

WaterWeb

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Water-Conserving Gardens



Water seems abundant in Florida — from freshwater lakes and lush wetlands to flowing rivers and brackish estuaries. In addition to having all these bodies of water nearby, Florida typically gets over 50 inches of rainfall each year. So, why do we hear so much about conserving water? Because water is a limited resource, and with all the people living in and moving into the state, we know we have to use it wisely so that there's enough of this resource for everyone.

It is estimated that every household uses about half of its water on outdoor activities. This means that a lot of water is being sprinkled on lawns and garden areas to keep them green and lush. Fertilizers and pesticides that are routinely spread over these areas travel toward the nearest body of water after a heavy Florida rainfall and act as pollutants. Scientists have determined that one of the biggest sources of water pollution is stormwater runoff.

Realizing the stress we can place on our environment and natural resources, many people are making small changes with big impacts. For instance, homeowners are adapting their yards to local and natural conditions by planting trees, shrubs, ground covers and plants that are native or beneficial to the area. An immediate benefit is that these types of landscapes require less water. Also, environmentally smart gardeners are using fewer and safer chemicals. This is less harmful to the environment. Environmentally friendly landscapes create a beautiful setting, which also provides habitat for desirable birds,

butterflies and insects. Take steps now to learn more about becoming an environmentally friendly landscaper. You'll be glad you did!

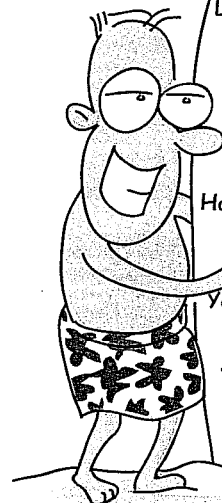
Welcome to the first issue of the new WaterWeb newsletter! Each issue will focus on a different aspect related to our water resources. In other words, WaterWeb is all about water and how important it is to us. WaterWeb is designed and written especially for middle-school students. We have tried to provide you with an interesting way to increase your awareness and respect for Florida's precious water resources. Let WaterWeb make a splash in your life today!

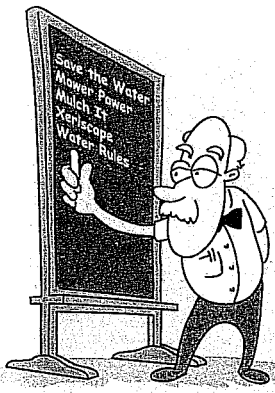


Southwest Florida
Water Management District

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A Few Facts and Figures About Outdoor Landscapes

How we landscape and maintain our yards has a big effect on the surrounding environment.

Environmentally friendly landscapes are designed to reduce the amount of water, fertilizers and pesticides used. As you read the following information and practices, think about the condition of the landscape in your yard, at school or at a nearby park. Promote environmentally friendly landscapes!

Save the Water

In a typical household, approximately 50 percent of the water is used outdoors, mostly on lawn and plant irrigation. Beautiful lawns and gardens require a lot less water than most people think. Turfgrass should not receive more than 1 inch of water per week. Avoid watering during the day and use a rain sensor to help determine whether you need to water. Needless to say, you DON'T need to water when it is raining!

Mower Power

If you look around your neighborhood, you will probably notice that many of the lawns are cut too short. Mowers should have their blades raised so that only one-third of the grass height is cut, which encourages deeper root growth. A deeper root system will help turfgrass absorb water and nutrients more efficiently. When lawnmower blades are sharp, they give a clean cut. Turfgrass torn and shredded by dull blades suffers stress and requires more water.

Mulch It

A 2- to 4-inch layer of mulch spread around plant areas helps conserve water. It also helps retain moisture in the soil, protects against erosion, reduces weed growth and it looks good. Materials that are good for mulching include bark chips, pine needles and leaves. Avoid using cypress

because cypress trees are slow-growing and native to Florida's wetlands.

Xeriscape™

Xeriscape is a term used to describe a planted area that doesn't require much water. Xeriscapes first appeared in the dry southwestern part of the United States, but now they can be seen almost anywhere in the country. Instead of cacti and rock gardens, the Florida-style Xeriscape can look as green and lush as its more traditional water-thirsty landscape. It is estimated that Xeriscapes can save from 30 to 80 percent of water normally used for irrigation.

Water Rules

Water restrictions are established to help control the amount of water used for irrigation. Restrictions are often used in seasonal droughts when rainfall is below average. Homeowners are allowed to water their lawns only at scheduled times. Even when water restrictions are not in place, people should practice water conservation. Smart watering saves money, as well as water.

Checkup Time

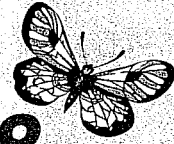
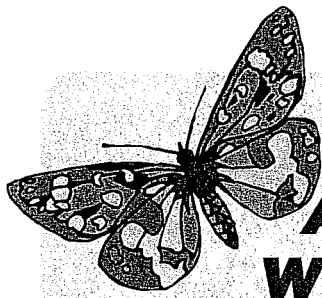


Place a ✓ next to each correct statement.

- ___ 1. Cypress is an environmentally friendly type of mulch.
- ___ 2. It is unnecessary for Xeriscapes to consist only of cacti and rock gardens.
- ___ 3. Turfgrass with deep roots requires less water than shallow roots.
- ___ 4. Water conservation should be practiced only during seasonal droughts.

Answers: 2 and 3 are correct.

LEARN MORE ABOUT IT



Attracting Butterflies to Water-Conserving Gardens

You can put the real look of Florida in your yard by establishing an environmentally friendly landscape area. At the same time, you can bring life to your landscape. Throughout the history of Florida, all sorts of creatures have used native plants for their food and habitat. You can increase the number of birds and butterflies in the landscape area by supplying it with native plants. The plants you select for a water-conserving garden can attract several varieties of butterflies. Best of all, the butterflies are free!

Butterflies are very particular about where they live. A successful butterfly garden is located in a sunny area and filled with a variety of host plants. These host plants provide an egg-laying area, food and shelter for butterflies throughout all stages of their life cycles. Most butterflies are attracted to brightly colored, fragrant plants with nectar-rich blooms. Since butterflies can't drink from an open-water area, they like very wet sand or soil, or a puddle for their water source. Rocks are often placed in the garden to give butterflies a place for basking in the sun. It comes as no surprise that butterfly gardens are very special places.

Butterflies are bountiful! It is estimated that there are approximately 28,000 known species of butterflies throughout the world. In Florida, there are about 160 species of butterflies, but many of these species may be found in only a few areas. In 1996, the zebra longwing was named the official state butterfly. The zebra longwing is found year-round throughout the state. It can be easily

identified by its long black wings with yellow stripes. It is easy to observe because it flies slowly and doesn't startle easily. Maybe you have seen one of these beautiful creatures. Or better still, maybe you can attract one of them to your garden!



zebra longwing

There are many places where you can learn more about butterfly gardening. Here are just a few suggestions to get you started on becoming a butterfly garden expert.

- Locate books at your local library or bookstore.
- Visit garden nurseries and look for "butterfly-attracting" plants.
- Use a search engine on the Internet to learn more about butterflies and water-conserving gardens.
- Attend a workshop on butterfly gardening.
- Visit butterfly garden areas at botanical gardens.

I Was Wondering...



Question: Before turning into a butterfly, how much does a caterpillar grow from the time it hatches from the egg?

Answer: It increases in size by about 27,000 times. Just imagine your body experiencing that kind of growth spurt. Eeek!





Landscaping to Promote Water Conservation Using the Principles of Xeriscape™ *from Florida's water management districts*

Landscapes connect all of us to our environment. The following excerpt from WaterWise Florida Landscapes describes how naturally friendly landscapes can help protect our environment.

Achieving a natural, healthy balance in your landscape starts by putting the right plant in the right place. Matching plants to conditions that exist in your area helps them to thrive, once established, with little or no irrigation or chemicals.

Xeriscape is a commonsense way to landscape that conserves water and protects the environment. The main goal of Xeriscape is to establish and maintain a healthy landscape by matching the right plants with existing site conditions so that the use of additional resources, such as water, fertilizer, pesticides and labor, is minimized. In addition to helping conserve water resources, Xeriscape landscaping

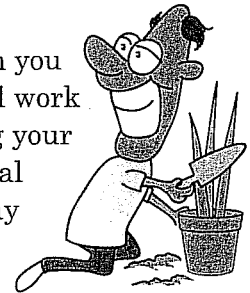


practices reduce the amount of pollutants reaching water bodies because fewer yard chemicals are used.

Xeriscape landscaping is based on the following principles:

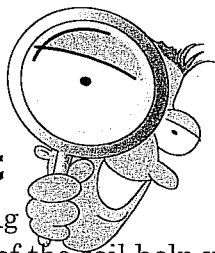
1. Plan and design the area for Xeriscape.
2. Obtain a soil analysis to find out the pH and level of acidity or alkalinity.
3. Choose plants to match each spot in your landscape.
4. Use turf wisely and consider water-thrifty alternatives, such as ground covers and mulched walkways.
5. Irrigate efficiently by grouping plants based on their water needs.
6. Use mulches to hold moisture, reduce weeds and slow erosion.
7. Maintain your landscape to keep plants healthy.

We hope you'll find that when you work with nature, nature will work for you. And you will be doing your part to ensure that our natural resources can be enjoyed today and by future generations.



Analyze It

1. How will knowing the composition of the soil help you select plants for an area?
2. Why is it a good idea to replace a turfgrass area with Xeriscape? Give two reasons for your answer.
3. List several places where you could look for additional information about Xeriscape landscapes.



If you are interested in receiving a complimentary copy of the entire booklet, WaterWise Florida Landscapes, call the Southwest Florida Water Management District at 1-800-423-1476, ext. 4757. For additional information about water resources, be sure to visit our Web site at WaterMatters.org.

You Can Make It!

Background

Even if you don't have a large yard, you can still create an environmentally friendly garden and possibly attract a few butterflies. In this activity, we will show you how to create a miniature garden. It will provide you with an easy entrance into the beautiful world of water-conserving gardens.

Learning Goal

- To engage in a hands-on activity about water-conserving gardens.
- To develop an awareness of how living things interact with their environment.

Materials

- container with drainage holes
- stones
- potting soil
- plants
- mulch (chipped bark or pine needles)
- ruler
- camera (optional)

Subjects

- Science
- Mathematics
- Language Arts



Activity

1. Select a container for your environmentally friendly garden. The size and shape of the container will depend on where you plan to place it.
2. Purchase plants that are labeled “drought tolerant.” Also, look for plants that are identified as “butterfly attracting.”
3. If the container is large, be sure to place it in its final location now. It may be too heavy to move later.
4. Line the bottom of the container with a layer of stones.
5. Pour potting soil into the container until it reaches the bottom of the depth of the plants that will be placed inside. Use a ruler to help you measure in advance of this step.
6. Place water-conserving plants into the container and arrange them for planting.
7. Pack additional potting soil around the plants.
8. Cover soil with a 2- to 3-inch layer of mulch.
9. Water plants according to information contained on the plant labels.
10. Take a picture of your garden. Then take pictures periodically to illustrate the changes that have taken place. Write about these changes.

Using What You Learned

1. How could you use what you learned from this activity to make a larger water-conserving garden?
2. Describe areas at your school where water-conserving gardens could be developed for creating a haven for wildlife.



Just for Fun

These will help you improve your vocabulary too!

Word Search

mulch conserve Xeriscape
butterfly dry landscape
pesticide water

W L A N D O V E X E
T A E R W X D D C R
B N Y O M E R I O I
E D R U T U O C N S
I S L S G P E I S C
C C T H I W A T E R
H A T R A Z P S R L
R P F C O N S E V U
X E R I S C A P E M
O B U T T E R F L Y

Scrambled Words

Unscramble the letters to make words.

- scl dan pea _____
- o p e m e e d l v n t _____
- chulm _____
- v o n s c e e r _____

Answers: landscape, development, mulch, conserve

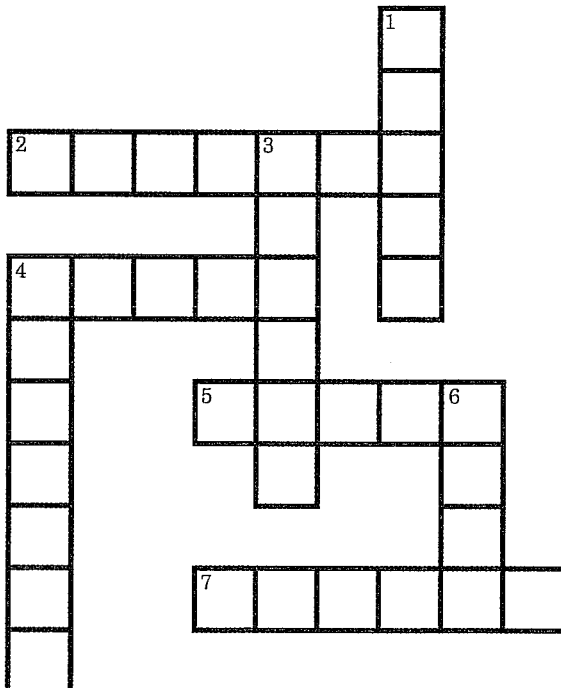
Crossword Puzzle

Across:

2. The _____ tolerant plants need less water.
4. It is easy for everyone to practice _____ conservation.
5. Mulch helps to reduce the growth of _____.
7. Butterflies prefer wet sandy soil or a _____.

Down:

1. In a garden, you should group plants according to their _____ needs.
3. A water-conserving _____ uses less water than a traditional landscape.
4. A mulched _____ or ground cover is a good alternative to turf.
6. It is good to obtain a _____ analysis to find out the pH and level of acidity or alkalinity.



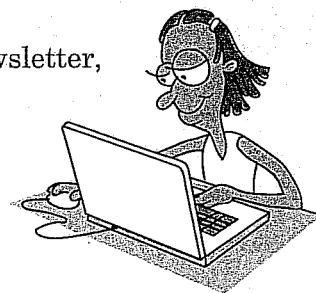
Answers may be found in the teacher's guide.

Surfing for More Info

If you are interested in learning more about topics covered in this newsletter, check out these Web sites on the Internet.

Smithsonian Institution
The Butterfly Habitat Garden
www.si.edu/gardens/butterfly

Native Florida
Your Florida Backyard
www.nsis.org/butterfly



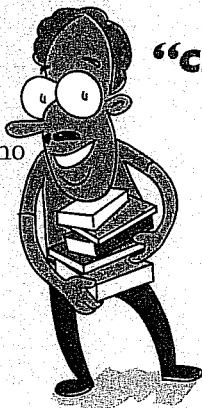
USGS
Butterflies of North America
Butterflies of Florida
www.npsc.nbs.gov/resource/distr/lepid/bflyusa/fl/toc.htm

Southwest Florida Water Management District
www.WaterMatters.org

You may also want to "check out" these books:

Florida Butterfly Gardening
By Marc C. Minno and Maria Minno
University Press of Florida, 1999

Florida's Fabulous Butterflies
By Thomas Emmel
World Publications, 1999



Tell us what you think!

List three ways environmentally friendly gardens help preserve Florida's natural resources.

1. _____
2. _____
3. _____

Mail your response to us and we will send you a free prize!

Name _____
Address _____
City _____ State _____ ZIP _____
County _____ School _____
Teacher _____ Grade _____

Send to:

WaterWeb Water-Conserving Gardens Issue
In-School Education
Communications Department
Southwest Florida Water Management District
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