



# Wildlife Ecology Post-visit

## Classroom Activity

### Brief Synopsis:

*The unique world of amphibians will be explored as students catch live specimens in our ponds, forests, and river. Participation in an amphibian life cycle activity and an amphibian calls game will help round out the visual identification portion of class. Emphasis is placed on the role of amphibians as bio-indicators, and how amphibians are clues that tell us about the health of the environment.*

**Ages:** Designed for 5th–8th grade

**Time Considerations:** 15 minute introduction, independent research time, and time to make presentations to the class.

**Materials:** None

#### Vocabulary:

Biodiversity, Carrying Capacity, Corridors, Community, Domestic, Ecosystem, Edge, Extinction, Habitat, Limiting Factor, Matrix, Patches, Population, Predator, Species, Sustain, Threatened Species, Wild, Wildlife,

#### Outcomes:

1. Students will be able to list the characteristics of all amphibians.
2. Students will describe the life cycle of a toad using props.
3. Students will use sounds to re-create frog behavior.
4. Students will use careful observations to identify different species of local amphibians.
5. Students will understand how counting amphibians can be a good way to measure the health of our environment.

#### Minnesota Academic Standards:

**Science:** 4. IV. B. 1 & 4.V.B.1

**Math:** 4.V.B.1

**Language Arts:** 4.I.A.1, 4.I.B.1&2, 4.III.A.1&2, 5.I.A.1, 5.I.B.1, 5.III.A.1&2, 6.I.B.4, 6.III.A.1&3, 7.I.A.1, 7.I.B.1&5, 7.III.A.1

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### Set-up

The *Wildlife Ecology* class at Eagle Bluff showcased many ways humans have had an impact on the local habitats of wildlife. This activity will delve deeper into understanding why certain wildlife species have been either positively or negatively impacted by human alterations of the landscape.

### Activity 1: Altering the Wildlife

**Background:** Humans have changed the landscape of Minnesota and North America over the past two hundred years. Some animal species have thrived in the altered landscape that Europeans created in North America. Others were driven to extinction or almost to extinction through over hunting, habitat loss, or competition with non-native species, either intentionally or accidentally introduced by humans.

Of the indigenous species in Minnesota, some have thrived and expanded in the habitat that humans created. Raccoons, robins, coyotes, cowbirds, and carp have very healthy populations and/or a greatly expanded range than before European settlement. Other species like bison and the gray wolf that used to be found around Eagle Bluff can no longer live there because of habitat loss and extermination/over-hunting. Blanding's turtle, black and white warbler, and the northern cricket frog are still present, but endangered or threatened because of habitat loss or reduction of water quality.

Still other species have suffered reductions in population, but humans fought to restore the populations of these species, such as bald eagle, bluebird, wood duck, white-tailed deer and Canada goose. Humans are directly or indirectly responsible for all of these changes among wildlife species.

#### Procedures:

1. Put students into small groups or pairs.
2. Students will then choose an animal from the following list to research. Encourage your class to choose from the four categories equally.

**Exotics:** Oriental ring neck pheasant, house sparrow, zebra mussel, European starling, Rock dove

**Wildlife species that are thriving after European settlement:** raccoon, robin, coyote, cowbird, carp/bullhead



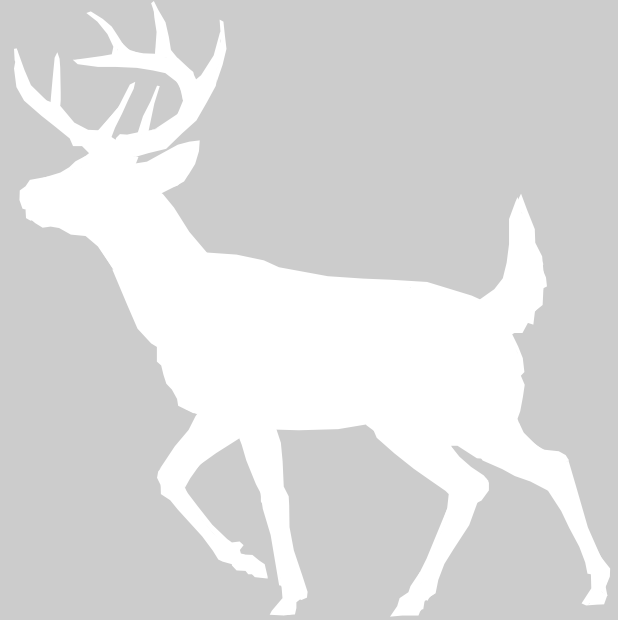
**Wildlife species that declined after European settlement:** Blanding's turtle, bison, timber wolf, black and white warbler, northern cricket frog

**Recovered wildlife species:** bald eagle, bluebird, wood duck, white-tailed deer, Canada goose

3. Allow students enough time to research the animal's natural history and answer the following questions.
  - Is the species exotic or native?
  - Do people hunt them?
  - Is the species considered beautiful?
  - Are they pests or harmful?
  - How have people changed their range distribution?
  - Have people changed the numbers of that species?
  - How do humans and that species interrelate?
4. After completing their research, have students present their findings to the rest of the class.
5. As the presentations are being made, have the class generate a list of one concern for each animal.
6. After all the presentations, have the class discuss which concern is the most important to them. Which concerns focus on the animals and which concerns are about humans? Does this make a difference in the decision? Picking the animal concern may need to be resolved with a vote.
7. Next, identify why this concern needs to be addressed. Are there too many of the species, or are they disappearing? Are they harming humans or other wildlife? Lead this discussion into how can people help. Or even how can the class help. Discuss concrete examples of ways people can help or manage that species. During the conversation keep track of the unanswered questions and pieces of information the class just does not have.
8. Finally, have the class compose a letter to the Minnesota Department of Natural Resources. Ask the questions generated in the discussion. For example, ask why does this animal need help? What is the DNR doing about the animal? How can the class help? The letter could be written on the chalkboard. Transfer the letter to paper and mail it off. You could also choose to write to a different part of the government such as the local city park board, commerce commission, or county public lands board.
9. When you receive your reply, read the letter to the class. Discuss any further issues and whether or not your class would like to write any further letters to seek further information or new letters about other issues and concerns generated from their research projects.

### Teacher Tips

- This project can be as simple or involved as you would like it to be. Feel free to adapt it to your needs.
- Utilize the library staff to help you and your students pull resource material to help in their research.



### Additional Resources

<http://www.dnr.state.mn.us/animals/index.html>

This website includes a list of Minnesota animals and some basic facts about them.

<http://ology.amnh.org/biodiversity/index.html>

A biodiversity website geared towards kids to explore, learn and act.

Link:

<http://ology.amnh.org/biodiversity/biobenefits/index.html>

This link illustrates how biodiversity helps us (humans) have a better quality of life.

[http://www.nwf.org/backyardwildlifehabitat/create\\_provide.cfm](http://www.nwf.org/backyardwildlifehabitat/create_provide.cfm)

A website about making schoolyard habitat utilizing the four major components of habitat.