quick facts on...

Florida-Friendly Landscaping:

How to Save Water through Water-Smart Planting

The South Florida Water Management District *is a regional, governmental agency that oversees the water resources in the southern half of the state. It is the oldest and largest of the state's five water management districts.*

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Seagrape

Did you know that half of all potable (drinking) water in South Florida is used for outdoor irrigation? You can cut outdoor water use substantially by installing water-conserving plants and applying Florida-friendly landscaping principles in your outdoor spaces.

Florida-friendly landscaping conserves water and protects the environment through the use of native and drought-tolerant landscaping, with proper maintenance and water-wise irrigation. Follow the nine principles of Florida-friendly landscaping, and you'll be well on your way to saving water and enjoying your beautiful Florida yard!

1. Right Plant, Right Place. Almost any plant will survive in your landscape if you plant it in the right place. You can drastically reduce the need for water, fertilizer, pesticides and pruning if you choose and group plants according to their water and sunlight needs, as well as the type of soil, sunlight exposure and water conditions of your planting sites. Be sure to also remove invasive exotic plants that may steal water and nutrients from your Florida-friendly plants.

2. Water Efficiently. Efficient watering will not only help you save money and conserve water, it can also create a healthier landscape. Avoid overwatering, use micro-irrigation, and water your lawn and plants only when you know they need it or when they show signs of stress.

3. Fertilize Appropriately. Plants, animals and people depend on clean water for survival. When too much fertilizer is applied to landscapes, it seeps past the root zone of the grass, plants or trees and into the aquifer or runs off into water bodies. Avoid weed-and-seed products, use slow-release fertilizers, and fertilize lawns, trees and plants only to maintain health. Fertilizer will not help poor growth caused by poor plant placement, disease or pests.

4. Mulch. Keeping 2 to 3 inches of mulch on your plant beds helps control weeds, retain soil moisture and reduce erosion and stormwater runoff. Cut down on mowing by replacing grass with mulch in areas that are shaded or difficult to mow.

5. Attract Wildlife. Friendly visitors, like butterflies and beneficial insects, will enjoy your landscape if you provide food, water and cover. Plant vines, shrubs and trees to create cover, nesting areas and food. Protect your visitors by limiting pesticide use or by spot-treating only the areas that need attention.

6. Manage Yard Pests Responsibly. When it comes to pest management, nature takes care of itself! Misused pesticides in your yard can run off into waterways and harm beneficial insects. Learn to identify beneficial insects and let them do the work for you. If pesticides are needed, choose the least-toxic pesticides, such as horticultural oils, insecticidal soaps and *Bacillus thuringiensis* (BT). Remember, low levels of pests will do minimal damage, so be tolerant!

7. Recycle. Recycling your yard waste back onto your lawn and landscape can improve the fertility and water-holding ability of the soil and help aerate soil that has become compacted. There's no need to bag or rake lawn clippings; leave them on the lawn to recycle nitrogen. Use fallen leaves and pine needles as mulch under trees and shrubs.

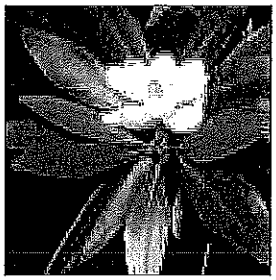
8. Reduce Stormwater Runoff. Stormwater runoff can carry pollutants, pesticides and excess fertilizers into bays, rivers and lakes. Remember that what goes in your storm drain can find its way into our water sources. Pick up pet waste to help reduce bacterial and nutrient pollution. Remove trash from street gutters before it gets washed into storm drains. And use swales (low areas) to hold and filter water.

9. Protect the Waterfront. Bays and waterways contribute to the quality of life in Florida. Waterfront owners can help protect these fragile natural treasures by removing invasive aquatic plants and establishing a 10-30 foot "no fertilizer, no pesticide" zone along their shoreline. Never prune mangroves or remove any vegetation without first seeking proper permits and guidelines.

Plants for Your Florida-Friendly Landscape

Florida-friendly landscaping is vibrant, alive and colorful. Many lush and tropical-looking plants are among the list of native or drought-tolerant plants appropriate for South Florida's unique climate, with some listed here. They will add to the beauty of your landscape while conserving water. Consult your nursery professional for information on which of these plants are appropriate for your region.

Trees



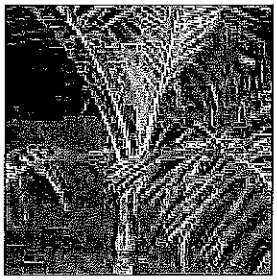
Sweetbay magnolia

Bald cypress *(Taxodium distichum)*
Black ironwood *(Krugiodendron ferreum)*
Buttonwood *(Conocarpus erectus)*
Dahoon holly *(Ilex cassine)*
Geiger tree *(Cordia sebestena)*
Gumbo Limbo *(Bursera simaruba)*
Live oak *(Quercus virginiana)*
Paradise tree *(Simarouba glauca)*
Pigeon plum *(Coccoloba diversifolia)*
Pond apple *(Annona glabra)*
Red bay *(Persea borbonia)*
Red maple *(Acer rubrum)*
Seagrape *(Coccoloba uvifera)*
Simpson's stopper *(Myricanthes fragrans)*
Slash pine *(Pinus elliottii)*
Southern magnolia *(Magnolia grandiflora)*
Southern red cedar *(Juniperus silicicola)*
Sweetbay magnolia *(Magnolia virginiana)*
Sycamore *(Platanus occidentalis)*
Tulip tree *(Liriodendron tulipifera)*

Shrubs

Bay Cedar *(Suriana maritima)*
Beautyberry *(Callicarpa americana)*
Coral bean *(Erythrina herbacea)*
Firebush *(Hamelia patens)*
Florida privet *(Forestiera segregata)*
Florida gamagrass *(Tripsacum floridanum)*
Inkberry *(Scaevola plumieri)*
Jamaican caper *(Capparis cyanophallophora)*
Marlberry *(Ardisia escallonioides)*
Swamp mallow *(Hibiscus coccineus)*
Walter's viburnum *(Viburnum obovatum)*
Wax myrtle *(Myrica cerifera)*
White indigo berry *(Randia aculeata)*
Wild coffee *(Psychotria nervosa)*
Wild olive *(Osmanthus americanus)*
Yellow anise *(Illicium parviflorum)*

Palms and Cycads



Buccaneer Palm

Buccaneer palm *(Pseudophoenix sargentii)*
Cabbage palm *(Sabal palmetto)*
Dwarf palmetto *(Sabal minor)*
Florida thatch palm *(Thrinax radiata)*
Florida royal palm *(Roystonea elata)*
Needle palm *(Rhapidophyllum hystrix)*
Paurotis/Everglades palm *(Acoelorrhaphe wrightii)*
Queen sago *(Cycas circinalis)*
Saw palmetto *(Serenoa repens)*

Accent Grasses, Vines and Groundcovers

Blue Jacquemontia *(Jacquemontia pentanthos)*
Bougainvillea *(Bouganvillea spectabilis)*
Coral honeysuckle *(Lonicera sempervirens)*
Corky-stemmed passion-flower *(Passiflora suberosa)*
Crossvine *(Bignonia capreolata)*
Passion-flower *(Passiflora incarnata)*
Mondo grass *(Ophiopogon japonicus)*
Purple love grass *(Eragrostis spectabilis)*
Railroad vine *(Ipomoea pes-caprae)*
Trailing Lantana *(Lantana montevidensis)*
Trumpet vine *(Campsis radicans)*
Yellow Jessamine *(Gelsemium sempervirens)*

Annuals/Perennials/Wildflowers

Blanket flower

Beach sunflower *(Helianthus debilis)*
Black-eyed Susan *(Rudbeckia hirta)*
Blanket flower *(Gaillardia pulchella)*
Cardinal flower *(Lobelia cardinalis)*
Green eyes *(Berlandiera subacaulis)*
Purple coneflower *(Echinacea purpurea)*
Rain lily *(Zephyranthes atamasco)*
Shrub verbena *(Lantana depressa)*
Sea oxeye daisy *(Borrichia frutescens)*
Stokes Aster *(Stokesia laevis)*
Tropical red sage *(Salvia coccinea)*
Tickseed *(Coreopsis leavenworthii)*
Virginia Iris *(Iris virginica)*

Florida-friendly landscaping saves time, money, water and our environment! For more information, go to www.savewaterfl.com.

The University of Florida established these nine Florida-friendly landscaping principles to guide Florida Yards & Neighborhoods programs offered through county Extension Service offices.

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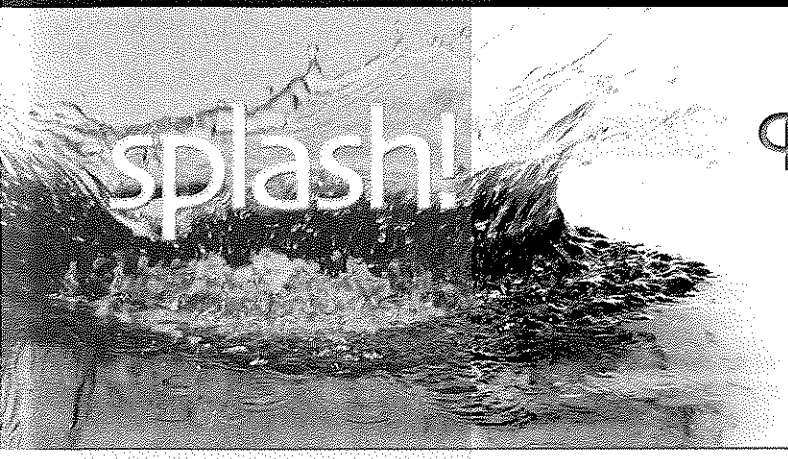

quick facts on...

50 Ways To Be Water Smart

HOW YOU CAN HELP SAVE FLORIDA'S LIMITED WATER SUPPLY

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NOTE:

Florida's lifestyle depends on a clean, ample supply of water. You can help conserve this limited resource by using these commonsense tips at home. It's important that we all do our part.

Saving Water Outdoors

1. Use a rain gauge to measure how much water your lawn receives. South Florida lawns typically need only ¾ to 1 inch of water each week.

2. Irrigate no more than once a week in the winter or twice a week in the summer.

3. Turn off sprinklers when it rains. All automatic sprinkler systems installed since 1991 must have a rainfall shut-off device, according to Florida law. The device overrides the sprinkling system when it rains.

4. Use Florida-friendly and drought-tolerant plants in your landscape. These plants do not need as much water as other varieties and are more likely to survive in a dry period.

5. Irrigate during the early morning hours when temperatures and wind speeds are the lowest. This reduces water loss through evaporation.

6. Position sprinklers to put water on your lawn and landscape, not onto paved areas nearby.

7. Install and use timers on all irrigation systems and portable sprinklers to prevent overwatering.

8. Check and maintain sprinkler systems and timing devices so that they operate properly.

9. Install low-flow irrigation systems that apply water directly to plant root zones. This includes drip, bubble and micro-jet systems and soaker hoses.

10. Collect rainwater from rooftop gutters in a rain barrel or cistern. Use the stored water during dry periods.

11. Adjust your mower blade to leave the grass 3 inches high when you cut the lawn. Taller grass encourages deeper root growth, shades the root system and holds soil moisture.

12. Keep the mowing blade sharp to reduce stress on your lawn.

13. Use mulch in plant beds to retain moisture, reduce evaporation and discourage weeds that compete with plants for water.

14. Avoid over-fertilizing your lawn. Applying fertilizer increases the need for water. If you use fertilizer, choose one containing 2 percent or less phosphorus.

15. Apply fertilizer using smaller applications rather than a large, single application. Follow instructions on the label. The label's the law.

16. To prevent fertilizer spills, use a tarp under the spreader when filling or emptying it. Sweep any spilled granular fertilizer onto the grass. Never hose it off.

17. Postpone fertilizing when more than 1 inch of rain is expected.

18. Use a broom or leaf blower instead of a hose to clean leaves and other debris off your driveway or sidewalk.

19. Attach to your hose an automatic or self-cancelling nozzle that can adjust water flow from the hose to a fine spray. Always turn water off at the faucet, instead of at the nozzle, to avoid leaks.

20. Check connectors on garden hoses and household appliances, such as dishwashers and clothes washers, to make sure that plastic or rubber washers are in place. Washers prevent water from leaking at the hose connection.

21. Do not leave hoses unattended. More than 600 gallons of water can flow from an open garden hose in one hour.

22. Avoid purchasing recreational toys that require a constant stream of water.

23. Consider using a commercial car wash that recycles water. If you wash your own car, park on the grass or other non-paved surface and use a hose with an automatic or self-cancelling nozzle.

24. Avoid installing fountains or other ornamental water features unless they use recycled water. Properly adjust them so that water doesn't fall outside of the catch basin.

In Your Home

25. Repair dripping faucets by replacing the washers inside. One drop per second wastes 2,700 gallons of water per year.

26. Retrofit all household faucets with high-efficiency units that use 1 gallon of water per minute or less.

27. Replace older toilets with low-flow models that use 1.6 gallons of water per flush or less. Older models may use up to 5 gallons of water per flush.

28. Check for toilet leaks by adding food coloring to the tank. If it is leaking, colored water will appear in the bowl within 30 minutes. Flush the colored water immediately to avoid staining the bowl.

29. Replace or adjust the toilet handle if it frequently sticks in the flush position, letting water run constantly.

30. Install a toilet dam or displacement device, such as a filled 16-ounce plastic water bottle, to reduce the amount of water used for each flush. Be sure that it does not interfere with other parts in the tank or bowl. Other devices are available at hardware and home centers. Do not use a brick.

31. Replace your showerhead with a low-flow version using 2 gallons of water per minute or less. Older showerheads may use up to 5 gallons of water per minute.

32. Take shorter showers. When taking a shower or washing your hair, turn water on to get wet; turn it off before lathering; then turn water back on to rinse off.

33. Catch excess water in the shower with a bucket and use it to irrigate indoor plants.

34. Operate automatic dishwashers and clothes washers only for full loads. Scrape – don't rinse – dishes before loading.

35. Store drinking water in the refrigerator, and heat water on the stove or in a microwave. Don't let water run from the tap to get cold or hot water.

36. Defrost food overnight in the refrigerator, or use the defrost setting on your microwave. Don't thaw food under running water.

37. Compost kitchen food waste. Kitchen sink disposals require much more water and energy.

38. Install an instant hot water heater on the kitchen sink and insulate water pipes.

39. Cool your home with an air-to-air system. Newer models are more efficient and use less water than heat pumps and air-conditioning systems.

40. Turn off the faucet after wetting a toothbrush, razor or washcloth. Turn the faucet back on when you are ready to rinse.

41. Install water softening systems only when necessary. Turn softeners off when you leave for vacations.

42. Check and properly maintain any well pumps. A well pump has a leak if it turns on and off while water is not being used.

43. Avoid unnecessary toilet flushes. Dispose of tissues, insects, medicines and other waste in the trash.

General Water Saving Tips

44. Follow community water restrictions and conservation guidelines. Private well users must also comply.

45. Report broken pipes, open hydrants, free-flowing wells and other water losses to the property owner, local authorities or water management district.

46. Use the services of businesses that conserve water, including restaurants that serve water only upon request.

47. Support projects that increase the availability of reclaimed waste water for irrigation and other uses.

48. Support programs that promote water conservation among tourists and the businesses that serve them, such as WaterCHAMP and Green Lodging.

49. Conserve water when you are staying at a hotel by requesting fewer replacement towels and sheet changes.

50. Do something every day to save water. Every drop counts.

For MORE water conservation information and materials, visit us on the Web at www.savewaterfl.com

REDUCE YOUR WATER USE no excuse!

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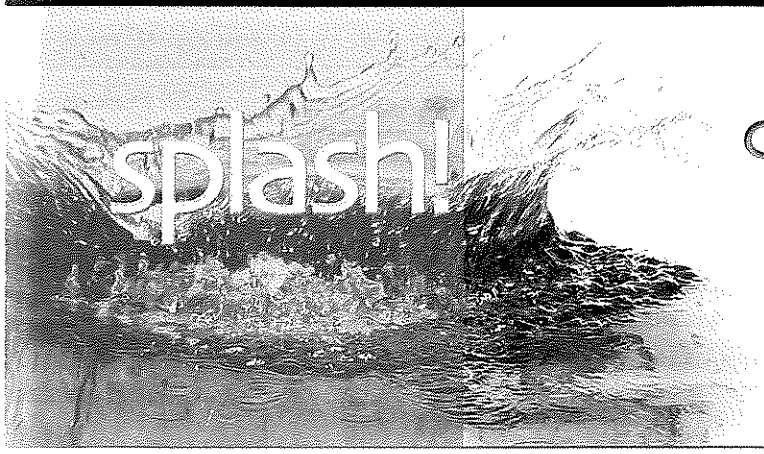

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Sensible Sprinkling in South Florida

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Saving a Little Saves a Lot

For home and business landscapes, many South Florida residents irrigate to keep grass green year-round and tropical plantings looking tropical. Typically, 50 percent or more of home water use is for outdoor watering or irrigation. However, it is not uncommon for residents to apply twice the amount of water actually needed to maintain a healthy landscape — or more.

Whether sprinkling water comes from a municipal supply, a well or another source, it's still ultimately drawn from one big South Florida "pool." To share the resource, South Floridians need to conserve water. Overwatering your landscape wastes both water and money.

Do All Lawns Need Irrigation?

All plants need water. Rainfall provides enough for Florida's native plants growing in the wild. During Florida's normally dry winters, these native plants thrive in the residential landscape as well. However, limited areas of turf grass, flower beds and accent plants usually need added water at some times during the year. When irrigating turf grass, water thoroughly to reach deeper portions of the soil. In South Florida's typical sandy soils, 3/4 of an inch of water will penetrate to a depth of about 9 inches and promote deep root growth. Healthy turf with deep roots is able to withstand drought much better than turf with a shallow root system.

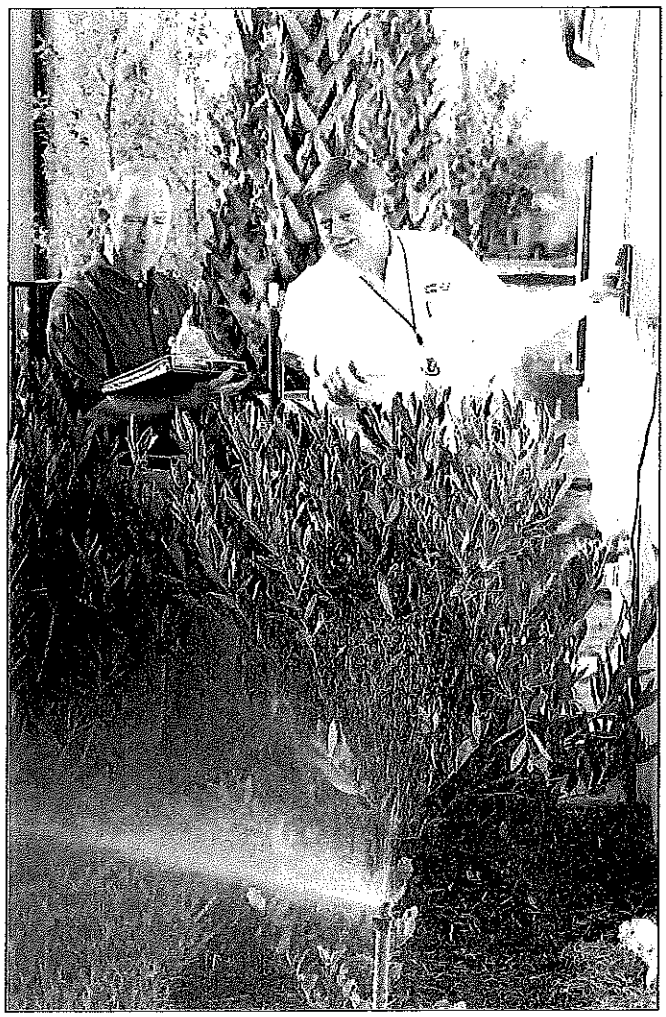
Overwatering can promote undesirable weeds, create the need for additional fertilizer and other expensive lawn chemicals and cause both runoff and leeching of chemicals below the root zone. Runoff containing lawn chemicals is a major contributor to surface water pollution. Fertilizers or other lawn products that have leeched below the root zone become unavailable to turf and contribute to groundwater contamination.

Selecting the right native plants can not only save water but also attract wildlife to South Florida landscapes.

What Plants Make the Most Sense... and Scents?

Many plants have low irrigation requirements and, once established, need very little water even during periods of drought. Choose your plantings wisely. Seek input from your county's extension agent and other resources including the South Florida Water Management District and the Florida Native Plant Society websites.

Many native plants can make your landscape wildlife friendly. Plants that attract and nurture butterflies add tremendous appeal to your yard. Ideas can be found at the North American Butterfly Association's website, which includes gardening suggestions for different regions of the country including a list of South Florida plants that grow well and attract native butterflies.



Simple steps, such as checking the alignment of sprinkler heads, can improve the efficiency of automatic irrigation systems and ensure the right amount of water goes where it is needed.

Keep Your Landscape Thriving and Save Water

There are many ways to water your landscape — from hose "dragging" to automatic sprinkling. There are benefits to using the hose. Water can be directed to specific plants within a bed that need it, sprinkled on seedlings or applied deeply to planted trees or shrubs. Additionally, hose "dragging" can lead to increased efficiency because it is natural for residents to not water during periods when rainfall is sufficient for plant needs. To conserve water, always use an automatic shut-off nozzle at the end of the hose. Using drip and soaker hoses also reduces evaporation and conserves water.

To save time and effort, many residents install automated sprinkler systems. Depending on how they are used, automatic sprinkler systems can either help save water or be a tremendous water waster. Systems vary widely in complexity and their ability to help manage water use efficiency. Many older irrigation timers operate simply as a clock, applying water at a programmed interval regardless of natural precipitation or the actual water needs of the plants being irrigated. Unless they are properly managed, these older "set it and forget it" irrigation timers waste both water and money.

Tips for All Outdoor Water Users

To use water most efficiently, water in the early morning when winds are usually light and the ground is cool and receptive.

Using mulch helps save water, too. Mulches in the landscape:

- Shade soils from direct sun so they stay moist longer.
- Protect soils from erosion.
- Limit weed growth.
- Slowly decompose, adding nutrients in the process.
- Provide habitat for beneficial soil organisms.
- Are appealing, adding a clean and unifying appearance.

The best mulches for Florida come from non-native trees, recycled waste wood, including wooden pallets, and your own recycled yard clippings. These are regularly available from home supply stores and should always be sought.

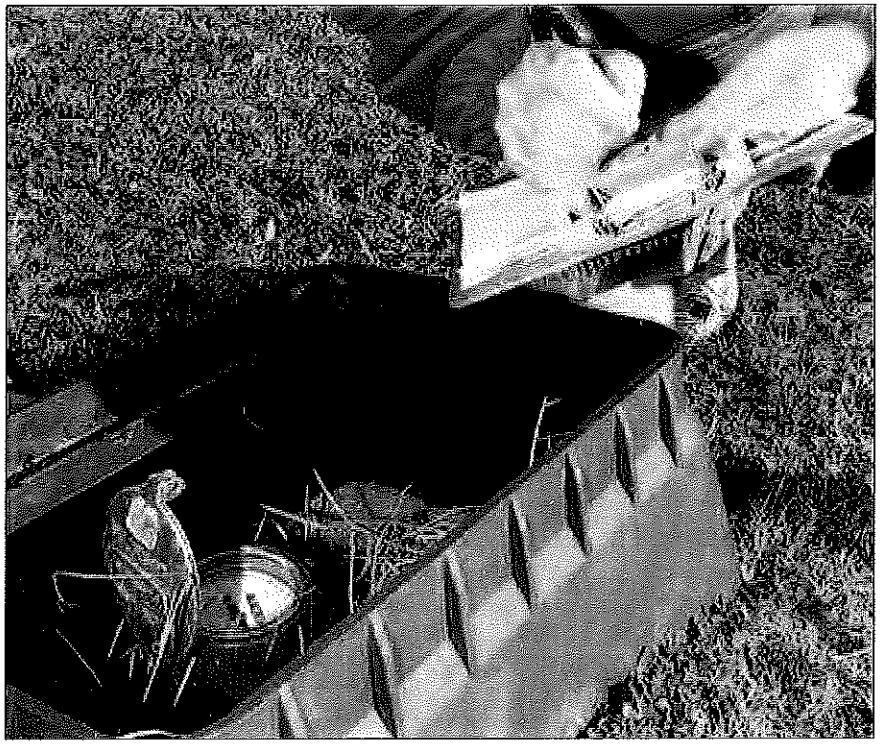
Improving Existing Irrigation Systems

Enormous amounts of water are wasted in Florida by incorrectly adjusted automatic sprinkler systems. Check your system and find out how (or who to call) to put the right amount of water where it is needed. Help is available from irrigation specialists trained in water efficiency by credible organizations, such as the Irrigation Association or the Florida Irrigation Society. County extension offices and garden centers also have experts on hand to answer questions about proper irrigation of Florida yards.

The first step to greatly improve an automatic sprinkler system is to install a rain sensor. Why water your lawn when nature is doing it for you? Home supply stores stock wired rain sensors for $15-25 and wireless models for $25-70. Rain sensors can be used with most existing irrigation timers and work by interrupting the system when rains have already provided adequate water. When drier conditions return, the rain sensor automatically restores the system to normal operation. Although different types of rain sensors are available, they all achieve the same results — saving significant amounts of water.

Other simple steps to improve the efficiency of your existing irrigation system include:

- Checking the alignment of existing sprinkler heads to assure that water is directed away from impervious surfaces, such as driveways and sidewalks.
- Promptly repairing broken sprinkler heads and leaks.
- Removing plant materials that have grown over or otherwise block spray heads.
- Capping or disabling irrigation zones or heads for established areas that no longer require supplemental irrigation.



"Smart" irrigation controllers determine the right amount of water needed by your landscape based on a variety of factors — helping to reduce how frequently your water meter runs.

For additional steps to "tune-up" your existing irrigation system, please visit: manatee.ifas.ufl.edu/lawn_and_garden/water_wise/pdfs/IrrigationTuneup.pdf.

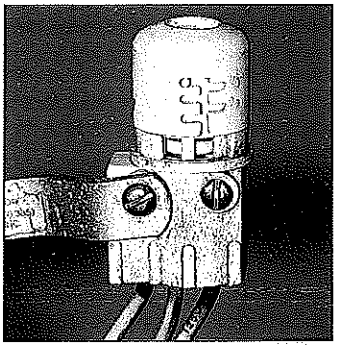
Get "Smart" to Save Water and Money

Some new irrigation controllers, known as "smart" controllers, save water "by monitoring and using information about site conditions (such as soil moisture, rain, wind, slope, soil, plant type, and more) and applying the right amount of water based on those factors," according to the Irrigation Association. While these controllers were once limited to large applications such as golf courses and parks because of their high cost, home-based controllers are now becoming available for $200 or less. Initial research by the University of Florida shows irrigation savings with smart controllers up to 70-90 percent under normal Florida rainfall conditions and 30-40 percent under dry conditions.

Smart irrigation controllers set the amount of water needed by your landscape by using one or both of the following technologies:

Evapotranspiration Controllers
Evapotranspiration (ET) is the sum of evaporation and plant transpiration from the Earth's land surface to its atmosphere. Simply put, ET measures how much water a landscape actually uses. ET controllers calculate the amount of water needed based on local conditions using temperature, rain, wind, slope, soil, plant type or other factors. Weather conditions that the controller receives are obtained from one of three sources:

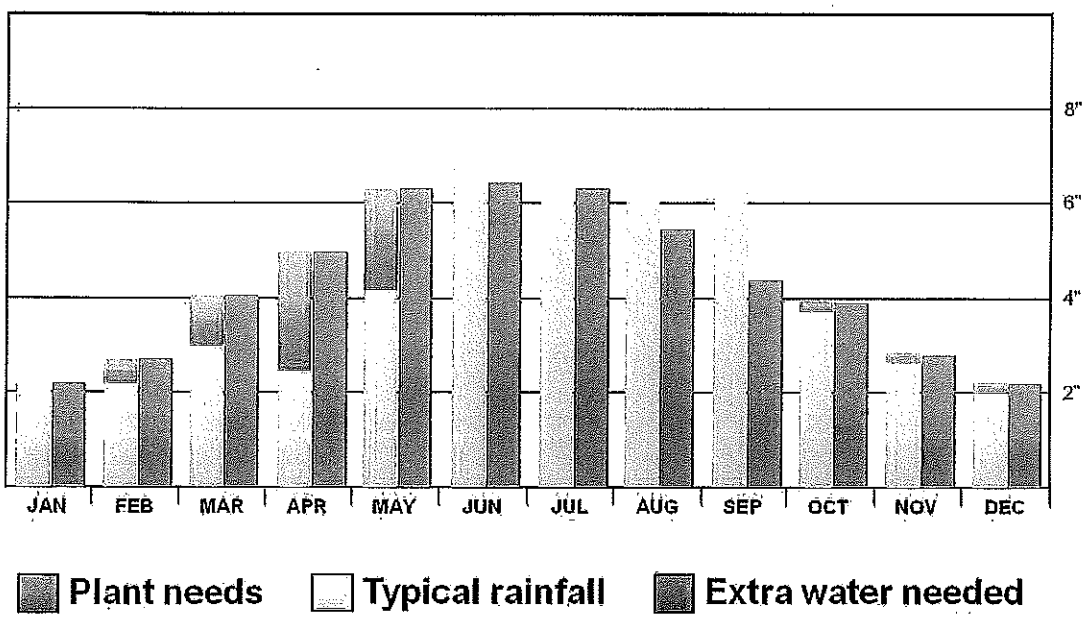
- **Weather data through a wireless signal from a local data provider.** The data provider calculates ET based on local weather data collected from public and private sources. The ET value is then transmitted to the controller, which automatically adjusts the irrigation run time based on local conditions. The data provider typically charges the irrigation customer a nominal monthly fee for providing this service.
- **Pre-programmed historical ET data for the region.** The local historical data may also be modified through the use of a sensor that measures temperature or solar radiation. Historical ET controllers typically are the least expensive type of ET controller because they do not require a sophisticated on-site weather station or the ability to communicate wirelessly with a weather data provider.
- **A dedicated on-site weather station.** Because weather events such as rain showers can be highly localized, an on-site weather station provides the controller with the most accurate weather data possible to calculate the amount of water needed. These ET controllers have typically been used on large irrigation systems — such as those found in golf courses or large parks — because of the added initial cost of installing an on-site weather station. However, homeowner-oriented models with simplified weather stations are becoming



Rain sensors make sense, plus it's the law!

Florida Statutes (Ch. 373.62) require that "any person who purchases and installs an automatic sprinkler system shall... install a rain sensor device or switch which will override the irrigation cycle of the sprinkler system when adequate rainfall has occurred."

These devices are inexpensive, easy to install, and will work with most existing irrigation controllers. There is no excuse for running your irrigation system in the rain!



Typical wet season rainfall from June to October is often more than enough to keep South Florida landscapes healthy and green. Additional water from irrigation is more necessary to fulfill plant needs during the dry season, particularly from March to May.

available.

The U.S. Environmental Protection Agency's (EPA) WaterSense program has begun to label weather-based irrigation controllers that meet the program's criteria for fulfilling the watering needs of a landscape without overwatering. For more information on irrigation controllers with the WaterSense label, please visit www.epa.gov/WaterSense/products/controltech.html.

Soil Moisture Sensor Controllers

Soil moisture sensor (SMS) controllers use sensors placed in the root zone of the plants to regulate water use. On the most common type of SMS controller, the sensor acts as a simple bypass device that interrupts the normal irrigation schedule when water is not needed — similar to how rainfall sensor-based systems work. The threshold between "wet" and "dry" can be adjusted on bypass SMS controllers depending on the type of plant, soil and other conditions to meet plant requirements. Multiple sensors may be used to regulate different areas in the landscape.

An on-demand SMS controller initiates irrigation when the sensor detects a pre-programmed low soil moisture threshold and stops irrigation when the sensor determines adequate moisture has been received. On-demand SMS systems often utilize multiple sensors placed throughout the landscape to detect varying conditions in the landscape. For example, one sensor may monitor conditions for areas of turf that require more water, another sensor may regulate areas with low water use plants, and still another may be used for bright sunny areas.

The University of Florida is currently conducting research on smart irrigation controllers. More information is available online at irrigation.ifas.ufl.edu.

Be a Watchdog for Water Conservation

Whether irrigating a home lot or a large commercial property, everyone needs to closely monitor outdoor water use. Watering less frequently but thoroughly will help lighten the load on both pocketbooks and the shared regional pool of water. When developing landscape designs, keep water conservation in mind. Only constant water awareness will help maintain a constant water supply!

For more resources on efficient outdoor irrigation, please visit www.savewaterfl.com.

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