WaterDrops

Wetlands

A Southwest Florida Water Management District Water Resources Newsletter for Grades 3–5

Hello Readers!

This issue of *WaterDrops* is all about wetlands, which can be found everywhere in Florida. An easy way to understand wetlands is to think of them as natural areas that have wet soils or are covered by water for at least part of the year.

Water Drips & Drops

Wetlands can be found in every state. Alaska is the leader of wetlands. It has more wetlands than the rest of the United States combined. Wow!

Wetlands help keep our environment clean and healthy in many ways. They absorb heavy rainfalls like sponges, which can keep other areas from flooding. Wetland plants clean the water that passes through them by filtering out pollutants. Wetlands also provide food and shelter for wildlife.

In the past, wetlands disappeared when more and more people moved into our region. But now that we know how important wetlands are to our environment, we are working together to restore and protect them. The Everglades in southern Florida is an example of a huge wetland area that is being improved.

To help you learn more about wetlands, we have included a feature story, articles, activities and games. In other issues of WaterDrops, you can learn more about how important it is for us to protect our water resources.

Happy Splashing!

Feature Story

WILD ABOUT OUR WETLANDS!

Wetlands are always changing from season to season. Last spring, people noticed the pond and wetland area behind Casey's school needed attention. Several parents and students took part in the "Wild About Our Wetlands" project. It was a huge success!

The volunteers removed a lot of litter, which was a very big job. They also restored the area by pulling out plants that didn't belong there and reducing the amount of duckweed, also called pond scum. They used nets to collect the duckweed. Then they planted desirable aquatic plants to take in nutrients that had been used by duckweed. Within a few months, their efforts were rewarded with a clean and healthy environment. The next step is for Casey's class to help monitor and maintain this improved wetland area.

This month Casey's class spent a full morning conducting several experiments by the pond. The teacher assigned four groups to work on different activities.

After the students organized all the equipment and supplies they needed, they followed the path down toward the wetlands.

"Try not to disturb the wildlife," whispered Casey to her group as they hurried down to the pond.

"Our job is to test the water to find out if it is clear," said Robert.

Casey gently lowered the black and white Secchi (SECK-key) disc into the water by the edge of the pond. The disc was attached to a long cord that had markings on it. Each mark represented a length of one-half meter. When the group could no longer see the disc, they looked at the mark touching the surface of the water. It was labeled 2 meters, which Casey recorded on a chart.

"Wow! Look how clear the water is now," exclaimed Amber, as they watched a school of tiny fish swimming through the stems of the cord grass and pickerelweed.

"It sure wasn't like this last spring when we tested it," John added.

On the other side of the pond, the second group of students worked on some

water sampling experiments. One student used special paper strips to find out how much acid was in the water at different locations surrounding the pond. A few other students collected small amounts of water in clear zippered bags, which they would study later with microscopes.

The third group of students made several "bottom viewers" with plastic milk jugs, plastic wrap and rubber bands. They simply cut off the bottom of each jug and placed a rubber band around a sheet of plastic wrap that covered the bottom of the jug.

"Make sure you lower the jug slowly so you don't scare away any fish," warned Ann.

They followed her advice and then used the top openings as eyepieces to watch all kinds of creatures swimming and scooting along the bottom.

"Wow!" exclaimed Ann. "There must be thousands of soft jelly-covered eggs clinging together in the water. Those eggs will turn into frogs."

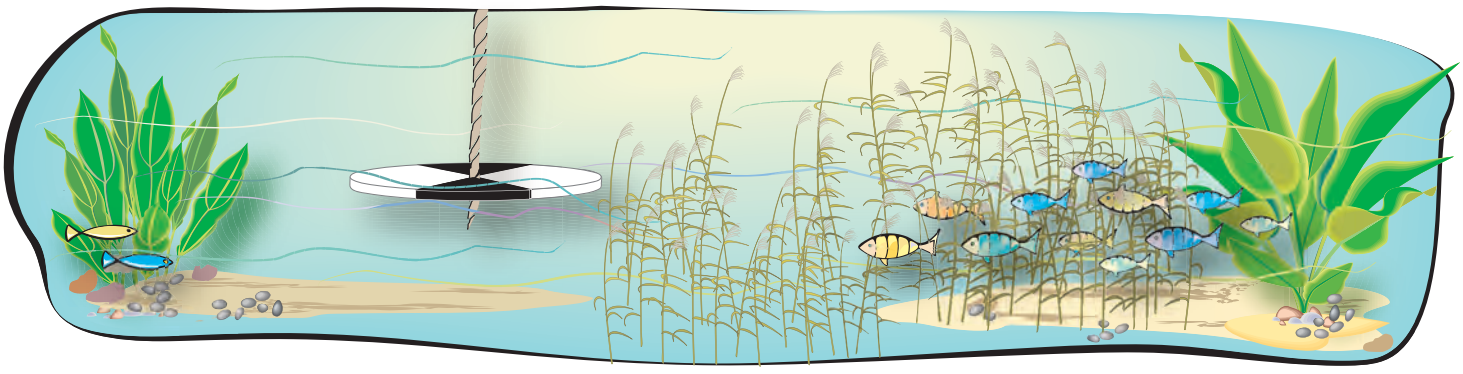
"What an awesome sight!" said Eric when he spotted all the eggs in his eyepiece.

The fourth group sat in silence as they watched and listened for signs of wildlife. After five minutes, the students quickly jotted down their observations. So they could describe the different activities that took place over time, they repeated this experiment several times throughout the morning.

When they finished their assignments, the four groups returned to the classroom for sharing.

"There is another school located along the coast that is also studying ponds and wetlands," said the teacher, and added, "They have agreed to be our Internet pen pals. Since their area has salt water and ours has fresh water, we will be able to teach each other about the different kinds of wetlands."

"Then even more people can be wild about our wetlands!" said Casey, and everyone in the class cheered.



Wetlands provide a habitat that can attract a variety of mammals, birds, insects, amphibians and fish. List three creatures you might find in a clean and healthy wetland.

1 _____ 2 _____ 3 _____

Take It Home

MAKE YOUR OWN MINIATURE WETLAND

Materials:

- clear plastic soda bottle
- small notebook for notes
- tiny ferns and other wetland plants
- 12-inch square sheet of clear plastic wrap
- handful of gravel
- handful of sand
- handful of soil
- scissors
- water

Directions:

1. Ask an adult to cut off the top section of the bottle.
2. Fill the bottom with a handful of gravel.
3. Place a handful of sand on top of the gravel.
4. Place a handful of soil on top of the sand.
5. Slope the layers and the surface to make a low spot on one side.
6. Evenly space plants on the upper level of the surface.
7. Gently pour water to the lowest level until it forms a little pond.
8. Place clear plastic wrap over the top of the bottle.
9. Place the bottle in a location with filtered sun.

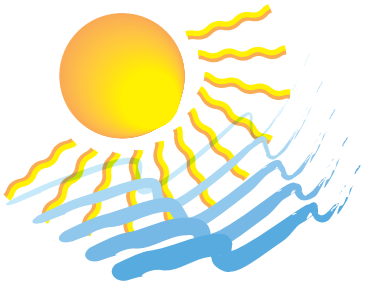
Wetland Journal:

1. Use a small notebook to write about your observations.
2. Compare your wetland experience with other classmates.

Ask Water Cycle Wanda

Charlotte asks: My uncle told me that plants won't grow in a wetland where the water is too turbid. What does *turbid* mean?

Water Cycle Wanda: Water that is cloudy is often called *turbid*. The sun has a hard time shining through turbid water. The plants need sunlight in order to live. Wind, rain and animals can cause loose particles and other materials in the water to become stirred up. This can make the water turbid.



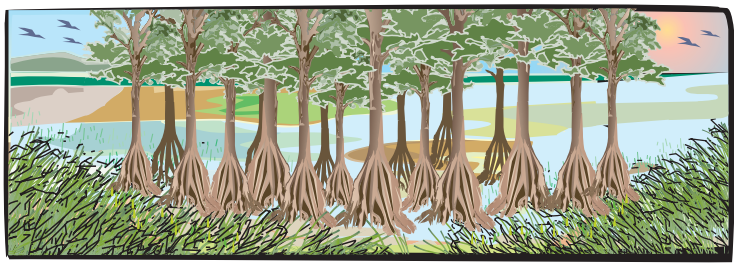
GETTING TO KNOW YOUR WETLANDS

Some people think all wetlands are the same, but this is not the case. Wetlands can be sorted into two main categories — saltwater wetlands or freshwater wetlands. Let's find out about a few wetlands so the next time you pass one in your area you'll know what it is!

Saltwater Wetlands

These wetlands are found along the ocean edges or where fresh water and salt water mix. Guess what is in these wetlands? Salt!

- Coastal saltwater marshes appear where the ocean meets the land. They don't have trees. Instead, they serve as nurseries for fish, shellfish, shrimp and crabs.
- Saltwater forested wetlands can be easily spotted because of the trees growing out of the salt water. The trees are called mangroves and they provide great homes for many coastal birds.



Freshwater Wetlands

These wetlands are found inland near lakes and ponds and along rivers and streams. They also appear in marshy areas called bogs and swamps.

- Cypress swamps contain lots of cypress trees with moss hanging from their limbs. The trees' gnarly roots, knees and stumps seem to appear everywhere.
- Hardwood swamps are often filled with red maple, water elm, laurel oak, water ash and willow trees, which are called hardwood trees. The ground is usually covered with water part of the year.
- Hydric hammocks are often found between river swamps and flatwoods. The ground is rarely flooded, but the soils stay moist most of the year.
- Freshwater marshes look like ponds, except they are covered with vegetation and water plants.
- Wet prairies are big fields of grasses, rushes, sedges and wildflowers. They become flooded for short periods of time and remain saturated.

Do You Know Your Wetlands?

For each question, underline Yes or No. Tell how you got the answer.

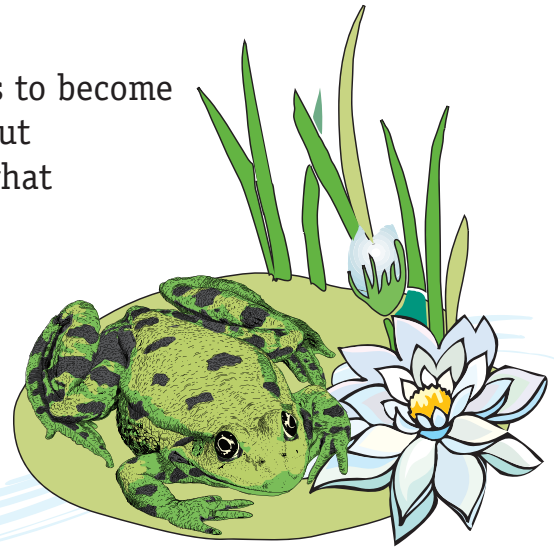
Yes No Does a wet prairie contain a lot of salt water?

Yes No Do mangrove trees grow in hardwood swamps?

Yes No Would you expect to find shrimp in a coastal saltwater marsh?

LEAPFROGGING IN OUR WETLANDS

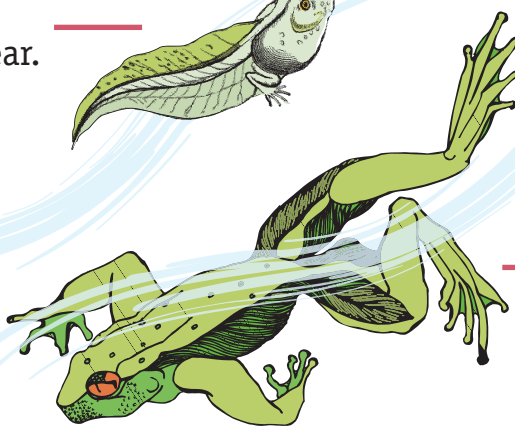
I'm Freddy the Frog. I have gone through several stages to become what I am now. Study the descriptions below so you can put my life in order. Number the stages 1 through 6 to show what happened to me. Whew, what a life!



1 Right now I am just one white, round egg.
I am part of a jellylike mass.

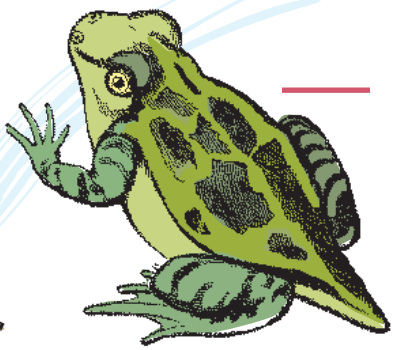
2 I hatched out of my old home.
I have become a tadpole.
I can wiggle my tail and breathe underwater just like a fish.

3 I have hind legs and my front legs begin to appear.
With a long tail, I am looking pretty weird.



4 My lungs are developing.
My mouth and eyes are getting bigger.
But my tail is getting shorter!

5 My tail has disappeared!
I use my legs and webbed feet to swim.



6 I relax on lily pads.
Then I decide to leap onto the land.
After all this, I am a FROG!

WETLANDS WORD SEARCH

L	W	I	L	D	L	I	F	E	E
I	T	D	R	S	G	B	A	C	E
E	C	U	O	O	G	P	H	L	R
F	L	I	R	O	R	F	S	E	O
G	S	F	L	B	L	N	I	A	T
I	E	T	F	C	I	F	F	N	S
W	E	T	L	A	N	D	S	H	E
O	R	E	T	L	I	F	O	O	R
R	A	D	P	L	A	N	T	S	D

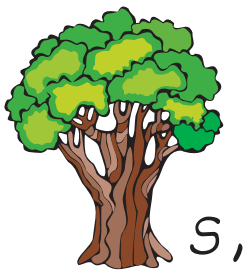
Can you find these words?

WORD BANK

turbid
wetlands
frog
restore
fish
wildlife
flood
plants
clean
filter

WATER WORD PUZZLE

The puzzle below mixes visual images and letters which will give you the answer to the puzzle. Try making up new water puzzles of your own.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Answers to *WaterDrops* activities are printed in the Teacher's Guide. View or order free copies of the Teacher's Guide and other *WaterDrops* issues online at *WaterMatters.org/publications/*.

What's Wet on the Web!

There is a lot of information about wetlands available to you on the Internet. Search for the following key words:

- Florida wetlands
- Wetlands restoration
- Wetlands education
- Kids wetlands

Also, visit the websites listed below.

- U.S. Environmental Protection Agency, Wetlands Education Activities **epa.gov/owow/wetlands/education**
- Southwest Florida Water Management District, Kids Page **WaterMatters.org/kids**

TAKE THE WETLANDS PLEDGE

I promise to do my best to help protect the wetlands in our area. I also promise to tell others how important wetlands are to our natural environment. I will do my best to keep our natural areas clean and healthy.

Signed _____

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Southwest Florida Water Management District
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