10 Road Block

No, this mound of gravel is not a leftover relic of a glacier. It's often found on roads that are now closed to motorized vehicle traffic. Old forest access trails are closed for a variety of reasons – to minimize damage from motorized vehicles, to limit disturbance to an area, or to limit access to those on foot. This forest road was closed to limit access to private property located to the north. What changes do you see in forest cover since vehicles have not been allowed? Note: Lake County has a policy to keep roads located on public land open for the public's use.

11 Mixed Hardwood/Pine Stand

This stand of Norway ("red") pine trees with pockets of maple and aspen, is actually a winter home for deer and moose. Note the dense canopy and close spacing of the pines. This reduces the amount of snow that accumulates on the ground and helps block the wind. This is called "thermal cover." Such a refuge allows animals to escape harsh winter conditions and thus conserve their energy and body heat.

12 Norway Pine Stand

This stand of Norway ("red") pine was planted by Wiley Fuller, Lake County Forester, in the early 1960s. It was "thinned" in 2004, meaning rows of trees were harvested to allow the remaining trees to grow to a larger diameter.

13 North Shore State Trail

This 143-mile long snowmobile trail running between Duluth and Grand Marais also provides opportunities for hiking, hunting, horseback riding, and access for forest management.

14 Maple/Birch Stand

Notice the poor quality maple and the brush species growing here. This land is better suited to growing white pine and white spruce. However, everything serves a purpose! As these trees become older, they develop cavities in their trunks that become important nesting places for such birds as sapsuckers, woodpeckers, and northern flickers. The birds actually enlarge the cavities. Other species just use them "as is," such as red squirrels, saw-whet owls, tree swallows, chickadees, chimney swifts, and house wrens. In addition to use by birds, other wildlife species use these tree cavities and openings for sources of shelter and food, including mice, pine marten, fisher, fox, wolves and bear.

15 Old Homestead

In the 1930s, Mr. Pepperlin, an early homesteader, had a good idea: he built his house from salvaged timbers from abandoned railroad lines. The property went tax-forfeit in 1949. Today there are approximately 150,000 acres of tax-forfeited land that is being managed by Lake County.

16 Homestead Field

In the early 1900s, most homesteaders pastured their livestock in open areas near their homes. Livestock provided meat and dairy products to supplement vegetables from their gardens. Most homesteaders planted fruit trees. Can you find any of the plum trees at the Pepperlin Homestead?

17 Old Beaver Dam

So, you think the beaver "just" created a dam here at the headwaters of the Little Stewart River? A beaver dam is "much more" than just a beaver dam. By constructing their dams, they create habitat for other water-dependent species. Take a look and a listen: migrating waterfowl stop here in spring and fall to rest and feed; wood ducks and hooded mergansers are summer residents and nest in the cavities of nearby trees; bats are drawn to wooded wetlands to feed on insects; frogs and turtles burrow down to spend their winters in the mud of the pond, and snakes and toads hibernate underground on nearby land. Wait, there's a twist to this story! Beaver often take advantage of human-created structures when deciding where to construct their dams. If you look closely, you will see they used the old railroad grade as the "foundation" for this dam.

18 Old Camp

Look around carefully. Can you find the foundations of the old camp buildings? This small hillside was once alive with the hustle and bustle of the men who called this camp "home." Buildings were constructed to house and feed the workers of the Duluth and Iron Range Railroad. The camp was used intermittently from 1883 to the early 1900s. Norway pine was planted on this site in the 1960s. Can you see the distinctive rows of trees?

19 Buried Trestle

The Alger Line was abandoned in 1923. The trestle under the Drummond Grade (the rail line running from Two Harbors to Drummond) was filled in with gravel; this remains in place today. In "its day," the Alger Line ran northeast into Cook County, with many miles of spur lines providing access to thousands of acres of timber.

20 Working Face of Borrow Pit

The 30- to 40-foot tall bank to the north was the "working face" of the gravel pit. The excavated gravel was used in the construction of railroad lines by placing it under the tracks as "ballast" which provided good drainage and increased the load bearing strength of the underlying soils. Without a strong base of ballast to support the heavily loaded trains, the tracks would have been squished right into the ground. Interestingly, the gravel at this location was deposited by glaciers thousands of years ago.

21 Pine Cousins

Can you tell the difference between Norway pine and white pine? Look at the two marked trees behind the sign. Hint #1: The Norway ("red") pine has needles in groups of two; the white pine has slender needles in groups of five. How many letters are in the word "white?" Hint #2: Mature Norway pine has bark that is slightly reddish in color and is relatively flat, forming plates; the bark of mature white pine is grayish with deep furrows, giving it a rougher texture. Hint #3: Check the ground for cones. The cones of Norway pine are shorter (2 to 4 inches) with scales that stick out; the cones of white pine are longer (3 to 10 inches), narrower, and with flatter, thinner scales. Now, which one is the Norway pine?

22 Inventory Plot

Lake County Forestry is a Forest Stewardship Council third party certified land management organization with over 150,000 acres to manage. Its management plan states that 10% of the commercial forestland is to be inventoried annually. This plot is one of many inventory plots that foresters visit every 10 years to record information such as tree species, diameter, and height; as well as forest conditions impacting tree growth such as insect, animal, and weather damage. This information is used to monitor and sustainably manage the land base.

23 Lowland Ash

Black ash (Fraxinus nigra) is known as the wetland hardwood due to its predominance on wetland sites or bordering streams and drainages. Lake County Forestry has just under 6000 acres of black ash covertype. It is prized for wood flooring and cabinets, and used for firewood, pulp and basket weaving. The beautiful grain patterns and natural dark staining are the two properties that make it unique amongst the hardwoods.

This project was funded in part by the Coastal Zone Management Act, by NOAA's Office of Ocean and Coastal Resource Management, in conjunction with Minnesota's Lake Superior Coastal Program. April 2008

Woodland Hiking Tour

Donald D. Ferguson

Lake County Demonstration Forest

We invite you to step into the Donald D. Ferguson Demonstration Forest. The 400 forested acres of this woodland are a melding of the past and the present.

In the late 1800s, two railroads - the Duluth and Iron Range and the Duluth and Northern Minnesota - hauled their loads of ore and timber from this land.

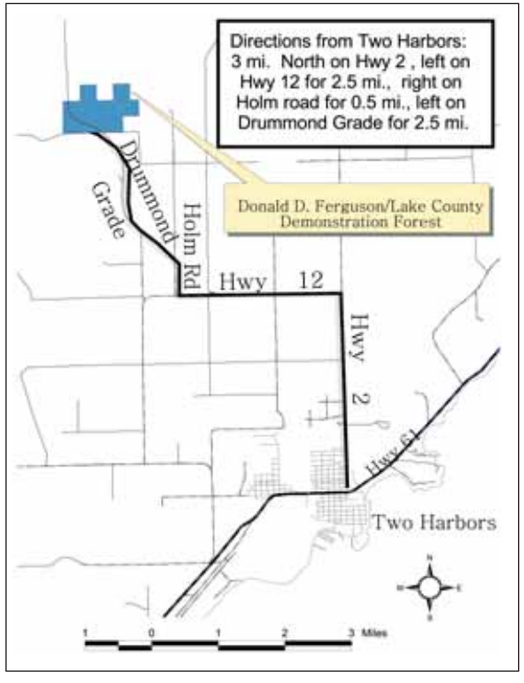
Now, in the 21st century, these multiple use forest lands are valued for wood fiber and lumber; habitat for wildlife; and for cultural, aesthetic, and recreational values they provide to the citizens of Minnesota and visitors to the area.

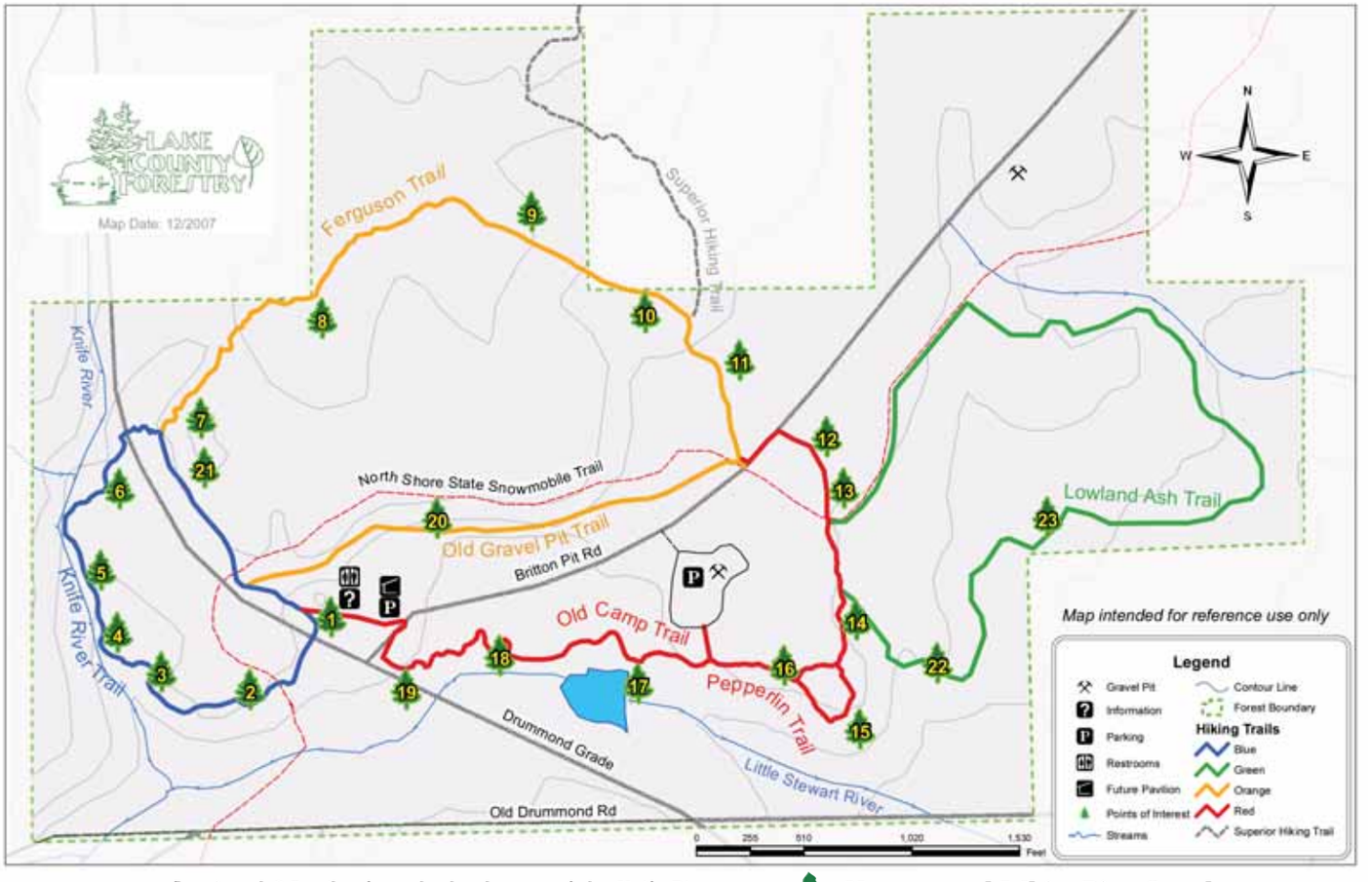
Turn the page; take a walk through time, and through the forest.

2008

Donald D. Ferguson / Lake County Demonstration Forest

Section 4 – Twp 53N – Rng 11
Lake County, Minnesota





Points of Interest

1 Borrow Pit
Although now covered with mature white pine and Norway pine, this immediate area was the hub of a working gravel pit in the late 1800's. Empty railroad cars would be loaded with gravel along the working face by a steam shovel. As gravel was used up, new tracks were simply constructed closer to the working face to be within the reach of the steam shovel. As you look into the woods to the north and east, can you see where some of the old railroad tracks used to be?

2 Wildlife Openings
This "opening" in the forest has many benefits – for trees and wildlife. Grasses and forbs green up early in the spring and provide highly nutritional food for deer. Grouse forage in these openings for insects and berries, and bats concentrate here on summer evenings to hunt for insects.

3 Isolated Wetland
This secluded wetland is what we call a "kettle morraine." During glacial times, a large ice block melted here and created a large basin in the landscape. This wetland is home to many types of wildlife and contains many bog plants, such as labrador tea and leatherleaf.

4 Knife River
At this point, you are 22 river miles from Lake Superior (as the stream flows) and 3.5 miles from the headwaters of the Knife River. Forests growing along rivers are special places – and require special care. These forests act as "filters" to keep sediment and pollutants from getting into the river. They also keep streams shaded and thus cool (an important habitat requirement for trout -who need cool water to survive). Trees that fall into the stream provide critical habitat for both fish and the aquatic insects fish like to eat. Timber harvest activities are limited near streams in order to protect these habitat and water quality functions which the forest buffers provide. Recommended stream buffers vary with stream size. This site requires a 150-250 foot buffer depending on the steepness of the slope. These forest buffers along streams also serve as travel corridors for wildlife.

5 Old Road
Look to the east. Do you see what appears to be an old road bed? Imagine how it might have been used. Originally, this might have been a short term railroad spur for timber. Later, it may have been used as the "driveway" to a homestead.

6 Forested Wetland
This is a flood plain wetland. It is often under water in the spring and after heavy rains. It contains trees that tolerate wet conditions such as elm and black ash. The flood plain helps to soak up excess water from the surrounding area and minimize flooding downstream.

7 Norway and White Pine Stand
This is a "mixed stand" of trees, with spruce, balsam fir, and red maple growing among the Norway and white pine. This forest stand was "thinned" in 2004. Individual trees were selectively harvested for timber, to increase the health of the forest, to allow the remaining trees to have less competition for sunlight and water, and to reduce the danger of fire.

8 Legal Section Corner
"Corners" are a very important detail in all land management activities and are protected by federal law. They define the legal boundaries of parcels of land. Interestingly, the metal sign on the tree near the legally certified corner pipe is inscribed with the initials of Donald D. Ferguson – a common practice among surveyors and foresters who located corners.

9 Aspen Stand
Aspen! Once considered a "weed tree," it has become the Cinderella of tree species! In addition to serving as a resource for the pulp, paper, and building industries, aspen is beneficial to wildlife in many ways. For ruffed grouse, aspen buds are an important winter food source and the dense growth of young trees provides protection from avian predators, such as goshawks. Deer and moose also feed on young aspen.

continued on back panel