

KEY

Green Text: Stakeholder Input

Violet Text: District Proposals

Black Text - Narrative and/or Accepted Language from Iteration 1

Blue Text*: Based on a 2007 "Being Drought Smart" Strategy

**South Florida Water Management District
Water Conservation Program Plan**

Message from the Governing Board Chair

Message from the Executive Director

Governing Board Resolution

Introduction

- Brief District Overview
- Developing a Water Conservation Program for South Florida – a Stakeholder Approach
 - Drought
 - Summit
 - Stakeholder Group
 - Background
 - Participants
 - Task
 - Process
 - Timeline
 - Incorporate strengths, weaknesses, opportunities, threats
 - Core Values

Water Supply

- Where our water comes from
- Supply vs. population growth

Water Use

- National Water Use
- Statewide Water Use
- Consumptive Use in South Florida

State of the System

- How We Got Here

A History of Water Conservation in South Florida

- Existing Programs and Initiatives

Working Draft Water Conservation Program Plan
February 19, 2008, second iteration

- Successes
- Evolution of the Conserve Florida Initiative

Alternative Water Supply

Being Drought Smart - Recommendations for a Drought-Resistant Florida

Water Conservation Program Executive Summary

- 2020 Vision
- Program Components/Goals/Strategies

A 2020 Water Conservation Program for South Florida

Vision

Create and implement a comprehensive and enduring water conservation program for South Florida. This successful program achieves a measurable reduction in water use, inspires governments, citizens and businesses to value and embrace a conservation ethic and serves as a national model for water conservation.

Core Values

- Sustainable;
- Science-based;
- Measurable;
- Goal-based;
- Environmentally-protective; and
- Equitable.

Program Initiatives and Strategies

To realize the vision of the South Florida Water Management District's water conservation program, the plan is organized into three program initiatives: **regulatory, voluntary and incentive-based**, and **education and marketing**. Each of these major initiatives has a corresponding goal, implementation strategies and success indicators, along with deliverables and milestones.

Built on a set of core values, the plan's goals and implementation strategies are designed to establish a proactive water conservation program that ensures, in conjunction with other District initiatives, an **adequate and reliable** supply of water to both protect the health of the ecosystem and satisfy **current and** future public water demands.

Developing a reliable and sustainable funding strategy is essential for institutionalizing the components of the water conservation program. To this end and to ensure Floridians realize the most benefit from their investment in water conservation, the program plan prioritizes the strategies identified on a cost to benefit basis. Last, the program recognizes and bases decisions on the premise that water conservation is the least costly and most readily available source of water.

Regulatory Initiatives

From consumptive use permitting and local landscape ordinances to year-round irrigation **conservation measures**, rules and regulations have a role in advancing water use efficiency, promoting water conservation as the least-cost source of new water and

protecting the natural environment. Reducing water use through a combination of regulations and voluntary initiatives will help to sustain our limited water supplies.

Chapter 373, Florida Statutes requires a water use permit for all ground or surface water use. Permit allocations are evaluated on what has come to be known as the “three-pronged test: that any new use be reasonable and beneficial, in the public interest, and not interfere with an existing, legal user. The requirements for permit issuance are found in the **Water Use Basis of Review (40E-2 and 40E-20) of the Florida Administrative Code.**

Associated with water use permits are standard and particular conditions for permit issuance, which serves as the basis of this section. Incorporating conservation practices into permit standard language and limiting conditions could lead to significant water savings.

Local government ordinances can also result in reductions of water use for landscape irrigation, assure the planting of low-water-using vegetation, and incorporate a sensible water using ethic for communities. Finally, other sectors of the economy such as industrial, commercial, institutional and recreational users, could utilize more efficient methods available for using water. This section describes regulatory tools for increasing water use efficiency and reducing water use by permitted water users, and addresses how these regulatory changes might be implemented or enforced.

Goal

In partnership with utilities and local governments, adopt and implement goal-based water conservation regulations, local ordinances and utility practices to promote water efficiencies, further advance water management and achieve measurable reductions in public and private water use.

Strategies

I-A Public Water Supply

1. Increase the implementation of water conservation within the South Florida Water Management District
 - a. *Action Step:* Incorporate goal-based conservation plans, utilizing the Conserve Florida Guide, for large utilities (defined by the District’s Water Use Basis of Review as utilities serving 50,000 or more customers) where applicable, with the proviso that eventually medium utilities (those serving 3,300 to 49,999 customers) will also participate in goal-based conservation, and small utilities, if it is feasible.
2. Encourage utilities to develop effective water conservation rates as part of an overall business strategy that provides a reliable revenue source while providing a disincentive for overuse of water.

- a. *Action Step:* Define minimum standards in water use permit criteria for conservation rates and require their use by utilities as part of consumptive use permitting, based on the American Waterworks Association Rate Manual and the WateRate software application.* This action step is to establish minimum standards within which utilities can operate to sustain the particular needs of their communities.
- b. *Action Step:* Build consensus on criteria for adopting drought rates as part of utility conservation rate structures.*
3. Require leak-detection programs for utilities where the unaccounted-for water meets and then exceeds existing permit requirements.
 - a. *Action Step:* Review current definition and criteria for the term “unaccounted-for water” and revise as appropriate.
 - b. *Action Step:* Create and maintain a database of utilities for inclusion in the program.
 - c. *Action Step:* Calculate and record actual water savings from leak-detection programs.
4. Require utilities to quantify total potential water savings in their public water supply service areas through a service-area-wide retrofit program. Identify and develop financially feasible large-scale retrofit programs based on an established set of criteria.
 - a. *Action Step:* Ensure local government comprehensive plans, water facility plans, and District Regional Water Supply Plans contain useful, effective conservation projects accomplishing appropriate water-conservation goals for individual public water suppliers and their communities.
 - b. *Action Step:* Devise periodic review of progress on implementation of conservation projects and resultant water savings.
 - c. *Action Step:* Work with local government and District planners, and regulation staff to develop large-scale retrofit programs.
5. Require local governments to incorporate conservation sections into their water supply element of the comprehensive plan.

I-B Landscape Irrigation

6. In cooperation and coordination with South Florida stakeholders, develop consistent water conservation rules to implement year-round landscape irrigation measures.
 - a. *Action Step:* Continue existing rule development process, adopt and implement rule.
7. Encourage local governments’ landscape code ordinances be consistent with the standards developed by the “Landscape Irrigation and Florida-Friendly Design Committee” (section 373.228, Florida Statutes).*
 - a. *Action Step:* Incorporate in the District’s Water Use Basis of Review, minimum standards for landscape codes concerning Florida Friendly plants and landscape design.

- b. *Action Step:* Encourage local governments to amend their landscape codes to be consistent with standards established by the Landscape Irrigation and Florida-Friendly Design Committee, which promotes drought-tolerant native landscapes and materials indigenous to this region requiring little irrigation beyond rainfall.
8. Revise the statutory provision (s. 373.62, F. S.) requiring operational sensors on all automatic irrigation systems to ensure these devices are properly connected and maintained in working order.* The revision would ensure contractors test rain and soil moisture sensors and repair those not in working condition before performing any work on the property
- a. *Action Step:* Require that regulatory items such as the use of rain sensors and their maintenance are accounted for in the permit review, and have been implemented.

I-C Industrial, Commercial, and Institutional (ICI) Uses

9. Institute follow-up procedures to ensure individual permit holders adhere to the water conservation plans that are permit requirements for ICI users.
- a. *Action Step:* Develop listing of all ICI uses having individual permits, and their permit expiration dates.
 - b. *Action Step:* Develop compliance follow-up methods for all new ICI permit applications.

I-D Golf Courses

10. Confirm that golf course permit requirements are implemented.
- a. *Action Step:* Require documentation that rain sensors are installed on golf courses, and are in working order.
 - b. *Action Step:* Require confirmation that Florida Friendly Landscaping principles are adhered to in golf course design, and in replacement planting.
11. Require that future golf courses are designed to reduce overall irrigated acres.
- a. *Action Step:* Add a requirement to golf course permits to convert out-of-play areas to native plants and remove those areas from irrigation coverage.
12. Require installation of integrated rain sensor/weather station systems on all new golf courses and in renovated courses.

Success Indicators

Deliverables and Milestones (Near-Term 2010; Long-Term 2020)

Voluntary and Incentive-Based Initiatives

Voluntary and incentive-based initiatives, including financial assistance and recognition programs, often surpass the effectiveness of the traditional command and control

approach to business, industry and individual practices. Rather than solely relying on rules, cooperative public-private partnerships can supplement regulations and build goodwill, leverage investments, bring wider environmental benefits and significantly improve the quality of life of our communities. In today's environment, businesses along with governments and consumers recognize the cost-savings associated with **best management** and conservation practices. Consequently, individuals and commercial enterprises are voluntarily changing behaviors and adopting environmentally-conscious and **best management practices** not only for the social value but also because of the economic returns.

In addition, Chapter 373.0391(1), F. S. requires the water management districts to provide local governments with technical information and assistance on water resource issues related to growth management, including support with developing and revising local government comprehensive plan elements.

Goal

Expand voluntary government and industry partnerships and strengthen economic incentives to encourage public and private investments in water conservation. Create and make available to water using sectors incentive programs for water conservation projects **and programs**.

Strategies

II-A Leading by Example

1. Conduct water audits and implement conservation plans for District facilities. *
2. Work with the State and other governments to conduct water audits and **implement** conservation plans for government and public facilities.*

II-B Public Water Supply

3. Encourage utilities to implement automated meter reading programs to provide real-time identification of high water usage within the South Florida Water Management District.*
4. Work collaboratively with utility representatives to identify regional conservation opportunities and applications.
 - a. **Action Step:** Work with public utilities to target the highest users, identify areas needing financial assistance and identify programs where the greatest amount of water savings can be realized.
 - b. **Action Step:** Seek to increase funding and technical assistance to establish, maintain and refine water conservation projects and programs.
5. Encourage utilities to use automatic line flushing devices.
6. Work with utilities and industries to select recommended water audits for use by industrial, commercial, and institutional water users.

- a. *Action Step:* Assist utilities and industries in compiling a list of potential water efficiency auditors.
- b. *Action Step:* Assist utilities in implementing water audit programs for industrial, commercial and institutional customers.*
- c. *Action Step:* Investigate the potential to integrate water audits with energy and green building initiatives

II-C Agricultural Irrigation

7. Cooperate and collaborate with the Florida Department of Agriculture and Consumer Services, the University of Florida's Institute of Food and Agricultural Sciences (IFAS) and the agricultural industry to create and implement agricultural water conservation programs.
 - a. *Action Step:* Work with the industry and agencies to expand the availability of mobile irrigation labs to achieve water conservation Best Management Practices for agricultural irrigation.*
 - b. *Action Step:* Utilize the mobile irrigation labs to conduct follow-up exams to determine water conservation recommendations are implemented.
8. Work with the Florida Department of Agriculture and UF/IFAS to increase implementation of agricultural water conservation Best Management Practices.*
9. Improve methods for measuring water use and estimating agricultural water demands.*
10. Collaborate with the Florida Department of Agriculture, UF/IFAS and the agricultural industry to convert flood and overhead irrigation to higher efficiency systems where appropriate.
 - a. *Action Step:* Create a District-wide database and map coverage to indicate the aerial distribution of different irrigation types such as microjet, flood and overhead irrigation. Document water savings resulting from conversions of flood and overhead to microjet.

II-D Alternative Water Sources

13. Encourage the diversification of supply sources and reduce dependence on regional freshwater resources through development of alternative water supplies.
 - a. *Action Step:* Assist municipalities, utilities and water users with the expansion and installation of reclaimed water systems.
 - b. *Action Step:* Provide special consideration for users that have implemented alternative water supply projects (on a case-by-case basis) during a water shortage.
 - c. *Action Step:* Strengthen the existing conservation requirement in the alternative water supply funding application to encourage additional conservation measures and establish minimum standards.
 - d. *Action Step:* Continue to provide funding and technical assistance to entities developing alternative water supplies including reclaimed water, desalination and aquifer storage and recovery (ASR).

II-E Financial Incentives

14. Recognize an support existing programs resulting in water savings to reduce financial redundancy.
15. Continue to offer the Water Savings Incentive Program (SIP), and identify opportunities for expansion.
 - a. *Action Step:* Expand the Water SIP program, targeting the greatest efficiency opportunities.*

II-F Golf Courses

16. Create a recognition program for water-wise golf courses to acknowledge their water conservation initiatives.
17. Encourage appropriate ground covers on golf courses to reduce water use.
 - a. *Action Step:* Encourage ground covers with high-salt tolerance in coastal golf courses so they may use brackish and saline water to irrigate.
 - b. *Action Step:* Encourage drought-tolerant ground covers so golf courses can reduce their irrigation.
18. Work with the golf industry and encourage the design of future golf courses to consider reducing overall irrigated acres.
19. Encourage the conversion of out-of-play areas on existing golf courses to native plants and remove those areas from irrigation coverage.

II-G Landscape Irrigation

21. Work with utilities, local governments and industry to expand the availability of mobile irrigation labs to improve water efficiency.*
 - a. *Action Step:* Utilize mobile irrigation labs to conduct follow-up inspections to determine whether water conservation recommendations are implemented.
 - b. *Action Step:* Expand urban mobile irrigation labs to be “mobile conservation labs” by including simple, low-flow indoor devices on urban mobile irrigation lab trucks, with information on installation.
 - c. Work with local governments and other programs to seek out funding sources to supplement District funding.
22. Promote the use of high efficiency systems for landscape irrigation.
23. In collaboration with utilities and other agencies, develop recognition programs to designate “Florida Water Wise” homes, communities, or cities, similar to Certified Florida Yard.
 - a. *Action Step:* Provide local program support, where applicable, and recognize existing and complementary programs. Increase coordination to reduce program overlap and enhance technical assistance to existing and new programs.
24. Work with nursery and grower commodity groups to promote Florida-Friendly plants.

25. Evaluate the premise of relying less on days a week and more on science-based irrigation methods.
26. Collaborate and support, when feasible, the UF/IFAS efficient irrigation research.

II-H New Development

27. Partner with the St. Johns River Water Management District to expand the Florida Water Star program to South Florida. The program currently offers resources and incentives to builders and home buyers who value water efficiency in new home construction.
 - a. *Action Step:* Use the voluntary program to recognize and designate design professionals whose construction meets program water conservation design standards.
28. Promote Leadership in Environmental Energy and Design (LEED) certification of new construction.
29. Work with contractors and local governments to provide new construction with technology providing the greatest water use efficiency at the time of construction.
 - a. *Action Step:* Provide incentives for going beyond what is required.

II-I Hospitality and Lodging Water Savings

30. Partner with the Florida Department of Environmental Protection to enroll, support and expand the Florida Green Lodging program in South Florida. The program recognizes and rewards environmentally conscientious lodging facilities and encourages the lodging industry to conserve and protect Florida's natural resources.
31. Work with local governments and hospitality professional associations to perform water audits on hotels, motels, inns and other establishments not using Green Lodging, and to implement audit recommendations.
 - a. *Action Step:* Determine an appropriate entity and method for performing water audits through collaboration with the hospitality and lodging industry and the Florida Department of Environmental Protection.

II-J Industrial, Commercial, & Institutional Water Uses

32. In partnership with local governments and professional associations, perform water audits on facilities, hospitals, learning institutions, and other establishments and implement audit recommendations.
 - a. *Action Step:* In collaboration with industrial, commercial and institutional water users and other effected entities, determine an appropriate entity and method for performing water audits.
33. Work with the Water Use Efficiency Division of the Florida Section of the American Waterworks Association to refine and recommend methods to reduce the water use of cooling towers in the District.
34. Encourage establishments to install only ornamental fountains using minimal quantities of water, including recycling features.

35. Collaborate with industrial, commercial and institutional water users to implement reuse on cooling towers.

Success Indicators

Deliverables and Milestones (Near-Term 2010; Long-Term 2020)

III. Education and Marketing Initiatives

Education, outreach and social marketing are essential for accomplishing a measurable change in water conservation and instilling a lasting conservation ethic in South Florida businesses and communities. Public information and involvement, along with education partnerships and support for existing successful local and statewide programs, are also critical to the success of South Florida's water conservation program. It is important that residents, visitors and decision-makers understand and appreciate the connection between the availability of water, our quality of life and the ecological and economic health of the region. Targeted education, public information and social marketing provide opportunities for building a conservation culture, instilling a stewardship ethic and permanently reducing individual, industrial and commercial water use.

Goal

Collaborate and coordinate with regional partners to educate and inform residents and visitors about their environmental, economic and social responsibility, foster a culture of conservation and position the State of Florida as leader in water conservation.

Strategies

III-A School-Based Education

1. Build on existing programs and initiatives to institute educational water conservation programs in public schools, educate school-aged children on the benefits of water conservation and create a consciousness for conservation for future generations.
 - a. Action Step: Work collaboratively with local governments and other regional organizations to identify, support and, where appropriate, expand the reach of existing and successful school-based water conservation education curriculums and lessons, including the Great Water Odyssey, The Everglades: An American Treasure, Project WET and WET in the City.
 - b. Action Step: Expand the District's Great Water Odyssey educational program. The computer-based interactive curriculum for 3rd, 4th and 5th grade students is an existing multidisciplinary education experience that correlates to Florida's Sunshine State Standards with a focus on water conservation.

Comment [d1]: Stakeholder group to identify others

- c. *Action Step:* Offer Great Water Odyssey teacher training workshops annually in each of the District's sixteen counties to promote water conservation in schools.
- d. *Action Step:* Create a Water-Wise School program for high schools and ambassadorship opportunities by tapping into required community service hours. The program would encourage students to follow water conservation criteria and conduct water conservation indoor retrofits and outdoor landscaping measures to receive a Water-Wise flag to display in front of the school.
- e. *Action Step:* Collaborate and coordinate with regional partners to promote and support the use of existing water conservation classroom resources in South Florida middle and elementary schools.
- f. *Action Step:* Expand the District's water conservation web site (www.savewaterfl.com) to include a one-stop repository where teachers and students can download existing water conservation educational resources.

III-B Public Information

2. Collaborate and coordinate with local governments and regional partners to inform and educate elected and community leaders, businesses and industry, along with visitors, permanent and seasonal residents, on the benefits of water conservation.
 - a. *Action Step:* Work collaboratively with local governments and other state, local and regional organizations and subject-matter experts to identify and utilize water conservation public information materials and "how to" guides, including publications on water efficiency, water conservation, the use of water saving products, Florida-friendly landscaping and water efficient urban enhancements.
 - b. *Action Step:* Collaborate and coordinate with state, regional and local organizations, including local governments and the University of Florida's Institute of Food and Agricultural Sciences (IFAS), to support Florida-friendly landscaping programs and educate the public about water-wise irrigation practices.
 - c. *Action Step:* Partner with the University of Florida's IFAS Extension -- a partnership between state, federal, and county governments to provide scientific knowledge and expertise to the public -- to utilize an existing network of scientists, educators and volunteers, teach Florida friendly landscaping and conserve water.
 - d. *Action Step:* Work collaboratively with the Governor's Office, the Department of Environmental Protection, water management districts, local governments and other appropriate organizations to encourage consistency in the branding, messaging and public information collateral used to promote water use efficiency and conservation across the state.
 - e. *Action Step:* Develop any additional necessary collaterals in collaboration and partnership with the Department of Environmental Protection, the State's water management districts, local governments and other appropriate

- organizations to ensure public information materials can be readily adapted and adopted and replicated in all regions of the state.
- f. *Action Step:* Continue to develop the District's water conservation web site (www.savewaterfl.com) as a central repository and portal for public information on water conservation and existing programs.
 - g. *Action Step:* Continue to work in partnership with the news media to assist in the dissemination of water conservation public information.
 - h. *Action Step:* Work with the U.S. Environmental Protection Agency (EPA) to become a WaterSense promotional partner, and encourage local governments to become WaterSense promotional partners. EPA is building WaterSense as a national brand for water efficiency that encourages water-efficient behaviors and the purchase of quality products that use less water. Becoming a promotional partner provides free marketing tools and resources and strengthens water-efficiency outreach efforts by utilities, state and local governments with a credible, national brand and a strong, consistent message.
 - i. *Action Step:* Work with large and small utilities to phase in informative billing on water use, where possible.*
 - j. *Action Step:* Collaborate and coordinate with local governments to develop consistent and effective enforcement through education and public information to promote compliance with landscape irrigation restrictions.*
 - k. *Action Step:* Develop and implement a voluntary water conservation challenge, encouraging Floridians to "reduce their use."
 - l. *Action Step:* Maximize resources by engaging community colleges and university students in the development of water conservation public service announcements for broadcast, if needed.
 - m. *Action Step:* Maximize resources by engaging community colleges and university students in the development of water conservation public service announcements for broadcast.

III-C Professional Development

- 3. Offer voluntary training to business and industry sectors (e.g. turf and landscape industries, plumbing, general contractors, educators, HVAC) on implementing conservation changes and best management practices.
 - a. *Action Step:* Partner with trade schools, colleges and service industries to provide water conservation certifications to professionals.
 - b. *Action Step:* Work with the U.S. Environmental Protection Agency to promote WaterSense certifying organizations that train and certify professionals to implement water-efficiency best practices according to specifications set by EPA in specific professional categories.
 - c. *Action Step:* Work with the U.S. Environmental Protection Agency to promote WaterSense landscape irrigation professionals including designers, auditors, and installation and maintenance professionals that are certified to implement water efficiency best practices.

- d. *Action Step:* Work with professional organizations, including the Florida Section American Waterworks Association and the Alliance for Water Efficiency, to develop conservation courses for CEUs, and other continuing educational credits for water conservation professionals, planners, design, building and landscape professionals.

III-D Social Marketing

4. Develop and implement an effective social marketing campaign that inspires an enduring water conservation ethic. *Different to public information, social marketing uses the principles of commercial marketing to influence social behaviors and bring about permanent behavior change.*
 - a. *Action Step:* Conduct market research to understand the audience, identify barriers to change ways to eliminate the obstacles to adopting everyday, individual water conservation habits.
 - b. *Action Step:* Develop message and select mediums, including print, electronic and broadcast media.
 - c. *Action Step:* Pre-test the campaign.
 - d. *Action Step:* Implement a multi-media social marketing campaign to effect individual behavior change.
 - e. *Action Step:* Maximize earned media.
 - f. *Action Step:* Evaluate the results and adapt the campaign as new information and data on the effectiveness of the campaign becomes available.

III-E Volunteer Activities

5. Augment *District* water conservation education and public information efforts through grass roots, *volunteer public outreach initiatives that will leverage available resources and strengthen the District's ability to reach a variety of audiences about the value and importance of water conservation.*
 - a. *Action Step:* Develop a corps of "water ambassadors" to assist the District in achieving its goals of water conservation education, public information and outreach.
 - b. *Action Step:* Conduct "water academies" to develop the knowledge base of recruited *volunteer water* ambassadors.
 - c. *Action Step:* Task trained ambassadors with supplementing the District's outreach activities and engaging and sharing information with their peers, communities and business sectors.
 - d. *Action Step:* Support existing and successful local volunteer programs that promote water conservation, where appropriate.

Success Indicators

Deliverables and Milestones (Near-Term 2010; Long-Term 2020)