

Reading the Landscape: Exploring Loda Lake's history

By the end of this walk, visitors will:

- Know how the landscape has changed from the vast pine-oak forests to what we see today as a result of logging, farming, and restoration
- Know how Loda Lake came to be a wildflower sanctuary
- Know something about the people who lived here (Hansons and Hunts) and how they interacted with the resources at Loda Lake.
- Understand that human impacts can contribute in positive ways to the sustainability of natural communities (or that human and natural communities can exist in mutually beneficial ways).

This walk proceeds counter clockwise around the trail.

STOP

1 – Picnic
area

TALKING POINTS

- Welcome to Loda Lake Wildflower Sanctuary.
 - Only wildflower sanctuary in the National Forest system.
 - Over 230 species of native plants have been identified at the sanctuary.
- On this walk we'll look at how people have interacted with and changed the area over time.
- Loda Lake Wildflower Sanctuary was created as a partnership between the Forest Service and the Garden Clubs of Michigan in 1950. That partnership continues today.
- Trail is ½ mile long and the walk will last approximately 45 minutes. There are 13 stops, including this one.
- “rules:”
 - Stay on the trail
 - Leave the wildflowers for others to see; please don't pick any
 - Let the guide lead
- Start with brief history of the area up to the Hansons:
- In the 1800's this was a vast pine-oak forest where trees 54 inches in diameter towered to a height of 60 feet. The timber was harvested in the late 1800's by the Pere Marquette Railroad.
- Sometime in the early 1900s, Frederick P. Hanson, his wife Bessie Beers Hanson, and their daughter Marjorie, acquired 5,000 acres of land to the east, north and south of the Lake through a series of purchases by both the Hanson and Beers families. At that time, the lake was called Bass Lake.

- The Hansons, who lived in Chicago, used the land mainly as a summer home and vacation spot, and for hunting in the spring and fall. Mr. Hanson considered it “worthless acreage” for anything else. In 1910, Mr. Hanson built a summer home overlooking the lake. It was a substantial home: 40’ x 100’ with an 80’ porch, a formal rose garden, and lilac hedges. The home was staffed each summer by a cook, gardener, maid, and a manservant.
- No trace of this substantial home exists today. The house was located to the east of the current parking lot and picnic area.

2 – Post 37

- The Hanson’s daughter, Marjorie, met and married an artist, Albert H. Schmidt. The family took a trip to Europe to meet him prior to the marriage. Mr. Schmidt managed to be delayed meeting them, causing the family to postpone their trip home – a good thing, as their return passage was booked on the Titanic!
- In gratitude, Mr. Hanson built an artist’s studio for his son-in-law. The studio foundation is up the hill from the paper birch. The area then was much different than what we see now: when the studio was built it had a good view of the lake; today, the lake is barely visible through the trees.
- The presence of this paper birch tells us something about how the natural communities here have changed over time. It established thickly in many areas following the widespread clearcutting and slash burning that happened in the late 1800’s and early 1900’s.
- One clue that paper birch was very common here is the fact that the local school was called Birch Grove School.
- Few birch remain, because many of these birch stands are now nearing the end of their natural life span and the trees are dying and falling to the ground.

3 – New bench between posts 34 and 35

- This area is an example of how people today continue to impact the landscape here – in a positive way.
- In the vast pine-oak forests that once covered this area, there were places called savannas where the trees grew much farther apart. The best way to describe a savanna is to think of a park with widely spaced trees and lots of grass. Another way to think of it is as a prairie with trees. The understory is filled with native warm season grasses (grasses that grow actively in summer), and wildflowers. They are a haven for nectar-loving insects, as well as songbirds that feast on both insects and

seeds. Scientists describe several types of savannas in Michigan; oak barrens, oak-pine barrens, and pine barrens are all types of savanna.

- Historically, this area might well have supported pockets of oak-pine barrens, which are found on well-drained, sandy glacial outwash. One way to tell how open an area was is to look at the growth of some of the older, larger trees. Trees that grew in a forest had other trees growing nearby and the limbs branch higher up on the tree and angle upward. If you stood under one in a rainstorm you would probably get wet. The branches of trees that grew in an open area are much closer to the ground and have a wide spread, more like the shade trees in yards and along streets. You'd stay much drier standing under that kind of tree.
- Savannas evolved with the fire that was a regular, natural part of the landscape. Before European settlers arrived, fire was both a natural occurrence as well as an important process Native Americans used in maintaining prairies, savannas, and barrens. Periodic fires killed trees and shrubs that invade open spaces and shade out plants beneath. These fires allowed ground forbs like wild lupine, butterfly weed and coreopsis to grow.
- Here the Forest Service is working to manage this area as a savanna. They conduct prescribed burns to keep the area open. They are also restoring savanna plants to this part of the area, planting savanna grasses and wildflowers such as June grass, prairie smoke, milkweed and wild lupine. This is a great example of what you can do in your own garden to attract butterflies and other nectar-loving insects and birds.
- True savannas are rare today, and so are a few of the plants and animals that occupy savanna habitats. One of these is the federally endangered Karner blue butterfly.
- While not found at Loda Lake, the federally endangered Karner blue butterfly has been found nearby. The Forest Service manages for one population just north of Highway 20, south of Loda Lake, and the butterflies have also been seen north of the area.
- Karner blues are small butterflies about the size of a nickel. They lay their eggs only on or near lupine plants and the caterpillars eat only lupines, which grow in savannas.
- This is also a good place to talk about pollinators. Pollinators are critical to the health and propagation of wildflowers. Most flowers need insects to move pollen from one plant to another in order to

produce viable seeds. While not native to North America, honey bees have become important pollinators of many species, including most agricultural crops. Many kinds of native bees, as well as butterflies, flies and even birds are also important pollinators. The Forest Service takes into account the need for pollinators in their management of the national forests. Here they have planted four different species of milkweed to attract Monarch butterflies, as well as other wildflowers for honey bees and other insects.

4 – Post 32
and
surrounding

- When the Hanson's acquired the property there was little left besides pine stumps.
- Mr. Hanson considered the property to be worthless acreage, asserting that "no one could make anything grown on that sand." Thomas E. Hunt worked for the Steger Piano Company in Steger, IL and was an acquaintance of Mr. Hanson. He challenged Hanson's assertion with the boast that he could farm any soil. They made a bet, and Hunt came to prove he could make good on his boast.
- Hunt farmed the area from 1909 to 1916. He first had to remove all the remaining pine stumps, which he did by hitching each stump to a yoke of oxen, pulling it out by the roots, and dragging it to the borders of the planned fields. This was no mean feat as some of the stumps were reported to be as large as four feet in diameter!
- Hunt built a four-room house; a large sheep barn; a modern hip-roof barn with 12' x 12' timber framing; a milk house; an ice house; a bunk-house for farm hands; a windmill and water tank; and a chicken house. (Walk around the area to look at the remaining foundations.)
- True to his boast, the land flourished under Hunt's farming methods. He planted peach and apple orchards, and grew navy beans, corn, millet and alfalfa, and oats. Hunt was an early proponent of scientific farming and knew that nutrients taken from the soil had to be replaced. He added manure and lime to the soil, rested fields between crops, and grew the navy beans, which are legumes that fix nitrogen in the soil.
- Under his care, Bass Lake Farm, as it was called, produced a comfortable living for his family, while other farmers in the area lived hand-to-mouth. Show photo of Hunts on the property .
- The Hunts moved to Oregon in 1916 to provide relief to Mrs. Hunt's allergies. A succession of families farmed the area, none as successfully as Mr. Hunt. Charles Elvey farmed from 1916-1920; Richard Townsend rented the farm from 1920 to around 1926; and Roy and Katie Ditlow farmed the property from around 1926 until it's sale

to the Forest Service in 1937.

- Even if there were no building foundations left, a few plants would let us know there was a home here at one time. Over by the house foundation you'll find a lilac bush and yucca. As people settle in new areas, they often bring with them plants from their previous homes, or add plants that remind them of home. The Ditlow family was the last to work the farm before the Forest Service bought the property, and they planted the yucca. At that time, planting yucca at family homes and gravesites was a tradition in the Ditlow family.

5 – Post 28

- By 1937 the land was “worn out” and the Department of Agriculture declared the area sub-marginal and unfit for cultivation. The Forest Service acquired the property from Marjorie Hanson Schmidt for \$3.00/acre in 1937 and it was made part of the Manistee National Forest.
- In order to stabilize the eroding soil, the Civilian Conservation Corp planted a red pine plantation.
- The Forest Service operated a large tree nursery in Michigan at which it grew seedlings for reforesting the state. Red pines were planted to stabilize soils because they are adaptable to a variety of soil types and are easy to grow.

6 – Post
24/25

- In the mid-30's, members of the Garden Clubs of Michigan began looking for a place to serve as a sanctuary for wildflowers and other native plants. The former Hanson property on Bass Lake was known to them as a place that harbored a wide variety of wildflowers. In 1938 the Forest Service and the Garden Clubs of Michigan began exploring the possibility of designating the property as a wildflower sanctuary. Other uses were also being considered for the area at that time including restoring the main building for scout work and establishing a bathing beach.
- It was during this time period that Bass Lake was renamed as Loda Lake. In a letter dated October 32, 1942, Forest Supervisor W. I. White noted that the name “Bass Lake” applied to 65 different lakes in Michigan. He went on to state “... a very detailed study was made ...to determine names which might have some local significance, a euphonious sound which would not be difficult to pronounce, and similar considerations. The significance of the name “Loda” is this: Loda or Lonidaw was the wife of Chief Simon Pokagon, the Great Potawatomi Chief. Simon was a guest of Mayer Carter Harrison during the Chicago Worlds Fair of 1893, at which time he delivered an outstanding speech.”

- It took until 1950 to clear all the hurdles necessary to formalize the relationship. A formal agreement between the Garden Clubs of Michigan and the Forest Service was formally signed on April 28, 1950. Loda Lake Wildflower Sanctuary – the only wildflower sanctuary in the Forest Service system – was born.
 - Loda Lake is a sanctuary for native wildflowers, grasses, trees and shrubs. The primary management goal for the sanctuary is to restore the plants and natural communities that grew here originally and that might have grown here. This is accomplished through planting nursery stock as well as rescuing and transplanting plants from nearby development sites.
 - This is one place where plants have been added. The cages protect the new plants from becoming a snack for deer and other wildlife.
- 7 – Post 23
- This old beech tree is one of the few trees that remains from the logging era. It would have been a small sapling when the area was logged.
 - The beech tree indicates that the soil here is richer than where the pine and oak trees grew.
- 8 – Post 21
- Many actions impact natural communities and the plants and animals found in them. Some, such as drought, are natural. Humans precipitate other impacts through timber harvest and development. One of the biggest threats to natural communities throughout the U.S. comes from other plants and animals: those that have been introduced from other parts of the world.
 - Invasive exotic species are those that are not native to a given ecosystem and whose introduction will cause harm to humans and natural communities. They can be plants, animals, and other organisms such as microbes.
 - Why are we concerned about invasive species? Most ecologists agree that overall, invasive exotic species of plants and animals have reduced the biodiversity of most ecosystems in the U.S. Invasive exotic plants usually crowd out the native plants in a given area. Instead of having many species of plants that provide food and cover to pollinators and other wildlife, an area is left with only one species, and that one species usually has little value to wildlife.
 - At Loda Lake the Forest Service is controlling a number of invasive species. Purple loosestrife has become established along the lake edge

here, though control efforts have reduced the amount of it here. Purple loosestrife came to the U.S., probably in ships' ballast, in the late 1800's. It commonly infests freshwater wetlands. This plant is particularly destructive because it replaces the native vegetation that wildlife rely on for food and cover. Once it gets established, this plant is very difficult to control because it multiplies rapidly: each plant produces over 2 million seeds in a year!

- Spotted knapweed is another invasive species the Forest Service is controlling here. It was accidentally introduced into the U.S. in the late 1800's, probably through ballast in ships or in shipments of other seed. As with purple loosestrife, spotted knapweed crowds out native plants and makes the soil less suitable for other species to flourish.
- Autumn olive has become established in the area of the orchard around Post 31. The large shrub produces seeds that birds eat and then scatter across the landscape. It was introduced to the U.S. in 1830 as an ornamental shrub, to provide food and cover for wildlife, and for erosion control. In the 1940's and 50's it was recommended by many fish and wildlife agencies for its wildlife values. Unfortunately, at that time scientists did not know that it would become invasive. Now we know that autumn olive crowds out important native plants that are even more useful to wildlife. It's a difficult battle, though, because autumn olive grows near the Sanctuary and it grows from seeds left by birds.
- This stop offers a good view of the lake. Take a few minutes to look and listen and see what kinds of animals you see or hear. Watch for great blue heron fishing along the lake edge and red-winged blackbirds on the cattails. You might even see a muskrat swimming in the lake. The tree nearby has a hole that looks like it could have been made by a pileated woodpecker.

9 – Post 13

- Before Europeans settled this area, the land was covered by a vast pine-oak forest. During the late 1800s, most of the trees were harvested to provide lumber for railroad ties. Like much of Michigan at that time, the area was almost completely cleared. One account describes the land as “stripped of timber...and largely strewn with decaying pine logs and stumps as large as 4 feet in diameter.” Standing in the forest today, it's difficult to imagine the area without trees.
 - Show photo of cut-over forest and/or have participants close their eyes and imagine there are no trees in the area they are standing.
- If any of those stumps remained, the tree rings would reveal a lot about the history of this area. Larger growth rings would indicate years of

adequate rainfall and good growth, while small rings would indicate years of poor growth. Fire scars would tell us about the frequency of forest fires and provide clues to how severe the fires were and even the direction the fires burned.

- The area behind Post 13 looks very open, as if some of the forest hasn't grown back. There could be many reasons for this. One might be that the area was used by Boy Scouts for camping some years ago. That kind of use over time can compact the soil, making it more difficult for plants to become established.
- As discussed earlier, one of the management goals for the wildflower sanctuary is to restore plants to the area. This is an area where native shrubs and grasses are being added.
- When you walk out into this open area, you may notice a lot of acorns underfoot. Acorns are an important food source for many wildlife including white-tailed deer and wild turkey.

10 – Posts
12 and 12a

- Members of the Garden Clubs of Michigan thought Loda Lake would be a good place for a wildflower sanctuary because there were so many different habitats and wildflowers. This site is a good example of the diversity of habitats and plants.
- This is a good place to see many of the ferns found here, including marsh fern, royal fern and sensitive fern.
 - When ferns come up in the spring, they unroll, forming a shape that looks like the head of a fiddle. Many people collect fiddleheads of some fern species each spring to eat. The ferns found here are not edible.
- The area along the edge of the lake is very much like a bog, and a number of plants found in bogs grow here and elsewhere along the lake margin. Sphagnum mosses form peat mats in bogs; water is at or very near the surface, and the peaty mucky soils are very acidic. Two of the most interesting bog plants are sundew and pitcher plant. They are carnivorous! They derive nutrients by catching and digesting insects in a bizarre adaptation to their low-nutrient environment. While bogs have a lot of sunlight and water, they lack nitrogen that plants need. Most other plants absorb nitrogen from the soil; carnivorous plants get theirs from insects.
 - Sundew leaves act like sticky fly paper. Insects become trapped by the sticky hairs on the leaves. Those hairs produce digestive juices that decompose the trapped prey. The diminutive sundew doesn't look like it could eat much, but it is reported that one researcher counted insects trapped in a sampling of

plants in England and estimated that about six million insects were trapped in a bog of about two acres! Of course, there were many more sundews in that bog than at Loda Lake. Sundews grow under and around the bench near Post 12a.

- Pitcher plants harvest their prey differently than sundews. They use an elaborate pit-trap method. Flies, attracted to the hollow leaf by color and the smell of decaying prey, find themselves on a waxy surface that leads to a pool of water. Flies have wings and should be able to fly out of the trap; however, the plant supplies a wetting agent that wets the fly's wings so it can't fly! The inside walls are so slippery, that even a fly's feet can't stick to them, and the fly slides down to the bottom of the leaf where it is digested. Pitcher plants have been found by the boat ramp.

- 11 – Post 8
- Trailing arbutus was a common ground cover plant during the time the Hanson's owned the land. Some of it occurs near Post 8.
 - Trailing arbutus figures into the human history at Loda Lake. When the Hanson's owned the property that is now Loda Lake, Mr. Hanson made a special trip each year to collect large amounts of it, pack it in ice from Mr. Hunt's ice house and take it to his friends and colleagues in Chicago.
 - Hanson was not alone; trailing arbutus, an evergreen, is often collected for wreaths and winter decorations. In fact, over collection is a threat to trailing arbutus in some areas, nearly eliminating the plant from Massachusetts at one time, though it is common through most of its range. In Michigan it is protected under the Christmas greens act.
- 12 – Post 1
- At Post 21 we talked about invasive exotic species. Another of those is periwinkle. This low-growing vine was introduced to the U.S. from Europe many decades ago to use as an ornamental groundcover. It has escaped cultivation and is invading natural areas in at least 36 states, including Michigan. The qualities that made it attractive to gardeners as a groundcover are the very characteristics that make it invasive: it grows vigorously, forms a dense groundcover, and spreads rapidly. Because it forms dense mats, it crowds out native wildflowers and other native plants.
 - Before it was known to become invasive, periwinkle was planted in several places at Loda Lake after the property became a wildflower sanctuary. The Forest Service has been actively working to remove it from the area. At one time periwinkle completely covered the ground between posts 1 and 2. Control efforts have removed most of those plants, though it persists in a few other locations and where it still needs to be removed.

- Witch hazel is also found here. It is a small tree in the understory – that is it grows under the oaks that make up the canopy or top layer of the forest. Witch hazel has been used by humans for thousands of years. The bark and leaves have astringent properties. Astringents cause tissue to contract when applied and are typically used to protect the skin and reduce bleeding from minor cuts and abrasions. The Cherokee rubbed witch hazel leaves on scratches, and made an infusion by boiling the leaves and bark. The infusion was applied externally as a lotion for dry skin, and they also took it internally for a variety of ailments including colds and tuberculosis. Witch hazel is still an ingredient in many astringents sold commercially today.

13 – Picnic
area

- Conclude talk. Summarize the main points:
 - On this walk we looked at how people have interacted with and changed the area over time.
 - We discussed the logging and farming history, and how the area became a wildflower sanctuary
- Encourage visitors to return to Loda Lake Wildflower Sanctuary to walk the trails at different times of year. Each season they will see different wildflowers in bloom.