WETLANDS AND WATERFOWL

Teacher's Pre-Trip Information

The purpose of the following pre-trip information is to help the teacher prepare and motivate their class for their field trip to the forest preserve and to familiarize the students with vocabulary used during the program.

GRADE LEVEL: Grades 3-8

OBJECTIVES

- Students will identify the functions of wetlands and their importance
- Students will learn the difference between terrestrial birds and water birds
- Students will learn the characteristics of wetlands
- Students will identify common wetland animals
- Students will use field guides and observation tools

LEARNING PLAN

Topics: wetland bird species, ecosystems, characteristics of wetlands, human utilization of wetlands

Student activities: observing birds with binoculars, hiking through the wetland ecosystem, animal identification

Learning Area	Goal #	Standard	Level and Benchmark
Science	12	B	1a-b, 2a-b, 3b
	12	E	1a-b, 2a-b
Language Arts	4	A	1a-d, 2a-c
	4	B	1a-b, 2a-b
Social Science	16	E	1 (US), 3c (US)
	17	A	2a
	17	B	1a-b, 2a-b, 3b
	17	C	1a, 2c, 3a
Physical Education	19	C	1, 2a, 3a
	21	A	1a-c, 2a-c, 3a-c
	21	B	1, 2

VOCABULARY

- **Respect** – to care for, to show concern for
- **Preserve** – to keep safe, to save or protect
- **Habitat** – the arrangement of food, water, shelter and space suitable to an animal's needs
- **Community** – a group of plants and animals living and interacting with one another
- **Wetlands** – areas that at least periodically have waterlogged soils, are covered with water for at least part of the year, and have plants adapted to water environments present
- **Migration** – the periodic movement of animals from one area to another and back again as a natural part of their lives
- **Runoff** – water that drains or flows off the surface of the land
- **Waterfowl** – water birds, including ducks, shore and wading birds
- **Biodiversity** – a term used to represent the variety of life forms in a given area

Supplemental Activities:

The following activities are suggestions for use in the classroom before and/or after the school program. Not all are appropriate for all age groups. Feel free to adapt them for your students' abilities.

Research activities:

- Investigate prior records and maps to find out if there are areas that were once wetlands that are no longer classified as such. Investigate the reasons for this. Create maps showing differences in human habitation as wetlands have increased or decreased in an area. (http://www.nwrc.usgs.gov/fringe/where.html)

Science Activities:

- On a tile or wooden floor (the size of the floor area will be determined by the number of groups and the number of students in each group), drop 100 squares of paper, 1cm X 1cm, of several different colors. The different colors represent the various juvenile species (shrimp, red drum) that use the wetlands/estuaries for protection and feeding grounds until they are old enough to move into their adult habitat. The students are the predators of these juvenile organisms. The students can use their fingers (very young students) or forceps (older students) to remove the "organisms" from the wetland. Allow the students to pick up "organisms" ONE AT A TIME for 30 seconds. Count the number of organisms remaining in the wetland. Cover the same area of the floor used above with a piece of deep-pile or shag carpet that has at least one of the colors of the paper used. This will represent the real wetlands with the plants that provide shelter and camouflage for the juvenile organisms. Repeat the same procedure with the squares and predator activity. The number of "organisms" surviving this time should increase since the "plants" provide protection from the predators and they are not as easily spotted. (http://www.nwrc.usgs.gov/fringe/where.html)
- Investigate and set up an experiment to demonstrate a wetland's capabilities of reducing the amount of pollution entering the Gulf of Mexico. Suggestion: Use a plastic flower plot with drain holes in the bottom to allow you to catch the water draining through. Fill the pot with soil. Mix water (about a quart) and diatomaceous earth (this will become suspended but not dissolve) and pour this over the soil. Collect the water that drains through and compare it to what you poured in. This will show the reduction of materials draining out of the wetland into the nearest body of water. (http://www.nwrc.usgs.gov/fringe/where.html)

Physical Development: (Movement)

- **Shrinking wetlands** (http://www.idahoptv.org/dialogue4kids/season8/forestsdesertswetlands/shrinkwetland.cfm)

Discuss wetlands and their value with the students. With the class, make a list of plants and animals that live in wetlands. Then make a list of pollutants that occur in wetlands. Post these lists where students can see them. Tell the class that they will have to divide into two teams with equal numbers of students. The teams have the following roles:

Wetland Team-

- 1 wildlife agency employee
- 1 biologist
- 1 informed citizen
- Each remaining student chooses a plant or animal from the list.

Developer Team -

- 1 person in agriculture
- 1 urban developer
- 1 logger
- 1 miner
- Each remaining student chooses a polluting factor from the list.

Ask all the students to label themselves or otherwise visually identify themselves. The three "human" members of the Wetland Team are the only students who can wear armbands. The rest can mark themselves with stick-on labels, etc. Have the students set up the playing area, and mark an area where students who are out of the activity will gather.

Give the students these instructions:

A. The Developer Team members stand outside the perimeter of the playing area. They will try to hit members of the Wetland Team with the ball.

B. The plant and animal members of the Wetland Team have to dodge the ball. If they are hit, they are out.

C. The "human" members of the Wetland Team defend the plants and animals by trying to catch the ball. If they catch the ball, the Developer who threw the ball is out.

Begin the activity. When a few members of the Wetland Team are out, stop the activity and adjust the boundaries. Have the Developer Team take a step forward; this sets the new boundaries. Do as many rounds as you need to show the shrinking wetlands. End the activity with enough time left to discuss the results. Review the numbers of each team that were out in the first part of the activity, and then with each successive reduction in wetlands area. Discuss what this may mean for a real wetland. Discuss where each of the "out" members would go if this were a real wetland. Where would a bird go? An orchid? A salamander? Where would a logger go to make a living? A miner? Could the occupations represented by the Developer Team be continued next to a wetland without destroying the wetland? How?

Suggested Readings:

- **Squish!: A Wetland Walk**

By Nancy Luenn

Bright watercolors evoke the sights, sounds, and smells of a wetland walk. The habitat proves to be much more than just a place that's "squishy under boots," as a young, raincoat-clad boy soon discovers. It catches rain for well water and prevents houses from washing away. In the autumn, it provides a nursery for young salmon. It is a hunting ground for herons, a hide-and-seek place for seed-searching mice. Its plants filter out pollution. Garter snakes and water striders glide by. A chorus of frogs blends with the song of a blackbird. A sudden rain releases the earthy scent of

mud and decomposing plants. With fluid words and attractive illustrations, Squish! will inspire young readers to a greater appreciation of this valuable ecosystem.

- **What Are Wetlands? (Science of Living Things)**

By Bobbie Kalman
Investigates some types of wetlands, including swamps, salt marshes, bogs, and flood plains; the many plants and animals that live in wetlands; and the threats to these ecosystems.

Additional Resources:

Web sites

- www.epa.gov/owow/wetlands/
- www.epa.gov/owow/wetlands/science/readlist.html
- www.epa.gov/region04/water/wetlands/education/centers.html
- www.wes.army.mil/el/wetlands/ysi.html

DNR Education Website: http://dnr.state.il.us/lands/education/index.htm

- Educational supplements (CD-ROMs for students and teachers, educational trunks, posters, books, etc.)
- ENTICE workshop schedule
- Project WET, Project WILD, and Project Learning Tree
- Contests and grants

Audubon Illinois Wildlife Series Display Boards*

- Butterflies and Moths
- Amazing Bats
- Illinois Owls

See www.champaigncountyaudubon.org for a list of resources for loan housed at the Education Center at the Homer Lake Forest Preserve.

**Available for loan from the Education Center at Homer Lake Forest Preserve. We have many more items in addition to those listed – please call 896-2455 for more information.*

FOREST PRESERVES
CHAMPAIGN COUNTY