

Discover Nature

A Trail Guide to Foster Park

Welcome to the website of the Foster Park river trail, meant to bring to life the natural features of one of the hidden gems of the Fort Wayne park system. Discover the history of trappers, traders, and Indian lore while admiring the beauty of the area's plants and animals all stretched along the home and highway that is the St. Marys River.

3900 Old Mill Road, Fort Wayne, IN, 46807



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1 The Three Rivers

No matter where you enter the park, direct your attention to the river and recognize which way is upstream and downstream. This is the St. Marys River; it is 99 miles long and forms in Auglaize County, Ohio. It flows northwest into Indiana, through Adams County and past Decatur, Indiana. As one of the three rivers of Fort Wayne, the St. Marys joins the St. Joseph River downtown and forms the Maumee River. The Maumee flows northeast to Ohio, emptying into Lake Erie near Toledo, Ohio.

2 The Miami Tribe

Hundreds of years ago, Native Americans walked this same path, using the St. Marys River to survive. The three main tribes of American Indians from Indiana were the Illini, the Shawnee, and the Miami. The Miami dominated most of central and northern Indiana and developed a capital, Kekionga, located where the three rivers meet in present-day Fort Wayne. They used the rivers to their advantage by fishing and hunting deer, elk, wild-fowl, and bear. The Miami tribe also grew crops such as maize, beans, and squash. The Maumee and St. Joseph were surrounded by cornfields for hundreds of miles. The rivers were eventually used for trade when European settlers became prominent in the 18th century.



3 Slump Trees

While walking the former path of the Miami tribe, notice that many trees along the riverbank lean toward the water, like the examples above. In a deciduous forest the canopy is closed, making it difficult for trees to capture enough sunlight for photosynthesis. Trees slump along a riverbank and grow out over the water, because there is less competition for sunlight. Slump trees can also be an indication of riverbank erosion. Mass failure erosion occurs when large chunks of soil collapse. Bank scour erosion causes an undercut bank to form as a result of increased flow rate of the river or ice scraping into the bank.

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4 *Phragmites australis*

You may notice tall grasses like the ones below with green, rigid stems and bluish-green leaves. These are *Phragmites australis* also known as Common Reed, a perennial plant found near the Great Lakes. These can reach up to 15 feet in height and bloom purple-gray cluster of flowers in the summer. The species spreads easily and can live next to waterways or grow in disturbed, open parts of the wet woodlands, forming large, dense clusters. This plant likely came over from Europe through trade in the 1800s. Common Reed eliminates native plants, reduces food sources for wildlife, blocks water movement, and encourages mosquito activity.



5 Geology

Deep below the path you are taking, Fort Wayne's geology reveals how it became the state's "Summit City." Beneath the surface of Allen County evidence of ancient tropical seas, reefs, and devastating floods from over 400 million years ago is revealed. Hundreds of feet below the surface, bedrock types include limestone, dolomite, and shale. These are 500 million years old. Above the bedrock layer is 500 feet of loose glacial sediment that was deposited during the Ice Age when multiple glaciers from the east and north covered the northern half of Indiana. As the glaciers retreated, several blocks of ice remained and created wetlands across Allen County.



6 Great Black Swamp

These glaciers from 20,000 years ago produced a large wetland called the Great Black Swamp. The land was left flattened and swamp decorated 1,500 square miles of northwestern Ohio and northeastern Indiana, including parts of Fort Wayne. The swamp became black because of decayed plant material from the dense forest. For settlers, this area served as a fertile hunting ground but carried many diseases. In the 19th century, the Great Black Swamp was drained so the area could be cultivated. The massive trees were cut down for Europeans who needed lumber for their ships. While most of it is now gone, portions of the Great Black Swamp remain in Ohio and are under conservation, seen in the picture above.

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7 Animal Tracks

Without a swamp, animals leave behind tracks, and we can identify the species by the way it walks. If tracks are staggered in a zigzag pattern, these are diagonal walkers. Hoofed animals like White-tailed Deer travel this way, which is also how a dog walks. Wide-bodied animals such as bears, raccoons, beavers, and skunks are considered pacers and move both limbs on one side of their body together. Gallopers, such as rabbits, push off their back feet, flying through the air, and then hit with their front feet. Finally, animals like the weasel bound by reaching out with their front feet and bringing their back feet up just behind them, hopping. Depending on the animal, when they pick up speed, their gait may change. Can you tell which species made this track to the right?



8 Squirrel Nests

Winter is the season to take notice of the highest tree branches around the forest. Do you see the large clumps of leaves and twigs wedged between branches? These are squirrel leaf nests, also known as dreys. Leaf nests are located at least 20 feet up the tree to protect the squirrel from ground predators. Dreys are built two feet wide and a foot high with twigs, leaves, moss, and bark. While squirrels usually live alone, during mating season in December and January, squirrels share a nest with their mate for warmth. Squirrels often build multiple nests and use them all year round to escape predators and hide food.



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9 **Marcescence**

When visiting Foster Park during the winter season, consider trees that are hanging on to their leaves. This phenomenon is referred to as marcescence. Most trees in a deciduous forest drop their leaves during the fall and winter seasons to survive the cold, dry weather. By losing their leaves, trees are able to store nutrients in their roots. Marcescent tree species include American Beech, Sycamore, and oaks. It is believed that the trees adapted this trait to discourage deer and other herbivores from eating the nutritious twigs and buds. By early spring the dead leaves of marcescent trees will be replaced with expanding buds and green leaves.

10 **Moss**

Also notice details of the trees, such as which side moss grows. There are over 14,500 moss species, and they are distributed all over the world. As the third most diverse group of plants in the world, moss provides nesting materials, food, and nutrients to the soil. The most common location for these species is in moist, shaded habitats, meaning moss can grow on any side of the tree, not just north. It might be a good idea to bring a compass when you're hiking!



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11 Seasons

The seasons occur because the earth is tilted on an axis, currently 23.5°. While the orbit of the earth is elliptical, the distance the earth is from the sun does not affect the seasons, as the earth is closest to the sun in January. When the northern hemisphere is tilted toward the sun from May to September, it is summer, and in the southern hemisphere it is winter. On June 21 and December 21 the sun is at its highest and lowest point relative to the equator, marking the solstices and the start of summer and winter. March 20 and September 22 are the equinoxes, occurring when the plane of the earth's equator passes the center of the sun at the start of spring and fall.

12 Wildflowers

In the spring, notice all of the wildflowers scattered around the forest floor. April and May are the best months to see wildflowers blooming. The sun's rays reach the forest floor the most during this time of the year, because without any leaves on the trees, there is no canopy blocking the sunlight from reaching the lower layers of the forest. Once the trees gain leaves during the summer months, the forest floor is dark, and wildflowers cannot bloom. Admire these beautiful species while you can.



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13 Amphibian Egg-laying

Early spring is also a great time to observe egg-laying strategies of frogs, toads, and salamanders. Species such as the American Wood Frog and the Spring Peeper lay their eggs in non-permanent water sources to avoid predators. Larger species like the American Bullfrog and the Green Frog are not threatened by predators as much, and often lay their eggs in lakes and ponds. The American Wood Frog and Spotted Salamander lay their eggs in a large spherical clump. Both species of eggs have black specks in them, but the Spotted Salamander egg is cloudy rather than clear. Toads lay their eggs in a string, rather than in a sphere.



American Woodfrog eggs on a leaf



14 Frog vs. Toad

Beside their eggs, what is the difference between a frog and a toad? They are both amphibians, have lungs, and live near a water source. Frogs have slim bodies and long hind legs with webbed feet and use them for swimming and leaping. They have bulging eyes and smooth, moist skin. Toads have wide bodies, short legs, and dry, warty skin. Poisonous glands behind their eyes are used as a defense mechanism. Toads usually spend most of their time on the ground walking or crawling rather than hopping like frogs, but if they are startled they will hop. Take a look at the picture above of an American Toad.

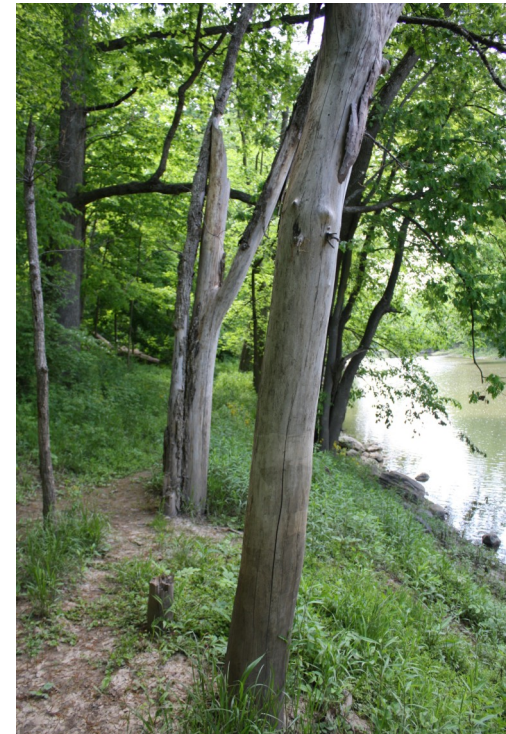
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15 Climate

In the Midwest, the states experience extreme seasons with blazing, hot summers and frigid, cold winters, characteristic of a humid temperate climate. Because Indiana is mid-continent, it does not experience temperature-moderating effects from oceans. Weather storms such as cyclones are common because of the clash of polar and tropical air masses. Prevailing westerlies also impact the Midwest weather dramatically, pushing air generated at the equator from west to east, generating most of the weather in Fort Wayne.

16 Fallen Trees

Especially after a storm, notice the fallen and dead trees. If a tree is standing and dead, this is a snag, represented in the bottom right picture. These provide birds with nesting, feeding, and perching sites. Similarly, when a tree falls, a great amount of soil is brought up with the roots creating a pit in the earth and providing shelter for small mammals. The exposed root mass forms a mound, offering nutrients to wildlife and the soil as it decomposes. This can be seen below. Many foresters find snags and downed wood unattractive, however the benefits given to the wildlife make them valuable to a forest.



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17 Barred Owl

Search the skies for Barred Owls as you hike through the forest. These birds are large and stocky owls with round heads and are related to the Spotted Owl. The species, sometimes referred to as Eight Hooter, gets its name from the brown and white bars that decorate the wings and tail. Usually during the day Barred Owls roost quietly in old trees but can also be seen flying through their territory. At night when they hunt, their signature hooting call can be heard, “Who cooks for you? Who cooks for you-all?” Barred Owls feast on small mammals, mostly rodents, but can also wade in shallow water and catch crayfish. They can be found in mature deciduous and coniferous forests and prefer to live near water, however they also do well in suburban neighborhoods.



18 Brown-headed Cowbird

As a nest parasite, the Brown-headed Cowbird spends much of its energy during nesting season seeking out a potential host instead of collecting moss for nest building. When she locates a nest, the Brown-headed Cowbird removes one or two of the host bird's eggs and replaces them with her own. The host bird then maintains the nest and raises the Brown-headed Cowbird young. If the host tries to throw the parasite egg out, the Brown-headed Cowbird female will torment the host female. This species developed the adaptation hundreds of years ago. Because they spent so much time following the bison herds in the grasslands, they never had time to build nests.



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19 American Woodcock

As you finish your nature walk at sunset, you may admire a distinct “peent” sound. This is the American Woodcock, also known as the Timberdoodle! This bird is squat and has mostly brown coloring on its body and dark red on its tail feathers. Its defining characteristic is its 10-centimeter long, thin bill, which it uses to probe the ground looking for earthworms. They prefer to live in eastern and midwestern states on the edge of young forest habitat. The American Woodcock spends most of its time on the ground where it is camouflaged and makes nests in shrubby, brushy areas near water.

20 Lightning Bug

A species known for brightening up summer nights is the firefly, commonly known as the lightning bug. This insect is not a fly, but a nocturnal beetle part of the Lampyridae family. Light-producing organs contain special cells that produce the glowing abdomen. By taking in oxygen, this combines with a substance called luciferin, producing light with almost no heat required. The flashing patterns are irregular and unique to each of the 2,000 firefly species. They use these flashes of light as a way to find potential mates and as a defense mechanism to ward off predators.

Foster Park’s beauty is evident during spring, summer, fall, and winter at all times of the day. Continue to visit to discover aspects of the area that go beyond what you have just learned about the ecology of the St. Marys River!

