



EAGLE CREEK



ZIONSVILLE
OPTIMIST CLUB



ZIONSVILLE
PARKS & RECREATION



FIELD GUIDE



ABOUT THIS FIELD GUIDE

This Eagle Creek Field Guide was created by Zionsville Parks & Recreation's summer 2023 class of Junior Indiana Master Naturalists. This is a program through the Indiana DNR for kids ages 9 – 12. Jr IMN teaches kids about Indiana natural history and encourages them to take an active role in protecting natural resources through community service. This group spent several of their service hours researching, collaborating, and putting together this field guide on their own. It is the hope of Zionsville Parks & Recreation that this guide can be an asset to the community and help residents connect with the greater Eagle Creek ecosystem, while also show the hard work of the kids in our program.



Summer 2023 Junior Indiana Master Naturalists



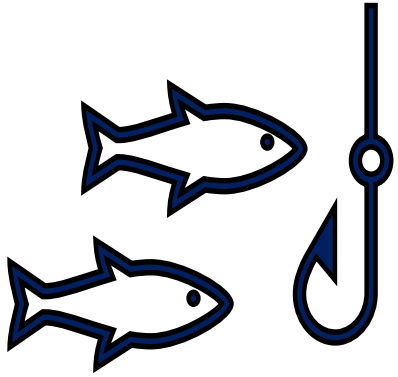
IMPORTANCE OF EAGLE CREEK

Eagle creek has always been an important part of the local ecosystem and has impacted the community in great ways! The Eagle Creek water is used for drinking water all around Zionsville and most of Indianapolis. Eagle Creek is very popular to people around and in the creek. You can go fishing, hiking, swimming, and paddling. Eagle creek keeps people busy as well as giving them resources. Many parks are around and along Eagle Creek. It's a very important body of water to the Indianapolis area, so it needs to be kept clean by all visitors and citizens.



RECREATION

Eagle Creek Park offers a variety of serene fishing spots. However, in order to enjoy fishing, we must keep the waters clean. Some ways you can help us keep the creek clean are by keeping belongings and trash out of the water and where they belong.



Eagle Creek has many miles of beautiful trails near it. To continue hiking on the trails we need to pick up after ourselves and leave the trail better than we found it, be sure to also leave our plants and other wildlife alone. Remember, you share these trails with the creatures of the woods.

Paddling can be a fun activity for all ages. People enjoy canoeing, kayaking, and even paddle boarding along different areas of the creek. Elm Street Green in Zionsville features a canoe launch.



Many parks are found along Eagle Creek, including Elm Street Green, Starkey Park, Overley-Worman Park, Lions Park, and Eagle Creek Park in Indianapolis. These parks are used for activities like picnics, playgrounds, birthday parties, and playing. To do these things we need to keep it clean by recycling and throwing away any trash that you might have.



EAGLE CREEK WATER QUALITY

It is important for Eagle Creek to be clean and healthy for animals to survive and to provide our drinking water. Water quality can be assessed through different tests to measure chemicals and what animals live in the creek.



Seine net fishing for creatures in Eagle Creek

Biological Tests for Water Quality - Bioindicators

Bioindicators are living species that can tell us something about the health of the ecosystem. Finding pollution intolerant animals, like mayflies, helps tell us that creek is clean.

Our group found mayflies, crayfish, water striders, snails, bloodworms, 3 species of fish, diving beetles, leeches, caddisflies, crane flies, and flatworms. Finding this many species in one spot tells us that we have a lot of biodiversity which means it is a healthy and stable ecosystem.



Chemical Tests for Water Quality

Chemical tests use scientific tools to tell us about the water quality. Examples of chemical tests include pH tests, dissolved oxygen, phosphate levels, nitrate levels, and temperature. When our group tested the water of Eagle Creek with these methods, we concluded that the water was very clean and healthy. To continue to monitor the water quality, these tests should be done frequently at different times and in different parts of the creek.



EAGLE CREEK BIRDS

The Bald Eagle is the national bird of the U.S.A. They live near large bodies of water such as Eagle Creek. Their scientific name is *Haliaeetus Leucocephalus*. They are native to the U.S.A. Bald Eagles eat fish and land prey.



The Cooper's Hawk is native to Indiana, therefore Eagle Creek. They eat rodents and other birds. Cooper's Hawks also have brilliant vision and very sharp beaks. Cooper hawks can live up to 12 years in the wild.



Mallards can also be found at Eagle Creek. The females are just brown, and the males have a green head. They eat fish.

Lots of varieties of birds live in Eagle Creek.

Great Blue Herons can be found in Eagle Creek. Most Great Blue Herons only weigh about three pounds. Great Blue Herons use their long beaks to scoop up the fish from the water.



Fun Fact: Eagle Creek is our drinking water.

MORE BIRDS

More Eagle Creek Birds



Pie-billed Grebes are stocky with a large head and a striped beak. Pie-billed Grebes weigh 8.9 to 20.0 ounces. Pie-billed Grebes mainly eat crayfish, insects, and their larva.



Snowy Egrets are white birds with long necks. Snowy Egrets weigh about 13.1 ounces. Snowy Egrets are carnivores and eat lots of different creatures.



Green Herons eat fish and other water-dwelling creatures. Green Herons have extremely sharp beaks, and they also have rusty red necks. They weigh 8.5 ounces.

Fun Fact: Green Herons are related to Great Blue Herons.



EAGLE CREEK PLANTS: TREES

American hornbeam is also known as the blue beach because of its distinctive smooth blue gray muscle like bark. A low tree, it prefers moist soil along riverbanks or ground. The leaves are like the hophornbeams but are smaller darker and are shinier. They turn orange and red in the fall. The fruits are clusters of nutlets in pairs, each set on a three lobed bract.



Sycamore is a species of tree that grows along Eagle Creek and other wet areas. It has large leaves and flaky bark. Sycamores are found in many areas of Indiana and are good for wet areas because they can tolerate water more than other trees.



EAGLE CREEK PLANTS: ALGAE



Algae is a single celled plant without a well-defined nucleus (the cells control center). In addition to the green chlorophyll, a blue and sometimes a red pigment are also present. The pigments are spread throughout the cell rather than in the indistinct bodies or plastids as in all the other algae. There are many kinds of algae, but blue green algae can be a problem in Eagle Creek and other bodies of water.

In most kinds of blue green algae, like the algae we have here at eagle creek, the cells stick together to form slender strings, or much more on the organic matter, to hence the presents of rich growths of blue green algae may be a clue to dirtier polluted water.



Such blooms of algae are common in the spring or summer, when the conditions of algae are favorable and that is when the algae reaches a population peak. An abundance of blue green algae like the one we have here at eagle creek, may give the water a disagreeable smell or taste, and some of the different types of algae can make the water poisonous to animals or humans that drink it. the water that the alga is in.



EAGLE CREEK PLANTS: FLOWERS



Milkweed

Milkweed is a staple for butterflies around the creek since they produce high quality nectar which the butterflies love, shockingly milkweed is not palatable to many animals because of its milky latex in its leaves and stem. Growing all over the creek Milkweed is a lovely plant.

Fun Fact

- Milkweed is found throughout North and South America

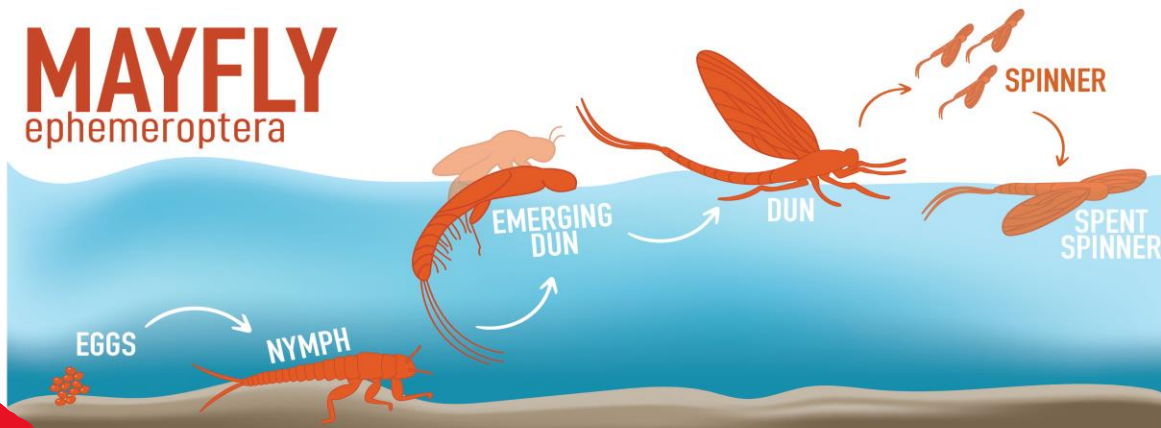


Jewel Weed

Jewel Weed is all over the creek, touch one of the flowers and it explodes its seed burst everywhere. Shooting up to ten feet this helps because it spreads seeds, to grow the same plant in different areas around the creek,, if you have any itchy or irritated spots on your body, you can rub the jewel weed leaves on your body to sooth the itch or irritation.

INSECTS OF EAGLE CREEK

Mayflies have one of the shortest adult lives in the world. They swarm in millions looking for a mate. When they are in the water it means it's clean. Why? Because they need clean water to live in the larva stage. Mayflies are called bioindicators.



Some other bioindicators are **stoneflies** and **caddisflies**. They are also called benthic macroinvertebrates. These insects live in and near the creek showing to the town their importance.



"**Giant water bugs** are oval-shaped, with pincer-like front appendages that capture and hold prey. Their rear legs are especially flattened and have tiny hairs (cilia) to help propel them through the water." - National Park Service



Did you know...

Female giant water bugs eat their own eggs!

FISH IN EAGLE CREEK

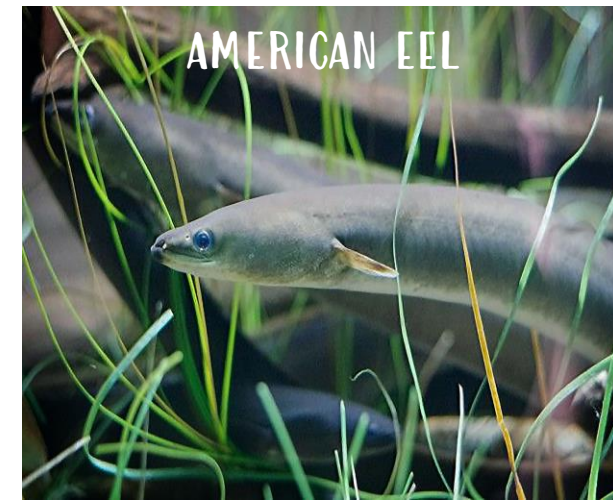
Have you ever thought about what lives in Eagle Creek? Let me tell you all about them. There are lots of fish in Eagle Creek, we are going to talk about three of them.



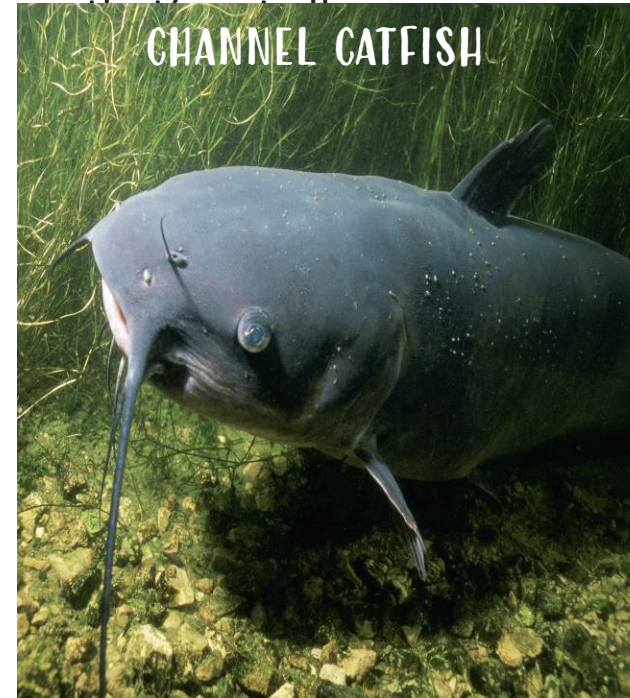
First the **Bluegill**, the bluegill can swim in a backward motion using special muscles in their pectoral, anal, and dorsal fins. Also, during the breeding season, a male bluegill's belly scales turn bright orange.

The second fish is the **American Eel**.

Do you know that female American Eels can lay up to 4 million eggs and American eels are the only species of freshwater eel found in North America? But



The **Channel Catfish** can smell with their whiskers, and they can tell how old other catfish are. Also, they are the only catfish in North America with a deeply forked tail. Now that you know about some of the fish in Eagle Creek, let me tell you why you want to help the fish. They play an important role in the cycle of nutrients in the ecosystem. Also, they keep the Creek clean by eating algae.



AMPHIBIANS IN EAGLE CREEK

Amphibians absorb water so they are great indicators of pollution. If the water is polluted it will show in their urine.



"The eleven species of amphibians are the American toad, Fowler's toad, Blanchard's Crickets frog, Western Chorus frog, Spring peeper, Gray treefrog, American bullfrog, Green frog, Small-mouthed salamander, Eastern Red-Backed salamander, Southern two lined salamander." - I Naturalist.

This is a picture of polluted water, if this continues amphibians will lose their habitat. If this happens to Eagle Creek, our drinking water will be contaminated.



Wetlands provide a habitat for amphibians as well as ponds and creeks. An amphibian's diet consists mostly of insects, worms, fish, and even small mammals. There are eleven individual species of amphibians in Eagle Creek.

