

# **Trees of The Wenonah Conservation Lands**

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# Trees of The Wenonah Conservation Lands

## Introduction

The following document represents an attempt to identify and inventory the various species of trees in the Wenonah Conservation Area in the Borough of Wenonah, NJ. I undertook this project out of a curiosity to discover what species of trees are present in our conservation area, to determine which were rare or common and to identify where in the conservation lands each species can be found. In the conservation and management of any natural resource one of the first and most important questions that needs to be asked is: What is it that we are attempting to preserve and manage? To appreciate and thoughtfully manage a natural area we must first understand its constituent elements- its geography, physiography and geology, its plant and animal species, and the ways in which these elements interact to shape a living and dynamic ecosystem. It is my hope that this document will assist in some small way with that process and make its contribution to increased knowledge of our botanical heritage in Wenonah's conservation lands.

This inventory concerns itself solely with the trees of the conservation area. It does not include the trees in Wenonah Park (an arboretum in itself with some wonderful specimens), street trees or trees found on the grounds private residences. Although smaller understory trees such as Flowering Dogwood and Blackhaw are included here, shrubs are not. Shrubs had been included in my 2004 inventory, Ferns and Flora of The Wenonah Conservation Area. The present work is intended as a compliment to that document and together with that earlier work offers a complete survey of all the vascular plants in Wenonah's conservation area.

A tree can be defined as a woody perennial plant that reaches a height at maturity of 20' or more and grows (usually) as a single stem or trunk which bears lateral or secondary branches. A tree is not a botanical or taxonomic form. It is a growth form. Plant families can contain species that are trees, shrubs, vines and herbaceous plants. The Legume Family (*Fabaceae*), for instance, contains the tree, Black Locust (*Robinia pseudoacacia*), the vine, Japanese Wisteria (*Wisteria floribunda*), the shrub, Scotch Broom (*Cytisus scoparius*) and the herbaceous plant, Yellow Sweet-clover (*Melilotus officinalis*). All trees are seed bearing vascular plants. As such they are taxonomically classified into one of two Divisions of the Plant Kingdom. All trees (and other plants) that bear flowers, and consequently produce seeds in an ovary which matures into a fruit, are classified in the Division Magnoliophyta. These plants are also referred to as Angiosperms. Seed producing plants that do not bear flowers and do not enclose their seeds in a true fruit are referred to as Gymnosperms (Greek for naked seed) and are placed in the Division Pinophyta (conifers). Note: Three other minor plant Divisions are also included in the Gymnosperms (Ginkophyta, Cycadophyta, and Gnetophyta) but they do not concern us here.

The tree species in this document are consequently organized and placed into the Division Magnoliophyta (flowering plants) or the Division Pinophyta (conifers). Within each Division, botanical families are listed alphabetically. Within each family grouping, plants are ordered alphabetically by botanical genus and species. Each species is listed by its common name with its botanical name in parentheses. Each species entry notes that species' origin (native or alien), gives a description of the tree, includes remarks of interest on the species and indicates where in the conservation area that species can be found.

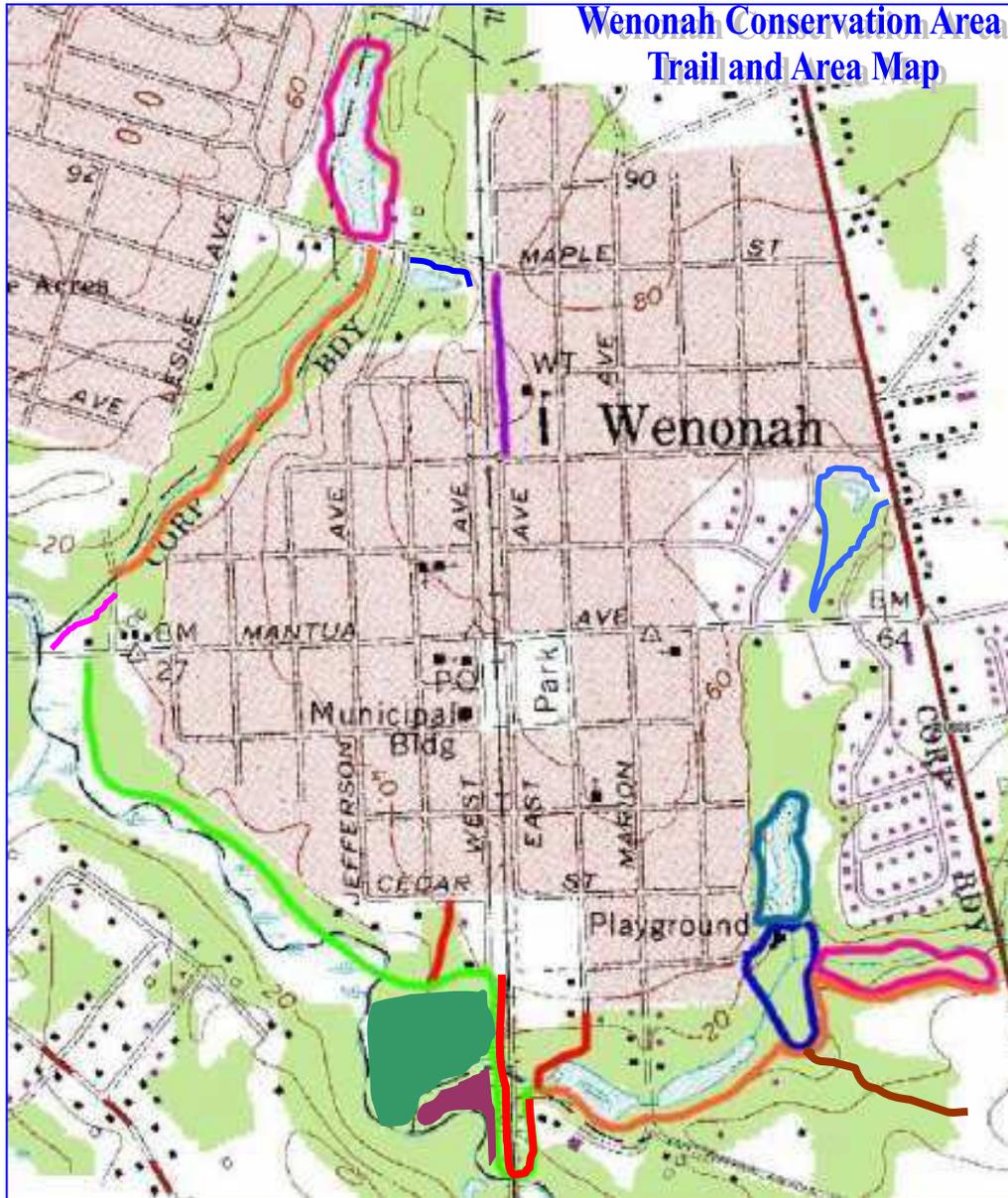
I conducted the field work for this tree inventory between late May and mid October 2005. The Tree Species Distribution Tables included in this document are the result of that effort and I hope provide more precise and detailed information about the trees in the conservation area than was previously known. This document is the work of one fallible person and undoubtedly is flawed by omissions and errors. At the very minimum, however, it provides a reasonably sound basis for future discoveries and refinements. I

welcome any new insights and information on our trees that others have to offer and will appreciate any corrections of errors or omissions I may have committed.

Trees are the oldest, tallest and most massive living things on Earth. It is impossible for anyone who truly takes the time to see them not to be struck by their beauty and majesty. There is a remarkable number and diversity of tree species in Wenonah's woodlands, reflecting a diversity of woodland habitats. In this survey I have identified 68 tree species in 30 botanical families. There are trees that were here before Wenonah was founded and Tuliptrees, and Oaks that tower over 100' in height. There are 11 species of Oaks on our conservation lands, including the Shingle Oak (*Quercus imbricaria*), which occurs as a native tree nowhere else in New Jersey. The habitats our trees create make possible the diversity of life in our woodlands. The mosses, fungi, ferns, woodland wildflowers, shrubs, insects, arachnids, birds, amphibians, reptiles and mammals are here because the trees are here. It is the purpose of this work not only to document the tree species in Wenonah's conservation area but to encourage all who may read it to better know and appreciate these noble plants and to discover and experience for themselves the subtle wonders and beauty of a natural treasure that lies a few steps from our doorways.

Richard A. Dilks  
For The Wenonah Environmental Commission  
October 29, 2005

## Wenonah Conservation Area Trail and Area Map



### Trails West of Railroad

1. Wenonah Lake Loop
2. Break Back Run Trail
3. Mantua Creek Trail
4. Glen Trail
5. Dilks Pond
6. Hanisey's Landing
7. Monongahela North Bank Tract
8. Monongahela South Bank Tract
9. Railroad South of Cedar Ave.

### Trails East of Railroad

1. Wenonah School Trail
2. Mantua Creek Trail
3. Garden Trail
4. Monongahela Brook Trail
5. Monongahela Brook Loop Trail
6. Eldridge Loop
7. Comey's Lake Loop
8. Indian Trail Spur
9. Synott's Pond

# Trees of The Wenonah Conservation Lands

## Division: *Magnoliophyta* (Flower-bearing Plants)

### *Aceraceae* (*Maple Family*)

#### **Boxelder, Ash-leaf Maple (*Acer negundo*)**

**Origin:** Native

**Leaf:** Pinnately compound with 3 to 7 elliptical leaflets, long-pointed, coarsely toothed and sometimes lobed.

**Fall foliage:** Yellow, sometimes with red.

**Bark:** Light gray-brown with narrow ridges, becoming deeply furrowed in mature trees.

**Height:** 30' to 60'.

**Fruit:** Paired slightly forking keys with wings.

The Boxelder is a true Maple and unique as the only Maple in North America with compound leaves. The keys (samaras) clearly identify this tree as a Maple species. It is a hardy, fast growing and short-lived tree, which favors wet or moist soils and stream banks. It is common along Mantua Creek and the Monongahela Branch and is seen in moderate numbers in the low moist woods of the conservation area.

#### **Japanese Maple (*Acer palmatum*)**

**Origin:** Non-native. Native to Japan, Korea and Northeast China.

**Leaf:** Simple, palmate, deeply lobed and coarsely toothed., often reddish throughout the growing season.

**Fall foliage:** Scarlet

**Bark:** Light gray to gray, smooth and muscular.

**Height:** To about 25'.

**Fruit:** Paired winged keys.

There are many cultivars and varieties of this popular, exotic, handsome and slow growing ornamental. Although it occasionally escapes from garden and yard, it has not truly naturalized in our area. Only two small saplings of *A. palmatum* were noted in Wenonah's conservation area-one on Mantua Creek Trail near the Lentz property and one along the connecting trail between the RR trestle and Monongahela Brook Trail.

#### **Norway Maple (*Acer platanoides*)**

**Origin:** Non-native. Native to Europe

**Leaf:** Simple, palmate with 5 sharp, shallow lobes and scattered long teeth.

**Fall foliage:** Bright yellow.

**Bark:** Smooth and light gray-brown in young trees. Darker, rough and deeply furrowed on mature trees.

**Height:** 60'.

**Fruit:** Paired winged keys, distinctly spreading and flared, not forked and drooping.

The Norway Maple is a fast growing introduced ornamental that has been widely planted as a shade tree in North America. It was commonly planted along Wenonah's streets and has extensively colonized the conservation area over the decades. Although an attractive tree, it is a persistent and undesirable invasive species. It is found in abundance throughout much of the conservation area but is virtually absent from the woodlands at Wenonah Lake and along the lower Monongahela Branch (the area between the railroad and the confluence of the Monongahela with Mantua Creek. It is uncommon along the Monongahela Loop Trail as well. The Norway Maple closely resembles the native Sugar Maple (*A. saccharum*). The best field characteristic for distinguishing the two species is the keys- The Norway Maple's are flared and spreading while the keys of the Sugar Maple are forked and drooping. In addition the Sugar Maple has a much brighter autumn foliage typically mixing golds, oranges and reds while the Norway Maple's fall foliage is yellow.

Note on Sugar Maples: I did not encounter any Sugar Maples in my inventory of Wenonah's conservation area. Although the coastal plain of Southern New Jersey is outside the historical range of *A. saccharum*, this species is commonly planted as an ornamental in Wenonah and does well here. It is entirely possible that some Sugar Maples could exist in the conservation area, their presence obscured by the great numbers of Norway Maples.

### **Planetree Maple (*Acer pseudoplatanus*)**

**Origin:** Non-native. Native to Europe and Western Asia.

**Leaf:** Simple, palmate with 5 shallow lobes and wavy saw-toothed margins.

**Fall foliage:** Tan to brown

**Bark:** Smooth and gray in young trees, with broad flaky scales on mature trees.

**Height:** 70'.

**Fruit:** The paired keys have long elliptical light brown wings, somewhat forked.

This species is also called a Sycamore Maple due to the superficial resemblance of its leaves to those of the Sycamore (genus *Platanus*). In Europe the Sycamore is commonly called a Planetree. This fast growing species has been frequently planted as an ornamental in North America. On June 20, 2005 a small stand of several sapling of *A. pseudoplatanus* approximately 15' in height were removed from near the north side of the Teahouse at Comey's Lake as part of normal grounds maintenance by the WEC. As of this writing (fall 2005), at least one sapling of *A. pseudoplatanus* still remains at that site. This species was not noted elsewhere in the conservation area.

### **Red Maple (*Acer rubrum*)**

**Origin:** Native

**Leaf:** Simple. Broadly ovate and toothed with 3 (sometimes 5) shallow sharp and short-pointed lobes. The underside is whitish and sometimes hairy.

**Fall foliage:** Red, often mixed with orange and yellow.

**Bark:** Gray, thin and smooth on young trees. Darker, fissured with scaly ridges on mature trees.

**Height:** 60' to 90'.

**Fruit:** The paired winged keys are forked and red, turning reddish brown at maturity.

Also called a Swamp Maple, this tree thrives in low moist and damp habitats but also grows well in hardwood forests and on dry upland ridges. It has the most extensive north-south distribution of any tree species in Eastern North America and can be found from southern Canada to South Florida. There is something red on this tree through the year: red buds and twigs in winter, red flowers in spring, red keys and leaf stems in summer and red foliage in fall. It is the most abundant tree in Wenonah's conservation area and is common and abundant along all trails and in all areas. It is particularly attractive in flower in early spring with small but profuse red blossoms covering its branches, male and female flowers appearing in separate clusters.

### **Silver Maple (*Acer saccharinum*)**

**Origin:** Native.

**Leaf:** Simple. Deeply and sharply cut into 3 prominent and long-pointed lobes (the large middle lobe also cut into 3 lobes) and 2 smaller lobes closest to the stem. The margin is doubly saw-toothed. The underside is pale silvery white.

**Fall foliage:** Pale yellow.

**Bark:** Dark gray, furrowed into long scaly ridges.

**Height:** 50'-80'.

**Fruit:** The paired winged keys are widely forked and light brown.

This rapidly growing native species is typically found on wet soils, stream banks and in low areas. It is often planted as an ornamental and shade tree. The silvery underside of its deeply cut leaves are its most distinctive feature and give the tree a texture and color that is easily recognizable. The trunk is often short and stout with few large forks and the crown is typically spreading with down-turned branches. Silver maples are relatively uncommon in the conservation area. Large attractive specimens can be seen on the Garden Trail (the north shore of the former Green's Lake) and in the Synnot's Pond area. It can also be seen on Mantua Creek Trail, Eldridge Trail and along the Monongahela Branch.

### **Annonaceae (*Annona Family*)**

#### **Pawpaw (*Asimina triloba*)**

**Origin:** Native to North America but outside its historical range.

**Leaf:** Simple. Large (7" to 10"), reverse ovate, entire and short-pointed at the tip. Young leaves are covered with rust colored hairs.

**Fall foliage:** Yellow.

**Bark:** Dark brown, thin and warty.

**Height:** 30'.

**Fruit:** Edible. 1" to 2" in diameter, cylindrical, brownish and slightly curved with a soft, yellowish, custard flavored pulp.

The Pawpaw bears a 1.5" 3-petaled green or purple flower in spring. The edible fruit is also a food source for wildlife. The only occurrence of Pawpaws in Wenonah's conservation area is a small stand of saplings at the head of the Glen Trail, near W. Cedar Street. This tree is a Southern and Mid-Western species. New Jersey is at the very edge of its established historical range. According to Karl Anderson of the Gloucester County Nature Club, the Pawpaw is native to a few sites in New Jersey but Wenonah is outside its native range. The presence of these trees in the conservation area is a curious anomaly.

### **Aquifoliaceae (*Holly Family*)**

#### **English Holly (*Ilex aquifolium*)**

**Origin:** Non-native. Native to Europe and Western Asia.

**Leaf:** Simple. Elliptical with spiny pointed teeth and shallow lobes. Thick, stiff, wavy-edged and shiny, lustrous green on top and paler below. Similar to American Holly but "showier".

**Fall foliage:** Evergreen.

**Bark:** Smooth and gray.

**Height:** To 50'.

**Fruit:** Shiny red berries clustered at the leaf axils.

This attractive Old World species is widely planted as an ornamental. Many horticultural varieties and cultivars have been developed. This species is found in the conservation area only as an ornamental planting of several trees near the pumping station off Maple Ave. at the edge of the Dilks' Pond wooded area.

### **Winterberry, Smooth (*Ilex laevigata*)**

**Origin:** Native.

**Leaf:** Simple, deciduous, lanceolate, very finely toothed, shiny, and not leathery.

**Fall foliage:** Yellow.

**Bark:** Dark gray and somewhat rough.

**Height:** 4' to 20'

**Fruit:** Numerous small, red berries, clustered in the leaf axils.

Although most commonly a shrub, Smooth Winterberry also takes the form of a small understory tree. It is found in wooded swamps and on pond margins. This deciduous Holly is a very attractive plant that bears small white 5 petaled flowers in late spring and abundant clusters of red berries in fall. The red fruit and yellow foliage make a colorful show in autumn. The berries persist on the bare branches into the winter and are a valuable food source for birds. Smooth Winterberry is found in the conservation area only on and near the margins of Wenonah Lake, primarily on the eastern shore. Other Winterberry shrubs have been planted in the conservation area and are likely cultivars of *Ilex verticillata*.

### **Holly, American (*Ilex opaca*)**

**Origin:** Native.

**Leaf:** Simple. Elliptical, spiny pointed and coarsely spiny toothed. Thick, stiff and leathery. Dull dark green above and yellow-green below.

**Fall foliage:** Evergreen.

**Bark:** Light gray and thin. Can be smooth or rough and warty on older trees.

**Height:** 40' to 70'

**Fruit:** Scattered small, red berries.

The bright red berries on the female trees persist in winter and are a valuable food source for wildlife. American Holly is found as scattered small trees throughout most of the conservation area. It is absent from the woods at Wenonah lake and from the lower Monongahela tracts, west of the railroad.

## **Araliaceae (*Ginseng Family*)**

### **Hercules-club (*Aralia spinoso*)**

**Origin:** Native, possibly outside its historic range.

**Leaf:** 15" to 30" long and bipinnately compound, clustered at the ends of branches. Leaflets are ovate and finely toothed, with prickles on the midvein and main leaf stem.

**Fall foliage:** Light yellow.

**Bark:** Thin, dark brown and fissured, with scattered stout spines.

**Height:** To 30'.

**Fruit:** Large clusters of blackish ¼" berries on purple stems.

Also known as The Devils-walkingstick, this is a southern species, uncommon in our area. Current references differ on whether New Jersey is just inside or just outside its historic range. It is reported to have naturalized as far north as New England and southern Ontario. Hercules-club was often grown as an ornamental in Victorian gardens and one 19<sup>th</sup> century source (1889), Benjamin

Heritage, says “escaped from cultivation, near Mantua.”. This is an unusual and attractive plant with its bipinnate leaves, large branching clusters of small whitish flowers, followed by showy clusters of fruit. *A. spinosa* has been noted on the Glen Trail, Comey’s Lake Trail and along the railroad south of Cedar Ave. The largest occurrence of this small tree is at the east end of the Monongahela Loop Trail near the Route 553 bridge. It can also be seen on the Deptford side of Route 553 near the Monongahela Branch bridge.

## **Betulaceae (*Birch Family*)**

### **Ironwood (*Carpinus caroliniana*)**

**Origin:** Native.

**Leaf:** Simple. Elliptical, long-pointed at the tip and doubly saw-toothed with prominent parallel side veins.

**Fall foliage:** Orange to red.

**Bark:** Thin, gray and smooth.

**Height:** 30’.

**Fruit:** Paired, ¼” ovate, green, hairy nutlets, each with a 3 pointed toothed leaf-like scale.

Also called American Hornbeam, this member of the Birch Family is an understory tree of moist deciduous woods and streambanks. Its smooth gray trunk and major branches have a distinctly muscular appearance. It bears flowers in early spring in drooping catkins for the male flowers and narrow paired reddish catkins for the female flowers. The wood is hard and dense and used for tool making but decays rapidly when it comes in contact with the ground. No other tree in our region has this distinct smooth sinewy trunk. Ironwood is abundant at Wenonah Lake, Break Back Run Trail and at Comey’s Lake. It is essentially absent from other areas of the conservation area.

## **Bignoniaceae (*Bignonia Family*)**

### **Northern Catalpa (*Catalpa speciosa*)**

**Origin:** Native to North America but outside it’s historical range.

**Leaf:** Simple. Very large (up to 12” long and 8” wide), usually attached to the stem 3 at a node. Ovate, long-pointed and entire.

**Fall foliage:** Blackish.

**Bark:** Brownish gray and smooth in young trees. Furrowed with scaly plates and ridges in mature trees.

**Height:** 50’ to 80’.

**Fruit:** Seeds are contained in long (12”-18”) cylindrical cigar-like capsules.

Northern Catalpa’s range was historically restricted to a small region in the Central Mississippi-Ohio River Valleys from Indiana to Arkansas. It has been widely planted as an ornamental and has thoroughly naturalized in our area and in Wenonah’s conservation area. It bears large clusters of bell-shaped showy flowers, white with orange and purple markings, in spring. Its large yellow-green leaves and elongated “cigar” fruit are definitive Catalpa field characteristics. The **Southern Catalpa (*Catalpa bignonioides*)** was historically restricted to a small range in southern Mississippi, Alabama and Georgia. It too has been widely planted as an ornamental and has naturalized in our region. The two species can also hybridize. The two species are very similar and distinguishing them is difficult. *C. speciosa* tends to have long-pointed leaves while *C. bignonioides* tends to have short-pointed leaves. There are other minor differences in their fruit and flowers. All the Catalpas I examined in Wenonah appear to be Northern Catalpas but the

presence of Southern Catalpas and hybrids cannot be ruled out. Catalpas are found, sometimes abundantly, on all Wenonah's trails except Break Back Run and Monogahela Loop Trails.

## Caesalpinaceae (*Caesalpinia Family*)

### Honey Locust (*Gleditsia triacanthos*)

**Origin:** Native to North America but outside it's historical range.

**Leaf:** Pinnately and bipinnately compound. 4" to 8" long with many small (1.25") oblong paired and stalkless leaflets, entire with slightly wavy edges.

**Fall foliage:** Yellow.

**Bark:** Gray-brown to blackish and fissured into long narrow scaly ridges. Stout, brown, branching spines (up to 8" long) protrude from the trunk and branches.

**Height:** To 80'.

**Fruit:** Thin pods up to 16" long and 1.25" wide. Dark brown, hairy and slightly twisted and containing numerous flat bean-like seeds in a sweet edible pulp.

Honey Locust is a Midwestern species with a native range that extends from central Pennsylvania to Texas and South Dakota. It has been extensively planted as an ornamental and has naturalized in the East. Thornless varieties have been developed and are frequently planted as well. The sweet pulp of the pods is consumed by both wildlife and livestock. This attractive tree is unusual for having both pinnate and bipinnate compound leaf forms. The small leaflets give the foliage a delicate lacy texture. Even more unusual are the large thorns clustered on the tree's trunk and branches. It has been suggested that the thorns evolved as a protection against Mastodons or other now extinct megafauna that fed on the sweet pods. I encountered only a single thornless Honey Locust sapling, in the conservation area at the Maple Street trail head of Break Back Run Trail. A very nice mature (and very spiny) Honey Locust can be seen in Wenonah Park, along S. Clinton Ave.

### Kentucky Coffeetree (*Gymnocladia dioica*)

**Origin:** Native to North America but outside it's historical range.

**Leaf:** Bipinnately compound and up to 30" long with 3 to 8 pairs of side axis each with 6 –14 paired ovate and entire leaflets, pink when unfolding.

**Fall foliage:** Yellow.

**Bark:** Gray, thick and deeply furrowed with scaly ridges.

**Height:** To 70'.

**Fruit:** A 4" to 7" long, thick-walled, reddish brown pod.

Kentucky Coffeetree was formerly considered a member of the very large Legume Family (Fabaceae/Leguminosae) but is now separated out into the more restricted Caesalpinia Family. The large fruit pods of the Kentucky Coffeetree fall in winter and remain unopened until the next year. They contain several large (3/4") bean-like shiny dark brown seeds. They are toxic to humans if eaten raw but when roasted and ground have been used as a coffee substitute. The dark reddish-brown wood is considered desirable for furnishings. This attractive and unusual species was historically native to the Mid West, roughly from western New York state to Oklahoma and is considered uncommon in the wild. It has been rather widely planted as a shade tree and has naturalized eastward. A number of Kentucky Coffeetrees grow at Hanisey's Landing. At least one specimen is also found on the "island" at the former Green's lake on the Monogahela Brook Trail and several more can be found along the Monogahela Branch near the wet meadow on the Eldridge Trail.

## Caprifoliaceae (*Honeysuckle Family*)

### Blackhaw (*Viburnum prunifolium*)

**Origin:** Native.

**Leaf:** Simple. Opposite, elliptical, shiny green with finely saw-toothed margins.

**Fall foliage:** Shiny red.

**Bark:** Gray, rough and furrowed into rectangular plates.

**Height:** To 20'.

**Fruit:** Elliptical and ½' long., Blue-black with a whitish bloom, hanging in clusters from reddish stems.

This large *Viburnum* can take the form of a shrub or more commonly of an understory tree of up to 20' in height. It prefers moist soils in woodland thickets and forest borders and bears flat-topped clusters of white fragrant 5 petaled flowers in spring. This is one of our most attractive small trees with its spring floral display and bright fall color. It is common on Mantua Creek Trail and is also found on Break back Run Trail. I did not note it on any other trails but suspect it may be present in other locations as well.

## Cornaceae (*Dogwood Family*)

### Flowering Dogwood (*Cornus florida*)

**Origin:** Native.

**Leaf:** Simple, opposite and elliptical with a slightly wavy edge and prominent curved veins. They appear entire but are actually very finely toothed.

**Fall foliage:** Red with shades of pink and purple.

**Bark:** Gray and rough, broken into small square plates.

**Height:** To 30'.

**Fruit:** Bright red, elliptical and berry-like. Appearing at the ends of stalks in autumn.

Flowering Dogwood is one of the most beautiful trees in Eastern North America with its showy white spring flowers, red fruit and scarlet fall foliage. The wood is hard and used for such things as mallet heads and jeweler's blocks. A small tree, it grows in the understory of hardwood forests, in old fields and roadsides. The actual flowers are very small (3/16") with 4 yellowish-green petals and are crowded into a head bordered by 4 large broadly elliptical white petal-like bracts. This species is present throughout the conservation area and is abundant on Mantua Creek Trail and Break back Run Trails.

### Black Tupelo (*Nyssa sylvatica*)

**Origin:** Native.

**Leaf:** Simple. Elliptical or oblong, shiny, green and entire (or occasionally with a few blunt teeth).

**Fall foliage:** Brilliant scarlet, sometimes with yellow and orange overtones.

**Bark:** Dark gray to brown, rough and deeply furrowed into irregular or checkered ridges.

**Height:** 100'.

**Fruit:** ½" long, elliptical, blue-black and berry-like. Maturing in autumn.

Also called Blackgum, Sourgum and Pepperridge, the fruit of the Black Tupelo is relished by birds. It is among the first trees in our woods to turn in fall and its bright scarlet autumn foliage is attractive and dramatic. It is one of the most common trees in Wenonah's conservation area. Perhaps only the Red Maple is more numerous in Wenonah's woods. Black Tupelo is found in all

areas and on all trails in the conservation area (except the Dilks Pond area) and is abundant in most of them.

## **Ebenaceae (*Ebony Family*)**

### **Common Persimmon (*Diospyros virginiana*)**

**Origin:** Native.

**Leaf:** Simple. Elliptical or ovate, long-pointed. Shiny dark green.

**Fall foliage:** Yellow.

**Bark:** Very distinctive. Brown to blackish and deeply furrowed in to small square plates.

**Height:** 70'.

**Fruit:** 1" to 1.5" in diameter and round to slightly flattened. Orange to purplish in color. Edible.

The color and texture of the bark of the Common Persimmon is very distinctive and unlike that of any other tree in Wenonah's woods. It bears small white to yellowish flowers in late spring, male and female on separate trees. The fruit appears in fall, often remaining on the tree after the leaves have fallen. The fruit is edible and highly prized. However, if eaten unripe it is strongly astringent. It is eaten by deer, raccoons, opossums, foxes and many bird species. A number of Common Persimmon trees are located at the tip of land where the Monongahela flows into Mantua Creek. The tree is also found on Mantua Creek Trail, Eldridge Trail, at Hanisey's Landing and on the School Trail.

## **Fabaceae (*Legume Family*)**

### **Black Locust (*Robinia pseudoacacia*)**

**Origin:** Native to North America but outside it's historical range.

**Leaf:** Pinnately compound. Up to 12" long with 7 to 19 paired leaflets. The leaflets are entire, elliptical and round pointed with a tiny bristle tip.

**Fall foliage:** Yellow

**Bark:** Light brown, and deeply furrowed in to large, long forking and corded ridges.

**Height:** 100'.

**Fruit:** A dark brown and narrowly oblong flat pod up to 6" long and containing several large dark brown bean-like seeds.

Black Locust bears large showy drooping racemes of white and yellow pea-like fragrant flowers in spring. The fruit forms in autumn and frequently remains attached to the branches into the winter. The twigs bear stout paired spines at the nodes. Black locust is common in woodlands and colonizes old fields and open areas. It is fast growing and short-lived. Historically this was a Midwestern and Southern tree of rather restricted range- a narrow band from central Pennsylvania to E. Oklahoma. It may have been introduced into Virginia by native Americans who used its wood for bows. It has been widely planted as an ornamental and is now naturalized across the United States. It is common on the Garden Trail, at the Synnott's Pond area and at Hanisey's Landing. It can be found on most trails in the conservation area but appears absent from Eldridge Trail, Monogahela Loop Trail and the Indian Trail spur.

## **Fagaceae (*Beech Family*)**

### **American Chestnut (*Castanea dentata*)**

**Origin:** Native.

**Leaf:** Simple. Narrowly oblong and long-pointed with straight parallel side veins, each ending in a curved tooth.

**Fall foliage:** Yellow.

**Bark:** Bark was gray-brown and furrowed into flat ridges on mature trees. Bark on saplings and shoots is smooth.

**Height:** Formerly to 100', now saplings and shoots to 20'.

**Fruit:** A 2" bur covered with sharp spines and containing 2-3 edible chestnuts.

The American Chestnut is now a living ghost in the forests of Eastern North America. Once a major component species of Eastern hardwood forests, the mature trees in their native range have been destroyed by the chestnut blight, a fungal disease of Asian origin to which our native species has no resistance. Beginning in New York City in 1904, the blight over the next 40 years spread throughout the entire range of the American Chestnut, destroyed all mature trees and severely altered the forest ecology. Mature trees now only exist as cultivated specimens outside their historical range. The chestnut blight destroys mature American Chestnut trees but does not kill the organism. The still living roots continue to send up shoots and produce saplings that can even occasionally bear fruit. Once they reach the height of about 20' they are attacked and destroyed by the blight. Work has gone on for many years to develop a blight resistant strain of *C. dentata*, primarily by hybridizing with the blight resistant Chinese Chestnut (*C. mollissima*), but the reintroduction of *C. dentata* to American forests remain a hope rather than a reality. American Chestnut trees were once common in Wenonah's woodlands and the valuable wood from many trees which were felled after being attacked by the blight was used in the interiors of local homes. Today American Chestnut saplings are still frequently seen in Wenonah's woods. They can be found at Wenonah Lake, Break Back Run Trail, Mantua Creek Trail and occasionally elsewhere.

#### **European Chestnut (*Castanea sativa*)**

**Origin:** Non Native. Native to Europe.

**Leaf:** Simple. Similar to *C. dentata* but the margins can be sharply toothed or rounded. The teeth are *not hooked or curved*.

**Fall foliage:** Yellow.

**Bark:** Similar to *C. dentata*. Bark was gray-brown and furrowed into flat ridges on mature trees.

**Height:** To 100'.

**Fruit:** A 1.5" bur covered with sharp spines and containing 2-3 edible chestnuts. While the taste of the American Chestnut is sweet, the taste of the European is more starchy.

Sometimes called a Spanish Chestnut and planted extensively in North America since 1773 (by Thomas Jefferson), the European Chestnut exists in many varieties and cultivars. In its original form, *C. sativa* closely resembles *C. dentata*, but is somewhat more resistant to the chestnut blight. Three Asian chestnut species have also been introduced into North America: Chinese Chestnut (*C. mollissima*), Dwarf Chinese Chestnut (*C. seguinii*), and Japanese Chestnut (*C. crenata*). All five of these chestnut species can cross-pollinate and hybridize, making field identification at times a challenge. I noted two medium sized European Chestnut trees each 60'+ in height in the conservation area. One is on the Monongahela Brook Trail east of Marion Ave. and the other is near the south bank of the Monongahela Branch west of the railroad.

#### **American Beech (*Fagus grandifolia*)**

**Origin:** Native.

**Leaf:** Simple. Elliptical or ovate, long-pointed at the tip with straight slightly sunken side veins and coarsely toothed margins.

**Fall foliage:** Yellow and brown.

**Bark:** Distinctive. Light Gray, smooth and thin.

**Height:** 80'.

**Fruit:** ¾" prickly burs mature in fall, splitting into 4 parts and containing 2 brown shiny edible seeds (beechnuts).

American Beech is one of the handsomest and most prominent trees in our woods. It is a large tree with a rounded crown and many long spreading horizontal branches. It can grow to considerable girth and its smooth light gray bark makes it instantly recognizable. The edible beechnut are a food source for many wild mammal and bird species. Also of interest is the relationship of *F. grandifolia* with the parasitic (but harmless) wildflower, Beechdrops (*Epifagus virginiana*), which grows on and receives nourishment from the underground roots of the American Beech. This plant bears purple and brown flowers in late summer and fall and bears a few brown scales in place of leaves. It is frequently seen in our woods at or near the base of American Beech trees. American Beech is common in the conservation area and is found on every trail, abundantly on many of them.

### **White Oak (*Quercus alba*) White Oak Group**

**Origin:** Native.

**Leaf:** Simple. Elliptical with 5 to 9 even and *rounded* lobes, about half way to the midvein. No bristles on the lobe points. Leaves are shiny on top and not hairy.

**Fall foliage:** Red to brownish, sometimes mixed with orange and often remaining attached in winter.

**Bark:** Light gray and slightly furrowed with long and often loose scaly plates.

**Height:** Can exceed 100'.

**Fruit:** Acorn is ovate and about ¼ enclosed in the cup which is warty with fine hairy scales. Matures 1<sup>st</sup> year.

White Oak is a long-lived tree that can grow not only to a considerable height but also a considerable spread with its large horizontal branches. The light gray (white) color and frequent shagginess of its bark are distinctive. The White Oak Group of related Oaks species is named for this tree. White Oak is common in Wenonah's woodlands and some majestic specimens can be seen. It is abundant at Wenonah Lake, Break Back Run Trail, Mantua Creek Trail and along the lower Monongahela Branch. It is found on all the trails in the conservation area.

### **Scarlet Oak (*Quercus coccinea*) Red Oak Group**

**Origin:** Native.

**Leaf:** Simple. 2" to 5" long and elliptical with 7 lobes cut deeply and sharply almost to the midvein, each ending in several bristle-tipped teeth. Shiny dark green.

**Fall foliage:** Scarlet.

**Bark:** Thick and dark gray to blackish. Furrowed into scaly ridges or plates.

**Height:** 80'.

**Fruit:** 1" Acorn is ovate, often with 2-4 faint rings and is 1/3+ enclosed in a deep top-shaped cup. The cup is brownish with tightly pressed scales. It resembles a Black Oak cup that has been varnished. Matures 2<sup>nd</sup> year.

Scarlet Oak is particularly showy in autumn with its bright red foliage display. Although Scarlet Oak is common in Wenonah as a shade and street tree, it is almost entirely absent from the conservation area. I noted only one Scarlet Oak. It was long the railroad tracks near the School Trail.

### **Southern Red Oak (*Quercus falcata*) Red Oak Group**

**Origin:** Native.

**Leaf:** Simple. Somewhat thick, elliptical and deeply divided into a long narrow end lobe and 1 to 3 shorter, mostly curved lobes on each side, each lobe ending with 1-3 bristle-topped teeth. Shiny dark green above and pale rust colored and hairy below.

**Fall foliage:** Brown

**Bark:** Dark gray to blackish and furrowed into broad ridges and plates.

**Height:** 80'.

**Fruit:** 5/8" acorn is elliptical or rounded and 1/3+ enclosed in a cup that tapers to a stalk-like base.

Sometimes called a Spanish Oak, this North American native is an attractive tree with its dark green lustrous and unusually shaped leaves and dark colored trunk. It is a southern species found throughout almost all of the Southeast. The northern extent of its range is Southern New Jersey and Long Island. Wenonah is near the northern limit of its range and this species is uncommon in our area. I noted only one specimen in the conservation area- a medium sized mature tree in the woodlands near the terminus of S. West Ave, some distance north of Mantua Creek Trail. A second specimen grows in Wenonah as a planted ornamental- a mature tree on the McCall property along E. Mantua Ave. Its branches overhang the sidewalk there and offer a good opportunity to inspect the foliage and acorns of the unusual species.

### **Shingle Oak (*Quercus imbricaria*) Red Oak Group**

**Origin:** Native. Endangered in New Jersey.

**Leaf:** Simple. 3" to 6" long,. The leaves are laurel-like, elliptical to lanceolate and short-pointed (sometimes rounded at the end) with a small bristle tip. The edges are entire and straight or wavy-edged and sometimes slightly turned under. Leaves are shiny dark green with a yellow midvein above and light gray-green and hairy below. The fall late in autumn.

**Fall foliage:** Yellow or reddish brown.

**Bark:** Brown to gray and smooth on young trees, becoming somewhat rough and furrowed on mature trees.

**Height:** 80'.

**Fruit:** 5/8" acorn is nearly rounded and 1/3 to 1/2 enclosed in a deep cup with blunt and hairy scales. Matures in 2<sup>nd</sup> year.

The Shingle Oak is a very special tree in Wenonah. Sometimes called a Northern Laurel Oak (and not to be confused with the Laurel Oak (*Q. laurifolia*), a somewhat similar tree, native to coastal regions of the deep South), Shingle Oak with its high rounded crown and lustrous dark green leaves is an unusually attractive tree. The common name refers to the fact that pioneers used the wood of this tree for shingles. The Shingle Oak is a Midwestern tree with a range that stretches from areas of Pennsylvania to Iowa and Arkansas. New Jersey is at the very edge and perhaps even outside the accepted historical native range for this species. Nevertheless, a *native stand* of Shingle Oaks occurs in Wenonah's woodlands. It is the only known native occurrence of Shingle Oaks in New Jersey. Karl Anderson, Botanical Consultant and chief botanical expert for the Gloucester County Nature Club wrote me the following on 9/3/05 "That is the only native location for that midwestern species in New Jersey, according to the Office of Natural Lands Management botanist Dave Snyder. So the species' status in NJ is S1.1, E (Endangered, one location only)." The Shingle Oaks are located along the east side of the railroad, south of Cedar Ave. There is one medium sized tree and three large mature trees along the 150 yard stretch of the railroad embankment starting at the south end of the athletic field. A number of saplings and seedling are present as well. An additional large tree and a sapling were also noted in the woods to the west of the railroad as well. Curiously, Shingle Oaks were also planted as ornamentals at a number of locations in Wenonah decades ago and are now all mature trees. They can be seen in Wenonah Park, on Clinton Ave. at the athletic field, along N. East Ave. near Poplar St, at the corner of Marion and Willow Sts. and on S. Princeton Ave.

### **Blackjack Oak (*Quercus marilandica*) Red Oak Group**

**Origin:** Native.

**Leaf:** Simple. Leaves are thick, leathery and large (5" long by 4: wide), slightly triangular or broadly ovate with 3 broad, shallow bristle-tipped lobes. They are shiny green above and light yellow-green with brown hairs below.

**Fall foliage:** Brown or yellow.

**Bark:** Light gray, thick, rough and deeply furrowed.

**Height:** To 60’.

**Fruit:** The ¾” acorn is elliptical, ending in a stout point and ½ covered by a deep, thick top-shaped cup with loose, overlapping scales. Matures 2<sup>nd</sup> year.

This is a medium sized tree native across most of the South, west to Texas. New Jersey and Long Island are at the northern extent of its range. It is found in dry sandy or clay soils, typically with other oaks and pines. It is a common oak in Wenonah’s conservation area. and is abundant at Wenonah Lake, Mantua Creek Trail, the School Trail and along the railroad south of Cedar Ave. It is found on all the trails except The Glen Trail, Monongahela Brook and Loop Trails and at Hanisey’s Landing.

### **Pin Oak (*Quercus palustris*) Red Oak Group**

**Origin:** Native.

**Leaf:** Simple. Elliptical with 5 to 7 deep sharp lobes cut nearly to the midvein and ending in bristle-tipped teeth. Sinuses are wide and rounded. Leaves are dark green and shiny.

**Fall foliage:** Red or brown.

**Bark:** Dark gray, hard and smooth, becoming fissured into ridges.

**Height:** 90’.

**Fruit:** The ½” acorn is nearly round and only ¼ enclosed in a flatish saucer-like cup. Matures 2<sup>nd</sup> year.

The Pin Oak is a straight-trunked tree with spreading to horizontal branches and a conical crown. It resembles the Scarlet Oak with its deeply cut lobes and reddish fall coloration. Distinctive features of the Pin Oak are its many small pin-like side twigs and spurs, and the horizontal branches on the lower trunk. The Pin Oak is a locally common tree and is planted as a shade and street tree in Wenonah. It is not particularly common in the conservation area. It is abundant in the Dilks Pond area and present but uncommon on Break Back Run Trail and Mantua Creek Trail. I did not note it elsewhere in the conservation area.

### **Willow Oak (*Quercus phellos*) Red Oak Group**

**Origin:** Native.

**Leaf:** Simple. 2” to 4.5”, narrow, lanceolate and willow-like with a tiny bristle tip. The margins are entire and straight or slightly wavy. Leaves are light green and shiny.

**Fall foliage:** Pale Yellow.

**Bark:** Dark gray, smooth and hard, becoming fissured into irregular narrow ridges.

**Height:** 100’.

**Fruit:** The ½” acorn is nearly round with a shallow saucer-shaped cup. Matures 2<sup>nd</sup> year.

The Willow Oak is a southern tree and New Jersey is the northern extant of its native range. It is typically found in floodplains and bottomlands. It is an attractive tree with its rounded crown, ending in many small branches and delicate willow-like foliage. Willow Oaks are widely planted as shade trees and are commonly found along Wenonah’s streets. Surprisingly, Willow Oaks are almost entirely absent from the conservation area. There is one 10’ sapling on the Eldridge Trail by the first bridge over Monongahela Branch, and two seedlings nearby. There is also a small seedling at Hanisey’s Landing. I did not note Willow Oaks at any other locations in the conservation area.

### **Chestnut Oak (*Quercus prinus*) White Oak Group**

**Origin:** Native.

**Leaf:** Simple. Shiny green, elliptical or ovate, broadest beyond the middle, short-pointed and wavy edged with 10-16 broad, rounded and lobe-like teeth without bristles.

**Fall foliage:** Yellow.

**Bark:** Dark grayish brown, thick and deeply furrowed into long ridges. Distinctive.

**Height:** 80'.

**Fruit:** The large 1 ¼" acorn is egg-shaped and 1/3+ covered by a deep thin cup with shot warty scales. Matures 1<sup>st</sup> year.

Chestnut Oak is an upland tree of dry woods or well drained lowland sites. The common name comes from the superficial resemblance of its leaves to those of the Chestnut. Its deeply furrowed dark bark is distinctive and unlike that of any other tree in Wenonah's woodlands. The large shiny and colorful acorns mature in one season and fall in great numbers in October, turning from green to yellow to chestnut brown. The thin cups are loosely attached and generally absent from fallen acorns. This is the most numerous of the oak species in Wenonah's woods and is found on all trails and in all areas except at Hanisey's Landing. It is so abundant along sections of the Monongahela Brook Trail that its numbers exceed those of all other species combined. It is also abundant at Wenonah Lake, Break Back Run Trail, Mantua Creek Trail, Glen Trail, Eldridge Trail and the Monongahela Loop Trail.

### **Northern Red Oak (*Quercus rubra*) Red Oak Group**

**Origin:** Native.

**Leaf:** Simple. Dull green above and dull light green below, elliptical and divided (usually less than half way to the midvein) into 7–11 shallow wavy, sharp-pointed lobes, ending in bristle-tipped teeth.

**Fall foliage:** Brown or dark red.

**Bark:** Gray and smooth in young trees, becoming furrowed into scaly ridges in mature trees.

**Height:** 90'.

**Fruit:** The 1" acorn is roundly egg-shaped and less than 1/3 enclosed by a broad, narrow cup with reddish-brown and tightly overlapping scales. Matures 2<sup>nd</sup> year.

The Northern Red Oak has a very large native range and has the most northern range of any Eastern oak. It can also be found as far south as southern Alabama and as far west as Oklahoma. With its large rounded crown and spreading branches, it is a majestic tree. Although the bark is furrowed into ridges on mature trees, it is distinctly smoother and lighter in color than the somewhat similar Black Oak (*Q. velutina*). On mature trees, Northern Red Oak typically develops narrow, smooth and unridged vertical areas (ski tracks), which are an excellent field characteristic for this species. Another field characteristic is the acorn's narrow cup, which sits on the nut's top like a Frenchman's beret. There are some excellent specimens of Northern Red Oak in Wenonah's conservation area. It is abundant on Break Back Run and Mantua Creek Trails and along the railroad south of Cedar Ave. Some very nice specimens can be seen in the woods west of Wenonah Lake. It is found on all the trails except the Glen Trail, Monongahela Loop Trail and the School Trail.

### **Post Oak (*Quercus stellata*) White Oak Group**

**Origin:** Native.

**Leaf:** Simple. Somewhat leathery or thickened. Dark green and shiny above. Pale green and hairy below. The leaf is reverse ovate (broadest at the tip) with 5-7 deep, broad and rounded lobes. The middle 2 lobes are the largest and have distinctly square sides.

**Fall foliage:** Brown.

**Bark:** Light gray and fissured into scaly ridges.

**Height:** 70'.

**Fruit:** The ½" to 1" acorn is elliptical and up to ½ enclosed in a deep cup. Matures 1<sup>st</sup> year.

Post Oak is a medium sized tree of sandy or gravelly areas and also of flood plains and along streams. The distinctive leaf has been said to resemble a Maltese Cross. It is rather uncommon in the conservation area. A number of medium sized Post Oaks grow on the west side of Wenonah

Lake in association with Blackjack Oak (a common association). Post Oaks were also noted on the high ground along the Indian Trail spur off Eldridge Trail. They were not found at any other locations in the conservation area.

### **Black Oak (*Quercus velutina*) Red Oak Group**

**Origin:** Native.

**Leaf:** Simple. Elliptical with 7 to 9 lobes ending in bristle-tipped teeth. The lobes are variable and can be shallow or deeply cut. Leaves are shiny green above and yellow-green below, sometimes with brown hairs.

**Fall foliage:** Dull red or brown.

**Bark:** Gray, hard and smooth on young trees, becoming blackish, rough and deeply furrowed into ridges on mature trees.

**Height:** 80'

**Fruit:** The ¾" acorn is elliptical and ½ enclosed in a deep, thick, top-shaped cup fringed with large, loose scales. Matures 1<sup>st</sup> year.

The Black Oak is a medium sized to large tree with an open spreading crown. It is an upland species of sandy areas and clay soils. This tree is sometimes confused with the Northern Red Oak but the Black Oak leaf's shininess (not necessarily the shape), the absence of "ski tracks" on mature trunks and the distinctive deep and shaggy acorn cup are all good field characteristics for distinguishing the two species. A common oak in Southern New Jersey, Black Oak is present but not overly common in the conservation area. It is abundant at Wenonah Lake and on the Indian Trail spur near Eldridge Trail. It is found on all other trails except Hanisey's Landing, The Glen Trail, The Garden Trail and The Monongahela Brook Trail.

## **Gramineae (*Grass Family*)**

### **Bamboo (*species not identified*)**

The presence of Bamboo in a very limited section of our conservation area is noted here because it meets the definition of a tree as a growth form. I have made no attempt to identify the species or cultivar of this Bamboo as that task is outside the scope and purpose of the inventory. Bamboo is a woody plant and the largest member of the Grass Family (Gramineae or Poaceae). It is placed taxonomically in the subfamily Bambusoideae which contains 91 genera and over 1,000 species of Bamboo. Bamboo is native to Asia and has been widely planted in North America. Many varieties and cultivars exist and although it is an attractive and interesting group of plants, Bamboo can be highly invasive and hard to control. A large stand of 12'+ high Bamboo had been planted at the back of a residential area along Camels Back Run between the Synnott's Pond area and Mantua Ave. The Bamboo comes down to the stream bank within the conservation area.

## **Hamamelidaceae (*Witch-hazel Family*)**

### **Sweetgum (*Liquidambar styraciflua*)**

**Origin:** Native.

**Leaf:** Simple. 3" to 6" and star-shaped (somewhat maple-like) with 5 (occasionally 7) long-pointed and finely saw-toothed lobes and 5 main veins. Leaves are shiny dark green and have a resinous odor when crushed.

**Fall foliage:** Reddish with shades of orange, yellow and purple.

**Bark:** Gray and deeply furrowed into narrow scaly ridges.

**Height:** 100'.

**Fruit:** A 1" dark brown ball composed of individual fruits, each with 2 long, curved prickly points. The fruit often remain on the branches into the winter.

Sweetgum is a large tree easily identified by its star-shaped leaves, which are quite colorful in autumn. Corky wings are often present on twigs and small branches. It is a colonizing tree of cleared areas and in old fields. The sweet "gum" was obtained by removing the bark and scraping the resins underneath and was used for medicines and as chewing gum. Sweet gum has a large range but is primarily a Southern tree (north to extreme Southern New England). It is common in Southern New Jersey but is not particularly abundant in Wenonah's Conservation area. It is found occasionally on most trails but never in large numbers. It was not noted at all at Wenonah Lake, The Glen Trail, The Garden Trail nor the Monongahela Loop Trail.

## Juglandaceae (*Walnut Family*)

### Pignut Hickory (*Carya glabra*)

**Origin:** Native.

**Leaf:** Compound and 6" to 10" long with 5 (occasionally 7) lanceolate and nearly stalkless leaflets, the largest toward the tip. Leaflets are light green, and finely saw-toothed and hairless, although the veins are sometimes hairy below.

**Fall foliage:** Yellow.

**Bark:** Light gray and smooth, becoming furrowed with forking ridges.

**Height:** 80'.

**Fruit:** A 1" to 2" round or slightly pear-shaped fruit with a thin green husk, turning brown and splitting open to release the thick-and usually roundish (not angled) shelled hickory nut.

This is a hickory species with a very large range. It is common in our area. I noted two very large mature trees (80'+) on Break back Run Trail, some medium sized trees on Mantua Creek Trail and one 5' high sapling on the Comey's Lake Trail, west of the lake. Identification was based on a 5-segment leaf with hairless leaflets and hairless leaf stems and on the roundish, unangled shape of the hickory nuts. The hickory more commonly seen in Wenonah's conservation area is the Mockernut Hickory. (See next entry.)

### Mockernut Hickory (*carya tomentosa*)

**Origin:** Native.

**Leaf:** Compound and 8" to 20" long with 7 (occasionally 9) elliptical or lanceolate, nearly stalkless leaflets, the largest toward the tip. Leaflets are shiny or rough and yellow-green to dark green, and finely saw-toothed. The leaf stems and the underside of the leaflets are densely hairy. The leaves are very aromatic when crushed.

**Fall foliage:** Yellow.

**Bark:** Gray and smooth, becoming furrowed into forking ridges..

**Height:** 80'.

**Fruit:** A 1.5" to 2" round or pear-shaped fruit with a thick green husk, turning brown and splitting open to release the thick-shelled and slightly 4 angled hickory nut.

Mockernut Hickory is a large and stately tree typically found in moist uplands and frequently associated with oaks and pines. It has a very wide range in Eastern North America and is locally common. The hickory nuts are edible and are relished by squirrels and other wildlife. The hairy underside of the leaves is a good field identification characteristic. Mockernut Hickory is the hickory most commonly found in Wenonah's conservation area and is quite abundant, frequently mixing with oaks, and Tulip Poplars. It is abundant at Wenonah Lake, Dilks Pond, on Break Back Run Trail and Mantua Creek Trail. It is found in smaller numbers on most other trails as well.

## **Black Walnut**(*Juglans nigra*)

**Origin:** Native.

**Leaf:** Pinnately compound and up to 24" long with 9 to 21 broadly lanceolate and stalkless leaflets, Leaflets are long pointed and finely saw-toothed, hairless above and hairy below. They are aromatic when crushed.

**Fall foliage:** Yellow.

**Bark:** Dark brown and deeply furrowed into scaly ridges.

**Height:** 90'.

**Fruit:** Growing singly or in pairs the fruit consists of 1.5" to 2.5" round green or dark brown husk covering a thick shelled and irregular inner layer enclosing the edible nut.

Black Walnut is a large tree with a distinctive dark and deeply furrowed bark and easily recognizable large pinnately compound leaves, which can be confused on smaller trees with those of the Ailanthus and on saplings with those of the Sumacs. The edible nut is a prized and valuable food source for wildlife. Black Walnut is a valuable native hardwood and is very desirable for furniture. It has a large native range (New York State to Texas) and is typically found in well drained soils in mixed or hardwood forests, often along streams. It is particularly abundant on Comey's Lake Trail and Mantua Creek Trail. It is found on all the trails except at Dilks Pond, The Indian Trail spur and The Monngahela Loop Trail.

## **Lauraceae** (*Laurel Family*)

### *Sassafras* (*Sassafras albidum*)

**Origin:** Native.

**Leaf:** Simple. Variable and irregular. Usually elliptical, often with two 'mitten-shaped' lobes or three broad lobes. Leaves are entire and often hairy below.

**Fall foliage:** Orange often with red, yellow or pink.

**Bark:** Gray- brown and becoming deeply furrowed.

**Height:** 60'.

**Fruit:** Clusters of 3/8" elliptical blue-black shiny berries in a red "cup" and on a red stalk.

Sassafras is a very common local tree and smaller specimens are more common than mature ones. It prefers moist sandy soils and often colonizes old fields, clearings and forest openings. The very aromatic roots and bark have been used to scent soap, flavor root beer, in traditional medicines and for Sassafras tea. Sassafras, including several larger specimens, is common in the conservation area. It is abundant at Wenonah Lake, on Break Back Run Trail and on Mantua Creek Trail. It was not noted on The Glen Trail but is found on all other trails in the conservation area.

## **Magnoliaceae** (*Magnolia Family*)

### *Tuliptree* (*Liriodendron tulipifera*)

**Origin:** Native.

**Leaf:** Simple. 3" to 6" and about as wide as long. Squarish with a broad tip and nearly straight base with 4 (occasionally 6) paired and pointed lobes. The leaves are shiny green, hairless, long-stalked and untoothed..

**Fall foliage:** Bright yellow

**Bark:** Dark gray, becoming thick and deeply furrowed.

**Height:** Very tall, to 120'.

**Fruit:** 2.5" long and cone-like. Composed of overlapping, light brown 1 or 2 seeded winged nutlets which shed from as upright axis. The nutlets are eaten by squirrels and song birds.

Also called Tulip Poplar and Yellow Poplar, the Tuliptree is found from New England to Florida and west to the Mississippi. It prefers moist but well drained soils and is found with other hardwoods or sometimes in pure stands. With its tall straight trunk and narrow crown, it is one of the most attractive, tallest (120'+) and largest (diameter 10') trees of the Eastern hardwood forest. It produces showy orange, yellow and green flowers in May-June and brilliant yellow foliage in fall. The common and species names are derived from the resemblance of its unusually shaped leaves to tulips. It is a colonizing tree, needing ample sunlight in its early growth stages and is often prominent in second growth forests. In old growth forests, specimens have grown to an impressive height and girth. There is a very similar Tuliptree species native to China, a reminder that at one time the temperate hardwood forests of Eastern North America and East Asia were united in a single land mass. The Tuliptree is one of the commonest and among the largest trees in Wenonah's conservation area. It is found in every area and on every trail in the conservation area and is abundant on most of them. One unusually large specimen can be seen near the Synnot's Pond Dam and another near the Japanese Teahouse.

### **Umbrella Magnolia (*Magnolia tripetala*)**

**Origin:** Native to North America but outside its historical range.

**Leaf:** Simple. Very large (20"). Reverse ovate (largest beyond the middle) and entire. The leaves are often attached in whorls at the ends of branches, suggesting an umbrella.

**Fall foliage:** Yellow.

**Bark:** Light gray, smooth and thin.

**Height:** 40'.

**Fruit:** A 4" long, oblong, red cone composed of numerous separate short-pointed fruits.

Umbrella Magnolia with its large leaves, smooth light gray bark, large purple leaf buds and very large showy white flowers is an unusual and attractive tree. Its native historical range is restricted to numerous rather small pockets of habitat stretching from Southern Pennsylvania to Oklahoma. It is common at low elevations in the Great Smoky Mountains along with the similar but even more restricted Fraser Magnolia (*M. fraseri*). Its preferred habitat is the moist soils of mountain valleys. In late spring the Umbrella Magnolia produces very large flowers, up to 10" across at the ends of its branches. The flowers have 3 greenish cup-like sepals and 6 to 9 white petals. They are ill-scented but beautiful. Umbrella Magnolias are very common, both saplings and mature trees, in the area along Mantua Creek Trail just west of the railroad and in the adjoining Monongahela North Bank Tract. They are also found in lesser numbers on The Glen Trail, The Garden Trail, Break Back Run Trail, Eldridge Trail, Comey's Lake and the School Trail.

### **Sweetbay (*Magnolia virginiana*)**

**Origin:** Native.

**Leaf:** Simple. 3" to 6" long, slightly thickened, oblong, entire and blunt-tipped. Shiny green above, whitish and hairy below.

**Fall foliage:** Pale yellow.

**Bark:** Light gray, smooth, thin. and aromatic

**Height:** 60'.

**Fruit:** A 2" long, elliptical, dark red cone composed of numerous separate, pointed fruits, each with 2 red seeds.

Sometimes called a Swamp Bay or Swamp Magnolia, Sweetbay is primarily a Southern tree native to the coastal plain from Long Island to Texas. It is found in wet soils, coastal swamps and on the margins of ponds and streams. Its leaves and twigs are aromatic and spicy. It bears large (2.5") white, cup-shaped and sweet-scented flowers with 9 to 12 petals in late spring. This attractive and distinctive tree is found on the margins of Wenonah Lake where some large specimens can be seen. A large Sweetbay is also found on the west shore of Comey's Lake. A single medium sized

Sweetbay also grows along Monongahela Brook Trail, near the intersection with Eldridge Trail. I did not note this species elsewhere in the conservation area.

## **Mimosaceae (*Mimosa Family*)**

### **Mimosa (*Albizia julibrissin*)**

**Origin:** Non-native. Native to East Asia

**Leaf:** Bipinnately compound. 6" to 15" long with 5-12 side axils, each with 15-30 pairs of pale green oblong leaflets.

**Fall foliage:** Yellow.

**Bark:** Dark gray to gray and nearly smooth.

**Height:** 20'.

**Fruit:** A flat 6"-8" narrowly oblong brown pod containing flattened shiny bean-like seeds.

Mimosa, also called Silktree, is a widely planted small ornamental tree native to Asia. It is noted for its feathery pink flowers, which bloom throughout the summer. It has naturalized throughout the Southeastern United States and is also seen in Southern New Jersey along roadsides, in waste places and at field edges. A very few small saplings have been noted in Wenonah's conservation area- one at Hanisey's Landing, one on Mantua Creek Trail and a couple of saplings in the Synnott's Pond area and on the School Trail. Its numbers in the conservation area are quite small and not sufficient for it to be of serious concern as an invasive species.

## **Moraceae (*Mulberry Family*)**

### **White Mulberry (*Morus alba*)**

**Origin:** Non-native. Native to China.

**Leaf:** Simple. Highly variable. Generally ovate and sharp-pointed but also frequently with 3 or 5 lobes. Coarsely toothed, shiny and with 3 main veins radiating from the base of the leaf.

**Fall foliage:** Yellow.

**Bark:** Light reddish brown and smooth in younger trees, becoming rough and furrowed into scaly ridges.

**Height:** 40'.

**Fruit:** A ¾" long cylindrical red, pink, white or blackish "mulberry" consisting of numerous, bead-like one-seeded fruits. Sweet and edible, maturing in late spring.

White Mulberry in its native China is the host plant for the silkworm and has been cultivated for centuries for this purpose. It was introduced in the Southeastern United States as part of a failed attempt to develop an American silk industry. The tree has been widely planted as an ornamental and numerous cultivars have been developed. It is thoroughly naturalized in Eastern North America and on the Pacific Coast. It is a hardy and adaptable tree and birds feed on its sweet fruit. White Mulberry is a very common tree in Southern New Jersey in woods, fields and roadsides. It thrives in urban areas. White Mulberry is common at Hanisey's Landing and found occasionally on most trails in the conservation area.

Note: The native Red Mulberry (*Morus rubra*) was not noted in the conservation area. In fact, it is now quite uncommon locally and I have never seen a specimen of it.

## Oleaceae (*Olive Family*)

### Green Ash (*Fraxinus pennsylvanica*)

**Origin:** Native.

**Leaf:** Opposite and pinnately compound with 7-11 stalkless, broadly lanceolate and saw-toothed leaflets. Shiny green above, paler and slightly hairy below.

**Fall foliage:** Yellow.

**Bark:** Gray and furrowed into scaly ridges, generally not forking.

**Height:** 60'.

**Fruit:** A light brown key with a narrow wing extending nearly to the base. Maturing in fall and hanging in clusters.

The Green Ash is the most widespread of our native Ashes. It occurs from the Western high plains to the Atlantic and from Canada to the Gulf Coast. It is a lowland tree and prefers moist soils, stream banks and forest floodplains. It is a fast growing tree with a rounded or irregular crown and is sometimes called a Water Ash or Swamp Ash. Green Ash is common in low moist habitats in the conservation area. It is abundant at Hanisey's Landing, on Mantua Creek Trail and on the Indian Trail spur. It is found on all the trails except The Glen Trail and the Dilks Pond area.

Note on Ashes: I found no White Ash (*Fraxinus americana*) in the conservation area. White Ash is an upland tree and the only other Ash native to Southern New Jersey. It is commonly planted as a street tree in Wenonah. White and Green Ash are very similar in appearance. Two good field characteristics for distinguishing them are-1. The bark of the White Ash is deeply and narrowly ridged. The ridges are typically *forked*. The bark of the Green Ash is more broadly ridged and the ridges are typically *not forked*. 2. The leaf scar of the White Ash resembles a U or "smile" while the leaf scar of the Green Ash is a "half moon" with a horizontal line across the top.

## Platanaceae (*Sycamore Family*)

### Eastern Sycamore (*Platanus occidentalis*)

**Origin:** Native.

**Leaf:** Simple. 4" to 8" long and broadly ovate with 3 to 5 shallow short-pointed lobes. The leaf margins are wavy with scattered large teeth.

**Fall foliage:** Brown.

**Bark:** The outer bark is thin, mottled and smooth on the trunks. It frequently peels off in sheets and flakes, revealing the pale yellow and white underbark. The bark at the base of the trunk can be deeply furrowed into ridges.

**Height:** 120'.

**Fruit:** A 1" brown ball hanging on a long stem and composed of numerous hair-tufted nutlets. It matures in autumn and drops in winter.

The Eastern Sycamore is one of the largest and most strikingly attractive trees of the Eastern hardwood forest. It is the most massive tree native to Eastern North America with a larger trunk than any other tree in our region (One specimen had a recorded diameter of 15"). It rivals the Tuliptree in height. It is found on lowland sites such as stream banks and swamp edges but it also pioneers on upland sites and old fields. It once had the common name of Buttonwood because its hard dense wood could be used for small items such as buttons without splitting and Sycamore wood is prized for furniture and flooring. The hollow cavities of older trees (along with those of the Tuliptree) were used as nesting sites by Chimney Swifts. The trunks of both these tree species were also used by native Americans for dugout canoes. The Eastern Sycamore is found on most trails in the conservation area but is not present in large numbers on any of them. One large and impressive specimen is found on Mantua Creek Trail.

## *Rosaceae (Rose Family)*

### **Sweet Cherry (*Prunus avium*)**

**Origin:** Non-native. Native to Europe and Asia.

**Leaf:** Simple. Dull green. Ovate (or reverse ovate), abruptly long-pointed and coarsely (often doubly) toothed.

**Fall foliage:** Yellow.

**Bark:** Reddish-brown and smooth, marked with horizontal stripes and often peeling.

**Height:** To 70'.

**Fruit:** A 1" round or ovate red to purple cherry. Edible and sweet, maturing in summer.

This introduced fruit tree, also called a Mazzard Cherry", can grow up to 70" in height with a trunk diameter of up to 1.5'. It is widely cultivated, has numerous varieties and the sweet fruit is relished by birds. The Sweet Cherry has naturalized locally in several parts of North America and can be found on roadsides and woodland borders. This species was only noted at one location on the conservation area. There are two large Sweet Cherry trees in the woodland border near the trailhead of the Indian Trail spur at the terminus of Indian Trail (the street in the Woods of Wenonah development).

### **Sour Cherry (*Prunus cerasus*)**

**Origin:** Non-native. Native to Crimea.

**Leaf:** Simple. Shiny green and hairless. Ovate (or reverse ovate), abruptly short-pointed and finely (often doubly) toothed. Teeth rounded.

**Fall foliage:** Yellow.

**Bark:** Dark gray and smoothish with horizontal lines, becoming rough in older trees.

**Height:** 30'.

**Fruit:** A ¾" round and shiny red cherry, edible and sour.

Originally native to the Crimea, this small tree was introduced into cultivation in western Asia and southeastern Europe in ancient times. It was later introduced into and become naturalized in North America. It bears white 5 petaled flowers, 2-5 flowers on stalks in clusters with the leaves. The fruit is the red edible sour cherry, maturing in summer. Sour Cherry is found, at least occasionally, as a sapling or small understory tree on almost all the trails in the conservation area. It is abundant on the School Trail. I did not note any Sour Cherrys at Wenonah Lake, Hanisey's Landing or along the railroad south of Cedar Ave.

### **Pin Cherry (*Prunus pensylvanica*)**

**Origin:** Native. Possibly outside its historical range.

**Leaf:** Simple. Narrow and lanceolate, long-pointed and finely and sharply toothed. Shiny green above.

**Fall foliage:** Yellow.

**Bark:** Reddish-brown and smooth with horizontal lines. Becoming gray and fissured into scaly plates on older trees.

**Height:** 30'.

**Fruit:** A ¼" red cherry. Fruit are clustered on long, equal length stalks attached to the branch at the same point.

Pin Cherry is a northern species native to a wide range that includes New York State, New England, the Great Lakes region, large areas of Canada and the Appalachians south to Georgia. Most references (not all) include Northern New Jersey but not Southern New Jersey in the species' historical range. At least one includes all of New Jersey in its range. This tree is also

called a Fire Cherry because it will quickly colonize area after a forest fire. It also acts as a nurse tree providing cover for the seedlings of other successive hardwoods. I only noted one Pin Cherry tree in the conservation area, a medium sized tree on the School Trail, near Maple Street.

### **Black Cherry (*Prunus serotina*)**

**Origin:** Native

**Leaf:** Simple. Narrow and lanceolate, long-pointed and finely toothed. Teeth can be blunt or curved. Shiny dark green above, light green below and usually hairy along the midvein.

**Fall foliage:** Yellow or red.

**Bark:** Dark gray and smooth with horizontal lines, becoming very rough irregularly fissured and scaly on older trees and exposing the reddish inner bark.

**Height:** 80'.

**Fruit:** A 3/8" dark red to blackish cherry. Edible and juicy but somewhat bitter.

Black Cherry is the largest and most valuable native cherry. It is native throughout the Eastern United States and is prized for its hard and close-grained wood. It bears small white flowers in 4" to 6" long racemes in spring. The cherries are a food source for wildlife and the dark, distinctive scaly and aromatic bark has been used as a flavoring. Black Cherry is fairly common in the conservation area as both saplings and mature trees. It is found along all trails except Dilks Pond, Monogahela Brook Trail and the Lower Monogahela South Back tract. It is abundant in the Synnott's Pond area.

Note on Prunus species identification: Both Black Cherry (*P. serotina*) and Pin Cherry (*P. pensylvanica*) are tall trees with **long, narrow toothed leaves**. The Black Cherry bears 3/8" white flowers in 4' to 6" long *racemes* and its fruit is dark red to blackish. The Pin Cherry bears 1/2" white flowers in roundish *umbels* and its fruit is bright red. Three common Prunus species have **ovate toothed leaves**: Sweet Cherry (*p. avium*), Sour Cherry (*P. serotina*) and Common Chokecherry (*P. virginiana*). The Sweet Cherry's leaves are *dull green* above and *hairy* on the veins below. The Sour Cherry's leaves are *shiny* above and *hairless*. Both species bear 1" flowers in roundish umbels. The Common Chokecherry's leaves are *shiny* above and generally *somewhat hairy* below. It bears 1/2" flowers in a 4" long raceme similar to that of the Black Cherry's. I did not note any Common Chokecherry in the conservation area but this species is locally common and may well be present there.

## **Salicaceae (*Willow Family*)**

### **Weeping Willow (*Salix babylonica*)**

**Origin:** Non-native. Native to China.

**Leaf:** Simple. 5" long, narrowly lanceolate with long-pointed tips and finely toothed. Green above and whitish below, hanging from short leafstalks.

**Fall foliage:** Yellow.

**Bark:** Gray, rough thick and deeply furrowed into long branching ridges.

**Height:** To 50'.

**Fruit:** A small 1/16" light brown capsule, in elongated clusters and maturing in early summer.

The most distinctive feature of this handsome ornamental is the "weeping" effect of its long narrow leaves hanging from numerous small pendulous branches. The short trunk and irregular crown also give this tree a unique and easily recognized shape. Its leaves appear early in the spring and it is the last willow to lose its leaves in autumn. It has been widely planted and has naturalized through much of the Northeast and Midwest. Weeping Willow was noted in the

conservation area only as a couple of large specimens along Mantua Creek, the largest near the Mullen property.

### **Black Willow (*Salix nigra*)**

**Origin:** Native.

**Leaf:** Simple. 5” long, narrowly lanceolate with long-pointed tips and finely toothed, often curved to one side. Shiny green above and paled green below.

**Fall foliage:** Yellow.

**Bark:** Brown to dark brown and deeply furrowed into long forking ridges.

**Height:** To 100’.

**Fruit:** A small 3/16” light brown capsule, in elongated clusters and maturing in late spring.

Black Willow is our largest native Willow and the only willow native to our region to achieve large tree size. It is found throughout the Eastern United States and has the largest range of any *Salix* species in our region. The “Black” is a reference to often darkish brown bark color. The bark actually can be one of several shades of brown and its color is not a reliable field characteristic. Its preferred habitat is low moist to wet soils on stream banks, lake shores and in flood plains. Two introduced Willows, White Willow (*S. alba*) and Crack Willow (*S. fragilis*) also attain large tree size and are very similar to Black Willow. Identification can be challenging. The underside of the leaves for both introduced species are *whitish*, while the underside of Black Willow leaves is *pale green*. Black Willows, usually smaller trees, can be found at Wenonah Lake, Mantua Creek Trail, Comey’s Lake, Synnott’s Pond and scattered at various locations along the Monongahela Branch from Rt. 553 to Mantua Creek. Several quite large specimens are present along Break Back Run.

## **Simaroubaceae (*Quassia Family*)**

### **Ailanthus (*Ailanthus altissima*)**

**Origin:** Non Native. Native to China.

**Leaf:** Pinnately compound. Up to 24” long with 13 to 25 leaflets. The leaflets are paired, broadly lanceolate and toothed only near the base. Similar to Black Walnut and the Sumacs.

**Fall foliage:** Yellow.

**Bark:** Gray-brown and smooth or fissured and rough with light-colored grooves.

**Height:** To 100’, generally much smaller

**Fruit:** 1.5” long narrow, flat, winged seed. Hanging in clusters and turning from green to bright orange-red at maturity. Very showy.

Also called the Tree-of Heaven, Ailanthus is the fastest growing tree in North America, and can grow 8’ in a season. Formerly widely planted as an exotic ornamental, it is now considered undesirable and invasive. Ailanthus is now thoroughly naturalized in North America. It is extremely tolerant of harsh conditions and thrives in urban areas. Ailanthus is not common in the conservation area and does not at presently constitute a significant invasive threat here. It is present, but uncommon at Wenonah Lake, Hanisey’s Landing, on Monongahela Brook Trail, Eldridge Trail, along the railroad south of Cedar Ave. and in the Lower Monongahela South Bank tract.

## **Styracaceae (*Storax Family*)**

### **Carolina Silverbell (*Halesia carolina*)**

**Origin:** Native to North America but outside its historical range.

**Leaf:** Simple. 3” to 6” long, elliptical, abruptly long-pointed and finely toothed.

**Fall foliage:** Yellow.

**Bark:** Reddish-brown and furrowed into loose broad scaly ridges.

**Height:** 90'.

**Fruit:** A distinctive 1" to 2" brown oblong and long-pointed pod with four broad wings. It contains 1-3 seeds and remains attached into winter.

Carolina Silverbell is a Southeastern species, prominent in the Southern Appalachians, particularly in the Great Smoky Mountains. The common name refers to its lovely display of white (or pinkish) 1" 4-petaled flowers that appear in mid spring in drooping clusters on its branches. A small group of about 1/2 dozen Carolina Silverbell saplings, none more than 15' in height, is found on Mantua Creek Trail behind the Lentz property. New Jersey is well beyond the northern limit of this species range and these trees are clearly the escapee descendents of an ornamental planting.

## Tiliaceae (*Linden Family*)

### American Basswood (*Tilia americana*)

**Origin:** Native.

**Leaf:** Simple. 3" to 10" or more long and wide, roundish or broadly ovate, notched at the base and coarsely toothed. They are short-pointed at the tip, palmately veined and long stalked.

**Fall foliage:** Yellow or brown.

**Bark:** Dark gray and smooth on younger trees, furrowed into narrow scaly ridges on older trees..

**Height:** 100'.

**Fruit:** A small cluster of 3/8" long-stemmed, hairy, brownish nutlets attached to a long, thin lanceolate bract that acts as a papachute to disperse the nutlets. Persisting on the tree into winter.

American Basswood flowers in early summer and bears 1/2" cream-colored, 5 petaled blossoms in long-stemmed drooping clusters. The flowers are highly attractive to bees and American Basswood is valued as a honey plant. It is the northernmost and most widespread of the 3 native Basswood species. American Basswood is present but not common in Wenonah's woods. Several medium sized tree occur on the wooded edge of the south side of W. Mantua Ave., near the Mantua Creek Trail head. A couple smaller trees and seedling are also found on the Monongahels Brook Trail and the Comey's Lake Trail, the largest on the west side of the lake. American Basswood is also found in Wenonah as a planted street tree on E. Mantua Ave. along with some rather similar European Lindens (possibly *T. Xeuropaea*)

## Ulmaceae (*Elm Family*)

### Hackberry (*Celtis occidentalis*)

**Origin:** Native.

**Leaf:** Simple. Ovate, long-pointed, coarsely toothed with 3 main veins. The base is rounded and distinctly uneven. Texture is typically rough above (occasionally smooth).

**Fall foliage:** Yellow.

**Bark:** Light gray or light brown and smooth with distinctive corky warts or ridges, becoming scaly on mature trees.

**Height:** 100'.

**Fruit:** A 3/8" bright orange-red to purple round berry hanging from a long slender stalk at the leaf base. This "Sugasberry" is dry but sweet and is eaten by numerous bird species.

Hackberry, also referred to as Northern or American Hackberry, is the northernmost of the 3 Hackberry (*Celtis*) species that occur in the East. It flowers in early spring, bearing very small

(1/8") green blossoms. This tree often produces deformed bushy growths called "witch's-brooms", which are caused by mites and fungi. (I have not seen this phenomenon on Hackberries in Wenonah.) The smooth gray bark with its unusual warts and bumps is an excellent field characteristic. Hackberry was noted at Hanisey's Landing, Break Back Run Trail (near the Maple Street trail head), the Indian Trail spur, Synnott's Pond and is fairly abundant on the Comey's Lake Trail (east side of the lake) where some larger saplings exceed 25'.

### **American Elm (*Ulmus americana*)**

**Origin:** Native.

**Leaf:** Simple. Elliptical, abruptly long-pointed, rounded at the base with unequal sides, and doubly saw-toothed with many parallel side veins. 1" to 3" long but can be larger. Upper surface can be rough or smooth.

**Fall foliage:** Bright yellow.

**Bark:** Light gray and deeply furrowed into broad, forking scaly ridges. Twigs are smooth (hairless).

**Height:** 100'.

**Fruit:** A 1/2" elliptical, flat narrowly winged key, deeply notched with the points curved inwards and hairy on the edges only. It matures in early spring.

The American Elm's range extends from Southern Canada to the Gulf Coast and from the High Plains to the Atlantic. It prefers moist soils in hardwood forests. It is a large tree often with low forking branches that give it a vase shape. Large mature trees are far less abundant than in the early part of the 20<sup>th</sup> century due to the introduction around 1930 of the alien Dutch Elm Disease, a fungal disease spread by both native and European Elm Bark Beetles. American Elms can be seen on a number of Wenonah's trails. A very large mature tree stands on the Glen Trail where it meets the Mantua Creek Trail, by the foot bridge. It is the largest American Elm I encountered in the conservation area. The species is also present, but never in large numbers, at Wenonah Lake, Break Back Trail (near the Maple Street trail head), Comey's lake Trail, Monongahela Loop Trail and at Synnott's Pond.

### **Slippery Elm (*Ulmus rubra*)**

**Origin:** Native.

**Leaf:** Simple. Broadly elliptical, abruptly long-pointed, rounded at the base with very unequal sides, and doubly saw-toothed with 10-12 parallel side veins on each side. 4" to 7" long. Upper surface is very rough and the underside is paler and covered with soft hairs.

**Fall foliage:** Dull yellow.

**Bark:** Gray and deeply furrowed into rectangular plates. Twigs and buds are hairy.

**Height:** 80'.

**Fruit:** A 1/2" elliptical, greenish, flat wide-winged key, notched at the top and hairless. It matures in early spring.

Slippery Elm is named for its red, thick, slimy and glue-like inner bark, which is mildly fragrant and edible. It was once used as a preventative for scurvy and as a cough medicine. Deer and rabbits feed on the twigs. Although both of Wenonah's Slippery Elm sites are in wet swampy habitats, this species can thrive in moist areas or in drier uplands. Slippery Elm is present along Break Back Run as medium sized trees and at the north end of the Synnott's Pond area as several 20" high saplings.

Note on field identification of American and Slippery Elms. These two species are very similar in appearance. Although the Slippery Elm has a larger (generally) and rougher (usually) leaf than American Elm, leaf characteristics are not definitive. In spring the keys are quite distinct. The American Elms is *narrowly winged and hairy on the edges*, while the Slippery Elm's is *widely winged and hairless*. Other times of the year the twigs offer the best field characteristics. The American Elm's twig is *smooth and hairless*, while the twig of the Slippery Elm is *hairy*. One can also cut or bite the Slippery Elm twig to reveal the red "slippery" inner bark.

## Division: Pinophyta (Conifers)

### Cupressaceae (*Cypress Family*)

#### Eastern Redcedar (*Juniperus virginiana*)

**Origin:** Native.

**Leaf:** Both scale-like and three sided needle-like leaves on four sided branchlets.

**Fall foliage:** Evergreen.

**Bark:** Reddish-brown, thin, fibrous and shreddy. Trunk is sometimes fluted.

**Height:** 60'.

**Cone:** Roundish and berry-like, ¼" in diameter and bluish with a white bloom.

Eastern Redcedar has the widest range of any conifer in the eastern U.S. It is found in every state east of the Rockies. It is not a true Cedar, but rather a Juniper. True Cedars are all Old World trees, none native to North America. Eastern Redcedar is generally compact and cone-like in appearance. The wood of the Eastern Redcedar is reddish brown, aromatic and prized for cedar chests, cabinets and carvings. The fleshy, berry-like cones are eaten by over 50 species of birds and by opossums. Eastern Red Cedar is abundant along the railroad south of Cedar Ave. It is found occasionally on most trails in the conservation area, not in large numbers and usually as small trees and seedlings. It is absent from Wenonah Lake and the Monongahela Brook Trail. The largest Eastern Redcedar in the conservation area is a mature tree of about 60' in the Lower Monongahela South Bank tract.

### Pinaceae (*Pine Family*)

#### Norway Spruce (*Picea abies*)

**Origin:** Non Native. Native to Northern and Central Europe.

**Leaf:** Shiny dark green, ½" to 1" long. Stiff, sharp-pointed and four-angled. Growing from all sides of the branches from very short leaf stalks. Twigs area light reddish brown.

**Fall foliage:** Evergreen.

**Bark:** Reddish-brown, and scaly.

**Height:** 90'.

**Cone:** 4" to 6" long, cylindrical, light brown with numerous thin slightly pointed scales.

Norway Spruce is a large tree with a pyramidal shape and spreading branches. It is widely planted as an ornamental and has naturalized in some areas of the Northeast. All the Norway Spruce found in the conservation area appear to have been planted rather than naturalized. A large grove of mature Norway Spruce (along with a few Longleaf Pines) is located just south of Maple Street between Wenonah Lake and the railroad. The even spacing of the trees clearly indicates this is a planted grove. Norway Spruce is also found on the Garden Trail, Eldridge Trail (near Comey's Lake) and on Comey's Lake Trail, where there are both large mature trees and recent ornamental plantings.

#### Shortleaf Pine (*Pinus echinata*)

**Origin:** Native.

**Leaf:** Needles are 3" to 5" long and in bundles of 2 and 3. They are slender, flexible and blue-green with sheaths of 1/8" to ¼".

**Fall foliage:** Evergreen.

**Bark:** Reddish-brown with large irregular scaly plates.

**Height:** 100'.

**Cone:** Ovate and 1.5" to 3" long. They are short-stalked and open at maturity but often remain on the tree. The scales have a short, straight and rather weak prickle.

Shortleaf Pine is a southern species and the most widely distributed of the Southern yellow pines. New Jersey is near the northern limit of its range. It is reported to hybridize with other pines and small trees can produce root sprouts after fires. Some good field characteristics of Shortleaf Pine are the needles in bundles of 2 and 3, the weak prickles on the cones (They don't hurt when handled.) and small twigs that snap off easily (this contrasts with the somewhat similar Virginia Pine (*P. virginiana*) and Pitch Pine (*P. rigida*)). Shortleaf Pine is the most common pine in Wenonah's conservation area. It is abundant at Wenonah Lake and on the School Trail. It is also found in small numbers on Manuta Creek Trail, the Indian Trail spur, Monongahela Loop Trail and at Synnot's Pond.

### **Longleaf Pine (*Pinus palustris*)**

**Origin:** Native to North America but outside it's historical range.

**Leaf:** Needles are dark green and very long, 10" to 18", in bundles of 3, flexible and spreading to drooping. Twigs are stout and usually end in prominent white buds.

**Fall foliage:** Evergreen.

**Bark:** Orange-brown, and furrowed into scaly plates. Gray and rough on younger trees.

**Height:** 100'.

**Cone:** Large, 6" to 10" long (The largest of any Eastern Pine.) and narrowly conical. The scales are raised and keeled with a small prickle.

Longleaf Pine is a species of the Southern Coastal Plain with a northern limit of Southeast Virginia. It is a very attractive pine and is planted locally as an ornamental. This species undergoes a "grass stage" as a seedling. In this stage the seedling as a grassy tuft of long needles. During this phase the seedling does not increase in height but begins to grow extensive roots and the stem grows stouter. Longleaf Pine occurs at only one location in Wenonah's conservation area. A few mature trees are found in a planted grove located just south of Maple Street between Wenonah Lake and the railroad along with mature Norway Spruce

### **Pitch Pine (*Pinus rigida*)**

**Origin:** Native.

**Leaf:** 3" to 5" long, in bundles of 3. Yellow-green, stiff and often somewhat twisted

**Fall foliage:** Evergreen.

**Bark:** Dark gray, thick, rough and furrowed into broad scaly ridges exposing the brown inner bark. Tufts of needles often present on the trunk.

**Height:** 60'.

**Cone:** 1" to 3" long, roundly ovate, light brown. Scales are raised and keeled with a sharp prickle. Cones open at maturity, often remaining attached to the branches.

Pitch Pine is a medium sized tree with a rounded or irregular crown and somewhat spreading branches. It is found from New England to the Southern Appalachians and is the typical pine of the New Jersey Pine Barrens. Fire and injury resistant, it has the ability to sprout from roots and stumps after fires. The common name refers to the high resin content of its wood. It is the only 3 needle pine with tough fibrous twigs that do not snap cleanly when strongly bent (contrasted with Shortleaf Pine (*P. echinata*)). I noted only one Pitch Pine in Wenonah's conservation area, a medium sized tree on the west shore of Wenonah Lake in association with Virginia Pine and Shortleaf Pine.

### Eastern White Pine (*Pinus strobus*)

**Origin:** Native.

**Leaf:** Needles are 2.5" to 5" long in bundles of 5, slender, flexible and blue-green

**Fall foliage:** Evergreen.

**Bark:** Dark, rough and deeply furrowed but not scaly, but broken into small irregular blocks on mature trees.

**Height:** 100'+.

**Cone:** 4" to 8" long and narrowly cylindrical and long-stalked. The scales are thin, rounded and flat, lacking a prickle.

Eastern White Pine is the largest conifer native to the Northeast. Native from Eastern Canada and the Great Lakes region to the Southern Appalachians, it has a straight trunk with whorls of horizontal branches, a new row being added with each year's growth. It is the only soft pine (and consequently the only pine with 5 needle bundles) native to Eastern North America, although the Western soft pines and some exotic species (e.g. Sugar Pine (*P. lambertiana*) and Himalayan Pine (*P. excelsa*)) share that characteristic. Its elongated cylindrical cones also easily distinguish it from other pines native to Eastern North America. Eastern White Pine is a common tree locally and often cultivated. A mature stand of Eastern White Pine (presumably planted) exists at Dilks Pond. Large and impressive mature specimens can be seen at Comey's Lake and on the Garden Trail. Eastern White Pine is found, but not in large numbers, on all the trails except Monongahela Brook Trail and the Indian Trail spur.

### Virginia Pine (*Pinus. virginiana*)

**Origin:** Native.

**Leaf:** 1.5" to 3" long, in bundles of 2, slightly flattened and twisted, dull green.

**Fall foliage:** Evergreen.

**Bark:** Brownish-gray, thin and shaggy with narrow scaly ridges. On younger trees the bark is smoothish and peels in flakes.

**Height:** 60', generally shorter.

**Cone:** 1.5" to 3" long and ovate. Reddish-brown, somewhat shiny and nearly stalkless with long slender prickles on slightly raised scales. They typically remain attached to the tree at maturity.

Virginia Pine, also called Scrub Pine and Jersey Pine, is a medium to small sized tree with an open irregular crown and spreading branches and can also be found as a shrub. It is native from Long Island south to Mississippi and is often a colonizer of old fields and abandoned farmlands. Its most distinctive field characteristic is its very short needles that distinguish it from other pines native to our region. Its twigs are tough, fibrous and do not break when sharply bent, unlike those of Shortleaf Pine (*p. echinata*). I noted Virginia Pine only on the east side of Wenonah Lake where there are several medium sized specimens.

### Eastern Hemlock (*Tsuga canadensis*)

**Origin:** Native to North America but outside its historical range.

**Leaf:** In two flat sprays from very short leafstalks. Small, 3/8" to 7/8" long, flat, flexible and rounded at the tip. Shiny dark green above with two white bands of stomata on the underside.

**Fall foliage:** Evergreen.

**Bark:** Brown, thick and deeply furrowed into broad scaly ridges.

**Cone:** Small (1/2"), elliptical, brown and hanging at the ends of twigs, with numerous rounded cone scales.

Eastern Hemlock is a handsome tree, generally conical in shape with long, horizontal and often drooping branches. Its range stretches across the Northeast and south in the Appalachians to Alabama. This is an upland tree of acid soils and cool valleys. In New Jersey it is native in the central and northwestern parts of the state in the piedmont and highland regions. It is not native to the coastal plain. New Jersey's finest stand of native Eastern Hemlocks is in the Tillman Ravine in Stokes State Forest (Sussex Co.). Eastern Hemlock has been very commonly planted as an ornamental as has the Carolina Hemlock, which has a very restricted native range in the Southern Appalachians. The needles of Eastern Hemlock are arranged in two flat rows or sprays on the twig and are rounded at the tip, while those of the Carolina Hemlock spread in all directions and are slightly notched at the tip. Eastern Hemlock is not common in the conservation area and all specimens there appear to have been planted as ornamentals (or are stray seedlings from planted specimens), rather than occurring as a naturalized species. A few Eastern Hemlocks are found on Eldridge Trail (near Comey's Lake), Comey's Lake Trail, Monongahela Loop Trail, Monongahela Brook Trail and Mantua Creek Trail.

## **Taxodiaceae (*Redwood Family*)**

### ***Cryptomeria (Cryptomeria japonica)***

**Origin:** Non Native. Native to Japan and China.

**Leaf:** Awl shaped, bright to blue-green needles, ½ " to ¾" long and spirally arranged, smooth to the touch and somewhat resembling that of the Giant Sequoia.

**Fall foliage:** Evergreen.

**Bark:** Reddish-brown and vertically peeling in strips.

**Height:** 60'

**Cone:** Round cone, 1 inch across, numerous sharp pointed scales giving it a spiny appearance; reddish brown.

Also called Japanese Cedar and Sugi, this is an unusual Asian exotic and a relative of the Redwood and Sequoia. Numerous varieties have been developed and it is planted as an ornamental in North America. Two small specimens of this attractive ornamental have been planted on the east side of Camels Back Run, immediately south of the Synott's Pond Dam.

## The Tree Species Distribution Tables

### KEY

\ Indicates the species is found on that trail and is common but not exceptionally abundant.

\A Indicates the tree species is abundant on that trail.

\u Indicates the tree species is found but is uncommon on that trail.

**Blank** Indicates a species was not noted on that trail.

The designations of abundance or rarity of tree species in the following tables refer only to the relative number of specimens *on that trail or in that area*. They are not a measure of the abundance of a species either in the conservation lands as a whole nor in our region. It must also be added that those designations, in the absence of doing an actual specimen count, are observational, approximate and to a degree subjective.

The tables break the conservation area down into 17 subdivisions. In general the subdivisions correspond to the named trails that run through them. However the following subdivisions, not corresponding to named trails, require definition:

**Lower Monongahela North Bank Tract-** refers to the area north of the Monongahela Branch and east of the railroad embankment, bounded on the west by Mantua Creek and on the north and east by the section of Mantua Creek Trail that runs from the Glen Trail to the Monongahela Branch.

**Lower Monongahela South Bank Tract-** refers to the area south of the Monongahela Branch and east of the railroad embankment, bounded on the south and west by Mantua Creek and on the east by the section of Mantua Creek Trail that runs from the Monongahela Branch to the railroad trestle.

**Railroad South of Cedar Ave.-** refers to the top of the railroad embankment (where most of our Shingle Oaks are found) from Cedar Ave. to the trestle. It also includes the trail area paralleling the railroad on the east side and running from the trestle to the Monongahela Brook Trail.

**Wenonah Lake-** refers to all conservation lands north of Maple Street and west of the railroad to the Wenonah Borough boundary with Deptford Township, on the north and west.

**Indian Trail Spur-** refers to the trail that runs from the Eldridge Trail to the street of Indian Trail in the Woods of Wenonah residential development.

**Mantua Creek Trail-** Wenonah's longest trail and for purposes of this study includes the area from the trail head on W. Mantua Ave. to the railroad trestle.

# Wenonah Conservation Area

1-1

## Tree Species Distribution Table

<b><u>Magnoliophyta</u></b>	Wenonah Lake	Dilks Pond	Break Back Run Trail	Hanisey's Landing	Mantua Creek Trail	Glen Trail	Lower Monongahela North Bank Tract	Lower Monongahela South Bank Tract	Railroad South of Cedar Ave.	Monongahela Brook Trail	Garden Trail	Eldridge Trail	Indian Trail Spur	Monongahela Loop Trail	Comey's Lake Trail	School Trail	Synnot's Pond
<b>Flower-bearing Plants</b>																	
<b>Ailanthus</b>	\u			\u				/	\u	\u		/					
<b>Ash, Green</b>	\u		/	\A	\A		/	/	\u	/	/	/	\A	\u	\u	\u	/
<b>Bamboo</b>																	\A
<b>Basswood, American</b>					/					\u					\u		
<b>Beech, American</b>	\A	/	\A	/	\A	/	/	/	\A	\A	\A	/	/	\A	/	/	/
<b>Blackhaw</b>			/		\A												
<b>Box Elder</b>	\u		\u	/	\A		/	/				/	\u	/	\u		/
<b>Catalpa, Northern</b>	\u	/		\A	/	/	/	/	\A	/	\A	/	\u		\u		/
<b>Cherry, Black</b>	\u		/	/	/	/	/		/		\u	/	\u	/	/	/	\A
<b>Cherry, Pin</b>																\u	
<b>Cherry, Sour</b>		/	/		\u	/	/	/		/	\u	\u	/	\u	/	\A	/
<b>Cherry, Sweet</b>													\u				

# Wenonah Conservation Area

1-2

## Tree Species Distribution Table

<u>Magnoliophyta</u> Flower-bearing Plants	Wenonah Lake	Dilks Pond	Break Back Run Trail	Hanisey's Landing	Mantua Creek Trail	Glen Trail	Lower Monongahela North Bank Tract	Lower Monongahela South Bank Tract	Railroad South of Cedar Ave.	Monongahela Brook Trail	Garden Trail	Eldridge Trail	Indian Trail Spur	Monongahela Loop Trail	Comey's Lake Trail	School Trail	Synnott's Pond
<b>Chestnut, American</b>	\		\		\			\		\u			\				
<b>Chestnut, European</b>								\u		\u							
<b>Coffeetree, Kentucky</b>				\A						\u		\u					
<b>Dogwood, Flowering</b>	\u	\	\A	\	\A	\	\	\	\	\		\	\	\	\	\	\
<b>Elm, American</b>	\u		\			\u								\	\		\
<b>Elm, Slippery</b>			\														\
<b>Hackberry</b>			\u	\u									\u		\A		\
<b>Hercules-club</b>						\u			\					\A	\u		
<b>Hickory, Mockernut</b>	\A	\A	\A	\	\A	\		\	\		\u	\	\	\	\	\u	\
<b>Hickory, Pignut</b>			\u		\										\u		
<b>Holly, American</b>		\u	\u	\u	\u	\u			\		\	\	\u	\u	\u		\
<b>Holly, English</b>		\															

# Wenonah Conservation Area

1-3

## Tree Species Distribution Table

<u>Magnoliophyta</u>  Flower-bearing Plants	Wenonah Lake	Dilks Pond	Break Back Run Trail	Hanisey's Landing	Mantua Creek Trail	Glen Trail	Lower Monongahela North Bank Tract	Lower Monongahela South Bank Tract	Railroad South of Cedar Ave.	Monongahela Brook Trail	Garden Trail	Eldridge Trail	Indian Trail Spur	Monongahela Loop Trail	Comey's Lake Trail	School Trail	Synnott's Pond
<b>Ironwood</b>	\A		\A												\A		
<b>Locust, Black</b>	\u	\	\	\	\		\	\	\	\	\A				\		\A
<b>Locust, Honey</b>			\u														
<b>Magnolia, Umbrella</b>			\u		\A	\A	\A				\u	\u			\u	\	
<b>Maple, Japanese</b>					\u				\u								
<b>Maple, Norway</b>		\A	\A	\A	\A	\A			\	\A	\	\A	\A	\u	\	\A	\
<b>Maple, Planetree</b>															\u		
<b>Maple, Red</b>	\A	\	\A	\	\A	\A	\A	\A	\	\A	\A	\	\A	\A	\	\	\
<b>Maple, Silver</b>					\u		\	\u			\	\					\A
<b>Mimosa</b>	\u				\u											\	\
<b>Mulberry, White</b>	\u		\u	\A	\		\	\		\u	\u	\	\u	\u			\
<b>Oak, Black</b>	\A	\u	\u		\u		\	\	\			\	\A	\	\	\	\

# Wenonah Conservation Area

1-4

## Tree Species Distribution Table

<b><u>Magnoliophyta</u></b>	Wenonah Lake	Dilks Pond	Break Back Run Trail	Hanisey's Landing	Mantua Creek Trail	Glen Trail	Lower Monongahela North Bank Tract	Lower Monongahela South Bank Tract	Railroad South of Cedar Ave.	Monongahela Brook Trail	Garden Trail	Eldridge Trail	Indian Trail Spur	Monongahela Loop Trail	Comey's Lake Trail	School Trail	Synnott's Pond
<b>Oak, Blackjack</b>	\A	\	\		\A		\	\	\A		\u	\	\		\	\A	\
<b>Oak, Chestnut</b>	\A	\	\A		\A	\A	\	\A	\A	\A	\u	\A	\A	\A	\	u	\u
<b>Oak, Pin</b>		\A	\u		\u												
<b>Oak, Post</b>	\u												\u				
<b>Oak' Northern Red</b>	\u	\	\A	\	\A		\	\	\A	\	\	\	\		\		\u
<b>Oak, Southern Red</b>					\u												
<b>Oak, Scarlet</b>																\u	
<b>Oak, Shingle</b>							\u		\u								
<b>Oak, White</b>	\A	\	\A	\	\A	\	\	\A	\A	\	\	\	\	\	\	\	\
<b>Oak, Willow</b>				\u								\u					
<b>Pawpaw</b>						\u											
<b>Persimmon, Common</b>				\u	\			\				\				\u	

# Wenonah Conservation Area

1-5

## Tree Species Distribution Table

<u>Magnoliophyta</u> Flower-bearing Plants	Wenonah Lake	Dilks Pond	Break Back Run Trail	Hanisey's Landing	Mantua Creek Trail	Glen Trail	Lower Monongahela North Bank Tract	Lower Monongahela South Bank Tract	Railroad South of Cedar Ave.	Monongahela Brook Trail	Garden Trail	Eldridge Trail	Indian Trail Spur	Monongahela Loop Trail	Comey's Lake Trail	School Trail	Synnott's Pond
Sassafras	\A	\	\A	\	\A		\	\	\	\	\	\	\	\	\	\	\
Silverbell, Carolina					\u												
Sweetbay	\A									\u					\		
Sweetgum		\	\u	\	\u			\		\u		\	\u		\u		\
Sycamore, Eastern	\u	\	\u	\	\		\	\u			\	\		\u	\		
Tuliptree	\A	\A	\A	\	\A	\	\A	\	\A	\A	\A	\A	\	\A	\A	\u	\
Tupelo, Black	\A		\A	\	\A	\	\A	\	\	\	\	\A	\	\A	\	\	\
Walnut, Black	\u		\u	\	\A	\	\	\	\	\	\u	\			\A	\u	\
Willow, Black	\u		\		\			\		\A	\			\	\		\
Willow, Weeping					\u												
Winterberry, Smooth	\A																

# Wenonah Conservation Area

2-1

## Tree Species Distribution Table

<b><u>Pinophyta</u></b> conifers	Wenonah Lake	Dilks Pond	Break Back Run Trail	Hanisey's Landing	Mantua Creek Trail	Glen Trail	Lower Monongahela North Bank Tract	Lower Monongahela South Bank Tract	Railroad South of Cedar Ave.	Monongahela Brook Trail	Garden Trail	Eldridge Trail	Indian Trail Spur	Monongahela Loop Trail	Comey's Lake Trail	School Trail	Synnott's Pond	
<b>Cryptomeria</b>																		\u
<b>Hemlock, Eastern</b>					\u					\u		\u		\u	\			
<b>Pine, Longleaf</b>	\u																	
<b>Pine, Pitch</b>	\u																	
<b>Pine, Shortleaf</b>	\A				\u								\u	\u		\A	\u	
<b>Pine, Virginia</b>	\																	
<b>Pine, Eastern White</b>	\u	\A	\u	\	\	\		\u	\u		\	\		\	\	\	\	\
<b>Redcedar, Eastern</b>			\u	\u	\u		\u	\u	\A			\u	\u	\u	\	\u	\	
<b>Spruce, Norway</b>	\A										\	\			\			

# Wenonah Conservation Area

## Tree Species Grouped by Origin

### Native

Green Ash (*Fraxinus pennsylvanica*)  
American Basswood (*Tilia americana*)  
American Beech (*Fagus grandifolia*)  
Blackhaw (*Viburnum prunifolium*)  
Boxelder (*Acer negundo*)  
Black Cherry (*Prunus serotina*)  
Pin Cherry (*Prunus pensylvanica*)  
American Chestnut (*Castanea dentata*)  
Flowering Dogwood (*Cornus florida*)  
American Elm (*Ulmus americana*)  
Slippery Elm (*Ulmus rubra*)  
Hackberry (*Celtis occidentalis*)  
Mockernut Hickory (*Carya tomentosa*)  
Pignut Hickory (*Carya glabra*)  
American Holly (*Ilex opaca*)  
Ironwood (*Carpinus caroliniana*)  
Red Maple (*Acer rubrum*)  
Silver Maple (*Acer saccharinum*)  
Black Oak (*Quercus velutina*)  
Blackjack Oak (*Quercus marilandica*)  
Chestnut Oak, (*Quercus prinus*)  
Pin Oak (*Quercus palustris*)  
Post Oak (*Quercus stellata*)  
Northern Red Oak (*Quercus rubra*)  
Southern Oak (*Quercus falcata*)  
Scarlet Oak (*Quercus coccinea*)  
Shingle Oak (*Quercus imbricaria*)  
White Oak (*Quercus alba*)  
Willow Oak (*Quercus phellos*)  
Common Persimmon (*Diospyros virginiana*)  
Pitch Pine (*Pinus rigida*)  
Shortleaf Pine (*Pinus echinata*)  
Virginia Pine (*Pinus virginiana*)  
Eastern White Pine (*Pinus strobus*)  
Eastern Redcedar (*Juniperus virginiana*)  
Sassafras (*Sassafras albidium*)  
Sweetbay (*Magnolia virginiana*)  
Sweetgum (*Liquidambar styraciflua*)  
Eastern Sycamore (*Platanus occidentalis*)  
Tuliptree (*Liriodendron tulipifera*)

Black Tupelo (*Nyssa sylvatica*)  
Black Walnut (*Juglans nigra*)  
Black Willow (*Salix nigra*)  
Smooth Winterberry (*Ilex laevigata*)

### Native To North America: Outside Their Historical Range

Northern Catalpa (*Catalpa speciosa*)  
Kentucky Coffeetree (*Gymnocladus dioicus*)  
Eastern Hemlock (*Tsuga canadensis*)  
Hercules-club (*Aralia spinosa*)  
Black Locust (*Robinia pseudoacacia*)  
Honey Locust (*Gleditsia triacanthos*)  
Umbrella Magnolia (*Magnolia tripetala*)  
Pawpaw (*Asimina triloba*)  
Longleaf Pine (*Pinus palustris*)  
Carolina Silverbell (*Halesia carolina*)

### Non Native

Ailanthus (*Ailanthus altissima*)  
Bamboo (*Subfamily: Bambusoideae*)  
Cryptomeria (*Cryptomeria japonica*)  
Sour Cherry (*Prunus cerasus*)  
Sweet Cherry (*Prunus avium*)  
European Chestnut (*Castanea sativa*)  
English Holly (*Ilex aquifolium*)  
Japanese Maple (*Acer palmatum*)  
Norway Maple (*Acer platanoides*)  
Planetree Maple (*Acer pseudoplatanus*)  
Mimosa (*Albizia julibrissin*)  
White Mulberry (*Morus alba*)  
Norway Spruce (*Picea albies*)  
Weeping Willow (*Salix babylonica*)

**68 Species of trees in 30 families were identified in Wenonah's Conservation Area.**

## Tree Index by Common Name

### **Division: Magnoliophyta** **(Flower-bearing Plants)**

Ailanthus (*Ailanthus altissima*), 26  
Ash, Green (*Fraxinus pennsylvanica*), 23  
Bamboo (Subfamily: *Bambusoideae*, species. not identified), 18  
Basswood, American (*Tilia americana*), 27  
Beech, American (*Fagus grandifolia*), 13  
Blackhaw (*Viburnum prunifolium*), 11  
Boxelder (*Acer negundo*), 5  
Catalpa, Northern (*Catalpa speciosa*), 9  
Cherry, Black (*Prunus serotina*), 25  
Cherry, Pin (*Prunus pensylvanica*), 24  
Cherry, Sour (*Prunus cerasus*), 24  
Cherry, Sweet (*Prunus avium*), 24  
Chestnut, American (*Castanea dentata*), 12  
Chestnut, European (*Castanea sativa*), 13  
Coffeetree, Kentucky (*Gymnocladus dioicus*), 10  
Dogwood, Flowering (*Cornus florida*), 11  
Elm, American (*Ulmus americana*), 28  
Elm, Slippery (*Ulmus rubra*), 28  
Hackberry (*Celtis occidentalis*), 27  
Hercules-club (*Aralia spinosa*), 8  
Hickory, Mockernut (*Carya tomentosa*), 19  
Hickory, Pignut (*Carya glabra*), 19  
Holly, American (*Ilex opaca*), 8  
Holly, English (*Ilex aquifolium*), 7  
Ironwood, (*Carpinus caroliniana*), 9  
Locust, Black (*Robinia pseudoacacia*), 12  
Locust, Honey (*Gleditsia triacanthos*), 10  
Magnolia, Umbrella (*Magnolia tripetala*), 21  
Maple, Japanese (*Acer palmatum*), 5  
Maple, Norway (*Acer platanoides*), 5  
Maple, Planetree (*Acer pseudoplatanus*), 6  
Maple, Red (*Acer rubrum*), 6  
Maple, Silver (*Acer saccharinum*), 7  
Mimosa (Silktree) (*Albizia julibrissin*), 22  
Mulberry, White (*Morus alba*), 22  
Oak, Black (*Quercus velutina*), 18  
Oak, Blackjack (*Quercus marilandica*), 15  
Oak, Chestnut (*Quercus prinus*), 16  
Oak, Pin (*Quercus palustris*), 16  
Oak, Post (*Quercus stellata*), 17  
Oak, Northern Red (*Quercus rubra*), 17  
Oak, Southern Red (*Quercus falcata*), 14  
Oak, Scarlet (*Quercus coccinea*), 14  
Oak, Shingle (*Quercus imbricaria*), 15  
Oak, White (*Quercus alba*), 14  
Oak, Willow (*Quercus phellos*), 16  
Pawpaw (*Asimina triloba*), 7

Persimmon, Common (*Diospyros virginiana*), 12  
Sassafras (*Sassafras albidum*), 20  
Silverbell, Carolina (*Halesia carolina*), 26  
Sweetbay (*Magnolia virginiana*), 21  
Sweetgum (*Liquidambar styraciflua*), 18  
Sycamore, Eastern (*Platanus occidentalis*), 23  
Tuliptree (*Liriodendron tulipifera*), 20  
Tupelo, Black (*Nyssa sylvatica*), 11  
Walnut, Black (*Juglans nigra*), 20  
Willow, Black (*Salix nigra*), 26  
Willow, Weeping (*Salix babylonica*), 25  
Winterberry, Smooth (*Ilex laevigata*), 8

### **Division: Pinophyta** **(Conifers)**

Cryptomeria (*Cryptomeria japonica*), 32  
Hemlock, Eastern (*Tsuga canadensis*), 31  
Pine, Longleaf (*Pinus palustris*), 30  
Pine, Pitch (*Pinus rigida*), 30  
Pine, Shortleaf (*Pinus echinata*), 29  
Pine, Virginia (*Pinus virginiana*), 31  
Pine, Eastern White (*Pinus strobus*), 31  
Redcedar, Eastern (*Juniperus virginiana*), 29  
Spruce, Norway (*Picea abies*), 29

# Tree Index by Botanical Name

## Division: Magnoliophyta (Flower-bearing Plants)

Acer negundo (*Boxelder, Ash-leaf Maple*), 5  
Acer palmatum (*Japanese Maple*), 5  
Acer platanoides (*Norway Maple*), 5  
Acer pseudoplatanus (*Planetree Maple, Sycamore Maple*), 6  
Acer rubrum (*Red Maple*), 6  
Acer saccharinum (*Silver Maple*), 7  
Ailanthus altissima (*Ailanthus, Tree of Heaven*), 26  
Albizia julibrissin (*Mimosa, Silktree*), 22  
Aralia spinoisa (*Hercules-club, Devils-walkingstick*), 8  
Asimina triloba (*Pawpaw*), 7  
Bambusoideae (Subfamily) (*Bamboo species-not identified*), 18  
Carpinus caroliniana (*Ironwood, Am. Hornbeam*), 9  
Carya glabra (*Pignut Hickory*), 19  
Carya tomentosa (*Mockernut Hickory*), 19  
Castanea dentata (*American Chestnut*), 12  
Castanea sativa (*European Chestnut*), 13  
Catalpa speciosa (*Northern Catalpa*), 9  
Celtis occidentalis (*Hackberry*), 27  
Cornus florida (*Flowering Dogwood*), 11  
Diospyros virginiana (*Common Persimmon*), 12  
Fagus grandifolia (*American Beech*), 13  
Fraxinus pennsylvanica (*Green Ash*), 23  
Gleditsia triacanthos (*Honey Locust*), 10  
Gymnocladus dioica (*Kentucky Coffeetree*), 10  
Halesia carolina (*Carolina Silverbell*), 26  
Ilex aquifolium (*English Holly*), 7  
Ilex laevigata (*Smooth Wintergreen*), 8  
Ilex opaca (*American Holly*), 8  
Juglans nigra (*Black Walnut*), 20  
Liquidambar styraciflua (*Sweetgum*), 18  
Liriodendron tulipifera (*Tuliptree*), 20  
Magnolia tripetala (*Umbrella Magnolia*), 21  
Magnolia virginiana (*Sweetbay*), 21  
Morus alba (*White Mulberry*), 22  
Nyssa sylvatica (*Blackgum, Black Tupelo*), 11  
Platanus occidentalis (*Eastern Sycamore*), 23  
Prunus avium (*Sweet Cherry*), 24  
Prunus cerasus (*Sour Cherry*), 24  
Prunus pensylvanica (*Pin Cherry*), 24  
Prunus serotina (*Black Cherry*), 25  
Quercus alba (*White Oak*), 14  
Quercus coccinea (*Scarlet Oak*), 14  
Quercus falcata (*Southern Red Oak, Spanish Oak*), 14  
Quercus imbricaria (*Shingle Oak*), 15  
Quercus marilandica (*Blackjack Oak*), 15

Quercus palustris (*Pin Oak*), 16  
Quercus phellos (*Willow Oak*), 16  
Quercus prinus (*Chestnut Oak*), 16  
Quercus rubra (*Northern Red Oak*), 17  
Quercus stellata (*Post Oak*), 17  
Quercus velutina (*Black Oak*), 18  
Robinia pseudoacacia (*Black Locust*), 12  
Salix babylonica (*Weeping Willow*), 25  
Salix nigra (*Black Willow*), 26  
Sassafras albidum (*Sassafras*), 20  
Tilia americana (*American Basswood*), 27  
Ulmus americana (*American Elm*), 28  
Ulmus rubra (*Slippery Elm*), 28  
Viburnum prunifolium (*Blackhaw*), 11

## Division: Pinophyta (Conifers)

Cryptomeria japonica (*Cryptomeria, Japanese Cedar*), 32  
Juniperus virginiana (*Eastern Redcedar*), 29  
Picea abies (*Norway Spruce*), 29  
Pinus echinata (*Shortleaf Pine*), 29  
Pinus palustris (*Longleaf Pine*), 30  
Pinus rigida (*Pitch Pine*), 30  
Pinus strobus (*Eastern White Pine*), 31  
Pinus virginiana (*Virginia Pine*), 31  
Tsuga canadensis (*Eastern Hemlock*), 31