



Muddy Hands

Soil and Water Information for Educators Brought to
You by the Lake and Geauga County Soil and
Water Conservation Districts



Ohio's Wildlife is Making a Comeback

You don't need to travel far to see rare and exotic wildlife, in fact, you don't even need to go to the zoo! The natural areas in Lake and Geauga Counties are home to amazing wildlife, including bald eagles, river otters, black bears, massasauga rattlesnakes and even bobcats! Even though many of these animals are still endangered in the state of Ohio, they are making a comeback with the help of concerned citizens and conservation organizations. This issue of Muddy Hands features, the bald eagle, snowshoe hare, and black bear; three animals that were on the brink of extinction within the state until the Ohio Division of Wildlife stepped in to aid in their recovery.



Bald Eagles

The bald eagle, our nation's symbol since 1782, is a majestic creature commanding attention and appreciation due to its' massive size, graze, and beauty. It's hard to believe that less than thirty years ago the bald eagle was on the brink of extinction in the United States.

Bald eagle populations were in jeopardy after World War II due to loss of habitat and the pesticide DDT. Even after the use of DDT was banned in the United States in 1972, populations continued to decline until the Ohio Division of Wildlife began a bald eagle restoration project. They obtained eaglets from zoos and the U.S. Fish and Wildlife service and placed them in the nests of eagles whose eggs failed to hatch. The adult eagles fostered these eaglets until they were ready to survive on their own. In addition, the Ohio Division of Wildlife began educating the public about the importance of eagles and other raptors in the ecosystem and worked diligently to rehabilitate injured bald eagles so that they

could be returned to the wild. Bald eagles are still endangered in the state of Ohio, but probably not for much longer. In 2004, one hundred eight (108) nesting pairs of bald eagles were counted in the state of Ohio. In winter of 2004, three nesting pairs were found in Geauga County and one was found in Lake County!! An impressive comeback considering only four (4) nesting pairs were know to be in existence throughout the state in 1972.

The average bald eagle has a six to seven foot wingspan and weighs up to twelve pounds. They nest in trees within two miles of a water body with ample food. They eat fish and mammals, including squirrels, groundhogs, rabbits, and other birds, such as ducks, hawks and owls. The average bald eagle nest is five feet across and three to six feet deep! The largest nest ever found in Ohio was eight and half feet across, twelve feet deep and weighed two tons!!

For more information on bald eagles, visit the Ohio Department of Natural Resources, Division of Wildlife website at <http://www.dnr.ohio.gov/wildlife/Kids/beagle1.htm>

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Special Points of Interest:

- *Bald Eagles, Snowshoe Hares and Black Bears, Oh my!*
- *Endangered Species Act of 1973*
- *Classroom Activity: Life on the Edge*

"When one tugs at a single string in nature, he finds that it is attached to the rest of the world."

-John Muir



Snowshoe Hares

The snowshoe hares are shedding their white winter coats, and replacing them with a new, soft, brown layer of fur. Their unusual habitat of changing color in the winter restricts their range in Ohio. Snowshoe hares require a consistent layer of snow throughout most of the winter in order for their camouflage to be effective. That means that they can make Ohio's Snow Belt home.



Hares never were very common in Ohio, and were extirpated by the early 1900's. A few fell to trappers, but the main reason for the species decline was deforestation for farming. Hares rely on coniferous forests for their food source throughout the winter, nibbling needles and gnawing on bark.

Since hares don't move far from home, some human intervention was necessary to reestablish a population. In the 1950's the Ohio Division of Wildlife attempted several times to reintroduce the snowshoe hare to northeast Ohio. Over 600 hares were released, but a breeding population was never established. The project was abandoned for half a century. In 2001, almost 100 snowshoe hares were trapped in Michigan and released in Ashtabula County. Another 28 were released the next year, and there is some evidence of a breeding population. In total, in the last 5 years, 398 hares have been released, with the hope of developing pockets of breeding hares in Lake, Geauga and Ashtabula counties. The animals were brought in from Michigan and Maine, and are released in the winter, when predation is lower.

For more information on snowshoe hares, please visit the Wild Ohio Link at <http://www.ohiodnr.com/wildlife/Resources/wildohio/wildohiolink.htm>

Did you know?

- Hares are larger than our native rabbits
- Rabbits are born naked and blind, while hares are born fully furred and able to see
- Hares have three different types of fur
- The guard hairs are the ones that give the hare its color
- Squirrels, porcupines and skunks follow the paths the hares make in the snow
- Hares can run at 45 KPH or about 28 MPH
- Snowshoe hare population density records extend back over 200 years in North America, due to the pelt records of the Hudson Bay Company

Black Bears

Black bears were prevalent in Ohio prior to settlement; however, they were extirpated from the state during the 1850's due to habitat loss from farming and industry. Those that remained following the loss of habitat were either shot or trapped to protect livestock and crops from predation.

Black bears started reappearing in the 1970's and sightings in Ohio have become much more common in recent years, due to the burgeoning populations of bear in neighboring states. According to estimates, as many as 17,000 black bear live in Pennsylvania and another 8,000 to 10,000 in West Virginia. Black bears are crossing state boundaries and finding new homes in Ohio.

Division of Wildlife biologists estimate the Buckeye bear population at somewhere between 50 and 100 black bears that live in Ohio year round. They are currently listed as endangered throughout the state.

Even though populations are growing, the chances of seeing a black bear are slim. An adult black bear can weigh up to 700 lbs. and are between 4 and 6 feet tall when standing upright. Black Bear information and videos are available on line at <http://www.dnr.ohio.gov/wildlife/Resources/bears/default.htm>



Looking for a way to liven up your science or social studies curriculum? Lake and Geauga SWCDs both offer an array of programs that meet many of the Ohio Science Standards. Call your SWCD office for more details.



Classroom Activity: *Life on the Edge* (Activity from Project Learning Tree)



Objective: Students will identify factors that can cause species to become endangered

Materials: Large sheets of colored construction paper

Time: Two 45 minute class periods

Background: In most places where animals are threatened with extinction, it is because of habitat destruction. A habitat is made up of both living and nonliving factors on which an animal depends. Habitat loss is the single greatest obstacle to help many endangered plants and animals recover.

Activity: Habitat Scramble

1. What happens to wildlife when habitat is altered, either naturally or by humans? Have students assume the identity of an animal (bird, fish, mammal, reptile, etc.) Place large pieces of colored paper or mats on the ground and label them to represent different habitats—rainforest, deciduous, forest, field, pond, tundra, ocean etc.
2. According to their animal identities, have students choose an appropriate habitat. (They must stand with at least one foot on the mat. More than one animal can occupy a habitat.)
3. When everyone is in place, tell them a brief story describing the destruction or alteration of a particular habitat. After the story, pull away the colored map representing that habitat. The animals that were standing there must scramble to find a new habitat that is suitable and stand with one foot on it. If they cannot adapt to another habitat, they do not survive and are out of the game.
4. Continue telling stories of habitat destruction and removing habitat mats after each one. As habitats disappear, students must scramble to find another suitable habitat mat to stand on or they die. Crowding, tension, and aggressive behavior will result, mimicking what often occurs in nature. Class management is essential, and the game should be stopped when most animals have lost their habitat.
5. Afterward, discuss the principles that the game demonstrated. Point out how habitat study and planning for development is important for wildlife and people. Also point out that plants and animal adaptations take many years to occur.

Endangered Species Act

Congress found that various species of fish, wildlife, and plants in the U.S. had become extinct and others depleted to the point of being in danger of or threatened with extinction. They declared that depleted species are of aesthetic, ecological, educational, historical, recreational and scientific value and pledged to conserve these species from facing extinction.

In 1973, Congress passed the Endangered Species Act to protect fish, wildlife and plants that are listed as threatened or endangered in the U.S. or elsewhere. The Act provides a means of conserving the ecosystems upon which endangered and threatened species depend on and provides programs for conserving endangered species..



Wildlife Status Definitions

The Ohio Division of Wildlife uses several categories: to define the status of selected wildlife **Three of these categories are listed below:**

ENDANGERED—A native species or subspecies threatened with extirpation from the state. The danger may result from one or more causes, such as habitat loss, pollution, predation, interspecific competition, or disease.

EXTIRPATED—A species or subspecies that occurred in Ohio at the time of European settlement and that has since disappeared from the state.

EXTINCT—A species or subspecies that occurred in Ohio at the time of European settlement and that has since disappeared from its entire range.

Summer Education Workshop

Once again, Lake and Geauga SWCD's will be offering a week-long summer workshop titled *Wonders of Watersheds*. This summer's workshop will be held **August 1-5, 2005**.

Throughout the week, teachers will be exposed to issues within the major watersheds of Lake and Geauga Counties (the Grand, Chagrin, Cuyahoga, and Mahoning Rivers and Arcola Creek). The impacts of nonpoint source pollution and the steps that can be taken to reduce pollution at its point of origin will also be a primary focus of the workshop. Field trips and hands-on activities will be incorporated throughout the week to give teachers a well-rounded educational experience.

Teachers will also be trained in and receive the Project WET, Project Learning Tree, and Project WILD/Aquatic WILD/ Science and Civics curriculum and activity guides (Wow! All of that in one week!) The curriculum guides that will be provided offer hundreds of hands-on lessons which are all correlated to the *Ohio Board of Education Science Curriculum Standards*. These activities are guaranteed to keep your students interested and excited about science and the environment while still meeting the requirements of the new curriculum standards.

Two graduate credits will be offered through Ashland University to interested teachers. A **stipend** will be awarded to each participant to help offset expenses for childcare and/or graduate credit. Register early- workshop size will be limited to 30 participants (15 from each county). Please call Geauga or Lake SWCD for more information. Keep your eyes open for an informational brochure in the near future!

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Stream Quality Monitoring

Water quality monitoring is an interesting way of presenting species diversity, animal adaptations, and how humans affect living systems. Middle and high school students in both counties use chemical test kits and macroinvertebrate sampling techniques to determine water quality at locations on the Grand and the Chagrin Rivers. These students work in small groups with SWCD employees to collect aquatic organisms living in the rivers. The animals are then identified and counted. Calculating the diversity of species indicates the overall health of the watershed. The students' findings are reported to ODNR's Scenic Rivers program and become part of the monitoring data for these wild and scenic rivers. Each year, participants in these programs are recognized in ODNR's report on water quality.

Millennium Youth Conservation (MYC) is a conservation club comprised of students of all ages and their parents who monitor streams in Geauga County throughout the summer. It is offered by the Geauga SWCD.

Watershed Watch is a program of the Lake SWCD. Each September and May, over 500 students from 12 different schools take field trips to participate in water quality monitoring in Lake County rivers and streams.

Contact the SWCD in your county to sign up for Watershed Watch or MYC.

Volunteer Monitoring Workshops

ODNR Division of Natural Areas and Preserves announces Volunteer Monitoring Workshops for 2005. These sessions involve hands-on instruction in collecting technique and macroinvertebrate identification. This is a great opportunity for teachers new to stream monitoring to learn what it is all about, and even seasoned monitoring veterans will probably learn something new.

Wednesday, May 11, at Old River Farm Park, Chagrin River

Thursday, May 19, at H. H. Wyman, Grand River tributaries

Wednesday, May 25, at Mantua Village Park, Cuyahoga River

For more information, contact Billie Jagers, northeast Ohio volunteer coordinator at (330)527-2961 or by e-mail at billie@config.com