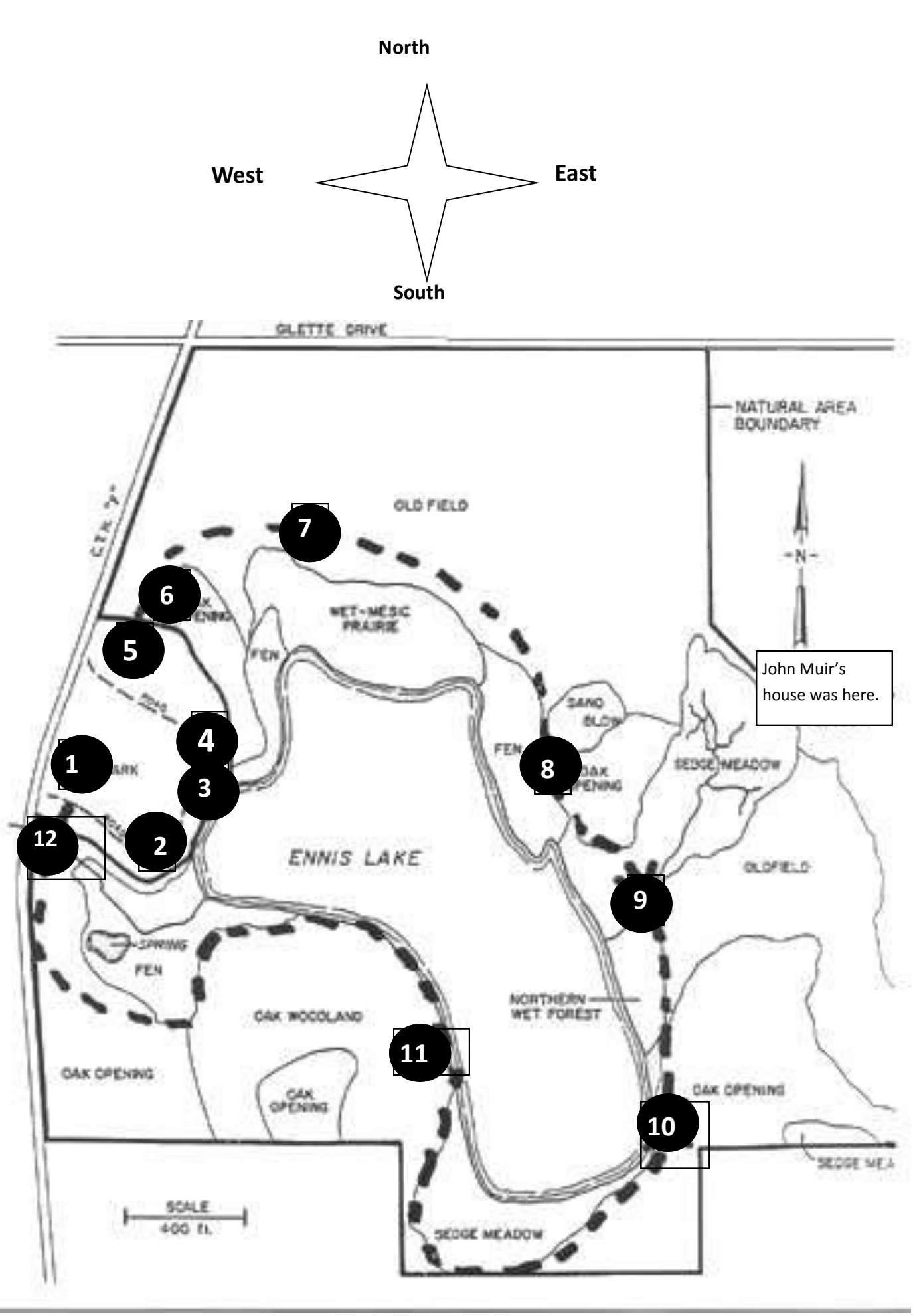

North
West
East
South
GLETTE DRIVE
NATURAL AREA BOUNDARY
OLD FIELD
WET-MESIC PRAIRIE
FEN
SAND BLOW
SEDGE MEADOW
OAK OPENING
ENNIS LAKE
SPRING FEN
OAK WOODLAND
NORTHERN WET FOREST
OAK OPENING
OAK OPENING
SEDGE MEADOW
SCALE
400 ft.
-N-
John Muir's house was here.
1
2
3
4
5
6
7
8
9
10
11
12

Leader guide for Howard and Betty John Muir Park trip

1. **Parking lot.** This is a county park that is also a State Natural Area. It also has part of the Ice Age Trail around the lake.
   What to know:
   What is a State Natural Area? The Wisconsin Department of Natural Resources protects some areas of land that are very special because of what animals, plants or other features are there.
   What county owns this park? Marquette County owns it, but it is cared for by Marquette County, the Wisconsin Department of Natural Resources and the Marquette County Chapter of the Ice Age Trail.
   What is the name of the lake? Ennis Lake for an early settlers William and John Ennis from Ireland.
   Who is John Muir? A great naturalist, botanist, and the "Father of our National Parks."
   What does a botanist study? Plants
   What does a naturalist study? The natural world like animals, trees, plants and more.
   What did the Muirs call the lake? Fountain Lake because of all the springs that bubbled up around it.
2. **Sierra Club sign**
   The Sierra Club raised money to buy some of the land in the park, the prairie you will be walking through. John Muir helped start the Sierra Club many years ago.
   Read the sign aloud.
   What flowers did John Muir love seeing here when he was a boy?
   "…even if I should never see it again, the beauty of its lilies and orchids is so pressed into my mind I shall always enjoy looking back at them in imagination even across seas and continents and perhaps after I am dead."
3. **Pier and boat launch**
   How was this lake made? By the glacier—a big chunk of ice dropped off the bottom of the glacier and it was left back to melt. When it melted, it left a big hole called a kettle. There are kettles all over Marquette County. Some fill with water and are called kettle lakes.
   What kind of lake is it? a kettle lake
   Point to the side of the lake that John Muir lived on. Across the lake to the north east
   What kinds of things did John Muir like about this lake? The plants, he taught himself to swim here, he studied the animals and birds, he loved the ferns, orchids, water lilies.
   Look across the lake at the beaver lodge Beavers build both lodges and dams. The dams make the water high enough for them to build their lodges and hide the underwater doorway to their lodge
4. **Blue bird houses**
   Who takes care of these bluebird houses? Read sign on house Muirland Bird Club
   When will the bluebirds be back? They come back sometimes as early as March and mostly in April and May

Why do they need us to put up houses? Because they used to nest in dead trees and now we cut the dead trees down or in old wood fence posts but there are fewer of them now.

5. **Granite monument**

Read the words on the monument out loud.
What is the monument made of? Montello granite. It was put here in 1957 when the park was first created and dedicated to John Muir.
Where did John Muir move from? Where was he born? Scotland

6. **Kiosk**

Find the photo of John Muir.
Write down three facts about the glacier that once covered the land here.
What are some of the plants that grow here….write down three of them.
The Kiosk is at the trail head….**what is a trail head?** The start of a trail
What trail is this? The Ice Age Trail.
What does the Ice Age Trail Follow? The edge of the glacier.

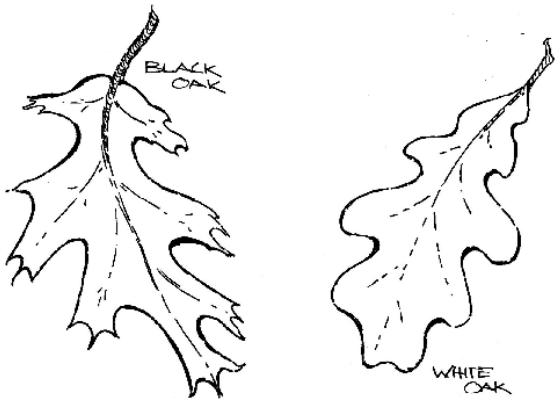
7. **The prairie**

What is a prairie? (A *prairie* is a stretch of open land covered in grasses, herbs, and small shrubs that grow there naturally and are not planted by a farmer. Sometimes there are scattered trees in with the prairie plants and than the landscape is called a Savanna.
Why are prairies and Savanna's important? (Deep roots that help form good soil, hold carbon in the soil so that global warming is reduced, provide habitat and food for birds and animals, provide food for insects that pollinate our flowers and help fruits and vegetables grow) Wisconsin once had thousands of acres of prairie and savanna.
What happened to it all? (Farming and crop land, houses, towns, roads.) This was a dramatic change in habitat.
What is a habitat? (Habitat is a place where species get what they need to survive: food, water, cover, and a place to raise young. In other words, a habitat is a plant or animal's home.) When you have a change or loss of habitat than other things change….
Why isn't this all covered with trees? Indians burned the land for thousands of years to keep the trees down. Now this prairie is burned every few years to keep the tree growth down.
What makes prairies special? Plants and birds and animals that can't live anywhere else.

8. **First bench** Oak opening and savannah

What is an oak opening? A group of oak trees in a big opening or prairie
Watch for a tree called a shag bark hickory. **How did it get its name?** From the shaggy bark.
Watch for oak trees…collect one with pointed leaves and one with rounded leaves.
The closest multiple-stemmed tree to the trail is a burr oak. Burr oaks develop a very thick, deeply grooved bark as they grow. This thick layer of bark insulates their growing tissues from the heat of fires, and allows them to survive in a fire prone landscape. Burr oaks have multi-lobed leaves almost a foot long with rounded tips. Adjacent to the burr oak is a black oak, and a few feet away on the outer edge of the hedge row is a shagbark hickory. Black oak can also be found in this linear grove. White oak, another fire tolerant species, is also found along the trail.


BURR
OAK


BLACK
OAK
WHITE
OAK


SHAGBARK
HICKORY

9. Bridge over a sedge meadow

Find your directions. **Which way is north, south, west, east?**

Look northeast from the bridge. **See a house through the trees?** That is NOT the house John Muir lived in, but this house is located on the spot of the Muir house.

Look for tamarack trees across the lake. They are coniferous trees like your Christmas tree, but they are the only kind of coniferous tree that loses its needles every fall and grows them back in spring.

Look upstream from the bridge and you can catch a glimpse of the sedge meadow from which the stream drains. In the spring, you may hear frogs calling from this marsh but not from the lake. Fish feed on the eggs and young frogs in the lake, but the marsh doesn't hold enough open water to support fish, so the frogs survive.

Do you see all those lumps & bumps. It isn't mounds of soil with plants on top. It is just PLANTS! This open wetland community is dominated by **Hummock Sedge** (*Carex stricta*). That's the grass-like plant you see there. **Sedge Meadows** are found throughout Wisconsin in areas where soil is saturated with water. These meadows can be near streams or lakeshores or in any location where the water table is near the surface of the soil, and often forms a transition zone between open water and upland habitat.

The Hummock Sedge has a large matted root system that creates the tussocks or as we say in Wisconsin—hummocks. This species is responsible for the community's lumpy appearance. If you could look down on the sedge meadow from an airplane you would think the hummocks are evenly spaced. They are! This spacing is created by the growing habit of the sedge plant. Sedges grow only in full sunlight, but the plant has a drooping nature that creates much shade. Where the shade ends and the sunlight begins, another sedge plant will grow. This shaded environment, however, provides a place for shade loving plants to grow—creating a diverse biological community.

10. Bridge in the woods.

This stream rises and falls as water levels rise and fall. **What makes the water rise and fall?** Rain, snow melting, drought.

The hill behind you is a moraine. **What made morraines on the landscape**? The glacier.

John Muir used to ride his pony Jack up and down these morraines.

What tribes of Indians used to live in this area? Menominee, Fox, and Ho Chunk Indians all once lived here, but Ho-Chunk, once called Winnebago, were living here when the Muirs came here.

11. **Under the oaks** Pick up some acorns if you find them. Look for different kinds of acorns.

12. Bridge at trail head

Look for shiny/white deposit on stream bottom. That's **marl** which is broken down shell animals like snails. Farmer's used to dig marl out of lakes and streams like this one and use it to fertilize their fields. They used to dig it here.

Look across the road to the other side. There used to be a small mill on this stream over there where wheat and other grain was ground.

Look for the beaver dam

Why do beavers build dams? Beavers are marvelous animals. They build dams to make the water higher so that the entrances to their lodges stay submersed underwater.