Welcome to Bluff Lake Nature Center!

We are excited to have you!

This pamphlet will help guide you along your tour of Bluff Lake.

The loop around the lake is one mile in length. If you do not wish to tour the whole loop, please reference the key in back and visit the stations that interest you most.

Before we begin, please remember:

- Stay on trails & walk quietly. Loud noises will scare wildlife and disturb other visitors.
- Even leashed dogs stress wildlife, please walk pets elsewhere.
- Trails are for walking and jogging. Please, no horses, bikes or motorized vehicles.
- No sledding, tubing or snowmobiling on the hill. It will damage the habitat and is very dangerous as there are yucca and rocks on the hillside.
- The Lake is not suitable for fishing, swimming or boating.
- No food or drink beyond the bluff.
- No fishing, hunting or trapping.
- No camping, fires or fireworks.
- No alcohol or drugs.
- No firearms, paintball or archery.
- If you have a group larger than 5 people, please call our offices to schedule your time.
- Keep your eyes open for scat, tracks and other wildlife clues!
- Have fun!
Let’s start at

Station 1: The Pergola

Pergolas were common features of Italian Renaissance gardens, often covering walkways or serving as support for grapes to grow. Here under the pergola at Bluff Lake, you can see Denver and the Front Range, and witness a spectacular view of our 123-acre refuge!

A little history:
Bluff Lake was originally an irrigation reservoir in the late 1800s. In 1929, the Stapleton International Airport began building, and in 1970 the 123 acres now known as Bluff Lake became its “crash zone.”

Irrigation: an artificial application of water to the soil. It is usually used to assist the growing of crops in dry areas and during periods of inadequate rainfall.

Once you have finished at the outfall, begin to walk up the ramp or stairs back to the top. As you head up, make sure to look back over all that you’ve just seen—all the animals, plants and tiny details that make up these magnificent habitats!

We hope you enjoyed your time at Bluff Lake and learned some new things!

As a non-profit, our members and funders are central to keeping our doors open.
To become a member, call our office at (303)344-0031.
To make a donation, there is a donation box in the garden or you can donate online at www.blufflakenaturecenter.org

Bluff Lake thanks you for your support!
Please come back and see us soon!
Station 9: Outfall

Once you get to the edge of the wetland you will come to what we call the *outfall*. This is where storm drain water comes into Bluff Lake. Keep an eye out because you might get to see muskrats and waterfowl swimming in the water! Also, there is a great deal of garbage here.

**Why?**

This is where water that goes into the storm drains along the streets end up, bringing with it all the garbage, gasoline, motor oil and everything else that we litter on the streets. Wetlands help to fight littering by filtering debris from our storm water.

**How does this happen?**

Cattails grow in wetlands and trap garbage and debris like a strainer traps pasta. Cattails also filter bad chemicals out by soaking up polluted water through its stems and leaves! The fuzzy brown part on the top is really **thousands of seeds** that burst open in the winter, sending seeds flying in the wind for miles. The cattails provide a great hiding place for many animals. Look at the flattened areas of cattails where deer have made beds!

For the next 25 years, Bluff Lake was left alone and surrounded by a barbed wire fence. The absence of humans let wildlife such as deer, red foxes, badgers, snakes, turtles, coyotes, owls, hawks, rabbits and many birds and ducks to make their homes here at Bluff Lake.

However, the airport did have an impact on the area. Many believe the prairie dogs living in the area had problems hearing due to airplane noise, making them easy prey for hawks and other predators. Also, Sand Creek and Bluff Lake were polluted with de-icing fluid because of the planes. This led to a lawsuit because it violated the Clean Water Act. When the agreement was settled, an organization was created to preserve the 123 acres for exclusive use as a wildlife refuge, allowing Bluff Lake Nature Center to be born!

The Bluff (which you are standing on top of) is a geological formation that is man made due to concrete left over from the airport. To the north of the lake there is a dam and old concrete boxes that are believed to have been put there by the farmers that used it as an irrigation pond long ago. To the south of the lake (by the Aurora boundary), there is another bluff that was formed over time by the natural carving from the flow and floods of Sand Creek.
Next, look at the **cottonwood trees** around the area. The female trees produce a fluffy white seed in the early summer, giving the tree its name. As summer turns to fall, the leaves turn bright yellow. Found in prairies at the sides of rivers and creeks, cottonwoods are a traditional sign that you are close to water. Their seeds are carried by the wind and when they land in creeks and rivers, they float to the banks and grow. When the pioneers crossed the Great Plains, they would look for cottonwoods to tell them where to find water. At Bluff Lake, cottonwoods are a favorite food of the American Beaver. You’ll be able to see evidence of this soon!

As you walk, also look for **wild licorice plants**. Dark brown pods equipped with hooked prickles. Animals and humans, many have said that this seed wild licorice for medicinal purposes and steeped.

**Station 2:**

**The Owl Tree**

Nicknamed for the Great Horned Owls who occasionally make appearances here, this station has much to see!

**Station 8:**

**Bluff Trail Bench**

Once you’ve rested, turn around and look at the markings in the side of the bluff. Many of the holes were made by **Bank Swallows** who burrow in colonies. Bank Swallows live in riparian ecosystems (remember what that means?) and nest in the banks and bluffs along rivers, streams, and lakes. Bank Swallows eat mostly insects. YUM!

Next, look eastward at the Bat House. This structure, installed by volunteers of Bluff Lake, is home to 200 **little brown bats**. Bats are the natural predator of mosquitoes, and help to keep Bluff Lake’s mosquito population at bay!

**Did you know:**

- Bats locate insects using echolocation
- They then use their awesome flying skills to capture and eat them
- One little brown bat can catch and eat 600 mosquitoes in one hour!!!
You can now walk up to the top of the service road on the southern edge of the property and try to spot some prairie dogs! This can be tricky as the prairie dogs get scared easily, but once you’re at the top, look east along the fence and about 50 yards away you will notice the burrows and the prairie dogs sitting on them!

Prairie dogs are social animals, live in “towns” and greet each other with a sort of kiss. Prairie dogs speak to each other through chirps and barks-- you can hear this as they warn each other of danger. In addition to being cute and fuzzy, prairie dogs are called a “keystone species,” meaning they are extremely important to balancing their ecosystem-- everything that makes up an environment. Prairie dog burrows provide nesting areas for Mountain Burrowing Owls and Plovers.

Prairie dog tunnel systems also help channel rainwater into the water table to prevent runoff and erosion. They also aerate, or give more air to the soil!

Also called a drop structure or grade control, this man-made waterfall helps to add oxygen to the water and prevent erosion. The Army Corps of Engineers helped Bluff Lake install this structure to channelize Sand Creek in order to prevent it from flooding.

Today, visitors get to enjoy the beauty of the waterfall, and ducks love to play in the waterfall’s eddies and bubbles. Can you spot any ducks today?

Male and female Mallards play in Sand Creek!

Common ducks of Bluff Lake

Merganser Northern Shoveler Cinnamon Teal Mallard

This creek side habitat is called a “riparian zone” – read the interpretive sign in front of you to learn more!

(Glycyrrhiza lepidota). The seeds of the wild licorice are enclosed in sometimes called “hitchhiker seeds” for the way they attach to was the inspiration for Velcro! Also, the Blackfoot Indians used the leaves in hot water to treat earaches.
Station 4: The Boardwalk

As you approach the boardwalk, make sure to be very quiet, so as not to scare the wildlife. Look to your left and you’ll see evidence of a beaver chew!

Wetlands have three components that set them apart:
1. special plants
2. special soil
3. Water!

The wetland at Bluff Lake is a freshwater marsh, which is characterized by being frequently under water. The special soil of the marsh is rich from all the cattails and other plants that give it nutrients. Notice all the cattails around you—we will talk a little more about these at Station 9!

As you walk out onto the boardwalk, what you see depends on what season it is. In the summer, cattails grow to eight feet tall and the lake is full and brimming with birds and wildlife! However, at times the lake recedes and you may be seeing an entirely different habitat—it may be just a dry lake bed, habited by different animals and plants.

The Prickly Pear Cactus is another common prairie plant. It grows flat, rounded stems called platycades that act like leaves. It grows two types of spines (prickles): large, smooth spines and small hair-like spines that easily break off from the plant and can prick. It produces a small fruit called a prickly pear, also called tuna, cactus fig, or Indian fig. Some ethnic groups, like Native Americans and some Hispanic groups eat both the fruit and the platycade!

Blue Grama - Blue Grama is the Colorado state grass. On the end of the stalk is a line of seeds that look like eyelashes! These seeds are a great food source for animals in the winter when there is little food. These plants are well-suited for life on the prairie, as they can stand up against grazing, drought, and cold! They are very smart, too! When water is available, they drink it as fast as they can to prepare for the dry season and go to sleep or become dormant during bad conditions.

Big Blue stem or Turkey-Foot is a tall native prairie grass found in the Colorado Eastern Plains. Its stalk turns from blue to a reddish color after the first frost. It is called Turkey-foot for its distinctive shape. Can you see why?
The yucca plant also has a **symbiotic**, or sharing, relationship with the **yucca moth**. The plant gives nectar to the moth and the moth pollinates the yucca, helping it reproduce. Yuccas also provide a home for **ladybugs**, who eat the pesky **aphid**. Aphids, in turn, produce a sweet liquid that is eaten by **ants**, causing many ant colonies to form around yuccas. Native Americans used the leaves to make fiber for fabric, then used the tips of the leaves as needles for sewing! The root is rich in nutrients and is still cooked by many.

Take a look around—how many **ant hills** do you see? Harvester ants use their **mandibles**, which act like claws to move dirt and make rooms for the colony. Ants also use their mandibles to spread gravel over the top of their shelter to protect it from flooding and fire. The rooms in the ant hill are used for storing food, taking care of baby ants, and mating. Some of these ant hills could be up to **SIX FEET DEEP** underground!

**Station 5:**

**Dam Trail Bench**

Here you have a canopy of **Crack Willows** over the trail. This common wetland tree is called a Crack Willow because the branches tend to break off suddenly with a loud **CRACK**! To the north of the trail there is another wetland habitat, mostly covered in **Giant Reed Grass**. As you look beyond the reed grass there is an area of tall cottonwood trees, where the ground is covered in grasses.

Now is a good time to slow down and be as **quiet** as possible. Stop and look past the reed grass, under the cottonwoods. It is very likely that you will see deer, as this is a place where they find **food, water, shelter and space**, all necessary components for a good wildlife habitat.

To your left, look for the **irrigation structure** left over from the 1800s. This structure helped to irrigate the fields of crops in the space that is now Reed Grass on the right side of the trail.

**Try to imagine this field filled with rows of crops! Can you do it?**

**GIRLS RULE!**

All ants inside the colonies are females, and males’ main role is in the process of reproduction. There are many chambers inside and a special one is devoted to the queen!
As you continue around the curve, on your left you will approach Station 6: The Bird Blind

This screen uses camouflage to observe wildlife without scaring or disrupting the natural behavior of animals. Some birds you may here see are the Killdeer, Red-winged Blackbird, Great Blue Heron, Snowy Egret, Cormorant and Canada goose! Push the button at the bottom right of the informational sign for a fun, interactive experience!

Welcome to the Prairie!

As you continue up the hill (beginning what we call the “Bluff trail”), notice the change in habitat from wetland to prairie! At first, the prairie habitat looks dry and pretty dead. This can be deceiving, as the prairie habitat is rich in biodiversity and interesting relationships!

Cottontail rabbits love rabbit brush for two reasons. One, it is a source of food, available for about ¾ of the year. Two, it provides them with shelter to hide from high flying predators like hawks. In the fall, rabbit brush blossoms with bright yellow flowers and the nectar these produce is also food for many insects like Painted Lady butterflies and bees! It is both shelter and food! Can you eat your house?

This takes us to the yucca plant, another abundant prairie plant. The yucca has so much going on, it forms its own mini-ecosystem! It is important to cottontail rabbits because the yucca’s spiky leaves provide protection and shelter for rabbits who choose to dig their burrows around them.

Turn the page to learn more!