustments in allowable behavior (dial-twisting)

- Consistently allow watering only one day a week on a year round basis
- Match landscaping to cistern capacity
- Retrofit existing development

Changing the rules (as opposed to adjusting rules)

- No longer require St. Augustine grass in deed restricted communities
- No longer require any green grass in deed restricted communities
- No longer allow the use of treated potable water for residential turf irrigation. Impose penalties to enforce
- Incorporate LID in comprehensive planning
- Change road construction codes to incorporate LID practices
- Change urban planning practices and regulations
- Approve the use of cistern water as drinking water. Equate cistern standards to private well standards. Work with health departments to include reuse water inside homes and to rethink plumbing in homes to access different kinds of water for different uses
- Regulate and meter cisterns larger than a to-be-determined capacity
- Regulate and meter wells
- Create a broad standard for reuse of water inside buildings to encourage the indoor use of cistern and gray water
- Update codes to eliminate existing conflicts between state, regional and local codes

Building-in changes that persist independent of individual behavior

- Use a master control to manage irrigation, allowing the homeowner association to determine the irrigation schedule rather than the individual homeowner

- Expand tree canopies to intercept and collect rainwater
- Encourage native vegetation and zero-irrigation
- Approve and implement LID standards
- Use green roofs
- Incorporate wetlands in water retention systems
- Restructure existing canals to be broader and shallower

Changing how information about the systems is reported

- Reassign responsibility for managing water problems when a homeowner is away, to a property manager or a neighbor

Rethink how we think about water

Workshop participants talked about provocative alternative views on water management that implicitly question some of the underlying assumptions or paradigms that have been the historic basis of water management. Some of them are:

- Water is free
- Water is there for the taking, for human use
- If people can pay for it, they should be able to use as much water however they want
- Using less water is not equivalent to finding more water
- Private wells are inherently safe and appropriate; cisterns are not
- Centralized systems are more efficient than decentralized

> "So how do you change paradigms? Thomas Kuhn, who wrote the seminal book about the great paradigm shifts of science, has a lot to say about that. In a nutshell, you keep pointing at the anomalies and failures in the old paradigm, you come yourself, loudly, with assurance, from the new one, you insert people with the new paradigm in places of public visibility and power. You don't waste time with reactionaries; rather you work with active change agents and with the vast middle ground of people who are open-minded."
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> http://www.wholeearth.com/issue/2091/article/27/places.to.intervene.in.a.system

Workshop participants noted that communities do not pay the "real" price of water, and that the structure of funding mechanisms can discourage water conservation. Solutions include:

Water management districts

- Allocate dollars to subsidize and reward utilities that conserve water and thus do not need to develop more infrastructure
- Compare the cost of new infrastructure to the cost of conserving water

- Make water conservation efforts of utilities eligible for water supply development dollars
- Link new water sources to per capita use limits
- Meter cisterns larger than a to-be-determined capacity and meter wells so usage can be included in the understanding of water needs in the development of water supply systems

Consider water systems holistically:

- Better use of untreated well water and storm water
- Use of agricultural water
- Promote the use of cisterns and track usage with meters on cisterns larger than a to-be-determined capacity
- Meter wells
- Consider soil conservation and preserving native soil conditions
- Consider the whole ecosystem and the hydrologic cycle
- Consider a regional hydrologic restoration surcharge
- Rethink capacity fees to reflect different water sources and uses
- Recognize the need to consider alternative fire protection strategies (potable water pipes are sized based on fire protection needs that use large amounts of water; overhead sprinkler systems in residential settings can help limit the number of fires)
- Investigate a cap and trade model for irrigation

Financial Incentives

Workshop participants discussed using changes in the price of water to alter behavior. In general this means rewarding people who use less and charging more to those who use more. These approaches will likely be more successful when they are revenue neutral – such as “feebates” that transform disincentive penalties into incentive payments or discounts.

A number of financial incentives were suggested:

- Tax incentives for water conservation and for using cisterns
- Reduce impact fees for water saving construction
- Rebates from water management districts to utilities with low per capita use, so the utility can, in turn, send rebates to customers
- Rebates to homeowners for toilet replacement, rain shut-off devices for irrigation, or replacing turf
- Impose an excise tax on bottled water
- DEP, City, County grants for water conservation and LID demonstration projects
- Promote retrofitting
- Provide model homes and showcase demonstration projects in public buildings to encourage

people to change practices in their own home – both to save money and to save the environment

- Determine the financial reward for a seller making the house green

Public Education

Workshop participants underscored the importance of educating the public by providing a consistent and holistic message about water conservation, energy use, and storm water reduction. The message should focus both on "saving the environment" and "saving money" for individuals, businesses, and taxpayers.

- For taxpayers: saving water is less expensive than building new infrastructure
- For homeowners and business: develop demonstration projects in public buildings to showcase examples of how LID and water conservation cost less. Demonstrate landscaping practices that support a smaller carbon footprint and minimize climate change
- For neighborhood groups and homeowner associations: Highlight subdivisions with deed restrictions that promote environmentally sound practices. Develop a meter for each home, showing how a change in behavior effects water use ("Prius effect"). Create criteria to rate environmental practices of subdivisions and neighborhoods

Research

While the importance of water conservation is clear, the specific benefits of implementing various practices needs further research, so we can better target actions that make the most difference. In particular, pilot projects and data are needed to confirm which LID practices are most effective, and where the biggest difference can be made.