

Wetlands Habitat – Classroom Activities

Note: This outline contains five suggested classroom activities introducing students to the wetlands habitat. Select activities appropriate for your group and modify or tailor your approach as needed in the time available to present the program. These activities may be used for a requested in-classroom program or in lieu of a field trip that had to be canceled.

Theme: The ponds and wetlands in Boulder County provide an important aquatic habitat for many species of animals.

Wetlands are found from the prairie to the alpine life zones. Many plants that grow in or surrounding the ponds are only found in an aquatic habitat. Animals that live in the wetlands depend upon it to provide a suitable habitat for their survival. They may live all or part of their life cycle in water.

Introduction:

Wetlands Habitat is a collection of classroom activities. Choose the classroom activity that is appropriate for the children's age/grade, reflects concepts the teacher suggested that you emphasize, and will work in the existing classroom structure.

These activities describe vertebrate and invertebrate animals. Ask children if they know what vertebrate means (having a backbone) or explain the difference between them. Give examples of animals that they are familiar with like butterflies, dragonflies, and beavers.

1. Creating a pond in the classroom

Preschool through 2nd grade

Supplies:

- Large blue cloth
- River rocks
- Pond plants (cattails)
- Animal puppets – animals that live in or near ponds
 - Please remember that rocks, plants, etc. may not be collected from BCPOS properties without permission

Activity:

- Spread out the “pond” (blue cloth) on the classroom floor. Place river rocks and plants around the pond's edge. (Hint: you can use upside-down milk crates or large vases to hold up cattails.)
- Introduce students to a pond habitat. Habitat provides food, water, shelter, and living space for animals. Ask the kids to think of examples of each of these. For example, how does this pond provide shelter for a nesting bird? Or mammal such as a beaver? Or an insect?

Creating a pond in the classroom (continued)

- Give each child or pair of children a puppet. Ask them to think about where they would look for that animal in or around the pond. Then have them place the puppet where they would expect to see that animal.

Grades 3 through 5

Supplies:

Wetlands Habitat display board and associated Velcro-backed animal pictures

Refer to the volunteer naturalist website for a photograph of this display board.

These supplies are available at the Walden Ponds Volunteer Naturalist (VN) Resource Center.

Activity:

- A variety of animals make their home in wetlands. Wetlands provide a unique aquatic habitat and many animals live only in or near the ponds, ditches, and creeks in Boulder County. Describe some features of wetlands that are shown on the display board.
- Have students name some of the animals – both large and small - that make their home in the wetlands (remind kids to think about insects, too). Where might they look for these animals in or around a pond? Decide which of these animals are vertebrates or invertebrates.
- Give an animal picture to each student or pair of students. Let them think about where they might see this animal. Have one or two students at a time attach their animal to the wetlands habitat display board.

2. The Wetlands Metaphor

Grades 3 through 5

A group presentation to 8 to 15 students.

The ideas for this activity are from the *Wetlands Metaphor* activity in the *Project Wild K-12 Aquatic Activity Guide* (available in the VN Center). This activity uses everyday objects or places that children are familiar with to develop an understanding of the importance of wetland habitats.

Wetland habitats provide food, water, shelter, and living space for animals. Give an example of one animal and the specific items the wetlands provide so that animal may live year-round in the wetlands (a beaver is a good example for a year-round resident). In addition, wetlands serve as a stopover site for migratory birds and a nursery for young animals. Aquatic plants in the wetlands help to filter the water, neutralize toxins, and absorb excess water. Wetlands may also be compared to a supermarket. In addition to providing food, supermarkets stock items we need every day like soap, toothpaste, dog & cat food, etc. Ask students to think how animals use the wetlands supermarket to survive. For example, what do beavers use to build their dam and/or lodge? What do birds use to build their nests?

The Wetlands Metaphor (continued)

Supplies:

At the Walden Ponds VN Center is a plastic container labeled *Wetlands Metaphor*.

The following items are in this container. In parentheses is the concept each item represents:

- Small box of cereal (food)
- Soap (cleans the water)
- Antacid (neutralizes toxins)
- Small cradle (nursery for young animals)
- Small suitcase (migratory birds)
- Sieve and coffee filters (filters the water)
- Large sponge (absorbs and retains water)
- Small plastic (water) bottle
- Small house (provides shelter)

- A covered box for the items.

Activity:

- Introduce the wetlands habitat. By the 3rd grade most students have had an introduction to the term *habitat*. Ask questions, see what they know. Give a short overview of how the wetlands environment provides animals with a habitat in order to survive.
- Have each student or a pair of students - one at a time - draw an item from the covered box. They can draw one item out of the box, but should not be able to see the other items in the box. Ask kids to think about how their item is related to the wetlands habitat.
- Let each student (or pair) present and explain how their item represents a function of the wetlands habitat.

3. Pond Invertebrates

a. An insect life cycle and the pond

Grades 1 through 5

Supplies:

- Pictures of dragonflies and damselflies
- Illustration of the life cycle of a dragonfly (in the Pond Dipping container)
- The sample display box showing pond invertebrates (at the Walden Ponds VN Center)

Discussion activity:

- Begin the discussion with: What is an invertebrate? What is an insect?
- Ask kids what they know about metamorphosis: Are they familiar with an egg to caterpillar to butterfly life cycle? What about egg to tadpole to frog life cycle?
- Introduce the life cycle of a dragonfly. What parts of the dragonfly life cycle are in the water? In the air? How long can a dragonfly nymph live in the pond or dragonfly adult live in air?
- Include damselflies in your discussion. Most students have seen dragonflies, but may not know about damselflies. Once you show a picture of a damselfly, they recognize them.

b. Sampling pond invertebrates

Grades 3 through 5

Supplies:

Supplies are stored in the plastic container labeled *Pond Dipping* at the VN Center.

- Supplies for sampling (yogurt cups & small white pans)
- Illustrations of pond invertebrates 1) commonly observed in ponds and 2) the life cycle of a dragonfly or damselfly
- One gallon Ziploc bags
- Buckets for transporting invertebrates
- Hand sanitizer or disinfecting wipes

If you are familiar with pond dipping and the weather is warm, consider bringing a sample of pond invertebrates into the classroom (Pond dipping is described in an activity available on the VN website). Students do not open the bags of pond water. Invertebrates may be observed in the Ziploc bags and returned to the pond when your program is finished.

Sampling pond invertebrates (continued)

Activity:

- Fill the Ziploc bag with water containing a sample of invertebrates (about 1/3 of bag). When sealing bags keep an adequate supply of air in the bag, above the water.
- Transport bags in a bucket to the school.
- Ziploc bags may be placed on tables in the classroom. With help of illustrations let the kids ID the invertebrates.
- Return Ziploc bags to the buckets for transport back to the ponds.
- Clean school tables with disinfecting wipes.

4. Pond Vertebrates – mammals, birds, reptiles, and amphibians

This activity can focus on one animal like the beaver or feature 3 or 4 animals commonly observed in an aquatic habitat. Choose examples that you are familiar with and resources that can be transported to the school.

Supplies are available at the Walden Ponds VN Center. Here are some suggestions:

Beaver: mount, pelt, skull, tracks – front & back foot, beaver-chewed wood

Birds:

Shore & wading birds: Great Blue heron

Dabbling & diving ducks; Canada geese

Fishing birds: pictures of an osprey, white pelican, bald eagle

Reptiles and Amphibians

Snapping turtle shell

Pictures of frogs and frog life cycle

Picture of a bull snake

5. Water Resources

This activity is available on the VN website. Weather permitting, it can be done outdoors at the school in a grassy area.

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