

Welcome to the Iowa Academy of Science's National Wildlife Refuge Audio Series. In this segment, Academy member Carol Boyce, Teacher of the Gifted at Waterloo Community Schools will describe the rich diversity of life that can be found in the protected lands of the Iowa Wetland Management District.

Welcome to the Prairie Pothole Region of Iowa. When glaciers left northern Iowa thousands of years ago, they left approximately 7 million acres of prairie and 2-3 million acres of wetlands, or prairie potholes. Today this endangered ecosystem is critically important for the existence of many wetland and grassland dependent birds whose populations are currently declining.

Have you ever seen a Trumpeter Swan? These birds, once very threatened, are now one of Iowa's greatest success stories and are a fairly common sight throughout the Wetland Management District and on Union Slough refuge. Eagles have also made their presence known, especially during the late winter and early spring as they fish for food when the sloughs and wetlands begin to thaw. Of course the Wetland Management District is known for abundant waterfowl. And on Union Slough alone, visitors have seen over 40,000 ducks and geese, including mallards, blue winged teal, northern shovelers, Canada geese, and Trumpeter swans.

What other birds might you see? Throughout the district and refuge, visitors should also look for grassland dependent birds such as the grasshopper sparrow, dickcissels, yellow warblers, bobolinks, and western meadowlarks. Then there are the wetland dependent birds like the great blue herons, great egrets, a variety of shorebirds, and American white pelicans. Viewing the sky over a wetland during spring or fall when the pelicans are migrating is an unbelievable and moving experience.

The Wetland Management District and refuge include marshes and grassland, which provide good habitat for many species of birds. As you drive through the area, remember that each bird requires a certain habitat, so as one habitat blends into another, you will want to look for different types of birds.

A bit more difficult to see, but there nonetheless, are reptiles and amphibians such as smooth green snakes, prairie skinks, Blanding's and painted turtles, northern leopard frogs, and tiger salamanders.

What about mammals? Well, visitors might see white tail deer, coyotes, mink, raccoons, and even badgers among plants such as bluestem, Indiangrass, coneflowers, butterfly milkweed, leadplant, and several types of sunflowers. As you near the wetlands, look for blue flag iris, joe pye weed, sedges, and cattails.

A great way to see the Union Slough refuge is to take the auto tour route. The drive takes visitors 4 ½ miles through uplands and wetlands. This tour provides great opportunities to see wildlife. In order to protect waterfowl during nesting and brood-rearing season the road is only open from August 1 through mid September and during other special refuge events. Otherwise, visitors are encouraged observe and photograph wildlife from their car along the boundary roads or from parking lots.

There are some special celebrations you might want to attend. In May the Union Slough Refuge celebrates International Migratory Day with bird walks, displays, kids' games and refreshments. During Prairie Rescue Day volunteers can help restore prairie by hand cutting invasive brush and trees.

When is the best time to see waterfowl? You can't go wrong during the spring migration, which takes place during late March and April before hens are nesting. Other great times to see them are during brood-rearing season when ducklings are active on the wetlands and before the fall migration during October and November when large groups of ducks and geese are preparing for their flight south for the winter.

If you like exercise, a portion of the south end of Union Slough is open to hiking and snow shoeing year round. There is also a short hiking trail leading to an observation platform with spotting scopes open year round to walkers. Be sure to contact the refuge for information on dates, locations, and times of allowable activities. With the loss of wetlands and grasslands, Wetland Management District lands and Union Slough refuge are jewels to be protected and respected.

And now Academy member Marcy Seavey, Program Director at the Iowa Academy of Science will share some information about the Iowa Wetland Management District and wetland conservation efforts.

As Iowans, we have grown up living in one of the most transformed landscapes on Earth. Sometimes it's hard to remember that we have wild places left. But we do! Amazing prairies, forests and wetlands can be found all across Iowa. Places full of native plants and animals living under skies that stretch from horizon to horizon on a landscape like no other.

The wild places we have left are precious not just because they are all that remains of our once vast tallgrass prairies dotted with savannahs and wetlands and bordered by America's two great rivers... they are precious because they are our history, the land that formed our way of life and the heritage we will leave our children.

The Iowa Wetlands Management District was created to restore, preserve and protect over 60 wetland areas in north central and central Iowa. This part of Iowa, known as the Des Moines Lobe is the only place in our state where it is possible to see features left directly by the action of glaciers. The glaciers which created the Des Moines Lobe between 12 to 14 thousand years ago came into Iowa from the north and advanced as far south as the Iowa State Capitol building in Des Moines. They left long irregular shaped ridges and hills called end moraines, dome shaped hills called kames (or knobs) and round depressions called kettles and prairie potholes.

The Kettles and potholes were formed as the glaciers melted. In some places most of the glacier melted away while huge chunks of heavy ice remained, slowly melting and creating depressions in the land. These are the formations which eventually would become the wetlands of central Iowa.

These wetlands are easy to recognize because of their characteristic round shapes. The middle of this type of wetland is lower than the outside causing the soil in the center to be wetter as well. Some kettles and potholes have standing water year round, while others dry up in the summer or even for years at a time. Because some plants grow better in wet soil than others, the plants within the wetland will grow in rings with the wet tolerant plants on the inside and dry land plants on the outside. Every one of these wetlands is unique! Serving as a habitat for many plants and animals throughout the seasons. And the entire system owes its origins to the glaciers!

About 95% of the wetlands in the Des Moines Lobe region were drained for agriculture in the early 1900s. At the time, this would have only made sense as this was the best agricultural land on Earth. It is only by looking back after most of the wetlands had been drained that Iowans began to realize what we had almost lost. The Flood Security Act of 1985 and the North American Waterfowl Management Plan of 1987 served to turn the tides on wetland losses in this region. Through these laws, funding from the Fish and Wildlife Service and U.S. Department of Agriculture began the job of protecting the remaining wetlands and creating a place for restored wetlands within agricultural areas.

Today more than 60 wetland areas are protected as a part of the Iowa Wetlands Management District. These lands are jointly managed by the Iowa Department of Natural Resources and Union Slough National Wildlife Refuge. The wetlands of the management district serve many purposes including providing permanent habitat

for breeding and migrant waterfowl, providing habitat for grassland birds and wildlife, increasing water quality, and decreasing flooding. The Iowa Wetland Management District lands are also open to the public for hunting, wildlife observation, photography, environmental education and scientific research.

Many government organizations (like the National Wildlife Refuge System and the Iowa Department of Resources) and non-governmental organizations such as Ducks Unlimited, Pheasants Forever, and the Iowa Natural Heritage Foundation work together with individual land owners and communities to reestablish and protect these and other wetlands across Iowa. These agencies and organizations rely upon scientific data collected and analyzed by Iowa scientists at our Colleges and Universities and within state agencies like the Iowa Geological Survey. It is through science that we can learn how to best preserve wetlands for the wildlife which depend upon them and for the enjoyment of future Iowans.

You can help conserve wetlands too! Conservation begins at home. Be sure never to dump garbage or waste into storm and street drains. The water in these drains is not treated; it goes directly into local streams where it can pollute adjacent wetlands and our rivers. Learn more about Iowa's Natural resources by listening to the rest of the Iowa Academy of Science National Wildlife Audio series. Then VISIT the refuges that sound the most interesting to you. After your visit, contact the staff for the refuge of your choice and ask how you can volunteer to help.

Thank you for joining us in discovering a portion of Iowa's amazing natural resources. Please explore the entire Iowa Academy of Science's National Wildlife Refuge Audio Series. The best way to help preserve our environment is to become active in your local area. For more information please contact the Iowa Academy of Science at www.scienceiniowa.org and your local, state and federal conservation departments.