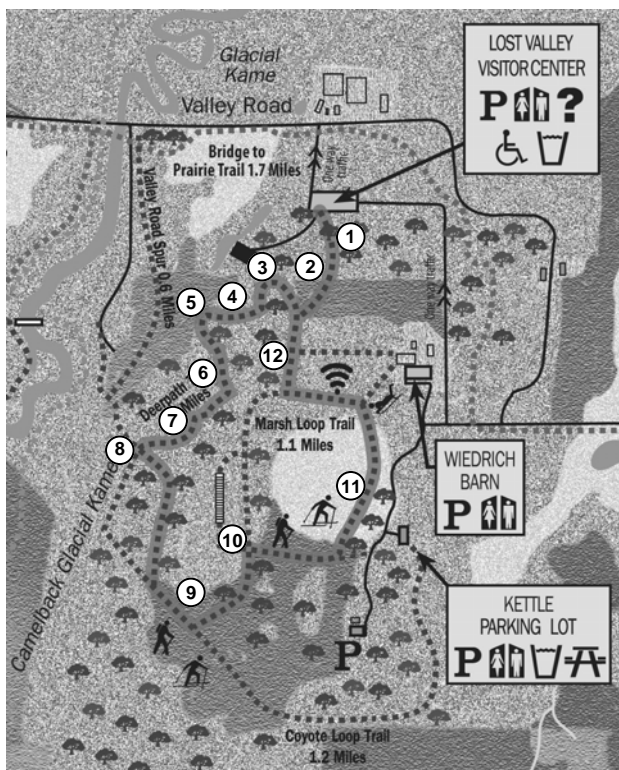


Glacial Park Interpretive Trail: Plant Communities



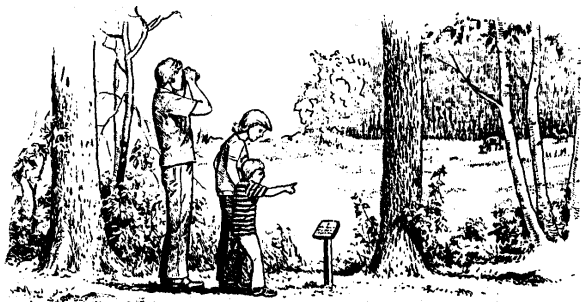
A publication of the
McHenry County
Conservation District
www.MCCDistrict.org





Please follow these trail rules:

- Stay on designated trails.
- Respect all plants and wildlife.
- Leave all natural items where you found them.
- Pets must be kept on a leash.
- Pick up after your pet.
- Use the trash cans and recycling bins at the trail heads and picnic areas.
- Be courteous to fellow park users.



Green plants produce their own food through a process called photosynthesis. This ability to create their own energy to grow makes them the foundation block of any ecosystem. Essentially, plants trap the energy of the sun and release it into the ecosystem, supporting a chain of living organisms that all depend upon the plants for their lives.

There are millions of types of plants. Each species holds a unique place in its ecosystem, but there are often certain groups of plants that live together under the same physical conditions. These groups are called plant communities.

This brochure is not intended to be an identification guide for plants. Rather, it defines certain plant communities and their importance. Once you recognize a plant community and the species' relationships within it, you can then learn to identify the specific plants you should expect to find in the area.

Non-native Plants

A non-native plant is one that does not grow here naturally. It was brought here from another region. Sometimes people bring plants to a new area for nostalgic reasons, to remind them of home. Sometimes the plant had been useful in some way in its native land. Sometimes plant seeds get transferred to new areas accidentally. Not all non-native plants are harmful to the native ecosystem. But since they are not part of the balance of



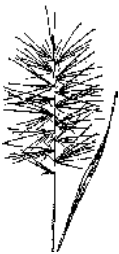
Hungarian brome

life in the plant and animal community, they oftentimes grow out of control. Some non-natives are particularly aggressive, or invasive, and outcompete the native plants for sunlight, water, and nutrients. Hungarian brome is one such species. Planted here as cattle feed, you can see how it has nearly taken over the prairie. It is the most common grass you see.



As you walk this trail look for piles of cut brush. The Conservation District actively removes aggressive non-native shrubs and other plants.

You have just entered a very different ecosystem. This open woodland is a savanna. It is characterized by oak and hickory trees spread far enough apart to allow an undergrowth of grasses and flowers. Some of these plants are bottlebrush grass (named for what it resembles), Joe Pye weed (one of the only plants to be named after a Native American) and Mayapple. Like the nearby prairies, savannas are dependent upon fires. Fires help to keep the understory clear of woody vegetation that would crowd out the grasses and forbs. Fire also burns all of the dead plant material from previous growing seasons, which returns valuable nutrients back into the soil.



bottlebrush grass



Joe Pye weed



Mayapple



As you walk to the next stop count how many different kinds of trees there are in this savanna. Is it dominated by a few or are there many different types?

The trees that are around you are those typical of a savanna. The two dominant tree species are the bur oak and the shagbark hickory. These are well suited for the conditions they must bear. Their thick bark helps them to withstand the hot fires that swept quickly across the flat prairies. With the hot prairie winds blowing through the savanna's edges the savanna can also get dry. But these trees survive. Look at their bark. Is it charred from fire? Do the trees around you look dead or alive?



*Bur oak
leaf and acorn.*



*Shagbark hickory nut
and leaf.*



On your way up the hill, there is an evergreen tree on your right. While needleleaf trees are capable of surviving extremely harsh environments, the fire-swept prairie land of Illinois supported very few native evergreens. The one you see here is a red cedar.

Because of years of traffic, from humans and animals alike, the soil on this hill in front of you has been steadily eroding away. You can see the bare path of earth leading down the hill. Historically, erosion was not a problem. The plants native to this area have very long roots which help to hold the soil in place, stabilizing slopes and slowing the effects of erosion. Due to shallow-rooted non-native plants and increased traffic, erosion has now become a problem. Valuable nutrients are lost as rain water rushes down the path, removing even more soil. As the plants need the soil to grow, the soil needs plants to remain in place.



As you walk, look for areas that have erosion problems. Would those problems still exist if everyone stayed on the trails?

This is a healthier prairie ecosystem than the one you saw at the beginning of the hike. Hungarian brome is no longer the dominant species.



Here there is more variety (or biodiversity). Biodiversity allows for a much healthier ecosystem by having many different types of plant species that can support a wide variety of different wildlife species. A monoculture, such as one made up of only brome, cannot support a variety of wildlife. In addition, it is much more vulnerable to disease and natural disaster. If the one and only species is wiped out, there is no plant community left. A healthy prairie, with 100 species or more, would only lose a fraction of the community if it lost one species of plant.

Biodiversity also lends itself to a variety of colors in the summer and early fall. Visit often to witness the full palette on display.



As you walk to the next sign post, try to count how many different kinds of plant species you see.

Early Settlers

You are at the site of the early 19th century pioneer cemetery of the Thomas family. Life was hard for those who came to settle in the wilderness. Without today's conveniences of grocery stores, pharmacies, and hospitals, early settlers had to learn to live off of what they could find on the land. Knowledge of the different medicinal and nutritional values of plants was a necessity at that time. At first European settlers were unfamiliar with Illinois' native plants, but they learned from Native Americans and through experimentation, and soon began to cultivate plants in their own gardens and farms.



Signpost number eight is at the base of the large hill near the bench. As you walk to our next stop, look at the plants around you. Can you think what you might have used for food, shelter, or medicine, if you were an early settler?



The large hill in front of you is called a kame. A kame is formed when gravel that is carried along with a spreading or melting glacier gets left behind. Land composed primarily of gravel drains very quickly as rainfall cascades between the rocks toward the water table far below. Since the soil cannot hold water for long, the land is very dry. Plants that require shade or moist soil cannot live here. Rather, the plants that survive the dry, glacial prairie land here are ones that have adapted to the dry conditions. Members of the sunflower family, for example, have thick, rough leaves that resist the sun's evaporative rays. They also have long taproots that extend far into the ground to reach the cool, life-giving water below.



You may choose to skip the steep route by walking the flat trail between the trees and the kames. It meets up with the other trail at the far base of the hill.

As an area ages the types of plants that inhabit that area change. This change from one plant community to another is called succession. This area in front of you has been undergoing change for thousands of years. What started as a glacial depression of gravel and water began to fill with vegetation. As the vegetation continued to fill in, this area transformed from a bog with visible open water to what you see now. Should the wetland continue to fill in with organic material, the depression will no longer contain much water. The wetland plants currently growing in the bog would crowd themselves out and other plants would begin to grow in the moist, organic soil. Sedges are plants that can withstand wet conditions, but they can also survive without a constant covering of water. There are some growing at the south end of the bog. Should they eventually take over, thereby transforming the bog, it would become a new type of community called a sedge meadow.



As you walk through the prairie toward the bog, notice the large bur oak tree on your left. How do you suppose the seed for this tree travelled out into the open prairie?

Life in the Bog



The most common plants in this bog are sphagnum moss, which makes up the floating mat layer of the bog, and leatherleaf, the waist high shrub. This is such an exclusive community because sphagnum moss absorbs much of the oxygen and nutrients of the water, and excretes hydrogen, causing the water to become highly acidic. Not much can survive the harsh conditions and therefore, there is far less diversity here than in more typical wetland communities.

Bogs are formed when lakes with poor drainage and little incoming fresh water begin to fill in with vegetation. The types of plants, like sphagnum moss, that can survive the poor conditions make things even harsher for other plants. The high acidity and the lack of oxygen cause dead plants in the bog to decay very little, thus helping to form the structure of the bog, a soupy mixture of partially decomposed plant material called peat. As you walk across the boardwalk you will be floating with the peat on top of the wetland. Can you feel a springiness in the ground? Feel the leatherleaf (don't pick) and smell the ground. This ecosystem is much different than your lawn at home, isn't it?



After visiting the bog boardwalk, walk back up to the benches and head downhill to the trail directly across from you. Do not turn left on the Deerpath Trail.

In front of you is a marsh. Marshes resemble bull's-eyes because different species of plants grow in concentric circles towards the center. Grasses and sedges grow around the outside edges. As the water gets deeper, cattails and bulrushes become abundant. In the center, where the water may be even deeper, you find floating plants such as lily pads.



This complex ecosystem is not only very important to the local wildlife, but also to nearby human communities. Marshes are like sponges. Their organic rich soil and build-up of decaying vegetation can absorb vast amounts of water. In times of high precipitation, the wetland absorbs the excess rainfall. This prevents flooding in nearby areas. In addition, the marsh contributes to the water quality in our area. Since the marsh is primarily fed by runoff, there are endless possibilities of pollutants that have been added to the water from roads, fields, businesses, and homes. Fortunately, the plants can absorb small amounts of these pollutants, thereby taking them out of the marsh water and out of the water cycle.



Go out onto the observation deck to get a better look at this life-filled and valuable ecosystem.

The landscape of Illinois that once produced views of the great plains of oranges, purples, yellows, and reds, changed to the green fields of corn and amber waves of grain. Our country is indebted to our rich agricultural heritage. However, in our zealous attempts to promote one way of life, we almost lost another. By 1976, only .001% of our tallgrass prairies remained. But there is hope for the prairie. Acreage is growing thanks to a statewide effort to restore this beautiful ecosystem. We all need to be patient, though. Prairie restoration is a lengthy process. Here, after years of prescribed burns, and other management practices we are beginning to see a change. With a continued restoration effort we hope to have many acres of healthy prairie once again in McHenry County.



*Little
bluestem*



As you walk to the next stop try to guess just how many different kinds of grasses and flowers you are seeing.

Conclusion

You have visited several plant communities of Glacial Park, each of them unique, and each of them supporting a vast diversity of life. The complex relationships of organisms within these communities, and their interdependence, make these communities as a whole often greater than the sum of their parts. The whole community is at risk when non-native species invade or when development changes the surrounding environment. It is not enough to try to protect individual endangered species -- the whole community must be protected. We ask you to continue to support the efforts of the McHenry County Conservation District as we strive to preserve and restore the plant communities of northern Illinois.

Thank you for hiking the Glacial Park interpretive trail. We hope you have enjoyed your visit. You may keep this brochure for future reference, but if you do not want it, please replace it in the box so that others may use it.



For more information, please contact
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