

KLH Dune Natural Communities

The Preserve encompasses six ecological communities, as denoted on the trail map.

Open Dunes are the largest natural community in the Preserve. On the west side of the Preserve is a foredune, a linear ridge parallel to Lake Michigan. This foredune is subject to the first strong onshore winds, which in this case are buffered by the row of houses along the lakefront. This community is constantly changing as the result of wind blown sand. Grasses first stabilize the dunes, followed by other plants adapted to survive this harsh environment. Common native plants are Marram Grass, Sand Reed, Switch Grass and Little Bluestem. One easily noted native wildflower is the yellow-orange flowered Hairy Puccoon. Harder to spot is the threatened Pitcher's Thistle. Common shrubs are the Common Juniper, Blueleaf Willow, Furry Willow and Sand Cherry. Few native trees other than Cottonwood are able to survive these harsh conditions.

Interdunal Wetlands are open wetlands situated in wind formed depressions as part of a "dune and swale complex" often located parallel to large freshwater lake shorelines. Water levels fluctuate both seasonally and year to year. Dominating plants are sedges, grasses and rushes. Maturing swales are often surrounded by shrubs of various species such as willow. The wetlands are also home to many native wildflowers and amphibians.

Great Lakes Barrens are savannas of scattered conifers on recently formed small dunes. They occur along the shores of the Great Lakes. The dominant native conifers are Jack Pine, White Pine, Northern White Cedar and Eastern Red Cedar, along with many native and non-native shrubs. This community provides good nesting habitat for many birds, and frequent deadfall of the short-lived Jack Pine

provides cover for wildlife, such as the Blue Racer snake.

Dry-Mesic Forest (Wooded High Dunes) represents a forest community that is nearing maturity and is dominated by Red Oak, Sassafras, and Hemlock. Choke Cherry and Witch-Hazel dominate the midstory. Native shrubs such as Red-osier Dogwood, Maple-leaved Viburnum and Canada Yew are present; Canada Yew being severely reduced by deer browsing. Once abundant ephemeral spring flowers occur less often due to deer overgrazing.

Transitional Forest is a successional plant community changing from open dunes to hardwood forest, now dominated by Red Oak.

Pine Plantation is not a natural plant community. Native pines (Red Pine and White Pine) and non-native pines (Scotch Pines and Pitch Pines) were planted in the 1940's to stabilize the dune. The dense canopy prevents a native understory from establishing, and the Scotch Pine is spreading to other parts of the preserve.

Threats to the Health of the Preserve

Erosion: Dune ecosystems are naturally unstable and susceptible to erosion by wind and rain. Plants such as marram grass help stabilize the sands, but cannot stand up to foot traffic from people and animals. When exploring the dunes, it is important to stay on marked trails in order to minimize damage to fragile plant materials. Shoreline erosion is occurring along the Grand River shoreline as a result of wave action exacerbated by hardened shorelines and boat traffic.

Overgrazing by Deer: White Tail Deer are native to Michigan. However, natural predators are no longer present, and deer numbers are exceeding the carrying capacity of the landscape. Deer are overgrazing young trees and plants in the Preserve, resulting in the loss of many native plant species.

Invasive Plants: Invasive plants are not native to this area, and when established, can outcompete native plants. Invasive plants do not support native birds and insects and the ecosystem suffers. Many invasive plants escape from our home gardens; seeds are spread by wind and wildlife. The Preserve is working to eliminate these plants and encourage our native plants to flourish. Our most troublesome invasive flowers are Spotted Knapweed, Dalmatian Toadflax, and Canada Thistle. Woody species we are working to eliminate are Japanese Barberry, non-native Honeysuckles, and Oregon Grape, and the Tree of Heaven.

History of the Preserve

In 1971, Constance and Gerald Lindquist, along with Harold Hartger, donated 60 acres of Lake Michigan sand dunes to the Nature Conservancy for preservation. Then, in 1974, a zoning change was overturned by Grand Haven voters which prevented a subdivision planned on the adjacent property. That property was then purchased by the Nature Conservancy and a local environmental group. In 1989 the City of Ferrysburg purchased the properties through a Michigan Natural Resources Trust Fund, with the requirement the property be kept in its natural state in perpetuity. The Preserve is currently managed by the City of Ferrysburg and a volunteer advisory board of citizens. Funds for management are provided by the VandenBerg Fund established in 2012, and private donations.

For more information about the dunes, visit

www.klhdunespreserve.org