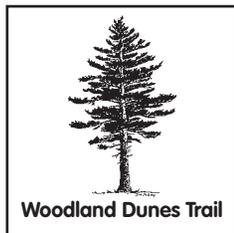


## Appendix D

### Woodland Dunes Trail Labels



This unique sand dune forest is sandwiched between the Black River and Lake Michigan. Why do so many different kinds of trees grow here? What are the names and uses of these trees? What kinds of animals live here? Hike this one-mile loop trail to find out the answers. Watch for this emblem to help you identify the trees.

You can help maintain the beauty of this trail.

- Take nothing but photographs and leave nothing but footprints.
- Stay on the marked trail.
- Keep pets and bicycles off the trail. They are not permitted.

### Why So Many Different Trees?

**Tension Zone**—The tension zone is the transition area between southern and northern forests. That's why you'll see both northern forest trees such as white pine and yellow birch, as well as southern forest trees such as ash and oaks, as you hike this trail.

**Lake Michigan**—Lake Michigan moderates the temperature to create a mini-climate of cooler summers and warmer winters than can be found elsewhere in Wisconsin. Some trees, like beech, thrive in this cool climate. Red pine and balsam poplar prefer sandy soils and thrive on this former sand dune. Other trees, such as cottonwood and red maple prefer fertile soils, but they grow here because the lake provides the moisture and humidity these trees need.

### Cabinet Cherry

**Black cherry** makes beautiful furniture because of its rich, reddish-brown grain. Its widespread use in the manufacture of cabinets has led to its designation as "cabinet cherry."

In Wisconsin, few cherry trees reach their full height of 60 feet because the state sits at the northwestern edge of the tree's range. Cherry generally die before reaching merchantable size. The giants you see here are unusually large because cherry thrives in the moderate climate created by Lake Michigan.

Many woodland birds and mammals eat the dark black cherries.

### Smallest of the Maples

**Mountain maple** looks more like a large shrub rather than a tree and rarely surpasses 25 feet in height.

Mountain maple gets its name from the fact that it grows on cool, rocky areas in eastern mountain regions. In Wisconsin, it prefers cool conditions found in the north and along Lake Michigan.

The tree's leaves, stems and colorful bright red fruit are an important food source for deer, rabbits, squirrels, and other wildlife. Farther north, this tree is often called "moose maple" because it is browsed heavily by moose.

### Minty Fragrant Twigs

**Yellow birch** has shiny gold or gray-colored bark that peels off in narrow ribbons.

Next to white pine, yellow birch is one of the tallest and longest-lived of northern trees. It can reach over 100 feet and live up to 300 years. Its lumber is very valuable for making veneer and fine furniture.

Years ago, its oil was used extensively to make candy and chewing gum. Yellow birch twigs smell like wintergreen when broken.

### Seeing Red

Almost everything about the **red maple** is red. Winter buds and spring flowers are brilliant red. Winged seeds and wood are tinged with red and its leaves turn blazing scarlet in fall.

Red maple is used for veneer, flooring and furniture manufacturing. It's also tapped to make maple syrup, but its sap is not as sweet as the sugar maple's. White-tailed deer browse on red maple leaves, while woodland mice and birds eat the seeds.

Red maple prefer moist, rich soils but they tolerate the sandy soils here because Lake Michigan provides plenty of available water in the soil and keeps humidity levels high.





## Wisconsin's State Tree

In autumn, **sugar maple** leaves turn a striking golden-yellow color that lights up the forest.

In 1893, Wisconsin's school children elected the sugar maple as our state tree. This long-lived tree can reach 400 years of age. Maple wood is prized for use in furniture making, veneer, flooring and as firewood. In late winter, sugar maples are tapped to collect their sweet, sugary sap. Almost 40 gallons of sap must be boiled down to produce one gallon of syrup.

Sugar maple prefer moist, rich soils but they tolerate the sandy soils here because Lake Michigan provides plenty of available water in the soil and keeps humidity levels high.

## The King

Once the undisputed "King" of Wisconsin's tall timber, the **white pine** is still the trademark of the northern forest. Although the state's vast pine forests were cut down during the lumber boom of the late 1800s, many second growth trees like the ones along this trail have grown to a majestic size.

White pine thrive in sandy soils and a cool climate. The sand dunes and air-conditioning effect of Lake Michigan allow white pine to grow naturally here.



## The Halloween Tree

In October, when all other forest trees have dropped their leaves, **witch hazel** magically springs to life. Bright yellow flowers bloom along its bare branches and seed capsules begin to develop. When mature, these capsules burst open throwing shiny black seeds several feet from the parent tree.

Forked witch hazel branches were once used as divining rods to locate water and mineral deposits by early settlers. Extract from the tree is still used today and can be found in shaving cream, hair products and lotions.

Witch hazel prefers rich soils, but can tolerate sandy soils found here in the park because there is plenty of water available in the soils.



## Fast Grower

**Green ash** is named for the color of its young twigs, but you'd be hard pressed to distinguish this tree from Wisconsin's other ash trees—white and black ash—using this method. That's because ash trees look nearly identical. Better to note where they grow.

In southern Wisconsin, green ash grows in swamps and along riverbanks, and white ash grows in well-drained, fertile woodlands. In northern Wisconsin, black ash grows in swamps, though green ash is found in the north as well.

Green ash tolerates sandy soils found here because of the moisture available.

## A Valuable Tree

Gray squirrels relish its tasty, large nuts. The nuts are high in protein and rich in potassium, iron and phosphorus. Look for them on the ground in autumn.

By 1900, nearly all **black walnuts** were cut to make room for agricultural fields, and for its beautiful purplish-brown wood. Today, black walnut wood is rare and very valuable. It is used primarily for veneer, furniture, gunstocks and specialty products.

Walnut prefers rich, organic soils of southern Wisconsin, but there is plenty of water here for this tree to thrive in these sandy soils.

## Northwoods Newcomer

**Red oak** is believed to have expanded its range from the south following the retreat of the great ice sheets some 13,000 years ago. Today, red oak is the most widespread and fastest growing oak in Wisconsin.

The red oaks you see are stunted because of poor soils. They have shorter trunks and a shrubby appearance. Its large, but somewhat bitter acorns are relished by deer, turkey, chipmunks and squirrels. The hollows and cavities found in older oaks make dens for many birds and mammals.





### A Fast Grower

**Cottonwood** grows an average of 3 feet a year, making it one of the fastest growing trees. Cottonwood is named after the white, fluffy down that forms on its catkins. This is the “cotton” that carries the tiny seeds away on spring breezes to new growing areas.

Cottonwood is valued for palette and wood box construction. Deer, mice, rabbits, muskrats and woodchucks eat young cottonwood sprouts.

Cottonwood usually grows near rivers and lakes in southern Wisconsin.

### Tall and Straight

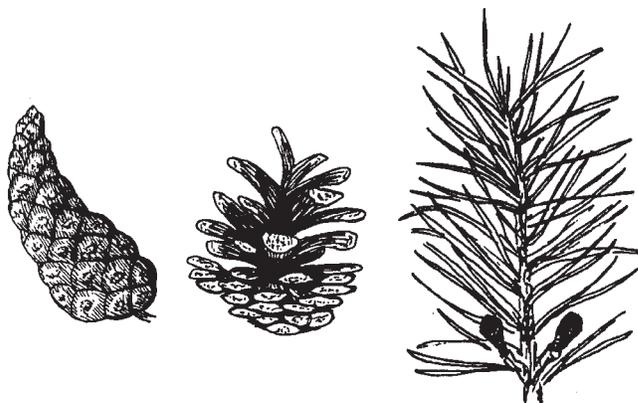
**Red pine** you see here were planted in the 1930s as a conservation measure to prevent erosion of the sand dunes. In the 1800s, these tall, straight trees were used to create masts for Lake Michigan sailing ships. Today, the wood is mostly used for lumber, pilings and as pulpwood. Red squirrels enjoy eating the tiny seeds of the red pine hidden in the pine cones you see scattered on the ground.

### Fire Pine

Notice the small, resin-sealed cones in the branches above you. **Jack pine** release their seeds only when extreme heat, such as a forest fire, breaks the resin bond and permits them to open.

Jack pine makes poor lumber but is prized for pulpwood, posts and poles. Wildlife, like the pine warbler, prefer jack pine forests to make their home, and red squirrels enjoy eating the seeds within its tightly sealed cones.

These jack pine appear unkempt because of their dead lower branches which died because of lack of light. Since jack pine prefer sandy soils, they are right at home on the sand dunes.



### Canoe Tree

**White birch** is named for its distinctive white bark. Native Americans used this durable bark to build canoes, roof their wigwams and create waterproof pots and utensils for cooking. Today, white birch is harvested mostly as pulp for the paper industry although larger trees produce fine veneer used for home paneling and cabinet work.

White birch seeds and buds are eaten by many different birds and mammals, especially deer and ruffed grouse.

Although typically associated with the northern forest, white birch can be found statewide in woodlots and as an ornamental in backyards.

### Cold Remedy

In spring, **balsam poplar’s** long sticky buds give off a sweet, slightly medicinal smell. Years ago, the buds were collected and heated with oil to create an ointment to relieve congestion. This ointment is often called Balm of Gilead.

Balsam poplar is found in lowland areas from northern Wisconsin all the way to the Arctic slope of Alaska. Here along Lake Michigan it is one of the first trees—a pioneer—to shoreline dunes.



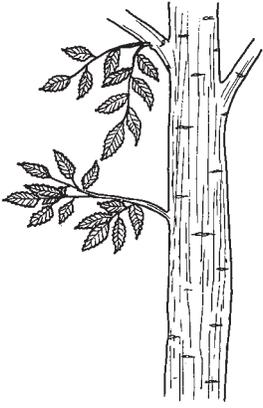
### Early Rope, Fish Nets and Floor Mats

Native Americans used the inner bark of **basswood** to make rope, fish nets and to weave floor mats. Today, woodcarvers value its white, lightweight heartwood.

Mature trees provide hollow trunks for raccoons, squirrels and woodpeckers. In spring, its sweet-scented flowers attract honeybees. In summer, its pea-shaped nutlets are eaten by blue jays, thrushes and other birds.

Basswood grows best on rich soils, but a few hardy trees tolerate sandy soils here because water is readily available.





### Smooth Grey Bark

**Beech trees** have smooth, gray bark and leathery-toothed leaves.

In Wisconsin, beech trees are found only in the eastern counties along Lake Michigan. The lake moderates temperatures and creates a mini-climate of cooler summers and warmer winters that beech prefer. Beech grow into stately trees over 80 feet in height and live up to 300 years old.

Beech are important wildlife trees. The nuts are nutritious food for deer, turkeys, raccoons, squirrels, blue jays and other wildlife. Years ago, passenger pigeons, pioneers and Native Americans relished them as well.

### Forests and You Some Things to Think About

Thanks for hiking Woodland Dunes Trail. We hope you enjoyed learning about the different trees that grow in this sand dune forest. This variety of trees is due to the cooling effect and moisture of Lake Michigan and the forest's location in the tension zone.

This woodland will remain in its natural state for its beauty, uniqueness and wildlife habitat. Other woodlands in Wisconsin will be managed for recreation, aesthetics, and forest products. With wise forest management, Wisconsin's woodlands can meet the needs of people and wildlife for generations to come.

