

EXPERIMENTS AND PROJECTS

to take you Deeper into Wetlands Issues



Wetlands are in the news a lot lately. The activities in this guide have helped you explore a wetland in your area. Here are some ways to look more closely at wetlands and some ways wetlands touch our lives.

Look through this list of project ideas. Pick one or two which spark your interest -- or create a project entirely your own!

1. Dig Deeper into Wetland Soils. Call up your County Conservation District office (or U.S. Soil Conservation Service) and ask to see the soil survey maps of the region which includes your wetland. Ask an agent to explain which soils on the map are classified as hydric soils vs which are upland soils. Perhaps she would be willing to take you to a wetland to show you how soil types are classified. Can the agent show you the boundary between a wetland soil and an upland soil? Write a short report of what you have learned, and include some soil samples.

2. Tell a wetland story. Use a photo essay to tell the story of a wetland you know. Or make that a video essay if you have access to a video camera. A visual essay can use written or spoken words to help tell the story--or it can rely on pictures alone.

How can you tell a story with only pictures? Try this: begin with a story you know very well. What pictures could you use to tell a story like "The Three Bears" without using any words?

A wetland photo-essay might tell about the wetland's history. Is there an old-timer in the neighborhood who might help tell the story? Are there any old pictures around in a library or historical museum?

Other wetland stories might reveal who uses the wetland -- including both four legged and the two legged visitors -- or how a wetland changes with time. Use your imagination!



3. Charting Lost Wetlands. Since our country's settlement, over half of its original wetlands have been destroyed. The total area lost in this country is 115 million acres. 300,000 to 500,000 acres continue to be lost each year. How much of our country's land is this really? Find a graphic way to illustrate some or all of this information. Use an original idea of your own or try one of these:

Try representing the area of land lost to the nations wetlands by shading that area on a map of the U.S. You might superimpose a grid over the map to help you. How could you determine what area one square of the grid represents?

Design a pictograph or bar graph which represents this information in a way which would be meaningful to others.

Other statistics which may be of use to you: The area of the U.S is 3,618,770 square miles. One square mile equals 640 acres.

4. Wetlands Evaluation. Who determines the value of a wetland? In many cases, the work is done by environmental consultants, people who are paid to study wetlands and predict the consequences to people and wildlife if a wetland is disturbed. Environmental consultants are in great demand these days. (Why do you suppose this is so?) To find out more about the career of environmental consulting work, do an interview of an environmental consultant.

How do you do an interview? First brainstorm the questions you will ask. For example, you might want to ask how they became interested in this field, what training they received, what the best and worst parts of the job are, etc. When you do the interview, jot down notes while they are talking, but write up their ideas soon after the interview while it's still fresh in your mind. The best interview situations are in person, but if distance is a problem, a telephone interview is the next best thing.

Where can you find an environmental consultant? Try calling your state's office of environmental protection. In Washington State, call the Department of Ecology at 493-9260 and ask for the names of

consulting firms near you. Explain your interest and perhaps you can convince someone to take you along on a field study!

5. Wetland Cooking. The cranberry is an important plant crop which is grown in a wetland. Mint is another. Use your library to find out how cranberries, mint, or another wetland plant is grown and harvested and write a short report. Then find three recipes which use this crop to add to the kit's dish of recipes. Be sure to try out your recipes first!

6. Temperature and Aquatic Animals. How are aquatic animals affected by differences in temperature? Aquatic animals are said to be cold-blooded. Their bodies are always close to the temperature of the water they live in. Do young animals living in cold water develop at the same rate as young animals living in warm water, or does one develop faster? Here's an idea for an experiment:

a. Find two mayfly nymphs or other aquatic insect larvae, both of the same type and the same size. (How could you measure the size of an aquatic animal?) For best results, choose animals for which the availability of food will not be a problem.

b. Prepare a similar environment for each. If the animals are small, you could use two identical wide-mouth glass jars or large plastic tubs. Be sure to include in the jars all important parts of their habitat: food, space, shelter, plants, etc and a leaf or stick they can climb out of the water when they're ready to emerge.

c. Find places to put the two jars which will be similar in all ways but temperature. You might, for example, put one in a heated room by a window and the other one outside on the other side of the window.

d. Watch both larvae for signs of growth and development. Keep a daily record of all changes you see in each jar. Watch especially for signs they are ready to emerge from the water.

e. If you discover a difference in growth or maturation rate, explain how you think temperature might have been a factor. What would you have to do to be more sure of your conclusions?

7. Share your aquarium with younger students. Take your aquarium to a preschool or elementary classroom. Tell the kids how you made it and how you take care of it. Teach them the names of some animals and plants in the tank. Tell them stories like how the animals catch their food, what kinds of things they do to get air, how some of them come out of the water and "grow up" into flying insects. Perhaps you could leave the tank in their classroom for a day or two. Some of these students might even like to see where you collected the plants and animals in your tank.

8. Native Plants. Many plants found growing in a wetland today are native plants, that is, plants that have lived in your region historically. You may be interested in learning how these plants were used by Indians as food, medicine or were important to them in some other way. Look up the topic "ethnobotany" in your library to find out about human uses of plants. Select some plants which grow in wetlands to focus on. You may even want to try some of the uses you read about.

Some of the best sources of information on ethnobotany are in the Indian community. You may be able to locate a person there who would share their knowledge of native plants with you in a more personal way. If you can, ask your Indian friends and neighbors to recommend someone, or inquire at a local tribal museum or information center.

Another organization which can help you learn more about native wetland plants is the Native Plant Society. This active organization is working to learn more about native plants across the country so that they can be protected. Perhaps you can help them gather information. In the resources section at the end of this guide is a number for the regional office of the the Native Plant Society which you can contact for more information.

9. Follow the Raindrop.

Where does a raindrop go after it lands on the ground? In nature most rain would normally soak into the ground and become part of the groundwater. On developed land this is less likely to happen. To find out where all the water is going that's not soaking into the ground, follow a raindrop. Here's what to do:

Go to a quiet street or a parking lot where traffic is slight. Picture a raindrop landing somewhere on the pavement. Where will it go next? Downhill, of course! Follow the course you think it would travel, where ever it leads (watching out for traffic).

If it goes into a storm drain, don't give up. There are clues inside the storm drain that will tell you where the underground pipes are leading. Depending on the size and design of your municipal storm drain system, you may be able to follow it until the water empties into a surface body of water.

Water which drains from road surfaces picks up numerous substances along the way, especially petroleum products from cars. Are these toxic substances still in the water when it is put back into the natural environment? This is a question to take to a person who knows and understands your city's storm water system. Look in your phone book under the name of the city you live in for such listing as: Department of Storm and Surface Water, Public Works, or Public Utilities. Ask if someone could explain to you your city's treatment program for storm water. No doubt you will have questions to ask about parts of the system you saw while "following the raindrop." Perhaps you will even get a guided tour!

Make a map of the area you walked, with notes about all of the storm water features you encountered.

Since storm water usually gets minimal treatment, many communities groups are stenciling labels on storm drains to remind us all where the water goes. Hopefully with more awareness, we will take steps to prevent toxic substance from entering the drain systems. If you'd like to get involved such a program, the your city's department of public works (or perhaps one of the other departments mentioned above) to find out who in your area might be organizing this effort.