

Birds

American Crow
American Gold Finch
Indigo Bunting
House Wren
Killdeer
Least Flycatcher
Long-eared Owl
Mallard
Mourning Dove
Nashville Warbler
Northern Goshawk
Northern Harrier
Northern Shrike
Ovenbird
Pileated Woodpecker
Pine Grosbeak
Purple Finch
Red-breasted Nuthatch
Red-eyed Vireo
Red-headed Woodpecker
Red-tailed Hawk
Brown Creeper
Brown Thrasher
Brown-headed Cowbird
Cardinal
Rose-breasted Grosbeak
Rufous-sided Towhee
Scarlet Tanager
Screech Owl
Short-billed Marsh Wren
Snow Bunting
Snowy Owl
Song Sparrow
Tree Sparrow
Tree Swallow
Turtled Titmouse
Turkey Vulture
Upland Sandpiper
Vesper Sparrow
Whip-poor-will
White-breasted Nuthatch
White-crowned Sparrow
White-throated Sparrow
Wood Duck
Wood Thrush
Yellow Warbler
Yellow-bellied Sapsucker
Yellow-rumped Warbler
House Sparrow
Horned Lark
Henslow's Sparrow
Hairy Woodpecker
Green Heron
Great Horned Owl
Golden-crowned Kinglet
Fox Sparrow
Field Sparrow
Evening Grosbeak
Eastern Wood Pewee
Eastern Phoebe
Northern Spring Peeper
Green Frog
Four-toed Salamander
Blue-spotted Salamander
American Toad
Downy Woodpecker
Dark-eyed Junco
Cooper's Hawk
Common Yellowthroat
Common Snipe
Common Redpoll
Common Nighthawk
Common Grackle
Common Flicker
Chipping Sparrow
Cedar Waxwing
Ruby-crowned Kinglet
Rose-breasted Grosbeak
Red-winged Blackbird
Red-tailed Hawk
Brown Creeper
Bobolink
Blue-winged Teal
Blue Jay
Warbler
Black-throated Green
Black-capped Chickadee
Black-and-white Warbler
Belted Kingfisher
Barred Owl
Bank Swallow
Baltimore Oriole
American Woodcock
American Redstart
American Kestrel
American Gold Finch
American Crow

Mammals

Badger
Beaver
Coyote
Eastern Chipmunk
Eastern Cottontail Rabbit
Eastern Fox Squirrel
Eastern Gray Squirrel
Eastern Mole
Little Brown Bat
Long-tailed Weasel
Masked Shrew
Meadow Vole
Mink
Muskrat
Northern Flying Squirrel
Opossum
Porcupine
Raccoon
Red Fox
Red Squirrel
Short-tailed Shrew
Snowshoe Hare
Star-nosed Mole
Striped Skunk
13-lined Ground Squirrel
White-footed Mouse
Whitetail Deer
Woodchuck
Woodland Jumping Mouse

Trees

American Basswood
American Beech
American Elm
Bitternut Hickory
Black Willow
Eastern Hemlock
Ironwood
Jack Pine
Largetooth Aspen
Musclewood
Paper Birch
Red Maple
Red Oak
Red Pine
Scotch Pine
Silver Maple
Sugar Maple
Tamarack
Trembling Aspen
White Cedar
White Pine

Shrubs

Blackberry
Choke Cherry
Common Elder
Dogwood
Juneberry (Serviceberry)
Michigan Holly (Winterberry)

Fish

American Brook Lamprey
Bluegill
Brook Stickleback
Brook Trout
Brown Trout
Central Mudminnow
Golden Shiner
Green Sunfish
Longnose Dace
Mottled Sculpin
Pumpkinseed
Redside Dace

Reptiles

Painted Turtle
Ring-neck Snake
Northern Red-bellied Snake
Eastern Smooth Green Snake
Eastern Ribbon Snake
Eastern Milk Snake
Eastern Garter Snake
Wood Frog

Amphibians

Flora and fauna at Neithercut Woodland

252 acres. 1 treasure trove of discovery.

Neithercut Woodland has a world of sights and sounds for you to enjoy. Named after William Neithercut, the unspoiled 252-acre natural area is located 30-minutes north of Mount Pleasant on M-115, just west of the US-10 junction.

Come study nature

Providing opportunities for formal and informal nature studies, Neithercut Woodland includes mixed hardwood forests, a stream, and wetland habitats suitable for both aquatic and terrestrial studies. Other major plant communities are mixed hardwood forests of aspen, oak, sugar maple, and white birch, while cedar swamps, a beech-maple climax forest, a cattail marsh, shrub swamps, and an introduced prairie plot are also present.

Experience an outdoor classroom

The College of Science and Technology makes Neithercut Woodland available to students and faculty for education and research. We also have a special interest in facilitating access for K-12 students and encourage use by the general public.

The Wakelin McNeel Nature Center, named in honor of a dedicated conservationist who taught at CMU, was completed in the spring of 1973. The

Nature Center can accommodate up to 50 people for various meetings and public programs throughout all four seasons of the year.



Neithercut Woodland provides a treasure trove of opportunities to see wildflowers, plants, and animals in a great variety of habitats. We invite you to come visit, walk slowly, and listen to nature's lesson.

To view additional information about Neithercut Woodland and the Use Guidelines, visit:

<http://neithercut.bio.cmich.edu>

To reserve the lodge, call:

Department of Biology

217 Brooks Hall

Mount Pleasant, MI 48859

(989) 774-3227

<http://neithercut.bio.cmich.edu>

College of Science and Technology

200 ET Building

Mount Pleasant, MI 48859

(989) 774-1870

<http://www.cst.cmich.edu>

While at Neithercut Woodland

If you have an emergency, dial 911.

You are at Neithercut Woodland, 4105 Cadillac Drive, Farwell, MI owned by CMU, located 3 miles north of Farwell on M-115.

For other problems, contact the Biology Department at (989) 774-3227.



Discover nature's treasures.
Come explore today!

CMU
CENTRAL MICHIGAN
UNIVERSITY

CMU, an AA/EO institution, strongly and actively strives to increase diversity within its community (see www.cmich.edu/aaeo).

Hike the trails

Four marked trails accommodate conservation education, environmental interpretation, and outdoor recreation at Neithercut Woodland. All trails return to the Nature Center.

Brookwood Trail

Brookwood Trail is 3/4-mile long and showcases a diversity of habitats, as well as plant and animal life. A 45-minute walk will take you through a climax forest and over Elm Creek. A few of the natural features encountered along the trail are explained in the Trail Guide (see reverse), where each numbered paragraph corresponds to a numbered post along the trail.

Arborvitae Trail

The Arborvitae Trail joins the Brookwood Trail. If you choose to walk the Arborvitae Trail, anticipate a 2-1/2 hour walk through 2.1 miles of scenic forest and forest openings. Much of this trail is marsh and can be quite wet after it rains.

Freedom Trail

The Freedom Trail is a 1/4-mile long blacktop, barrier-free trail. It includes an elevated boardwalk and leads from the parking lot through a marsh to the Nature Center.

Littlefield Trail

The Littlefield Trail is just over 1/2-mile long and circles around a seasonal pond where amphibians breed in the spring. At the height of the mating season, several different frog calls can be heard.

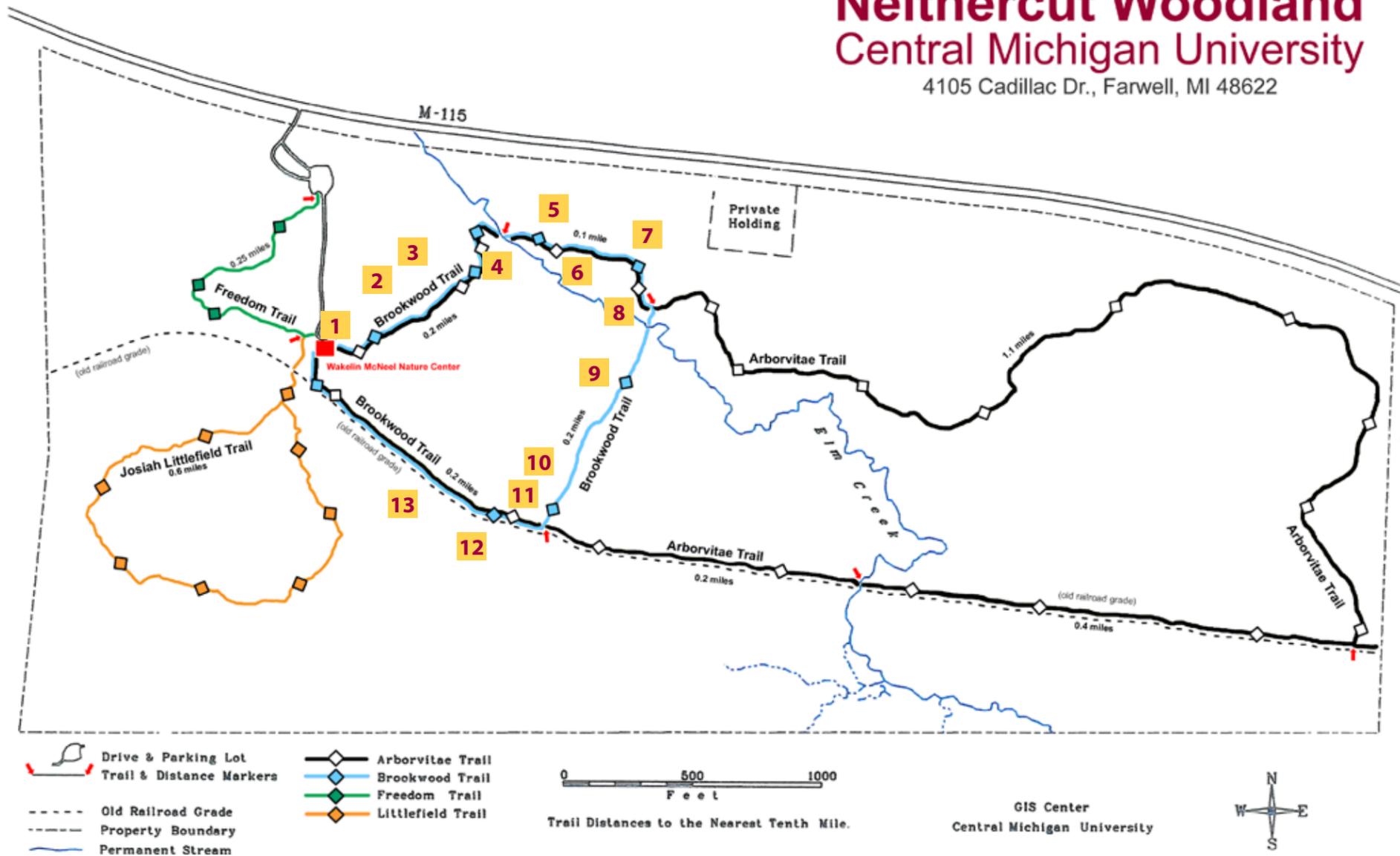
Please remember to take water with you on your hike. Trails are marked by colored diamonds (see map on reverse) and numbers on the trail markers. Remaining on the trail will help preserve the natural and pristine environment for others to enjoy. Plan your stay so that you are finished by dusk, and please leave only footprints behind.

Trail Guide

Neithercut Woodland

Central Michigan University

4105 Cadillac Dr., Farwell, MI 48622



Brookwood Trail Hiking Guide

Come along and experience the mysteries that lie around each bend! Brookwood Trail is 3/4-mile long and showcases a diversity of habitats, as well as plant and animal life. A 45-minute walk takes you past the natural features encountered along the trail, explained below. Each numbered paragraph corresponds to a numbered post along the trail (see map above).

1. Boiling Station

Next to this post are several sugar maple trees, recognized by the oppositely-branched twigs and five-lobed leaves. The ritual of syrup making was first practiced by the American Indians during a festive time in the spring that resembled a modern-day carnival. The sugar content of the tree sap varies from 1% to 10% depending upon the trunk height, crown size, age, and health of the tree. The best sap comes from sugar maple trees when the days are sunny and warm, and the nights are below freezing. A single tap hole during an excellent flow period may produce two to three gallons of sap a day. About 40 to 50 gallons of sap are required to make one gallon of maple syrup.

2. Even-Aged Forest

Notice how straight the trees are. This is due to the competition for sunlight, the only source of energy for the forest and man. As a result of past fires and lumbering, the forest community is very uniform. The white-barked tree to the left is a paper birch and to the right of it is a largetooth aspen. Eventually, both trees will be crowded out of the forest by sugar maples in the competition for sunlight.

3. Glaciation

The soil, structure and terrain were largely determined by the effect of the massive glaciers that covered Michigan over 10,000 years ago. The huge rock, called an erratic, is a telltale sign of the southwesterly movement of the mighty ice sheets, along with the pits in the landscape, the rolling hills and many lakes. Man has only slightly changed the environment in comparison to the glaciers. As you move along the trail, remember you are walking in the footprints of a glacier.

4. Elm Creek

Elm Creek is a spring-fed ecosystem that supports brook trout, brown trout, brook lamprey, mottled sculpins, and several other fish species. The creek is narrow and serves as an important nursery for brook trout that are barely 1 inch long. Further downstream the creek averages seven feet in width and supports "brookies" as big as 12 inches. Notice the logs placed at strategic places in the creek. This is a stream improvement practice that will deflect water and expose gravel for spawning, provide shelter, and increase the dissolved oxygen and food supply (caddisflies, mayflies, and midges) for the fish inhabitants.

5. Climax Forest

From this point to the next bridge, the trail meanders within a complex community of the beech-maple climax forest. The climax forest seldom changes because the young trees cannot grow in their parents' shade and the older trees do not create new conditions that would allow other species to invade the area. Succession - the gradual replacement of one community

5. Climax Forest (continued)

by another until a stable, long-lived climax community develops - is the force that created this unique community. During succession, the development of recognizable stages can be predicted. These stages consist of the colonization of barren areas by pioneer plants (mosses and lichens), followed by weeds (annuals, biennials, and perennials), shrubs (blackberries and cherries), sun-loving trees (aspen, birch, oak, and pine), and finally culminating in the shade tolerant climax forest (beech and maple).

6. Dominants

The dominant trees of the climax forest can be observed around you. The tree near the post with the smooth bark is an American beech. The tree to your left is a sugar maple. Behind you is the eastern hemlock, an evergreen. The pioneers discovered that hemlock needles were very useful in making a vitamin-rich tea. During the winter the presence of a porcupine may be betrayed by hemlock branches which have fallen to the ground. If you see any branches, look closely from the top to the bottom of the surrounding trees. The "quill pig" delights in feeding on the inner bark of trees during the winter, which kills the tree.

7. Being a Detective

Look carefully to your left and notice the dark vertical lines on one side of a limb of the American beech. These lines are caused by water (called stemflow) running down the trunk of the tree. The water has been gathered by the numerous leaves and twigs that form the canopy of the tree. The amount of water entering the soil at the base of a beech during a light rain may be 2 1/2 times that falling in a forest opening nearby. This is ecologically important, since the water allows moisture-demanding plants to colonize the area around the bases of trees.

8. Symbiosis

Plants and animals can interact with one another (symbiosis) in several different ways. The bark of the speckled alder tree near the stream has small holes up and down the trunk that were made by a yellow-bellied sapsucker (one of several kinds of woodpeckers living in this area). Sap flows through the freshly tapped holes, attracting insects which the woodpecker then consumes. This type of interaction between the woodpecker and the alder is termed commensalism - one species benefits while the other is not harmed. The relationship between the insect and the sapsucker is called amensalism, where the insect is definitely harmed by the actions of the bird. In the roots of the same speckled alder are small nodules that contain bacteria. The bacteria fix nitrogen that is essential for proper plant growth. Both the bacteria and the alder benefit - a type of interaction termed mutualism.

9. Vernal Pond

The vernal (or temporary) pond forms after the first thaw and rains. This ecosystem merits close observation. Wood frogs, spring peepers, green frogs, and American toads use the flooded depression to court, mate, deposit their eggs, and live. By mid-summer the water recedes and the activity within the pond nearly stops until water again refills the basin in the spring.

10. The Edge

For the next 100 yards you will be walking along the border of a forest and an old field. Ecologists call this edge where two plant communities meet the ecotone. The ecotone is an excellent area for wildlife since food, water, shelter, and breeding sites are generally more plentiful. One study showed 14 species of birds in the forest interior and 22 on the forest edge. The diversity of plants found along the edge is also greater than within the forest. Observe the rare and protected ground pine or *Lycopodium*.

11. Old Field

Here in the old field, you can already see signs of secondary growth as woody plants begin to recolonize the area. Secondary growth occurs after an area has been disturbed by natural (fire, harsh weather, etc.) or anthropogenic (farming) causes. Small shrubs and trees will grow here first, but eventually larger trees will take their place and what was once a field will soon look like the rest of the forest.

12. Cedar Swamp

Winter is an especially crucial period of survival for all animals. Deer and snowshoe hare often find shelter in a cedar swamp and can avoid the chilling winds and deep snow. The extensive but shallow root system, combined with a very brittle wood, make white-cedar particularly vulnerable to tipping (called windthrow) from strong winds and ice damage. Mosses and liverworts often grow profusely in the wet habitat that is associated with white-cedar. Note the presence of the small spring nearby; it provides the area with a continual source of necessary water.

13. Old Railroad Grade

The last 200 yards of the Brookwood Trail follow an original railroad grade that began about 3/4 mile west of this point. The railroad was built in 1900 by Josiah Littlefield to move the virgin hardwood and hemlock logs cut by early woodsmen. The first lumbering was known to take place in 1892 when white pine was removed from the surrounding area. Take a long moment to visualize the lumbering activities and notice how succession has changed the once used railroad grade back into a narrow trail.