



Wetlands Guide for Educators & Families



Have you ever heard of a wetland before? Living in Wyoming, which is the fifth driest state in the country, it may not be surprising to hear that wetlands only make up about 2% of the state's land. What might surprise you, then, is that about 90% of wildlife species in Wyoming use wetland habitats daily or seasonally throughout their lives, and about 70% of Wyoming bird species cannot survive without wetland habitat.

So we know that wetlands are important to wildlife, but what exactly is a wetland? A wetland habitat is an area where the land is sometimes or always covered by shallow water. Because of this, wetlands can support animals that live in water, those that live on land, and especially ones that like both, like frogs. Not only do wetlands provide lots of food for animals in the form of plants, insects, fish, and smaller animals, but they also do lots of other things. These include filtering out pollution from the water and helping to keep the land stable because all the roots that wetland plants have hold soil together. Wetland areas also act like sponges to soak up water during a flood and release it slowly throughout the rest of the year. Finally, people use wetlands for outdoor activities like hunting, fishing, wildlife watching, and nature photography. Because wetlands make up such a small part of Wyoming's landscape but they do so many great things for nature and people, it is very important to be sure that our wetlands stay healthy now and in the future.

Where are our wetlands?

Visit our website at www.wgfd.wyo.gov/wyomingwetlands to find a wetland near you! You can also find a list of places to visit at the end of the Wyoming's Wetland Wildlife Teaching Package included in the education resources on the wyoming wetlands webpage.

In the Classroom/ Before heading out to a wetland

- ❑ Check out some of our other wetland lessons that allow students to create a table-top model of a wetland, learn about the water cycle, wetland wildlife, and more!
- ❑ Listen to Bill Brennan's album "A Romp in the Swamp" to hear fun songs about wetlands.
- ❑ Try out the Build-a-Bug or Build-a-Beaver activities to learn about the unique adaptations that inhabitants of wetlands have.

What to bring & how to prepare your students:

- ❑ Wearing waterproof footwear, such as rain boots or sturdy hiking boots, is recommended as wetlands are exactly what they sound like- wet! If there are trails, it is best to stay on those, and if you are walking off trail, be sure to watch your step as wetlands can have ample tripping hazards or surprise holes.
- ❑ Binoculars can be very helpful to spot the wide variety of wildlife that live in and around wetlands from a safe distance.
- ❑ Bugspray and sunscreen can be helpful to make your wetland visit a more comfortable experience in the moment and afterwards.
- ❑ A basic first aid kit is a good thing to bring along, as wetland habitats can be located far from immediate medical assistance. Be aware of any serious allergies to insect stings and bites, or other medical conditions, and carry appropriate medication.
- ❑ Field guides can be helpful to identify and learn more about wildlife and tracks that you may see at a wetland.
- ❑ Be sure to bring a camera to capture any cool plants, animals, tracks, or other things you may see at the wetlands.
- ❑ If you plan to do any of the activities listed below at the wetland, don't forget to bring the necessary supplies.
- ❑ Wearing long pants and a long sleeve shirt is recommended as legs and arms can get scratched badly when moving through shrubby vegetation on and off trails.
- ❑ Bring clothing for wet conditions – including a rain jacket, rain pants, and possibly a hat. Often students will get wet when it is not currently raining because the vegetation remains wet for a long time after a rain event.
- ❑ Consider having your students bring a change of clothes to if you will have quite a bit of time during the day after returning from the wetland.
- ❑ Consider bringing other teacher or parent chaperones to keep adult/student ratios small. This increases the safety of the visit as well as the opportunity for small group learning.
- ❑ Be careful not to drop any trash on the ground, and pack out any you may find to keep the wetland area clean.

What to look for:

Wetlands are notorious for supporting abundant wildlife. Walk quietly and stay on trails to have a better chance of seeing wildlife without disturbing them. Do not touch nests or approach wildlife for your safety as well as theirs.

Here's a list of wildlife to keep an eye out for when visiting a wetland:

<u>Reptiles & Amphibians</u> Gartersnake Smooth Greensnake Western Painted Turtle Columbia Spotted Frog Great Basin Spadefoot Plains Toad Northern Leopard Frog Plains Spadefoot Toad Western Tiger Salamander Western Toad Wood Frog Wyoming Toad	<u>Birds</u> American White Pelican Double-crested cormorant Grebe American bittern Black-crowned night heron Great blue heron Snowy egret White-faced ibis American Widgeon Barrow's goldeneye Blue-winged teal Bufflehead Canada goose Canvasback Cinnamon teal Common goldeneye Common merganser Gadwall American coot Sandhill Crane American avocet Gull Kildeer Plover Sandpiper Short-eared owl Hummingbirds Swallows Towhee Yellow-headed blackbird Warblers Wren Red-winged black bird Sparrows Purple martin	Green winged teal Harlequin duck Lesser scaup Northern pintail Mallard Redhead Ruddy duck Trumpeter swan Tundra swan White-winged scoter Wood duck American Kestrel Northern Harrier Osprey Red-tailed hawk Swainson's hawk Blue grouse Ruffed grouse Ring-necked pheasant Northern bobwhite quail Snipe Tern Wilson's phalarope Mourning dove Great horned owl Belted kingfisher Northern flicker American dipper American Robin Black-capped chickadee Bluebird Flycatcher Goldfinch Gray catbird Northern shrike
<u>Mammals:</u> Little brown bat Shrew cottontail rabbit Fox squirrel Ground squirrel Least chipmunk Pocket gopher Yellow-bellied marmot Beaver Black bear Coyote Ermine Porcupine Raccoon Red fox River otter Long-tailed weasel Mink Moose Mouse Mule deer Muskrat Skunk White-tailed deer		

Wetlands are also abundant with a wide variety of native plants. Here are some common ones to look for:

- Cottonwood trees
- Willows
- Water birch
- River birch
- Dogwood
- Sedges
- Tufted hair grass
- Reed canary grass

There are also some invasive plants commonly found in wetlands, including:

- Tamarisk
- Russian olive
- Cheatgrass
- Smooth brome
- Leafy spurge
- Russian thistle
- Purple loosestrife

Things to do:

Wetland BioBlitz

Materials:

A variety of field guides for plants, wildlife, and birds

A clipboard, paper, and writing implement for each student (or student pair)

Activity:

- Define a BioBlitz: A BioBlitz is an event that focuses on finding and identifying as many plant and animal species as possible in a specific area over a short period of time. BioBlitzes are great ways to engage the public to connect to their environment while generating useful data for science and conservation.
- Spend approx. 45 minutes identifying all of the living organisms that you can in this wetland area.
- Break students into groups by field guide (ie 4 students will focus on birds with a bird guide, 4 students will focus on insects with an insect guide, 4 on trees & shrubs, 4 on wildlife tracks and sign, etc.)
- Instruct students to stay with their group, use their resources, ask lots of questions, and be safe. If possible, have a chaperone accompany each group and set clear boundaries.
- Finally, and most importantly, write down what you find!

Once students are done, bring them back together as a group and come up with the total number of species you found.

Ask students:

- Ask each group to contribute what they found to a master list.
- What was the coolest thing each group found? Was anything surprising?
- Did you find something that you couldn't identify? (That's ok! This happens to scientists all the time.)

If possible, you can enter all of the observations as data on the University of Wyoming Biodiversity Institute's WyoBio application (found here: <http://wyobio.org/>) If you do so, explain to students the value that citizen science data has for scientists that study wildlife and plants.

Paint Chips

Materials:

Paint sample color cards of various colors; tape and journals optional.

Activity:

Students will pick any number of paint chips from the stack. Then, instruct them to go out within certain boundaries and find items in the wetland that closely match their paint hue. If they have journals, they can tape the paint chip into it and sketch the object that matches the color next to it. Have students share out to the group what they found, and what color it matched. This can even be done in an “art walk” style where student bring the group over to the objects they found to share.

Debrief by asking if any colors were surprisingly easy or hard to find matching objects for. Is there a theme or trend in the colors found in this area? Do you think the colors would be different in another type of habitat? How might this affect the wildlife that live in this habitat?

Sound Map

Materials:

Journal or paper and a writing implement for each student

Activity:

- Have students spread out within defined boundaries.
- Instruct students to sit silently for about 5 minutes and actively listen to their surroundings.
- On a piece of paper, students should make a mark in the center of the page to indicate their location.
- Each time the student hears a sound, they should sketch a little image or shape on their piece of paper demonstrating the relative location of that sound. Loudness can be represented with size as well.
- Have students share their sound map observations, first with a partner, then out to the entire group.

Discussion questions:

- Did you notice different types of sounds than someone else in the group? Why do you think that is?
- Were there more natural or human-made sounds? Do you think this would vary in a different location?
- What sort of hypotheses can you make after doing this activity? What sort of experiment would you do to test it?
- Considering that wildlife typically have better hearing ability than humans, how do you think they interpret this “soundscape”?



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