

Opossum

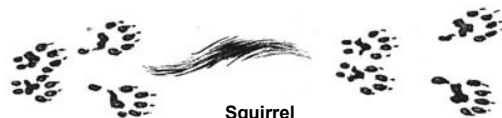


Mouse

TRAIL GUIDE



Weasel



Squirrel

THE CONNIE LINDQUIST TRAIL

This trail has three notably significant natural community occurrences: Open Dune, Interdunal Wetland and Great Lakes Barrens.



Little Bluestem

Guidepost #1: This is an Open Dune community consisting of species which can survive in blowing sands. Noticeable here are eastern cottonwood (*Populus deltoides*), furry willow (*Salix cordata*), red osier dogwood (*Cornus stolonifera*), native dune grasses, Hairy puccoon (*Lithospermum carolinense*) and sand cherry (*Prunus pumila*). To your left, notice the erosion caused by people climbing the fragile dune. Please do not contribute to the erosion by climbing the dunes!

Guidepost #2: The red-stemmed red osier dogwood, which is sometimes known by its Native American name, red willow, exists in large numbers in this area. Here you will notice clumps of the native grass little bluestem (*Schizachyrium scoparium*), which is particularly beautiful during the fall and winter months. The presence of the segmented plant, horsetail (*Equisetum hyemale*), indicates that more moisture is available here as the trail enters an intermittent Interdunal Wetland community.

Guidepost #3: You are standing before an intermittent interdunal pond that provides wet areas supporting rushes (*Juncus spp.*), sedges (*Carex spp.*), and insects and amphibians. You may also observe brook lobelia (*Lobelia kalmii*), horned bladderwort (*Utricularia cornuta*), and nodding ladies'-tresses (*Spiranthes cernua*).



Sassafras

Guidepost #4: This is an interesting area because several plant communities merge here. On your right is the high wooded Kitchel Dune with sassafras (*Sassafras albidum*), red oak (*Quercus rubra*) and eastern hemlock (*Tsuga canadensis*) trees of a dry Mesic Forest. On your left, the jack pines (*Pinus banksiana*) are typical evidence of combined Great Lakes Barrens and Transitional Hardwood communities.



Jack Pine

Guidepost #5: Within this mixed community, two species of juniper are evident along the trail. The upright tree-shaped juiper is red cedar (*Juniperus virginiana*), and the shrub-type juniper is called common (*Juniperus communis*) or ground juniper. Juniper berries have long been used as a flavoring and are also food for wildlife.

Guidepost #6: At this guidepost, you will see a change in forest type. The dry Mesic Forest gives way to a Pine Forest.

Guidepost #7: On both sides of the trail, you will notice pines with needle-tufted branches and trunks. These are pitch pines (*Pinus rigida*), a non-native pine, which may have been planted with another non-native Scotch pine (*Pinus sylvestris*), in 1941 during an effort to stabilize the dunes. This conservation project also included red pine (*Pinus resinosa*) and jack pine, both Michigan natives.



Juniper

Guidepost #8: In this area, you will notice many bent and broken jack pines. Jack pines are fairly short-lived trees. The decaying trunks and branches provide nutrients to the sandy soil and allow other plant

communities to establish themselves.

Guidepost #9: Marram grass (*Ammophila brevifolulata*) is the most important sand stabilizing plant found in the dunes. The ridge in the distance is being reclaimed by this grass which will hold the sand and allow other species to take root.



Red Osier Dogwood

Guidepost #10: Sand cherry is an important dune stabilizing shrub found in the open dune areas of Kitchel-Lindquist-Hartger Dunes. You will notice its graceful black branches semi-reclining, sometimes half buried, on the hillside near this post. Its fragrant white flowers in May are followed by dark purple fruit in summer.

Guidepost #11: Oaks are divided into two groups: red oaks which have leaves with bristle-tipped lobes, and white oaks (*Quercus alba*), which have leaves with rounded lobes. This tree is a red oak which, along with the black oak (*Quercus velutina*), is a member of the red oak group. Oaks often follow pines in the successional process. As organic matter builds up and fertility increases, oaks may be replaced by more shade tolerant American beech (*Fagus grandifolia*) and maple (*Acer spp.*).

Guidepost #12: This sassafras tree, with its distinctive mitten-shaped leaves, has been used to flavor beverages and medicines and is one of the most colorful trees found in the dunes during autumn. Although often rather small and shrubby, several large specimens of sassafras can be found in the preserve.

From this point, you may retrace your steps on the Connie Lindquist Trail, or continue on across the road to the Marjorie Hendricks Trail.

THE MARJORIE HENDRICKS TRAIL

This trail is named for Marjorie Hendricks, whose tireless efforts and expertise made it possible to save these dunes from development in the early 1970s. It meanders through the dunes along the north bank of the Grand River. This part of the Kitchel-Lindquist-Hartger Dunes Preserve contains numerous remnants of early settlements.

Guidepost #1: This trail begins in a flat, sandy area planted with native and non-native conifers. Grand Haven Rotarians purchased and planted these trees in the late 1980s. From here, the trail angles in a southwesterly direction toward the Grand River. Several early settlements were located here on the north shore of the river, and consequently, this area has been disturbed a great deal over the years. Regardless of its history of human habitation, you should be able to find some native plants which may have grown here hundreds of years ago.



Nodding Ladies'-tresses

Plants to look for along the trail are:

- Eastern cottonwood trees were called "rustling trees" by Native Americans who were the original settlers of this area. They are one of the first trees to be able to survive in the sandy, dry soil of

the dunes, and they help to stabilize the dunes.

- Hairy puccoon bloom in midsummer. Look for bouquets of bright yellow flowers held upright in dry sand.
- Baltic rush (*Juncus balticus*), with round stems, extends its growth in a straight line. It looks as if someone placed a ruler on the ground to show it where to pop up through the soil.
- Little bluestem grass grows in clumps and blooms in the late summer. It is one of the most beautiful native grasses.
- Blue-eyed-grass (*Sisyrinchium angustifolium*) has a bright blue flower atop each stem. Look for the flowers in late June in moist areas.
- Nodding ladies'-tresses, a member of the orchid family, is found in late summer. Look for tiny white orchid flowers on a slender stem.



Eastern Cottonwood

Guidepost #2: Wildlife appreciates this open area with its adjacent cover. Look for various tracks as you walk toward the shore of the Grand River, and don't be surprised by an occasional family of Wild Turkey heading for shrubbery when they see you!

Guidepost #3: This deep bay in the river has been formed in the last 20 years by waves eroding the shoreline. Each year, the Preserve loses more sand due to natural current and heavy boat traffic on the river. The pleasure boats and freighters generate waves which rebound on rip rap downstream and on the concrete seawalls on the opposite shore. The pilings you see in the river remain from use many years ago as part of fishing boat docks. Next, the trail crosses the right-of-way for a city water pipeline which serves the north bank communities. Then the trail continues to meander, roughly paralleling the Grand River and skirting several small wetlands.



Blue-eye Grass

Guidepost #4: This area is several hundred feet west of where the depot of the Detroit, Grand Haven, & Milwaukee Railroad was located in the mid-nineteenth century. The depot was moved to the other side of the river about 1871, but fishing shanties and cottages remained here for many years. As the level and course of the river fluctuates, remains of the former settlement occasionally become visible. Notice the plaque beside the trail that displays historical information.

Guidepost #5: Bluffs overlook the Grand River. Looking back, one may see the heavily wooded Kitchel Dune to the northwest, and to the north is Dewey Hill, the location of Grand Haven's Musical Fountain. Ahead are two boardwalk pathways which lead you down to the river shore. When the trail continues, it begins to loop back toward the beginning, passing through open dunes, wetlands, and wooded areas.

Guidepost #6: Stop and rest on the wildlife viewing deck built in 1993 as an Eagle Scout project by local scout Marty Neidlinger.

Guidepost #7: Here you have a choice of going back to take another look at the Grand River or walking a short distance to the parking area and across the road to the Connie Lindquist Trail.

THE HAROLD V. HARTGER TRAIL

This trail was created in 2007 as an Eagle Scout project by Steven Trier of Troop 37, and sponsored by Spring Lake Presbyterian Church.

Please notice that much of this trail is not defined by a path which could damage the special plant communities here, but rather by clearly visible trail markers. We expect that you will enjoy the unique vegetation to be found along this trail by stepping between the individual plants.



Puccoon

You can recognize these presently dry wetlands by the distinct difference in vegetation. Interdunal Wetlands are dominated by grasses, sedges, and rushes. When moist, these wetlands are often surrounded by shrubs and young trees, and offer a wide diversity of wildflowers.

Many animals travel through here which makes this part of the trail an especially good place to look for footprints and to try to identify these visitors. You may also notice the perfectly round wolf spider (*Hogna aspersa*) holes in the sand.



Sand Cherry

After some distance, the trail leads up a dune to the top of a dune ridge. This is the highest point on the trail and offers a view of the western portion of the Preserve.

After descending the stairway, the trail crosses more open dunes and continues north through Great Lakes Barrens, notable for jack pine, northern white cedar (*Thuja occidentalis*), eastern red cedar, and cottonwood, hairy puccoon, and false heather (*Hudsonia tomentosa*). Again, please notice the many tracks of birds and mammals.

Next the trail turns east, entering an area of planted pines, and follows an old logging trail through the trees. After enjoying the protection of the shade and listening to songs of the many birds here, the trail crosses a small Interdunal Wetland and joins the Connie Lindquist Trail.

At this point, you have two options. You can turn right (southwest) on the Connie Lindquist Trail which will return you to the Outdoor Classroom and parking area. Or you can go left (northeast) on the Connie Lindquist Trail which will take you to its end. At that point, you can either retrace your steps or continue across the drive on to the Marjorie Hendricks Trail, which is a loop trail that leads to the Grand River.



False Heather



White-tailed Deer



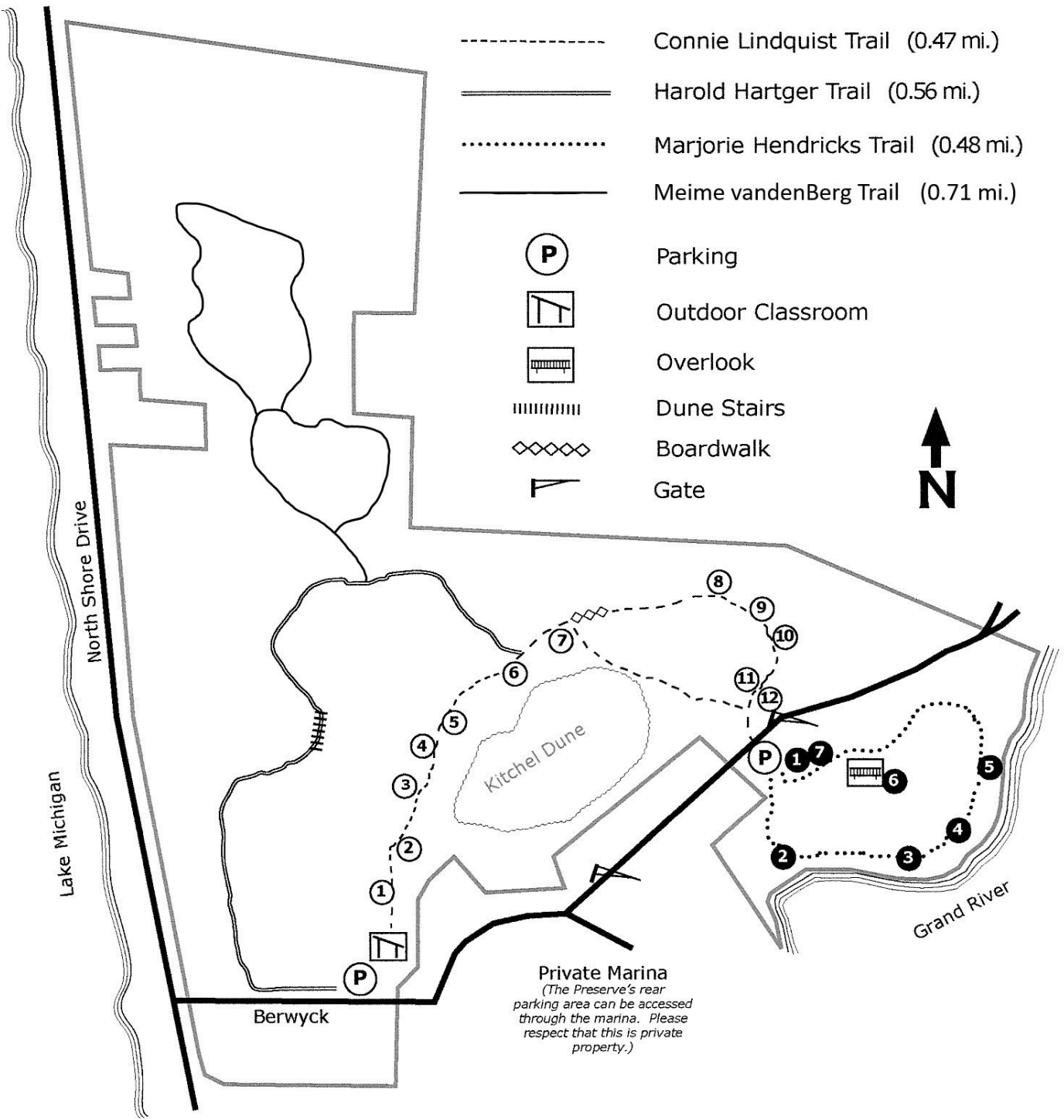
Raccoon



Short-tailed Shrew



Skunk



A Brief History of the Preserve

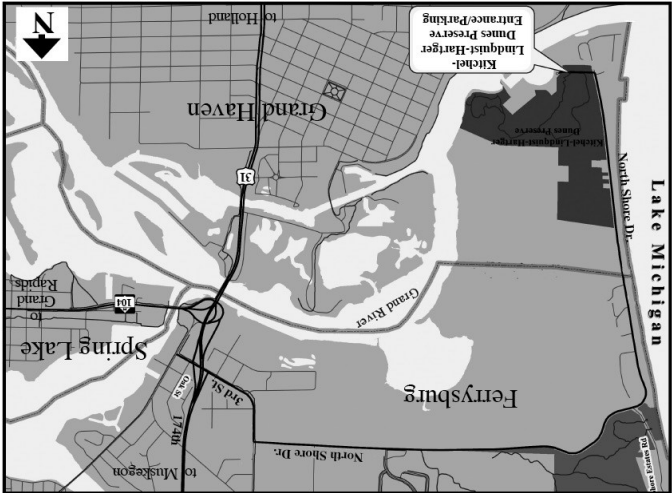
- 1971: Constance and Gerald Lindquist along with Harold Hartger donated 60 acres of Lake Michigan sand dunes on Grand Haven's north shore to The Nature Conservancy for scientific and educational purposes.
 - 1974: Grand Haven voters overturned the zoning change necessary for a subdivision planned for 52 acres of dunes adjacent to the original property. With help from The Nature Conservancy, a local environmental group purchased the dunes from the developers and named the property Kitchel Dunes in honor of the late Dr. John H. Kitchel, a local physician and conservationist.
 - 1980: The Connie Lindquist Trail was designed and built with help from The Nature Conservancy.
 - 1989: A Michigan Natural Resources Trust Fund Grant allowed the City of Ferrysburg to acquire the Kitchel Dunes. The Kitchel Dunes and the Lindquist Dunes were combined to form the Kitchel-Lindquist Dunes Preserve. The grant required that the Preserve be kept in its natural state in perpetuity. Later that same year, Governor James J. Blanchard signed the Michigan Sand Dune Protection Act into law in a ceremony at the Preserve.
 - 1994: In September, the Berwyck Street parking lot was built with local contributions and a DNR Coastal Zone Management Grant.
 - 1998: A North Bank Communities Fund grant enabled the Preserve Committee to train docents for a program that now brings hundreds of students to the Preserve to study dune ecology.
 - 2000: The Marjorie Hendricks Trail was built and dedicated. Also, Mrs. Marjorie McInerney donated three adjacent lots to the Preserve.
 - 2001-02: Dr. Mary Kitchel donated a major portion of the funds to build a restroom and shelter. Along with local donations, the Dr. Mary S. Kitchel Outdoor Classroom was completed and dedicated on September 22, 2002.
 - 2005: Bill Martinus published a Natural Features Inventory of the Dunes Preserve. He also later published an inventory of Bryophytes and lichens. (Copies of both of these studies are available at Ferrysburg City Hall.)
 - 2007: The Harold V. Hartger Trail was designed and built as an Eagle Scout project. The cost of materials was underwritten by the newly established Marjorie M. Hendricks Environmental Education Fund.
 - 2012: The Mary "Meime" vandenBerg Fund was established at the Grand Haven Area Community Foundation to provide annual funds for the Preserve.
- Acknowledgements:**
- M. M. Hendricks, 1975, Ecological Reconnaissance of the Grand Haven North Shore Dunes.
 - Urban & Environmental Studies Institute, 1977, Kitchel Dune Feasibility Study, GVSU.
 - Additional botanical information, Sylvia Birchhead.
 - Dune illustration from a larger work by Frits Hendervanger, 1974. Used with permission of the artist.
 - Bill Martinus, 2005, Natural Features Inventory, and 2009, Bryophytes and Lichens.
 - Trail construction and structures were made possible with local volunteers.
 - Trail guide revised by Richard Marrison and Jan Beukema, 2013



Kitchel-Lindquist-Hartger Dunes Preserve

Grand Haven, Michigan

Trail Guide and Information



The GPS location of the Kitchel-Lindquist-Hartger Dunes Preserve is: 20001 Berwyck St. on Grand Haven's north shore.

The Kitchel-Lindquist-Hartger Dunes Preserve is owned by the

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