



# Birds of Wisconsin

**Program Purpose:** Students will become ornithologists and discover what makes a bird a bird and what makes each species unique. Students will be introduced to Wisconsin's most common and rare birds, their special habitat needs, and tips for identifying them in the wild.

**Length of Program:** 1 – 1 ½ hours

**Age:** 1<sup>st</sup> - Adult

**Maximum Number of Participants:**

30 in Nature Center

150 in Lodge

**Objectives:** After the program, students will be able to:

- Explain common adaptations of all bird species.
- Use identification skills to distinguish species based on field marks, calls, behavior, and habitat association.
- Explain habitat needs and the presence of birds in assessing environmental quality.

**Background Information:**

There are more than 9,000 species of birds in the world. In Wisconsin, you can find over 400 different species, 13 of which are listed as endangered and 13 others which are considered threatened at the state level. Of all wildlife, birds are the easiest to learn to identify because of their abundance and diversity. With a few identification skills, a pair of binoculars and a field guide, you can become a birdwatcher and enjoy this popular outdoor sport. Whether it is the challenge of finding a rare bird or just a simple excuse to escape the indoors, recreational birding is increasing the public's knowledge of natural resources and has become an important means of advancing the conservation of birds and management of their habitat.

**Preparation:**

- Locate the Birds of Wisconsin box in the Nature Center workroom.
- Set up the laptop, projector and screen. (Speakers are recommended for the bird calls.)
- Put Raptors in travel boxes and set up program perch. (See Radical Raptors for more info.)

**Materials:**

- Raptors in travel boxes
- Program perch and drop cloth
- Laptop, projector, and screen
- Extension cord

- Speakers (Optional)
- Binoculars
- Bird field guides
- Bird parts (bones, feathers, wings, skull, feet)
- Bird nest or bird house
- Peterson's *Birding By Ear* CD (See Library)

**Lesson Outline:**

- I. Introduction
- II. Bird Adaptations
- III. Birding Basics
- IV. A Forest Chorus
- V. Bird Conservation
- VI. Songbirds of Wisconsin
- VII. Raptors of Wisconsin
- VIII. Bird Hike: Optional activity for small groups

**Introduction:**

With over 400 different bird species in Wisconsin, bird watching has become a popular past time. Two very common and familiar birds are state symbols, the state bird and the state symbol of peace. The Robin was named state bird in 1926-27 by school students. The Mourning Dove was recognized as the state symbol of peace in 1971.

Explain that this program will introduce students to the diverse world of birds and teach them some tricks for identifying birds in their own backyard. They will learn to look for birds as well as listen for them. Finally they will meet two special birds at Upham Woods.

**Bird Adaptations:**

*What makes a bird a bird?*

All birds have some common characteristics, or adaptations, that make them different from all other animals.

*What is an adaptation?*

- A physical or behavioral characteristic that allows a bird to survive in its habitat.)

Birds are vertebrates, meaning they have a backbone like mammals, fish, reptiles and amphibians. However, a bird's bones are less dense than other vertebrates, lightweight and usually hollow, allowing birds to fly. Birds also have beaks and feet, both adapted to the particular habitat a bird lives in. Like mammals, birds are warm-blooded and have a 4-chambered heart that regulates the body's core temperature. Birds have feathers and wings, and most are capable of flight.

Different types of feathers serve different purposes. For example, flight feathers make up the wings and tail and allow mobility. Contour feathers give shape to a bird, while down feathers provide insulation. Finally, all birds are hatched from hard-shelled eggs.

*What is a habitat?*

Birds of Wisconsin live in a variety of different habitats, or homes, depending on the bird's adaptations. A bird with webbed feet and water-proofed feathers would be found near water, where as a bird with a strong beak for cracking seeds and feet used for climbing would be found near trees. Across Wisconsin, you will find wetlands, forests, prairies and fields, and even cities and towns, where birds depend on that particular habitat for the proper arrangement of food, water, shelter and space to survive.

*What is Ornithology?*

The study of birds would be a daunting task if it weren't for ornithologists categorizing birds into different families. The 408 bird species found in Wisconsin make up 54 different bird families. You can think of birds belonging to a family tree. Birds with all the same adaptations belong to the same species, like a robin. Bird species with similar adaptations are more closely related and share a branch on the family tree. For example, robins and mourning doves are perching birds with beautiful songs. This makes them part of the perching bird or songbird family. Now ornithologists can focus on a particular species or family and study its special adaptations.

**Bird Adaptations:**

*Beaks:*

Bird beaks (sometimes called bills) are an excellent way to distinguish between bird species. Beaks are natural tools that allow birds to eat, defend their territories, feed their young, gather nest materials and build their homes, and clean themselves (scratch and preen their feathers). Each group of birds has a distinctive beak that is adapted to its habitat and food sources. When identifying a bird, look for clues in the food it eats and its behavior or how it uses its beak.

*Can you name the bird by its beak?*

- A cardinal beak's is shaped like a vice or nutcracker and is specially designed to beak open seeds.
- An eagle's sharp, hooked beak acts like a pair of scissors used for cutting or tearing meat.
- A robin's beak is similar to a net. It seeps up worms and insects.
- A hummingbird has a straw-like beak used for sucking up the nectar from flowers.

*Nests and Habitat Preferences:*

Bird species have particular habitat preferences and build their nests in distinct ways. When identifying a bird,

look for clues in its choice of home. Pass around a real bird nest to show the materials used by many birds.

*What materials do birds use to build their nests?*

- A screech owl builds its home in the hollow of a tree.
- Hummingbirds use plant materials, sticks and leaves to weave a nest around a tree branch.
- Ducks build grass and feather nests on the ground.
- Bluebirds are dependent on manmade bird boxes, which they fill with natural nest materials.

*Bird Communication:*

Birds can also be identified by unique sounds. Birds communicate to attract mates, defend territories and alarm others of danger. Each bird species has a unique sound, and an experienced birder can identify 85% of the birds in an area by these sounds alone.

- *Songs:* Songbirds have special songs they sing to attract their mates. The male Red-winged Blackbird sings "Conkeree" while displaying its colorful wings in an open field.
- *Calls:* Bird species also have alarm calls used to defend territories and ward off danger. The haunting call of a loon is a signal to other loons on the lake.
- *Tapping and Drumming:* Woodpeckers use wood as sound boards to communicate.
- *Courtship dances:* Some birds make sounds while performing a sort of dance. The woodcock's display is a delightful sign of spring. In an open field you will find the male woodcock standing on the ground, calling in all directions, "Paint....Paint," in desperate search of a female. All of a sudden, the male will take flight, flying in a large spiral towards the sky, its wings whistling as it flies. When the woodcock reaches a certain height, it will begin to flutter to the ground and land in the exact same spot only to start its calls again.

*What bird sounds do you hear in your neighborhood? (Mimic the birds you know.)*

**History of Birding:**

Birding in America started with John James Audubon's (1785-1851) travels and publication of his collection of paintings of more than 1,000 birds. For the first time most people had the opportunity to "see" many of the birds and call them by a proper name. Organizations formed to protect birds and their habitats. Recreational birding was popularized in America in the 1930s when usable field guides were published.

**Birding Basics:**

Bird watching starts with a good sense of hearing and sight. Sit and observe a bird. Look for five basic characteristics or FIELD MARKS used to identify a bird:

- Shape
- Color
- Behavior
- Habitat preference
- Voice

Listen to its call or song. A pair of binoculars and a field guide will help you pick up on subtle field marks like an eye ring or wing bar. You can also bring the birds to you by providing feeders or go for a hike at dusk or dawn.

*Field Marks (Nuthatches):*

Nuthatches are birds most commonly identified by their behavior. They walk upside-down on trees looking for food. Two nuthatch species are found at Upham Woods, the white-breasted and the red-breasted. Once you've determined that you are looking at a nuthatch (walks upside-down), you can look for other field marks to determine the species. The color of the bird's breast, white or red, can tell you the bird species, as well as the size. White-breasted nuthatches are bigger than red-breasted nuthatches. Red-breasted nuthatches have a black eye line and a small black cap, while white-breasted nuthatches have a large black cap.

*Field Marks (Mallards):*

*Which mallard is the male? Which is the female? Why?*

Males and females often display different coloring. Males have bright colors and beautiful songs for attracting mates, while females are camouflaged for protecting their nests and young.

*Forest Chorus:*

Create a chorus of birds by introducing 4 common forest songbirds. Divide the class into 4 groups and assign each group a bird song. Allow each group to practice their song before combining into one forest chorus. A sample forest chorus is available on the *Birding by Ear* CD.

*Habitat Preferences:*

More than one-third of the world's birds migrate every year.

*Why?*

Birds migrate because of changes in the weather and lack of food. The best time to see migratory birds is in the spring and fall. If you cannot clearly identify a bird by its appearance or sound, you can use habitat preference and time of year as a process of elimination.

Bird species stick to a particular habitat and migration pattern. The Sandhill Crane is a migratory bird that can only be seen during the spring and fall months as it makes its way north to breed in the spring and south to find food in the winter. Sandhill Cranes can be seen in

open fields and grasslands feeding on leftover crops and other plants and animals and nesting in nearby wetlands.

**Bird Conservation:**

*In what way do people depend on birds?*

Birds are an important part of the ecosystem and have a long history of helping people. The Declaration of Independence and U.S. Constitution were both signed using quills, which were the wing feathers of birds. People rely on birds like chickens, geese and ducks for food and warmth (down feathers). Birds like raptors and insect-eating birds play an importance role in the ecosystem by controlling pests. Homing pigeons are used by some modern hospitals to transport blood and tissue samples to laboratories. Many years ago, birds were hunted for their feathers and used to decorate fashionable hats. Others were hunted for sport or because they preyed on livestock.

There are over 9,000 bird species in the world and 226 species are listed as endangered. Others have already become extinct. Because of the diversity of birds and their importance to people and the environment, people are working together to protect them.

*Why are some birds disappearing?*

While many bird species in Wisconsin are common and their populations healthy, 26 bird species are listed as threatened or endangered. The main reason for bird decline is loss of winter feeding and summer breeding habitats. Forests are clearcut, rivers polluted, cities developed. Organizations like the National Audubon Society, named after John James Audubon, are working together to educate the public and promote bird conservation and habitat restoration. Birds are also protected by law against hunting, nest disturbances and egg and feather collection. In the case of the Bald Eagle, a pesticide called DDT was causing thin shelled eggs and death to many birds. Action was taken to outlaw the chemical and restore the Bald Eagle population.

*How can you help birds?*

As students, you can help by following birding ethics. Learn about birds and share your knowledge. Make wise choices that conserve natural resources. And remember to always follow the "look, but don't touch" motto when observing all wildlife.

**Common Songbirds of Wisconsin:**

*What adaptations do all songbirds have in common?*

Perching birds or songbirds have many common adaptations. They are typically small perching birds with beautiful songs and calls. They are herbivores or omnivores, eating seeds, nuts, berries, insects or worms. They typically build open or cup-shaped nests in trees or bushes. They are all migratory birds.

Listed below are some common Wisconsin songbirds and their songs or calls. Look for visual field marks that would help to identify these birds.

- Robin “Cheerily-Cheer Up-Cheerio”
- Downy Woodpecker “Pik” (smaller bird with shorter beak)
- Hairy Woodpeckers “Peek”
- Northern Cardinal “Cheer”
- Mourning Dove “Oh-Ah-Whoo-Whoo-Whoo”

*Can you identify this bird by its call? It’s blue and it says its name. (Blue Jay)*

**Raptors of Wisconsin:**

*What adaptations do all raptors have in common?*

Raptors are among the most important and interesting groups of animals on our planet. One reason raptors are important is because they are considered *indicator species*.

*What would happen to the environment if there were a change in the raptor population, i.e. become endangered species?*

Raptors control pests like rodents. Too few raptors mean too many rodents eating our crops and other plants. Nature would be out of balance, leading to unhealthy interactions between all living things in the environment. Because raptors are an indicator species, people use them to assess the overall health of the ecosystem and manage natural resources better.

Raptors are carnivores and excellent hunters. They share some common adaptations, including sharp talons, hooked beaks, excellent eyesight and powerful flight. All raptors except most owls are migratory birds.

Listed below are some Wisconsin raptors and their calls. Look for visual field marks that would help to identify these birds.

- Broad-winged hawk
- Red-shouldered hawk
- Red-tailed hawk “Keer”
- Bald Eagle (Loud cackles and screams)
- Osprey
- Turkey Vulture (Member of the Stork family, hisses and grunts)
- Great-horned owl “Who’s Awake, Me Too?”
- Barred Owl “Who Cooks For You, Who Cooks For You All?”
- Barn Owl (Screams)
- Northern Saw-whet Owl (Sonar)
- Eastern Screech Owl (Horse Whinny)

**Bird Hike:**

If time allows and the group is small, go for a bird hike around the welcome center to view the bird feeders. At the edge of the playing field and parking lot, you will

find a bird house. Continue on Riverbend Trail and look for signs of birds in the forest and on the water, including bird nests and holes. Listen for songs and calls.

**Conclusion:**

Meet two of Upham Wood’s birds, Beauty and Stella. Both were hit by cars and suffer from permanent injuries to their wings. Upham has a special permit to care for these birds and educate the public about raptors. Use the birds to review and discuss field marks and other birding techniques. Discuss bird conservation and birding ethics. GOOD LUCK BIRDING!

**Resources:**

Erickson, Laura. *Sharing the Wonder of Birds with Kids*. 1997. Pfeifer-Hamilton, Duluth, MN.

Illinois Department of Natural Resources. Wild About Birds: A guide to Illinois Birding. Online: <http://www.inhs.uiuc.edu/chf/pub/virtualbird/index.html>

Wisconsin Department of Natural Resources. *EEK! Environmental Education for Kids*. Online: <http://dnr.wi.gov/EEK/>

Wisconsin Breeding Bird Atlas. Online: <http://www.uwgb.edu/birds/wbba/>

*Project WILD (Curriculum Guide) Songbirds of Pennsylvania (Curriculum Guide)*