



# Grizzly Forest

A MESIC URBAN FOREST  
TAKES ROOT AT  
FRANKLIN COLLEGE

*"The best time to plant a tree was 20 years ago. The second best time is now."  
– Chinese Proverb*

# Before European settlers arrived in central Indiana, the relatively flat topography was covered in dense, moist forests.

Tall trees, including Tuliptree, American Beech, and Sugar Maple, towered more than 100 feet above the forest floor, forming a canopy above sub-canopy trees, shrubs, and non-woody herbaceous species growing below.

The settlers who cleared the forests for homes and farms reduced the old growth to the isolated remnants that remain today. The mesic, or moist, urban forest in the southeast corner of Grizzly Park at Franklin College represents an attempt to restore native species to their original habitat and provide visitors with an opportunity to learn about them.

Forests provide critical habitat and food for birds, butterflies, reptiles, amphibians and mammals. But when forests are felled and wild species are forced out of their native habitat to seek shelter and food in cities and suburban environments, problems for them and for people inevitably ensue. Species that cannot adapt to non-forested environments dwindle in number. For example, populations of many native song birds are rapidly waning as a consequence of habitat destruction, while nuisance and non-native species increase.

The preservation of native plants is also important because these species have adapted to local growing conditions so they require less water, fertilizer and pesticides in comparison to non-native plants. Native forest plants also reduce global warming by removing carbon dioxide from the atmosphere. It is estimated that the plants in Grizzly Forest will remove one ton of carbon per year. Moreover, forests provide shade and an aesthetically pleasing environment in which people of all ages can relax and learn about the natural world that is native to their corner of the USA.

The urban forest in Grizzly Park is available for educational purposes to school groups, individuals and the community.



## Sugar Maple

*Acer saccharum*

Canopy tree up to 90' tall and 50' wide; leaves simple, opposite, 5 (3) lobed; yellow green flowers; fruit samara (helicopters). Habitat rich moist upland forests. Sap is collected from January to April and made into maple syrup. Often used as an ornamental because of the orange fall foliage. Valuable timber species – furniture, sporting and athletic goods, musical instruments.



## American Hornbeam

*Carpinus caroliniana*

Subcanopy tree up to 35' tall and 35' wide; leaves simple, alternate, finely and doubly toothed, taper to point at tip, wide base, upper surface smooth, under surface hairy; flowers April, fruits small nutslets crowded into clusters. Bark smooth, blue-gray with scattered blotches that give the tree another common name of Musclewood. Habitat deep, rich, moist forests in coves, low slopes and ravines. Wood is hard and used to make tool handles, mallets and levers.



## Redbud

*Cercis canadensis*

Subcanopy tree up to 30' tall and 35' wide; leaves simple, alternate, heart-shaped; flowers rosy pink to purple, showy, clustered; fruit legume up to 4" long. Habitat well-drained upland forests, slopes, bottomland forests. Popular ornamental. Butterflies and hummingbirds drink the nectar from the spring flowers and honeybees use the pollen. Green twigs are ground into wild game seasoning in the southern Appalachians.



## Kentucky Coffeetree

*Gymnocladus dioica*

Tree up to 80' tall and 55' wide. Leaves doubly compound, alternate, 6-14 leaflets, pointed; flowers whitish green, burgundy spots. Fruit legume up to 10" long. Habitat bottomland forests, rich upland forests. When properly cooked, the seeds may be used as a coffee substitute, but are poisonous to humans and livestock if not carefully prepared.



## Persimmon

*Diospyros virginiana*

Canopy tree to 75' tall and 35' wide.

Leaves simple, alternate, smooth edges; fruit spherical, yellow to orange fleshy berry, up to 2" in diameter, edible.

Habitat - bottomland forests. Timber used for furniture, railroad crossties, golf club heads, billiard cues and firewood. Wild persimmons in Japan are crushed and mixed with water to make an insect repellent.



## Shingle Oak

*Quercus imbricaria*

Tree to 75' tall and 60' wide. Leaves simple, alternate, smooth margins without teeth or lobes, one bristle at tip; acorns solitary or in clusters of two, up to 1" long, cup covering 1/3 of acorn; acorns ripen in second year. Habitat - well-drained bottomland to upland forests and openings. Important wildlife food and commercially valuable timber. Most leaves remain on tree throughout most of the winter. Wood was used by settlers to make shingles; hence, the common name.



## Northern Red Oak

*Quercus rubra*

Canopy tree up to 120' tall and 60' wide. Leaves simple, alternate, 7- 11 lobed, bristle tipped; fruit acorn, solitary or paired, up to 1.5" long, shallow cup covers up to 1/4 of acorn. Bark brown with reddish brown with stripes, becoming furrowed when mature. Habitat rich, moist upland forests. Valuable timber species – furniture, flooring, railroad crossties, construction and firewood. Ornamental because of reddish fall foliage.



## Alternate-Leaf Dogwood

*Cornus alternifolia*

Subcanopy tree or shrub up to 20' tall and 20' wide. Leaves simple, alternate, oval, tips pointed; white flowers clustered, May to June; fruits blue to reddish-purple berries (drupes). Bark and twigs reddish. Habitat - rich woods. Fall foliage maroon. Bitter berries are important wildlife food. Only American dogwood to have alternate leaves – all other dogwoods have opposite leaves. Roots may be mixed with vinegar to produce a dark brown dye.



## Shagbark Hickory

*Carya ovata*

Canopy tree up to 135' tall and 35' wide. Leaves compound, alternate, 5 (7) leaflets; Fruit spherical, 4-angled nut, up to 2" across. Bark of mature trees sheds, hence the common name. Habitat - upland forests. The edible nut is valued by people and wildlife. The hard wood is used for making smoking meat and making tool handles, furniture, and baseball bats. When burned, it produces as much heat as 1 ton of coal.



## Pawpaw

*Asimina triloba*

Subcanopy tree up to 35' tall and 20' wide. Simple, alternate, leaves up to 12" long and 10" wide; flowers deep maroon, bell shaped; fruit yellow brown when mature and fleshy. Bark develops shallow fissures as it ages. Habitat - bottomland forests and rich moist woods. The edible fruit is often called the Indiana Banana. These trees are often found in clusters because they reproduce by root suckers. The inner bark is used to make string and rope.



## Chinquapin Oak

*Quercus muehlenbergii*

Canopy tree up to 100' tall and 70' wide. Leaves simple, alternate, pointed tip, coarsely toothed; fruit acorn, solitary or paired, up to 1" long, acorn cup often with a short fringe. Habitat - upland forests. Acorns are an important wildlife food. Valuable timber species – furniture, flooring, railroad crossties, fence posts, firewood. Leaves resemble those on chestnut trees, which produce a nut that is often called a chinquapin; hence, the common name.



## Red Maple

*Acer rubrum*

Canopy tree up to 75' tall and 50' wide. Leaves simple, opposite, shallowly three lobed with white to gray undersurface; flowers bright red or yellow; fruit samara (helicopters). Habitat - bottomland to upland forests. Maple syrup can be made from this tree although Sugar Maple is more commonly used. Popular ornamental due to red fall foliage. Valuable timber species – furniture, railroad crossties, flooring. Winter buds, spring flowers, summer leaf stalks, and fall leaves are typically reddish.

Photo courtesy Dr. Paul Rothrock, Taylor University





## Black Cherry

*Prunus serotina*

Tree up to 75' tall and 60' wide. Leaves simple, alternate, oval to oblong, tapering base, pointed tip, finely toothed; flowers white, clustered in showy groups up to 6" long; fruit berry-like drupe, purple to black, up to 1 cm long. Bark reddish brown and smooth then becoming dark and deeply furrowed with irregular scales at maturity. Habitat - rich, deep, moist upland forests. Bark and leaves contain a chemical that is potentially harmful to grazing animals.



## Tuliptree

*Liriodendron tulipifera*

Canopy tree up to 120' tall and 50' wide with straight trunk. Leaves simple, alternate with four broad lobes; showy flowers up to 2' long, 6 yellow-green petals with orange center, numerous pistils; fruits cone like, woody, winged. Habitat - rich, deep, moist upland forests. Indiana state tree. Valuable timber species – furniture, musical instruments, construction.



Photo courtesy Dr. Paul Rothrock, Taylor University



## Hazelnut

*Corylus americana*

Small tree or shrub up to 18 ft tall and 13' wide, often forms thickets because of root suckers. Leaves simple, rounded, soft hairy on both sides, doubly toothed; fruit nut, up to 3/4" long, solitary or in clusters of up to 5. Habitat open woodlands, thickets, hillsides. Sweet, edible fruits are high in protein and eaten raw or ground into flour. Ornamental with red to orange fall foliage. Male flowers appear in fall but open in spring – provide winter food for turkey and ruffed grouse.



## American Beech

*Fagus grandifolia*

Canopy tree up to 105' tall and 80' wide. Leaves simple, alternate, toothed, smooth and shiny on the upper surface, somewhat asymmetrical base; fruit in spiny, woody husks up to 1" long with 1-3 triangular nuts; long, pointed reddish brown winter buds. Bark smooth and gray. Habitat - rich, mesic forests. Commercially valuable wood – furniture, toys, cookware, barrels to age beer, cutting boards, made into charcoal. Fruit edible and important for wildlife. Some leaves often held on tree until late winter.



Photo courtesy Dr. Paul Rothrock, Taylor University



## Sassafras

*Sassafras albidum*

Canopy tree up to 80' tall and 40' wide. Bark bumpy, warty. Leaves alternate, simple, lance-shaped, often with asymmetrical base, few to no teeth along margins; fruit berry-like drupe, reddish-orange to yellow. Habitat well-drained bottomland and upland forests. Wood is used for furniture, athletic equipment, and firewood. Birds and deer eat fruit; hackberry emperor and American snout butterflies consume nectar.



## Butternut

*Juglans cinerea*

Tree up to 75' tall and 60' wide. Light gray bark, deeply furrowed. Compound leaves with up to 17 leaflets; pith in interior of twigs brown and partitioned; fruit nuts in clusters of 2-6, up to 2.5" long, end pointed, winged along sides. Habitat upland forests. Valuable timber species – furniture, flooring, firewood. Also called the white walnut due to its close resemblance to the black walnut.



## Sugarberry

*Celtis laevigata*

Canopy tree up to 80' tall and 80' wide. Bark bumpy, warty. Leaves alternate, simple, lance-shaped, often with asymmetrical base, few to no teeth along margins; fruit berry-like drupe, reddish-orange to yellow. Habitat - well-drained bottomland and upland forests. Wood is used for furniture, athletic equipment and firewood. Birds and deer eat fruit; hackberry emperor and American snout butterflies consume nectar.



## Yellow Buckeye

*Aesculus flava (octandra)*

Subcanopy tree up to 50' tall and 50' wide. Leaves palmately compound, 5 (7) leaflets; flowers pale yellow, forms erect clusters in spring, up to 6" long; fruit smooth and round, up to 3" long, contains 1-4 nut-like shiny, smooth, brown seeds. Habitat - bottomland to rich upland forests. The fruit from this tree is poisonous to humans but can be made edible through a leaching process. Sometimes planted as ornamental. Wood of limited commercial value – scientific instruments, coffins.



# Grizzly Forest

## MESIC URBAN FOREST

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