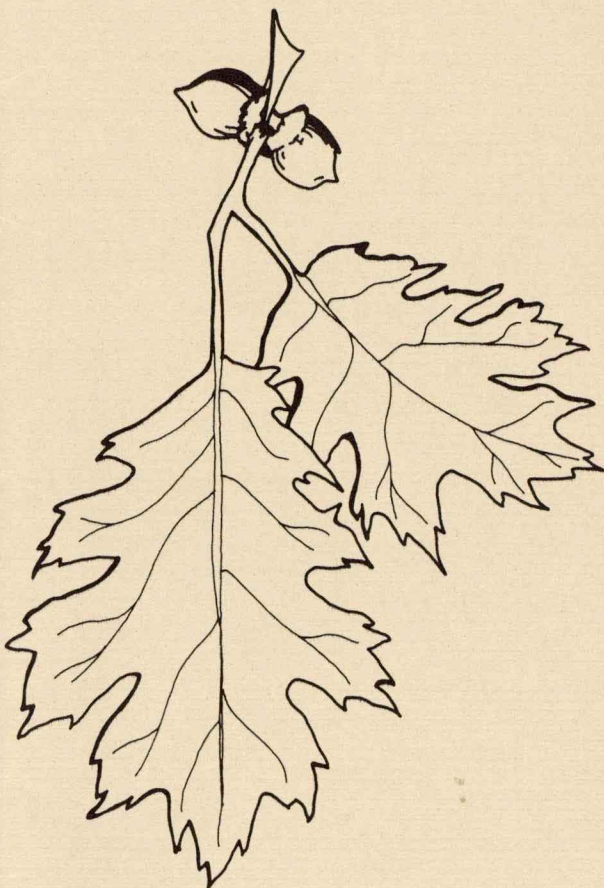


MAR 16 1995

# macbride nature recreation area

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OSPREY NATURE TRAIL

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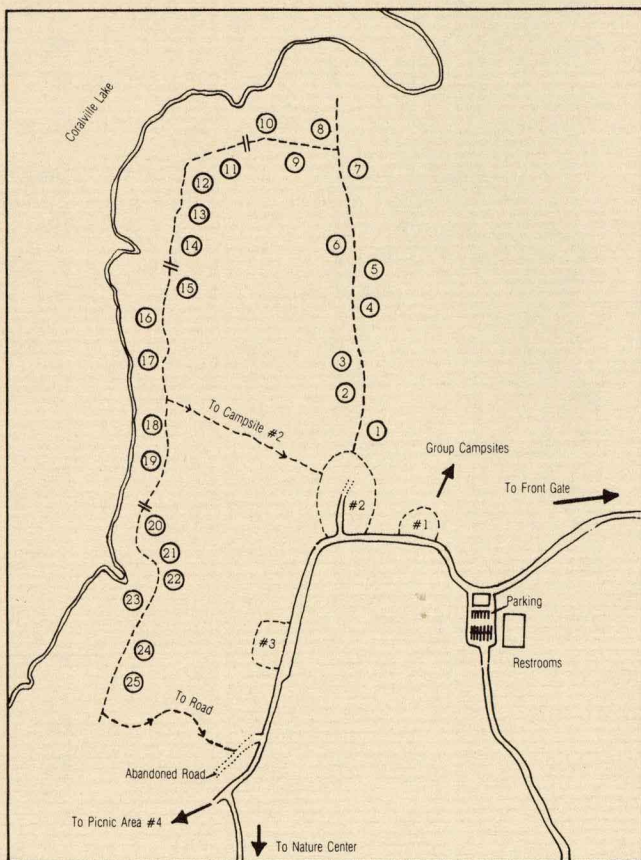
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# Self-Guiding Nature Trail

The nature trail starts at Station 1, about 100 feet north of picnic area 2. There are 26 stations marked along the trail and the numbers on this guide sheet correspond to the numbers on the wooden markers along the trail.

The number and kind of plants you will see depend upon what time of year you walk this trail. For instance, not all of the herbaceous plants will be in flower at once, and some may have died back even by the middle of the summer. However, no matter what season it is, you will find a vast array of plants and animals to observe.

The basic plan for this nature trail was done in 1965 by Al Bohling and Rich Gardner, students in landscape architecture at Iowa State University. Karen L. Schaffer, graduate student in botany at The University of Iowa, did more research, completed the trail, and wrote the text for this guidebook in 1979. Special thanks to Steve Webster of Iowa City for refurbishing the trail in 1987 (Eagle Scout Project).



**1** This is the most important station in the nature trail. Surrounding the post and on the other side of the path are two very common plants which you should know, as one is poisonous while the other is harmless. Poison ivy (*Toxicodendron radicans*) has three leaflets and white fruits which persist into the winter. Usually actual contact with the plant is necessary to produce a reaction; however, it is possible to get it from handling such articles as shoes, pieces of clothing, and so forth, which have crushed the leaves or other parts of the plant. Do not be fooled—while generally growing fairly close to the ground, poison ivy will become vinelike and grow up the sides of trees, fences, buildings, and so forth. Vines of poison ivy that are two to four inches in diameter are not uncommon.

“Leaflets three quickly flee. Berries white (ivory), poisonous sight!”

The other plant, Virginia creeper (*Parthenocissus quinquefolia*), is harmless and a member of the grape family. It has five leaflets and grapelike fruits, and like poison ivy it may grow close to the ground or climb trees, walls, and sides of buildings.

**2** Around the marker, the small slender understory trees with somewhat brownish finely shredding bark and thin finely toothed leaves are the American hop hornbeams (*Ostrya virginiana*). The hop hornbeam commonly occurs in association with white oaks. Because its wood is extremely hard and tough the tree has been called ironwood. The buds are an important winter food for birds such as the bobwhite.

The low, creeping herbaceous plant with eight leaves attached at the same place on the stem is cleavers (*Galium aparine*), a member of the bedstraw family. It has a square stem which is somewhat rough or sticky. The flowers are white, and the fruits are tiny round balls with prickles that stick to your socks. The whole plant may die back in the summer.

**3** The two large trees with light gray bark are old white oaks (*Quercus alba*). The leaves have deep round lobes.

Acorns are produced every year and are an important food source for the gray squirrel. The squirrel also serves an important function in establishing future oak forests because it buries many of the acorns at a time when they must be covered over to survive.

Small seedlings of green ash (*Fraxinus pennsylvanica* var. *lanceolata*) are on either side of the marker. The leaves, which are opposite one

another, have five to seven leaflets. Green ash is a very common understory tree in an oak-hickory woods.

Opposite the marker on the other side of the path is a thicket of thorny shrubs, the common prickly ash (*Zanthoxylum americanum*). Although the leaves somewhat resemble an ash, the shrub is not a true ash. The twigs have sharp paired spines. One of the more interesting fall visitors on the shrub is the caterpillar of the giant swallowtail butterfly (*Papilio cresphontes*), which resembles a piece of bird manure.

**4**The tall trees with light tan or cream-colored bark on the upper trunk are bigtooth aspens (*Populus grandidentata*). The leaves are somewhat circular with large teeth around the edge. The aspen is often among the first trees to come up in cut over, burnt over, and abandoned areas. It grows rapidly but is not shade tolerant and may soon be overgrown by oaks, hickories, and other understory plants which are now young seedlings.

Many white oaks can be observed in the canopy.

**5**To the left of the marker and directly opposite the marker on the other side of the path are five- to six-foot shrubs, the red-stemmed dogwood (*Cornus stolonifera*). As is evident from its name, the young twigs are red in color. As in all dogwoods, the veins in the leaves all curl up toward the tip of the leaf.

Opposite the marker and to the right of the red-stemmed dogwood is smooth sumac (*Rhus glabra*). The large shrub has leaves with many (15-19) leaflets. The reddish twigs, branches, and the undersides of the leaves are covered with a light bluish, powdery "bloom."

Bigtooth aspen can again be observed at this station.

**6**About ten feet back from the marker is a butternut tree or white walnut (*Juglans cinerea* L.). The bark is light gray and broken up by a network of long vertical and diagonal fissures. The leaves have 11 to 17 leaflets. The fruits are oval nuts (sweet and edible) with the outer hull being somewhat fleshy and covered with sticky hairs. The pioneers used the husks to obtain a water-soluble yellow dye for dyeing cloth. The wood is soft and weaker than that of black walnut. The butternut is of secondary value as a timber tree.

To the left of the marker are several alternate-leaved dogwoods (*Cornus alternifolia*). The twigs are greenish, and the fruit is blue and furnishes food for birds. Again, notice that the veins in the leaves curl toward the tip of the leaves.

The low sprawling, thorny or prickly shrubs around the marker are black raspberries (*Rubus occidentalis*). In the spring small clusters of white flowers appear, followed by pinkish red berries. The stems are covered by a whitish waxy bloom.

**7**To the left of the marker is a hackberry tree (*Celtis occidentalis*). It has very distinctive warty gray bark and toothed light green leaves. The fruits are cherrylike but bluish purple in color. Although the hackberry has little importance as a timber producer, the fruits are eaten by many birds.

Virginia creeper is growing up the trunk of the hackberry.

The numerous small shrubs with the toothed leaves around the marker are American filberts (*Corylus americana*), in some localities called hazelnuts. There are usually several nuts in a cluster, tightly enclosed in fringed "husks."

**8**Directly in front of the marker is a basswood tree or American linden (*Tilia americana*). It has heart-shaped leaves which are toothed and lopsided at the base, and it has smooth gray bark. The basswood is one of the most useful forest trees. The soft wood is ideal for carving. Indians made rope from the bark, and an excellent tea can be made from the dried flowers. Rabbits and deer eat the young shoots.

The large trees to the right of the marker are shagbark hickories (*Carya ovata*). The bark, which at first is smooth and gray, later breaks into characteristic strips which curve away from the trunk. The leaves have five leaflets, and the fruits are nuts which are encased in a husk which splits cleanly to release the nut. The shagbark is one of the best commercial hickories. The heavy, hard and strong wood is well known for its ability to withstand sudden shocks. At one time, it was used for automobile wheel spokes and is almost universally used for such items as axe handles.

There is also a hop hornbeam between the shagbark hickories and the basswood. It is interesting to note that the bark patterns of the shagbark hickory, basswood, hop hornbeam, and hackberry (station 7) are all very characteristic for each species and can be thought of as tree "fingerprints."

**9**To the right of the marker near the ground is a vinelike plant with bright green leaves and stems. This is a greenbriar (*Smilax* sp.), and its stems are usually covered with thorns. The fruits of greenbriar are clusters of blue-black grapelike berries.

Virginia creeper is growing up the hickory tree in front of the marker.

**10**Facing the marker and to the left is a shagbark hickory. At the base of the tree are numerous soft hairy herbaceous plants with round stems and wide fernlike leaves. The plant is sweet cicely (*Osmorhiza claytoni*). The small clusters of white flowers appear in May through June.

Opposite the marker on the other side of the path are herbaceous plants with pointed leaves alternating along a reclining stem. The plant is false Solomon's seal (*Smilacina racemosa*). In May through July clusters of creamy white flowers appear at the tip of the plant. The fruits are berries (at the end of the stem) that at first are whitish speckled with brown and later turn ruby red.

**11**The marker has been placed here to call your attention to a phenomenon, decomposition, which is going on *all over* the woods *all* the time. Plants and animals are continually dying. Their remains are broken down or decomposed by many organisms, such as algae, bacteria, fungi, protozoa, soil mites, nematodes, and snails. The *decomposer* organisms, as well as the *producers* (green plants) and *consumers* (squirrels, cattle, people), are an integral part of the forest ecosystem.

Take a few minutes to poke around the decaying logs to see what you can find.

**12**The small, graceful tree with smooth gray bark and slender branches is a serviceberry (*Amelanchier canadensis*). The leaves are thin, finely toothed, and heart shaped at the base. Its showy white flowers appear early in the spring, before there are many leaves to hide them. The purplish applelike fruits are edible and are eaten by many birds and other animals. During the winter, the tree is easily recognized by its long, slender sharp-pointed buds.

Very close to the ground surrounding the serviceberry are clumps of sharp-lobed hepatica (*Hepatica acutiloba*). The leaves have three sharp-pointed lobes. The flowers are pink to red and appear in the early spring, March through April.

**13** Stand facing the marker with your back to the dead tree in the middle of the path and look up. Both of the trees in the canopy are oaks. One is a white oak, with light gray bark and leaves that have rounded lobes, as described in station 3. The other oak is the northern red oak (*Quercus rubra*). The lobes of the leaves are forked and bristle tipped. The bark is dark brown with broad flat ridges and is heavily corrugated on older trees.

All of the oaks may be divided into two groups as shown below.

#### WHITE OAK GROUP

*Examples:* White, Burr, Chestnut, Chinkapin

*Leaves:* Rounded lobes or teeth

*Seed:* Relatively sweet and edible

#### RED OAK GROUP

*Examples:* Red, Black, Pin

*Leaves:* Bristle or hair-tipped lobes

*Seed:* Bitter, NOT edible

**14** The small slender trees near the marker are American hornbeams (*Carpinus caroliniana*), which resemble the hop hornbeam except for their bark and seeds. The bark of the hornbeam is dark bluish gray and very smooth, rather than shredding like the hop hornbeam. Because of the smooth bark, the tree has been commonly called musclewood or blue-beech, although it is not a beech. The seeds of the hornbeam are small and winged, while those of the hop hornbeam are inside small hollow sacks or husks.

**15** While standing on the bridge, facing the marker, look to your left and you will see on both banks and in the creek bed small shrubs. The shrubs have prickly stems and toothed leaves in which the veins radiate out from a central point like your fingers do from your palm. These are prickly gooseberries (*Ribes cynosbati*). The fruits, which are reddish berries, appear in midsummer.

**16** Along this slope are numerous sugar maples (*Acer saccharum*). The leaves are usually five lobed and often turn a brilliant gold or orange red in autumn. The bark is grayish and may become furrowed or ridged on older trees. The double-winged fruits are borne in the fall. The sugar maple is one of the most common and important of the maples. Maple syrup and sugar is made from the spring sap and is an important industry in the northeastern states. The

flower is cup shaped with three lobes and appears in April through May. Medicinally, the candied roots of this plant have been used for flatulency.

**22**In the creek bed are numerous herbaceous plants with pale green stems which when crushed are quite watery. The plant is commonly called jewelweed or touch-me-not (*Impatiens biflora*) and is most often found growing in wet shady places. The orange flowers appear in July through October and form seed pods that when touched will pop open, from which it gets the name, touch-me-not.

Also along the banks and into the woods are some maidenhair ferns (*Adiantum pedatum*). The leaves come off the coal black, shiny stems in such a way as to form a half-moon arrangement.

**23**On both sides of the path are many characteristic woodland herbaceous plants, mayapples (*Podophyllum peltatum*). They have quite large, deeply divided leaves and a single white flower (appearing in April through June), which is attached in the crotch of the stem below the leaves. The fruit is a large, yellow lemonlike berry, a favorite "dish" of raccoons.

To the right of the marker is a large hornbeam (musclewood), and 20 feet to the left of the marker is a large hop hornbeam (ironwood).

**24**The bushy shrubs with the prominently toothed leaves to the right of the marker are viburnums (*Viburnum rafinesquianum affine*). Their numerous clusters of creamy white flowers appear in early summer and are followed by bluish black raisinlike fruits.

**24-25**All along the nature trail have been many tiny plants that you may have not noticed. Individually, mosses may be overlooked. However, they usually grow in mats, cushions, or extensive carpets. On the sides of the nature trail between stations 24 and 25 are excellent examples of moss carpets. Although the mosses do not form flowers or fruits, if you look closely you will see a slender stalk coming off the top of the moss which bears a small container or capsule at its end. The capsule is full of spores. When the spores are released onto a suitable place (soil, tree bark, rock, etc.) they will germinate and produce another leafy green moss plant.

Although small, these very interesting plants will help to stop soil erosion, often growing on areas that are unsuitable to the flowering plants.



While walking toward marker 25, look to your left and into the woods where there are many low growing plants which have their leaves arranged in a circle. These are shooting stars (*Dodecatheon meadia*). Pinkish white flowers will appear in April through June on top of a stalk coming from the center of the circle of leaves. The petals are swept back, and the stamens (male parts producing pollen) join to form a pointed beak, hence the name, shooting star. By late July or early August, most of these plants will have died back.

However, there are many other herbaceous plants in this area, such as asters and orchids, which will be flowering into the fall.

**25**The small shrub with very slender, pliable stems or branches is leatherwood (*Dirca palustris*). The yellow flowers of leatherwood appear in March or April, before the smooth-margined leaves. Its bark is very tough and is said to have been used as thongs by the Indians and early settlers.

**26**In front of the post is the Japanese barberry (*Berberis thunbergii*). This cultivar grows vigorously into a very upright, dense, compact shrub with many small, sharp spines. It has an excellent bright red fall color. The rather inconspicuous yellow flowers in late May are followed in August and September by bright red one-fourth-inch fruits.

The Macbride Nature Recreation Area (MNRA) is operated by The University of Iowa Division of Recreational Services under license of the U.S. Army Corps of Engineers. The area is maintained as an ecological research, environmental education and outdoor recreation center. Please observe all posted signs. The hours that the MNRA is open are posted on the main gate. Please do not pick flowers or take biological specimens without permission. For more information, contact

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# Notes