

Wild and Wetlands

Melanie Lewis for Blue Ridge Public Television (WBRA, WMSY, WSBN)
Madison Heights Elementary, Madison Heights VA

Grade Level: 3-5

Time Allotment:

Two or three, 45 minute class periods

Overview: Through the use of streaming video and Internet, students will define the characteristics of a wetland habitat and describe human interferences that have changed the swamp and put it at risk.

Subject Matter: Science, Language Arts, Math, Technology

Learning Objectives:

Students will be able to:

- Identify characteristics of a wetland
- Name human factors that change a wetland
- Write a descriptive paragraph

Standards:

- This lesson addresses the Virginia Standards of Learning which can be found at <http://www.pen.k12.va.us/VDOE/Superintendent/Sols/home.shtml>

Science 3.1 The student will plan and conduct investigations

Science 3.6 The student will investigate and understand that environments support a diversity of plants and animals that share limited resources.

English 3.9 The student will write descriptive paragraphs.

Math 3.9 The student will recall the multiplication and division facts through the nines table.

Math 3.10 The student will represent multiplication and division, using area and set models, and create and solve problems that involve multiplication of two whole numbers, one factor 99 or less and the second factor 5 or less.

Science 4.1 The student will plan and conduct investigations in which distinctions are made among observations.

Science 4.5 The student will investigate and understand how plants and animals interact with one another and the nonliving environment.

Math 4.7 The student will find the product of two whole numbers when one factor has two digits or fewer and the other factor has three digits or fewer, using estimation and paper and pencil.

Science 5.7 The student will investigate and understand how the Earth's surface is constantly changing.

Math 5.3 The student will create and solve problems involving addition, subtraction, multiplication, and division of whole numbers

Media Components:

Video:

Man and the Great Dismal Swamp

This video is available through WBRA, Blue Ridge Public Television.

Internet:

The Water Shed Game

<http://www.bellmuseum.org/distancelearning/watershed/watershed2.html>

Materials:

- A computer projection device
- A dark cloth or a piece of dark bulletin board paper large enough to cover the television screen
- One computer for each student
- Drawing paper, one per student
- Activity 2.2 Masters from the JASON Expedition (“How Many Nutria Are Too Many Nutria?”)
- Black beans
- Attached number cards, 1 set per group of four students (Note to teacher: Instead of using number cards, you may wish to use a dice. This will also eliminate the need for paper bags.)
- Brown lunch bags, 1 per group of four students
- A picture of nutria. (Pictures of these animals can be obtained by going to Google and doing an image search.)

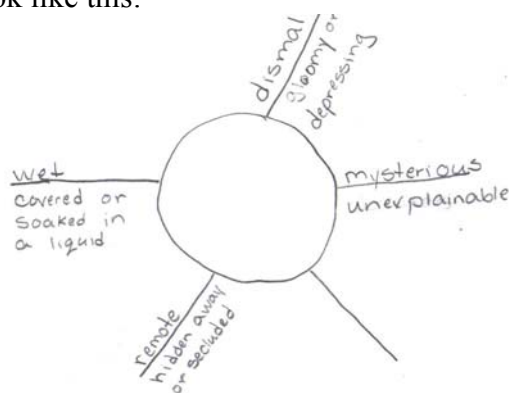
Prep for Teachers:

- Cover screen of television with a cloth so that the students can hear the sound but not see the picture.
- Bookmark “The Water Shed” web site, <http://www.bellmuseum.org/distancelearning/watershed/watershed2.html>. Minimize the window so that it is not visible until needed.
- Copy the number cards and cut apart, putting them into the lunch bags
- Copy the JASON Expedition’s nutria game board for each group of students. (Note: Written permission has been granted to use these pages for the purpose of this lesson. For more information on how you can become a part of this year’s Jason Expedition, please log on to the Jason Home Page at <http://www.jasonproject.org/home.htm>.)

Introductory Activity

Step 1

Provide a Focus for Media Interaction by saying, “Today we are going to first listen to a video clip without seeing the screen. Listen to the words you will hear as this tape begins and try to create a mental picture of what the words might be describing.” **Start video**, *Man and the Great Dismal Swamp*, pausing after narrator says, “remote”. **Ask**, “What were the words that you heard mentioned?” Write these words on the board in a web format. To do this, draw a circle on the board. Off of the circle, draw five lines. Leave the circle empty. You will fill it in later. Since these words may be very new to your students, you may also need to explicitly tell them the definition of the words. On each line, write one of the vocabulary words along with its definition. Your web will look like this:



You may also wish to use Kidspiration or Inspiration to create your web. **Ask**, “In order to better understand our words, who would like to act out one of the words?” Allow students to volunteer to act out each of these words. **Say**, “Now I want you to quickly sketch what came to mind as you heard those words.” Provide the students with time to quickly sketch out their pictures. **Say**, “I would like you to share some of your drawings. Raise your hand if you would like to briefly share what came to mind as you heard those words.” Call on a few students and allow them to share their pictures.

Step 2

Rewind the tape and **Provide a Focus for Media Interaction** by saying, “Let’s take a look at the video that went with those words.” Uncover the screen and **Play** video clip stopping after the narrator says, “The Great Dismal Swamp is one of the largest unbroken expanses of forested wetlands along the Eastern seaboard of the United States.” **Ask**, “What was the tape referring to when it described the swamp as dismal, mysterious, wet, and remote?” Write “The Great Dismal Swamp” in the middle of your web. **Ask**, “How many of you think that the video matched the words used to describe the swamp? What phrase did we hear at the end this time that we did not hear last time?” (rich in history) “What do you think that the video means when it says that the swamp is rich in history?” Come to a consensus of the best definition of “rich in history” and add it to your web. **Ask**, “Where is the Great Dismal Swamp?” (along the Eastern Seaboard)

Step 3

Say, “Using the vocabulary words heard on the video, we are each going to write one paragraph describing Virginia’s Great Dismal Swamp.” Provide students with an opportunity for writing. Walk around and assist as needed. After students have completed this task, allow them to share their paragraphs if time allows.

Learning Activity: This part of the lesson uses an activity borrowed with permission from the JASON Expedition.

Step 1

Pass out JASON Expedition, Activity Master 2.2A, *A Healthy Nutria Population*. **Say**, “The Great Dismal Swamp is only one of many wetlands which are currently in danger and we may lose them altogether. One of the biggest threats to any environment is people.” Point out to the students the picture of the nutria on this page. **Explain by saying**, “Nutria are animals introduced by humans into a wetland habitat in Louisiana. They were brought in and raised for their fur but today the fur trade has decreased and nutria are overpopulating Louisiana’s wetlands.”

Step 2:

Say, “Let’s read a passage about nutria.” Divide your students into four groups. Assign each group one paragraph to read. **Say**, “As you read your paragraph, you are to summarize it in one sentence. Your summary will need to explain the main idea of the group’s paragraph. Choose one member from your group to be the reporter when you are finished.” Provide time for students to read and summarize the paragraphs. Walk around and assist as needed.

Say, “Let’s share our summaries.” Give each group an opportunity to share what they have read.

Step 3:

Say, “I have a game which will help us to better understand what happened with the nutria.” Pass out one JASON Project Activity Master 2.2B *Louisiana Marshland* to each group along with a lunch bag containing the number cards. Also pass out a baggie filled with black beans. Read the directions below to your students.

1. Please put five beans on each square of your group’s page. The beans represent plants in the swamp.
2. Each square stands for one square mile of wetland.
3. Every time I announce a new month, you are to draw a card from you bag.
4. You will take that many beans off. That is the amount of vegetation one nutria will eat in a month.
5. Once you have taken the beans off you may add beans to your wetland to show new growth according to the directions at the bottom of your page.

6. Read the directions to your students for adding new plants. These are located at the bottom of the JASON Project Activity Master 2.2B *Louisiana Marshland*.

Start the game with the students. After 6 rounds, which would represent 6 months, **stop** the game. Allow time for the students to discuss and reflect on what happened. *(Note to teacher: You may change the game by having each group be responsible for a different number of nutria per square mile of wetland. In this case, the number card which is drawn would have to be multiplied by the amount of nutria assigned to the group. For example, one group could be assigned the number five. This means they would have five nutria per square mile of wetland. If the number they draw from their bag is four, they have to multiply 5x4 and take off 20 beans. If the group of students has been assigned the number 6 they then have 6 nutria per square mile of wetland. If they draw the number 3 they would multiply 6 x 3 and take off 18 beans. In this manner you would be able to help the students see that as populations of nutria grow, so does the damage to the environment.*

Step 4

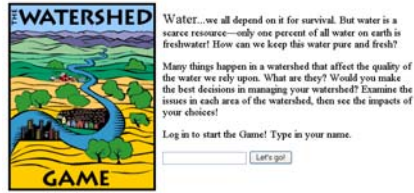
Provide a Focus for Media Interaction by saying, “Let’s take a look at the video and see how people in our area have changed The Great Dismal Swamp.” **Fast forward** the video tape past the place where the students on a field trip are walking through the park and **start** where you hear the narrator say, “Over the years the Great Dismal Swamp has prompted all sorts of questions. And depending on visitors’ interests, they found different answers, interacting with the swamp in different ways and changing its character. **Stop** at where the narrator says, “Through the nineteenth and early twentieth centuries, timber companies wanting to produce more house shingles and boat planking for a growing nation harvested cedar and cypress trees here, leaving their mark on this wetland habitat.” **Ask**, “What were some of the changes and their effects that people caused in the Great Dismal Swamp?” (filling of the swamp, draining it for farming, building a canal, harvesting timber.) “What kind of impact on the swamp do you think these changes would have had if people had not stepped in to preserve the Great Dismal Swamp?” *(Note to Teacher: This is a wonderful video series which continues to explore The Great Dismal Swamp’s conservation efforts.)*

Culminating Activity:

Provide a Focus for Media Interaction by saying, “Conservation is when we conserve or save important resources, such as our wetland habitats. I have found a website that will test your conservation skills. It’s called the Watershed Game.” Have the students log onto the website using the following address:

<http://www.bellmuseum.org/distancelearning/watershed/watershed2.html>

The first screen they see will ask them to type in their name. Have the students read through the introduction before they type their name. Then hit “Let’s Go”.



Have the students read through the next screen. At the bottom of the screen have them follow the link to the novice level.

- [Novice level!](#)
- Intermediate level. There are four sections: National Park, Agriculture, Neighborhood, and City. You can **start by clicking on one of the pictures on the left**. When you finish one section, you'll see your score and find out how your choices affected that part of the watershed. Then you can click on another picture to begin the next section. At the very end, you'll receive your total score.

Good luck!

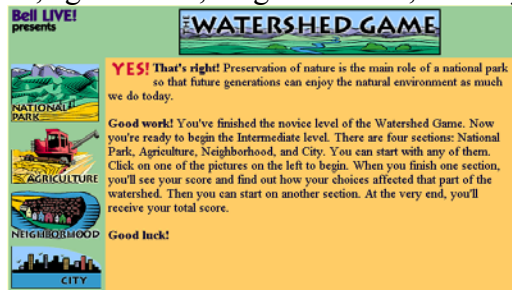
The students will be given a series of questions to answer. The students click on the answer to each question.

Novice Level: Question #1

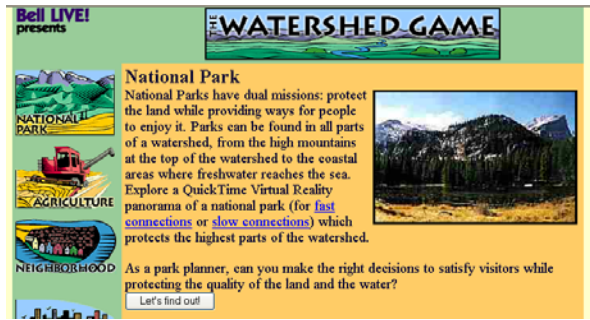
What is a watershed?

- [A small house in your backyard filled with water.](#)
- [An area of land from which rainwater and snowmelt drain into a particular river, stream, or lake.](#)
- [A pond that drains water from your backyard so it doesn't flood your basement.](#)
- [It is a very big river that flows into a lake](#)

When the students have answered all the novice level questions they will see a screen which congratulates them and invites them to make a choice concerning a watershed project. The four choices are: national park, agricultural, neighbourhood, and city.



After making a choice about one of the projects, students will be given several screens which provide information about their particular project and then asks the student to make a decision based on what they have read.



At the end of the process, students will be given a score that demonstrates their conservation awareness. The last screen will review each question, give the student's response, and explain the consequences of that choice.

National Park

How did you do? What are the consequences of your decisions?

Your score: 23 out of 25 points

You decided to: Use wood chips and wood mulch to improve the trails.

The consequences: Using wood chips was definitely a great way to maintain a trail. Wood

Cross-Curricular Activities:

- **Language Arts:** Have the students write letters to the editor of the local paper stating reasons for conservation of our wetland habitats.
- **Science:** This is a virtual tour of a pond habitat. <http://www.uen.org/utahlink/pond/> Teachers should also check out the JASON Expedition Website as this year's expedition is all about the Disappearing Wetlands. www.jasonproject.org See footnote at the bottom of this lesson.
- **Technology:** Have the students explore a different wetland. As they hunt for the different animals that live in this rainforest wetland, they will turn a black and white photograph into a color one which they can then print out.
<http://www.ccwater.com/education/wetlands.asp>

Community Involvement: Visit a wetland in your area and look for signs of human interference.

FOOTNOTE: *The nutria experiment came from pages 63-66 of the Student Activity Book which accompanies 2004-2005 JASON Expedition: Disappearing Wetlands curriculum. Typically Jason experiments can only be used by those persons paying for the curriculum. JASON has graciously granted written permission for this experiment to be used in this lesson in order to expand and promote conservation values in students. For more information on how you can become a part of this year's Jason Expedition, please log on to the Jason Home Page at <http://www.jasonproject.org/home.htm>.*

1

6

2

7

3

8

4

9

5

10