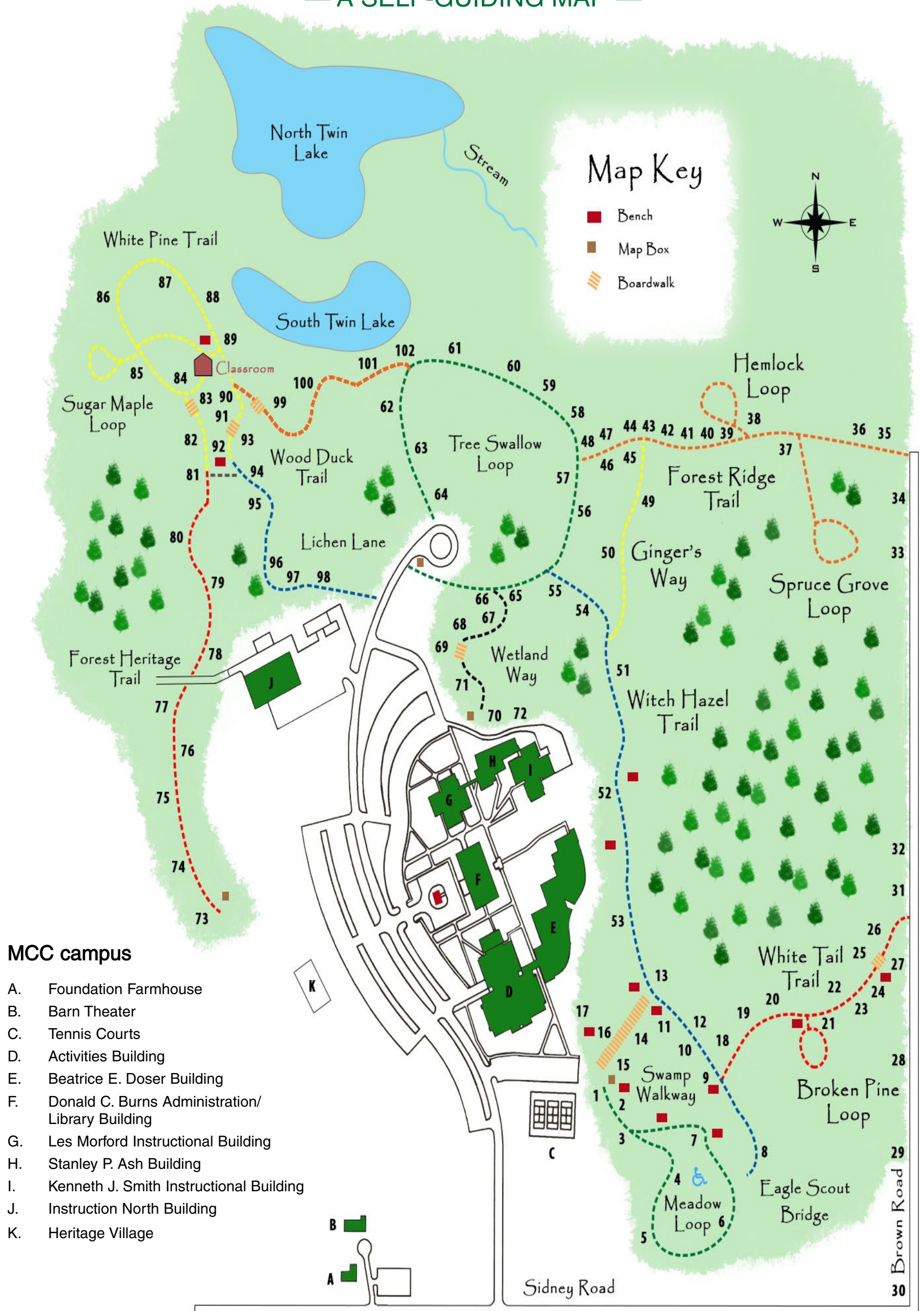




Kenneth J. Lehman Nature Trails

— A SELF-GUIDING MAP —



MCC campus

- A. Foundation Farmhouse
- B. Barn Theater
- C. Tennis Courts
- D. Activities Building
- E. Beatrice E. Doser Building
- F. Donald C. Burns Administration/ Library Building
- G. Les Morford Instructional Building
- H. Stanley P. Ash Building
- I. Kenneth J. Smith Instructional Building
- J. Instruction North Building
- K. Heritage Village

SELF-GUIDING NATURE TRAIL MAP

Welcome to the Kenneth J. Lehman Nature Trail. Using this brochure, you will be able to identify plants, animals, habitats and more, including items that illustrated the history of the area. More than three miles of trails are maintained for your enjoyment.

POST 1: WHITE FIR is a conifer (cone-bearing tree) native to the Rocky Mountains.

POST 2: BOXELDER is a maple relative growing in open areas whose leaves are divided into three to five leaflets; SUGAR MAPLE leaves are five-lobed.

POST 3: BUR OAK is easily identified by its “mossy-cupped” acorn; its inner bark is known to have medicinal properties.

POST 4: JACK PINE are scattered throughout the middle of the Meadow Loop to the east. SPOTTED KNAPWEED, an invasive plant with purple flowers, dominates this meadow.

POST 5: EASTERN BLUEBIRD HOUSE is located west of the trail. Walk quietly through the grass and look into the house through the clear side-wall.

POST 6: MILKWEED grows along the east side of the trail, under the BLACK WALNUT trees. On the other side of the trail to the north, is YELLOW OAK.

POST 7: HILL'S OAK TREES grow north of the trail and a PIN OAK specimen grows to the south.

POST 8: RUNNING GROUND-PINE is a type of clubmoss that has needle-like leaves and a branching growth pattern. It is most closely related to ferns.

POST 9: JUNE BERRY occurs in all but the wettest woods and is one of the first trees to flower in spring.

POST 10: BLACKGUM is a shade-tolerant species found in wet areas with a bluish, berry-like fruit and shining red leaves in the fall.

POST 11: WHITE OAK, on the left, is common on drier soils. Mature NORTH-ERN RED OAK, on the right, has rough bark but young trees have smooth bark.

POST 12: WINDTHROW are gaps in the forest canopy created by falling trees; they allow enough sunlight to reach the forest floor to let species grow that cannot survive in the shade – like PARTRIDGE BERRY and WINTERGREEN.

POST 13: WITCH – HAZEL is a small tree with yellow strap-like flowers in the late summer and fall. BRACKEN FERN also prefers this higher, drier location.

POST 14: POISON SUMAC is a tall wetland shrub related to poison ivy; it has white berries and divided leaves. Also common in this area is MICHIGAN HOLLY (or BLACK ALDER), CINNAMON FERN and ROYAL FERN.

POST 15: WETLAND PLANT SPOTTED TOUCH-ME-NOTS are pale orange, spotted, tube-shaped flowers growing on both sides of the boardwalk. CAT-TAILS and SENSITIVE FERN also grow here.

POST 16: RED MAPLE is one of the most common maple species in Michigan. Growing on its trunk is a VIRGINIA CREEPER.

POST 17: PIN OAK is a species native to swampy forests.

POST 18: PAPER BIRCH is also called WHITE BIRCH and is the first to grow in sites where previous trees have been removed by disturbance.

POST 19: WHITE ASH is one of the many ash species vulnerable to attack by the invasive EMERALD ASH BORER.

POST 20: EASTERN WHITE PINE bark is smooth and grey in young trees but rough and wrinkled in mature trees. Its needles are three to four inches long and grow in clusters of five. Eastern chipmunks, voles and mice eat the needles.

POST 21: GROUND PINE is a type of clubmoss (related to ferns and not a moss). The spiral arrangement of branches resembles tiny evergreen trees.

POST 22: RAILROAD BEDS were built to haul logs to sawmills. Large white pines where cut first, then hardwood trees.

POST 23: MUSCLEWOOD is named for the ridges on its trunk but is also called BLUE BEECH for its smooth, dark gray bark; it is common in wetter areas.

POST 24: AMERICAN BEECH trees can be found throughout the trail system. They have smooth gray bark, massive girth and are a shade-tolerant species. It is monoecious with flowers of both sexes on the same tree.

POST 25: BIGTOOTH ASPEN is a large rugged-barked tree that grows only after an opening in the forest appears.

POST 26: VERNAL POND are low areas filled with water that appear in the spring and fade away in the summer. They are important breeding habitat for many invertebrates, frogs and salamanders.

POST 27: BLACK CHERRY, related to orchard cherries, has distinctive blackish bark divided into big flakes.

POST 28: BUR-REED grows in the low swampy area. It is named for the spiked spherical fruit it produces and can grow to a meter or more in height.

POST 29: INTERRUPTED FERNS grow in large clumps on the east side of Brown Road, across from this post.

POST 30: SASSAFRAS trees tower over the intersection of Brown and Sidney Road to the south of the post. Also at this corner is SCOURING RUSH, a green hollow-stemmed horsetail with dark nodes and black tips.

POST 31: GLACIAL GEOLOGY: the hilly terrain on both sides of the road is the results of sand and gravel being deposited as glaciers melted. If you scrape the outside away, you can see different layers of sand.

POST 32: SCOURING RUSH, related to ferns and clubmosses, thrives on dry sand and was used by Native Americans to scrub pots.

POST 33: SCOTCH PINE has distinctive yellow-orange bark at the top of the tree.

POST 34: WHITE OAK tree is an example of the height trees can attain when they aren't crowded by other trees.

POST 35: EASTERN WHITE PINE is one of the tallest trees, reaching heights of 150 feet. It was a very common and valuable species in the pre-settlement forests of this state.

POST 36: RED PINE is named for its reddish, flaking bark. Planted for lumber production, the required thinning has not occurred and crowding has slowed growth.

POST 37: NORWAY SPRUCE TREES were planted at the top of the hill. Pine groves produce dense shade and the acidic pine needles prevent most ground cover from growing.

POST 38: LIVERWORTS, which grow on downed logs where the water table is high enough to keep the wood wet all year, are found at the end of this trail. GOLDTHREAD flowers, MUSCLEWOOD and YELLOW BIRCH can also be seen.

POST 39: EASTERN HEMLOCK is a slow-growing conifer with short needles; it is very common in northern Montcalm County.

POST 40: PILEATED WOODPECKER is the largest woodpecker in our area. It drills holes into trees to reach insects deep in the wood.

POST 41: DEER YARD During the winter, WHITE-TAILED DEER herds stay in the swampy area below where they are sheltered from the wind and eat the twigs and seedlings of trees and shrubs.

POST 42: SASSAFRAS leaves have three different shapes, including the Michigan “mitten.” Its roots were used to flavor root beer.

POST 43: DEN TREE: hollow trees, such as the AMERICAN BEECH at the bottom of the slope, house mammal and bird species such as squirrels, bats and woodpeckers.

POST 44: COMMON TREES: the view includes EASTERN WHITE PINE, PAPER BIRCH, RED MAPLE and AMERICAN BEECH. Note how the last two, partially grown together, have similar bark.

POST 45: YELLOW BIRCH often grows on moist, decaying logs and stumps when the soil is too dry for seedlings to survive.

POST 46: SHAGBARK HICKORY grows well on soils too dry for other species and is easily identified by it strips of long, peeling bark. Its nuts are a favorite food of squirrels and humans.

POST 47: IRONWOOD trees have small nut-like seeds sought by birds such as the EVENING GROSBEAK.

POST 48: WHITE PINE STUMP FENCE: after these trees were cut down, the stumps were removed so the land could be farmed. Extremely decay-resistant, the stumps were used as fences, lasting many decades.

POST 49: SOIL, moisture and climate are three key ingredients to any forest - these factors determine which trees grow where. Soil is the anchor and source of essential nutrients.

POST 50: WHITE-TAILED DEER prefer to browse on MAPLE and YELLOW BIRCH leaves, needles, buds and twig ends of young trees. They will also feed on other tree species as well as ferns and club mosses.

POST 51: LOW SWEET BLUEBERRY is a common shrub most notable for its fruit. Notice the big lightning-struck WHITE PINE nearby.

POST 52: HARDWOODS, known for brilliant fall colors, are found along this trail, including WITCH HAZEL, COTTONWOOD and various OAK and PINE species.

POST 53: TURKEY TAIL is a small shelf-like fungus that grows on decaying trees in this area. WINTERGREEN, an aromatic creeping plant, also grows close to the ground here.

POST 54: BLACK OAK is identifiable by its chunky, blackish bark, growing on dry soils along with NORTHERN RED and WHITE OAKS.

POST 55: POWDERPUFF MOSS is a small, mound-shaped, light green moss that grows on the open trail. Fallen logs near this post are often covered in a GREEN STAIN fungus during the wet seasons.

POST 56: EDGE HABITAT or ecotones are regions where ecosystems change. They are often home to a greater diversity of species.

POST 57: INVASIVE SPECIES are non-native species that have a tendency to spread aggressively and disrupt the local environment. AUTUMN OLIVE is a large invasive shrub that spreads quickly and shades out native plants.

POST 58: SONGBIRDS: this former field is the habitat for many songbirds especially EASTERN BLUEBIRDS who usually build nests in hollow trees but also use houses. TREE SWALLOWS and HOUSE WRENS also use these houses.

POST 59: WOOD DUCKS normally nest in cavities of older trees, about 25 feet above ground (unlike most other ducks). They will use artificial nest boxes, but it will take few years for them establish a regular population.

POST 60: PRAIRIES are an important part of any ecosystem where they occur. They provide key habitats for many species of wildlife, serving as important breeding, feeding, nesting and brood rearing centers.

POST 61: BAT HOUSES: looking west and high up in a tree, you will see a bat house. Currently declining, bats are extremely important as predators of night-flying insects and as consumers of pest species.

POST 62: ELDERBERRY is the tall shrub with large divided leaves growing to the west. It produces many small dark purple fruits that are popular food for birds. SAINT JOHN'S WORT and HOARY VERVAIN also grow here.

POST 63: SAVANNA is an ecosystem primarily dominated by grasses, with a few scattered trees. The dominant grass community includes species such as BIG and LITTLE BLUESTEM, SWITCH GRASS and INDIAN GRASS.

POST 64: WILDFLOWERS of many species are growing near this post, including BLACK-EYED SUSAN, QUEEN ANNE'S LACE, YARROW, SWEET CLOVERS, DAISY FLEABANE and purple CONEFLOWER.

POST 65: SWAMP WHITE OAK is a relative of the WHITE OAK that has a slightly different leaf shape. It grows in both wet and dry areas..

POST 66: RED CEDAR is found west of this sign. It is a slow growing evergreen that rarely surpasses 70 feet in height and is valuable for its light, hardy aromatic wood.

POST 67: PRICKLY ASH typically grows to a height of 15 feet and is often shrub-like. Its stems and branches are thorny and it smells like lemon when crushed.

POST 68: BRAMBLES are any of the prickly shrubs of the rose family (RUBUS), and most often include blackberries and raspberries.

POST 69: POISON IVY is a woody vine with compound leaves; leaves of three, let it be! It causes an itchy rash on some people.

POST 70: WETLANDS are defined as land with the presence of water at a frequency and duration sufficient to support vegetation or aquatic life. This trail was designed to go around the edge of a typical wetland.

POST 71: VIRGINIA CREEPER is a woody vine with palmate leaves (five leaf-lets emerging from a central point). Its small flowers produce a purplish-black berry that is poisonous to humans but popular among birds.

POST 72: CATTAILS require shallow water and anaerobic (no oxygen) conditions to grow. Muskrats and geese feed on the rhizome (underground stem) while ducks and red-winged blackbirds use the plant for cover and nesting sites.

POST 73: AUTUMN OLIVE is the tree-like shrub you see here with the silvery leaves. Its fleshy fruits are relished by birds, which disperse the seeds throughout the countryside. This invasive species often outcompetes native shrubs.

POST 74: SCOTCH PINE, also called Scots pine, is an introduced species in North America. Its principal value in the United States is as a Christmas tree.

POST 75: SUCCESSION is an ecological process defined by the gradual transition of the plant community until a stable or climax community is reached. In Michigan, the climax community is Maple Beech forests.

POST 76: PEPPERMINT grows in the open area near this post, and is easily identified by its square stems; small, purple, lipped flowers; and the minty aroma released when the plant is crushed.

POST 77: COMMON MULLEIN is a biennial plant; a low-growing, basal rosette of soft, fuzzy leaves is produced the first year, while a tall spike of many yellow flowers in produced in the second year.

POST 78: CLAMMY TOMATILLO, growing to the east, is a “fuzzy” relative of the tomato. Its yellow flowers produce a small green berry within a lantern-like structure in late summer.

POST 79: SQUIRRELS, like the Eastern Gray and the Eastern Fox, can be seen climbing the Red, White, Pin and Black Oaks growing in this area.

POST 80: REINDEER MOSS is actually a lichen a symbiotic relationship between a fungus and a green algae. Both green and grey species grow in the sandy open soil southwest of this post.

POST 81: PRICKLY PEAR CACTUS is the only native cactus found in Michigan. They produce a yellow flower in late-mid June.

POST 82: VERNAL POND are temporary pools of water created by melting snow and spring rains. They often dry up during the summer. Look west of the trail.

POST 83: WHITE PINE/MAPLE TWIST: on the south side of the trail, the WHITE PINE and MAPLE that have become entwined. On the north side, there is an interesting white pine that has also merged with another white pine.

POST 84: WHITE PINE BOWL: this low area is completely surrounded by very old, large WHITE PINE trees. This tree can live over 400 years. CHICK-ADEES, NUTHATCHES and WOODPECKERS eat the seeds or live in holes within the trees.

POST 85: SUGAR MAPLE is identified by its five-lobed leaves. A large population is located as you round the backside, or southwest, part of the loop.

POST 86: MUSCLEWOOD trunks have a smooth, rippled, zig zag appearance similar to a well-muscled arm or leg, hence the name. The leaves are similar to the birches.

POST 87: SPINULOSE WOOD FERN has fronds that are triangular to oblong. The stalks are dark with soft spiny-toothed brown scales, especially near the base. The spores and indusium (cover on spores) are found on the veins.

POST 88: FERNS: this wetland area is a great habitat for most ferns; you should be able to find Cinnamon, Royal, Sensitive, Lady, Wood and maybe even Maidenhair ferns.

POST 89: GROUND CEDAR may look like a baby cedar pine tree but it actually belongs to a group of plants called club mosses and is most closely related to ferns (not pine trees).

POST 90: NORTHERN RED OAK leaves average seven to 11 pointed tips with shallow sinuses (the space between the lobes). The Northern Red Oak is known for its brilliant red fall colors and its acorns that feed local wildlife.

POST 91: TULIP TREES are the tallest hardwood tree in eastern North America, reportedly reaching 200 feet in height. Both the leaves and flowers are tulip-shaped; flowers appear in spring or early summer.

POST 92: SKUNK CABBAGE is the wide-leaved plant growing among the ferns in this wet area. It's dark maroon flower is one of the first to appear in the spring. The leaves emerge after the flower and smell like skunk if crushed.

POST 93: WHITE PINE STUMP FENCE: after these trees were cut down, the stumps were removed so the land could be farmed. Extremely decay-resistant, the stumps were used as fences, lasting many decades.

POST 94: BRACKEN FERNS are one the most common species in our area and can be found throughout much of the world. The plant sends up large, triangular fronds and may form dense thickets.

POST 95: TURTLES like to travel from the nearby Twin Lakes to lay their eggs on this sunny hillside. Look for a sandy mound or you might see signs of predation (a dug up hole and curled up white papery pieces – the egg shells).

POST 96: DEWBERRY plants are common throughout Montcalm County. They produce a sweet yet tart edible berry in summer or early fall.

POST 97: BRITISH SOLDIER LICHEN can be seen to the north, on the top of the old fence post. Look for green stalks with red tips. Lichens are composite organisms made of both a fungus and an algae.

POST 98: QUAKING ASPEN trees prefer sunlight and are often found at forest edges. Their fan-shaped leaves “tremble” in the lightest breeze.

POST 99: BEECH TREES are large trees with smooth, gray bark and shiny, green leaves. In the fall, the leaves turn to a light tan color and are held late into the winter if not blown off by the wind.

POST 100: MUSCLEWOOD has a smooth yet rippled trunk, similar to a well-muscled arm or leg. The wood is heavy, hard, strong and durable. Early settlers used it to make bowls and dishes, as this wood is not subject to cracks or leaks.

POST 101: SENSITIVE FERNS are less divided than other ferns and will have a leafy blade-like material coming off the central rachis (stem-like structure within the frond). These ferns typically wither after the first frost.

POST 102: ECOSYSTEMS intersect at this junction of Wood Duck Trail and Tree Swallow Loop. To the north is wetlands, south is a savanna and east or west you can see deciduous forests.