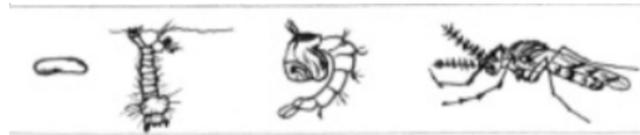


Aquatic Insects of Washoe Lake Wetlands

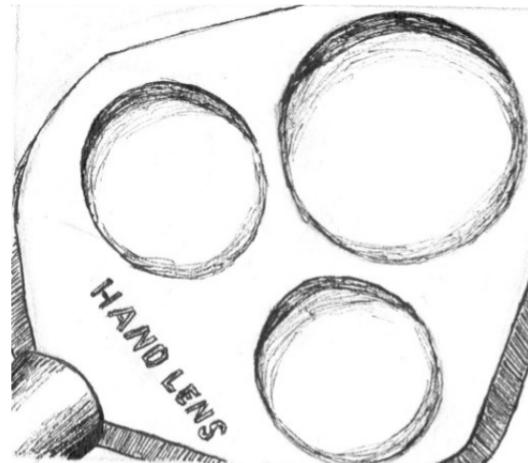
Life Stages of an Insect

The life cycle of a single insect species takes on many shapes, sizes, and different food sources at each stage. Below are the typical four terms used with each stage:

1 Egg 2 Larva 3 Juvenile/ Pupa 4 Adult



While looking through a field microscope or a hand lens, make a simple drawing of three different insects you have observed. Write the name of the insect you see under each picture.



For Volunteer Opportunities, contact:

**Nevada Department of Wildlife
Regional Wildlife Education Coordinator
1100 Valley Road
Reno, Nevada 89512
(775) 334-3808
Wildlife-Ed@ndow.state.nv.us
www.ndow.org**

Volunteers Make It Happen!

Why Are Aquatic Insects Important?

Aquatic insects create an important balance in our water resources by aiding in decomposition and providing a foundation for the food web. The food web begins with green plant producers such as algae and aquatic plants. Primary consumers such as plankton and insects add to the food web. Since aquatic insects are so numerous and sensitive to the environment, scientists use aquatic insects as biological indicators of water quality. Water quality and cleanliness is determined by counting numbers and types of aquatic insects in a wetland area.

How many different insects do you see in your sample bucket? The number of different insects gives you an idea of the diversity and health of the wetlands environment. Wildlife depend on the aquatic insects and wetlands for survival, and the wetlands depend on them, too.

Name three living creatures in Washoe Lake Wetlands that might prey on the aquatic insects:

- 1.
- 2.
- 3.

Tracks Around The Wetlands

Match the name of the bird or mammal with its tracks:

Coyote (*Canis latrans*)- 35 lbs, dog family; this omnivore (eats both meat and plants) preys on rabbits, rodents, insects, deer, and sometimes fruit; walks with claws out

Muskrat (*Ondatra zibethicus*)- 7-8 lbs, medium-sized brown rodent that lives near water; herbivore (eats only plants) that feeds on aquatic plants; long, thin tail

Canada Goose (*Branta canadensis*)- 3-4 lbs, migratory bird; very tolerant of human activity; feeds on aquatic plants, mollusks, and small crustaceans

Bobcat (*Lynx rufus*)- 12-30 lbs, carnivore (eats only meat) preys on rabbits, rodents, birds, and small deer; night hunter

Mule Deer (*Odocoileous hemionus*)- 125-250 lbs, unique large ears that turn 180 degrees; herbivore

Raccoon (*Procyon lotor*)- 10-30 lbs, omnivore that eats frogs, nuts, fruits, and crayfish

Native Wetlands Plants

Woods Rose (*Rosa woodsii*): a wild rose that produces scarlet red fruit high in vitamin C for mammals and birds



Coyote Willow (*Salix exigua*): provides habitat for game birds such as quail, partridge, and grouse

Big Sagebrush (*Artemisia tridentata*): three-toothed leaves mark this brush plant as the state flower of Nevada



Desert Peach (*Prunus andersonii*): the small fruit provides food for wildlife including deer and birds

Field Notes



WASHOE LAKE WETLANDS



Photo by Tim Stach

WILDLIFE EDUCATION FIELD GUIDE

Location

The Washoe Lake Wetlands is located south of Washoe Lake State Park.

Directions

Follow 395 south to Exit 42. Turn left on Eastlake Blvd. Proceed 9/10 of a mile to the WETLANDS MITIGATION SITE.

Name: _____



**Experience Nevada's Wildlife,
It's Worth It!**

Overview of Washoe Lake Wetlands

Washoe Lake is a natural lake where the surrounding marshy areas are called **wetlands**. Wetlands are easily identified by water areas located in grassy vegetation. Washoe Lake Wetlands covers most of the shallow waters at the south end of Washoe Lake, and Scripps Wildlife Management Area is the wetlands area found at the north end of Washoe Lake.

Washoe Lake Wetlands opened in 1999. This wetlands project is the result of many years of efforts by the Nevada Division of State Parks, the Nevada Department of Wildlife and the Nevada Department of Transportation. The wetlands were constructed to mitigate the loss of wetland habitat in the Truckee Meadows area south of Reno due to the construction of U.S. Highway 395. Federal funding paid for the construction of the dikes located along the lake boundary. These dikes provide necessary habitat for shorebirds, birds of prey, waterfowl, and many species of small and large mammals. The site is a wonderful example of how habitat development can help offset the loss of wetlands in one area by creating wetlands in another area. These established wetlands provide an ideal nesting site for migratory and resident birds.

Wetlands, like the one you are in now, are valuable for many reasons. As you walk along, you will find many ways both humans and wildlife value wetlands. As you follow each activity, try to see the wetlands from an animal's point of view!

Wetlands Metaphors

Wetlands have many benefits. Below, write how the word could symbolize a benefit of the wetland. Follow the first example.

Sponge: Wetlands are a sponge because they absorb water to control flooding and prevent erosion.

Pillow/ Bed:

Electric Mixer/ Blender:

Baby Cradle:

Sieve/ Strainer:

Filter:

Birds of Washoe Lake Wetlands

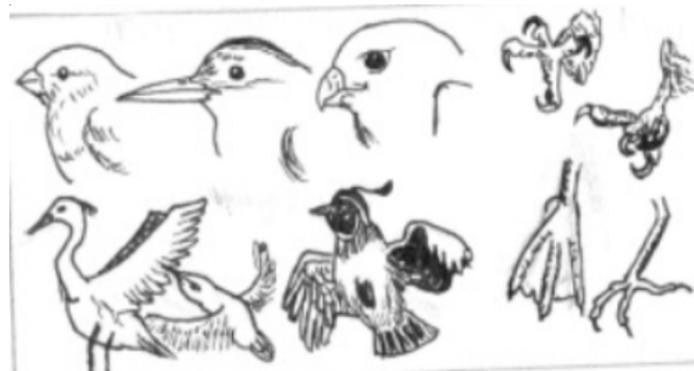
Shape: Each bird's shape can help you identify it. While looking at the body of the bird, see if the body may be heavy like a goose or thin like a heron. Also look at the bill, legs, and wing shape.

Adaptation: Many birds have physical features that increase survival in the wild. Those features help a bird obtain its food, hide from predators, or even attract a mate. Colors and patterns on the head, wings, and tail help distinguish one bird from another. Field marks, lines, or spots are used to distinguish specific species of birds. Do you see any unique markings around the eyes or neck?

Bird Calls: You can use your ears to help you identify a bird. Listen! Can you hear the difference between the honk of a goose and a raspy call of the egret?

Bill Shapes and Sizes

Feet or Claw Shapes



Field Markings and Wing Shapes

Nesting Area: Watch Out!

During the springtime, many birds around Washoe Lake are nesting. Some birds will create a nest in the grasses, while others prefer to nest in rockier areas on dryer ground. Remember to follow a docent, and be aware of the nesting sites of wetlands birds along the path.



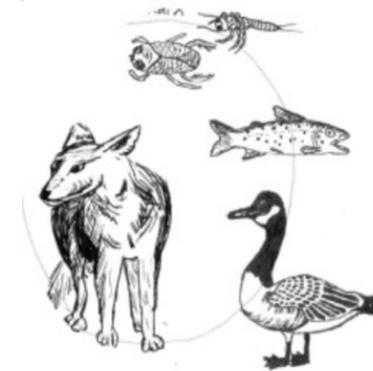
Wetlands Bird Match-Up

In the picture, write the number of the bird that matches its name inside the cottonwood leaf shapes. Use the bird guides or descriptions to check your answer. Circle the birds you see at Washoe Lake Wetlands today!

- Snowy Egret** (*Egretta thula*): 24" long, white bird with long neck, yellow feet, and long black bill.
- Brewer's Blackbird** (*Euphagus cyanocephalus*): 9" long, all black medium-sized bird with short bill and short wings.
- Killdeer** (*Chanadrius vociferus*): 10 1/2" long, small bird with black rings around its neck, white belly, alarm call "kill-dee!"
- White Pelican** (*Pelecanus erythrorhynchos*): 62" long, bird with large bill developed for scooping up fish.
- American Avocet** (*Recurvirosta americana*): 18" long, small black and white bird with long black bill that has a hooked angle on the end, calls "kleek!"
- Western Sandpiper** (*Calidris mauri*): 6" long, round shaped bird, brown and white mixed feathers, short black bill.
- Great Blue Heron** (*Ardea herodias*): 46" long, very large "crane" like bird, black "eyebrow" of feathers, gray feathers, 6' wingspan.
- Black-neck Stilt** (*Himantopus mexicanus*): 14" long, black and white bird with long pink-red legs for standing in water, white eyebrow and red eyes.
- Willet** (*Catoptrophorus semipalmatus*): 15" long, small grayish shoreline bird, often running, thick bill for invertebrate feeding.

An Example of a Wetlands Food Web

A food web is made of many predator and prey relationships in nature. The food web in this wetlands starts with the macroinvertebrates, which gets eaten by fish or ducks which get



eaten by coyotes. What would happen if one part of the food web became extinct? What might happen to the other wildlife?

Out on the Observation Deck!



What do you see from here? Look across the wetlands at the majestic Slide Mountain. Take a moment to imagine the changes that have occurred in the valley over time. In the space below, write a few words to describe the weather, wildlife, and colors you see from this unique vantage point of Nevada.

