Landscaping with Native Trees

Tree Selections for the Capital District of New York State

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Introduction

PURPOSE OF THE BOOKLET:

- To promote attractive native trees that thrive in cultivation.
- To help planters select the right tree for various sites around their homes.
- To provide information on each tree's native habitat and its importance to wildlife and human cultural and economic history.

WHY NATIVE TREES?

There are approximately 100 native species of trees growing in the wild across New York State. Native trees are those that existed here prior to European settlement. Settlers brought trees with them as a reminder of the homelands they left, and over the years, many more have been introduced. Today, we have an overwhelming number of trees to choose from. By making our landscaping selections from a relatively short list of native trees, we get the benefits of going native.

NATIVE TREES:

- Harmonize with nearby nature and link us to our favorite natural habitats
- Are adapted to our soil and climate, and tolerate native insects and diseases
- Help support native wildlife and remind us of favorite wild places nearby

We can get to know our native trees; they are all around us in natural areas. We can plant in our yards the natives we especially admire in the wild. To help property owners become more familiar with how our trees are interwoven into the fabric of American life, we have included an Americana section with each tree description. We explain how these trees and their products have benefitted wildlife, native peoples and the growth of America. Native trees just outside our windows are a constant reminder of our favorite wild places.

INVASIVE ALIEN SPECIES : A TRIPLE THREAT

1. Invasive aliens like Norway maple spread to roadsides and natural forests shading out healthy natural communities.
2. Some aliens like buckthorn and tree of heaven appear unwanted in our shrubbery, brought by birds or wind.
3. Alien invasive insects and diseases destroy native trees. Eastern hemlock is killed by an alien aphid relative. The Asiatic emerald ash borer kills ashes and beech bark disease kills beech trees.

For more information on Invasives, see Cornell University Cooperative Extension's New York Invasive Species Clearinghouse | http://nyis.info/

TREES SAVE ON ENERGY BILLS

Most of us know that trees beautify and add value to our properties. We understand the ecological benefits of trees: producing oxygen and absorbing carbon dioxide, trapping pollutants, and anchoring soil while reducing erosion and flooding.

One "green" concept that should be stressed is the money-saving energy conservation benefits of trees near our homes. A US Department of Energy study found that homes without tree landscaping spend up to 25% more for heating and cooling. Deciduous trees on the south and west sides of homes can cool the surrounding air up to 9° F. in summer but let in warming sunlight in the winter. Evergreens planted on homes' windward sides block winter winds. Just three well-placed trees can offer yearly energy savings of $100 to $250. (Union of Concerned Scientists 9/09 Greentips e-newsletter : http://www.ucsusa.org/)

Celebrating Trees from One Generation to the Next: At Home and at School

"One generation plants the tree, another gets the shade."
"The best time to plant a tree was 20 years ago. The next best time is now."
(Two Chinese Proverbs)

MAKE TREE PLANTING A FAMILY PROJECT!

1. **Share Your Childhood Tree Experiences with Children or Grandchildren:**
   - Trees hold important childhood memories. As a child, I learned chores by raking leaves. I jumped in leaf piles for pure joy. I climbed trees to test my courage and strength. Earning scouting merit badges nurtured my fascination with trees and all things natural. In my case, these experiences led to a career as an interpretive naturalist and environmental educator. *For most people, childhood nature experiences begin a lifelong appreciation for nature's beauty and wonders.*
   - Trees should be part of every child's happy memories. Many trees' life spans exceed ours, and because of our frequent moves from one residence to another, our experience with any one tree is often too brief. Here in America, that first proverb above might more accurately read:
   - One family plants the tree; two families hence get the shade.

2. **At home sites already landscaped, make a new tree planting a fun family project:**
   - Use this booklet to plan for, select and watch a native tree grow. Our family fondly remembers our daughter jumping over a small spruce in our yard that is now 30 feet tall.
   - Involve children or grandchildren in all aspects of tree planting from site and species selection to the actual planting. Your certified tree nursery staff can tell your new tree's age. Then compare its age and height at planting to those of the children.
   - Children are fascinated to learn that while we age uniformly, from head to toe and year to year, trees are progressively younger from the ground up until they are "newborn" at the top and branch out tips each spring as baby twigs, leaves and flowers.

3. **There may be more new tree plantings in your family's future.** Visit nearby public natural areas to look for your tree growing in the wild. Identify other native trees with the easy to use *Tree Finder* by May T. Watts (see bibliography), and consider one that might be right for your yard.

ENCOURAGE TREE PLANTING AT SCHOOLS:

Share this booklet with your children's teachers The NYS Department of Environmental Conservation's "Saratoga Tree Nursery School Tree Packet Program" | http://www.dec.ny.gov/animals/9393.html

- The children's class at school can reap the same benefits your children gain by tree planting at home. This program offers 50 free tree seedlings. Some could be shared with other schools in your district, or purchase a larger single tree from one of the nurseries featured in this booklet.
- Remind teachers that the booklet's American Traditions section features each tree's natural and cultural history to help teachers fulfill their New York State social studies and science curricular goals.

Tree Species Cultivation Comparison Charts

The charts on these pages are a quick guide for comparing the trees described later in more detail. Note especially the **Page No.** on which each species is described and the **Notes of Interest** column. A tree's mature height and width data is important for matching tree to site, and how far away tree should be planted from structures and property lines. Such ornamental qualities as flower, fruit, autumn color and wildlife use will help guide your selections. *Deciduous* (shedding leaves yearly) trees are best planted in early spring before leaf out or in the fall after leaf drop.

Page Number	Name*	Soil/Moisture	Sun/Shade
 12	Balsam Fir *(Abies balsamea)*	Well-drained, consistently moist	Full sun, light shade tolerant
 13	Eastern Redcedar *(Juniperus virginiana)*	Well-drained, moist to dry	Full sun, light shade tolerant
 14	White Spruce *(Picea glauca)*	Well-drained, medium to dry	Full sun, but in light shade on hotter sites
 15	Arborvitae *(Thuja occidentalis)*	Well-drained, moist to occasionally dry	Full sun, light shade tolerant

***Genus and species** – Always request trees by their scientific as well as their common names. There are at least three very different "red" maple species, for example. (A *genus* is the first subdivision within a plant or animal family; a *species* is an inter-fertile organism within a genus. For example, red and sugar maples are two distinct maple species.)

EVERGREEN CONIFERS

Evergreen conifers are great windbreak and property border trees and stand alone specimens. Plant in spring, or not after late summer for feeder root formation before winter. Conifers lack flowers but set seed within female cones. Needles and scales are conifers' leaves. Plant fir and spruce only where protected from the worst summer heat and drought.

pH-Size-Growth**	**Cones**	**Leaves: needles or scales**	**Notes of Interest or caution**
Optimal pH: 5.0-7.4 Height: 45'-60+' Width: 20' Growth Rate: Slow	3-4" brown upright cones in upper third of tree	1" needles dark green above, pale below	Won't tolerate summer heat or drought. Best in Hill Towns & Renss. Plateau
Optimal pH: 5.0-8.2 Height: 40'-50' Width: 20'-30' Growth Rate: Medium	1/4" inch waxy showy, blue berry-like cones; popular with birds	Tiny overlapping scales conserve moisture	Handsome underused tree able to withstand harsh conditions
Optimal pH: 5.0-8.0 Height: 40'-60' Width: 20'-30' Growth Rate: Slow	Slender 2" cones hanging at branch ends	3/4" pale to dark bluish green needles	Handsome underused tree best in cooler locations
Optimal pH: 5.0-8.0 Height: 40'-60' Width: 10'-15' Growth Rate: Slow	Clustered brown 1/2 " upright cones	Fan-like sprays of overlapping scales conserve moisture	Consider planting broad oval-shaped tree varieties

****pH** – a measure of acidity and alkalinity on a scale from 0 to 14.0 with 7.0 representing neutrality. Numbers less than 7 indicate increasing acidity; greater than 7.0, increasing alkalinity. Plants grow best at their optimum pH.

Short Deciduous Trees

Those with colorful flowers and/or dramatic fall foliage make excellent focal points for framing the front of the house. Only short trees should be planted beneath overhead wires. Salt sensitivity and wildlife-attracting fruit may be an issue for their use as street trees. Highly trafficked streets threaten birds crossing for the fruit.

Page Number	Name	Soil/Moisture	Sun/Shade	pH**-Size-Growth
 16	Shadbush *(Amelanchier laevis)*	Well-drained, moist to wet	Full sun to partial shade	Optimal pH: 5.0-7.0 Height: 20′-30′ Width: 15′-25′ Growth Rate: Slow-Med
 17	American Hornbeam *(Carpinus caroliniana)*	Deep fertile, moist	Full sun to full shade	Optimal pH: 6.0-7.0 Height: 30′ Width: 25′ Growth Rate: Slow
 18	Eastern Redbud *(Cercis canadensis)*	Humus-rich, moist	Full sun to partial shade	Optimal pH: 6.0-8.0 Height: 12′-30+′ Width: 10′ -35′ Growth Rate: Medium
 19	Flowering Dogwood *(Cornus florida)*	Rich soil, moist but not wet	Full sun (best flowering) to partial shade	Optimal pH: 6.0-7.0 Height: 15′-30′ Width: 6′-15′ Growth Rate: Medium

Flowers	Fruit	Fall Color	Notes of Interest and Cautions
Showy white in late April before leaves	Purple edible blueberry-sized	Yellow-orange to red	First showy flowering tree in spring. Edible fruit popular with songbirds
Inconspicuous – 4″ male *catkins**; females within 3-winged *bracts*	Clustered *nutlets* within persistent bracts	Yellow to orange and maroon	Smooth, gray, sinuous bark. Relatively pest-free, but salt sensitive
Showy rosy-purple before leaves	2-3″ flattened bean pods in clusters	Greenish yellow to golden	Exceptional – especially in shade; salt sensitive
Large, white showy bracts surround flowers before leaves	Clusters of red berry-like fruit popular with wildlife	Orange to red to purple	Best in sites protected from winter weather extremes; salt sensitive

*(Find italicized words like catkin defined in Glossary page 33)

Medium and Tall Deciduous Trees

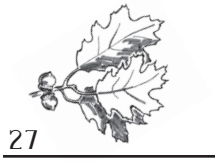
These trees are best for side and back yards. You may have moved before your tall trees reach maturity, but it is important to plant far enough away from buildings to prevent scrape or overhang. They should be planted more than half of the mature width away. Oaks should not be planted in high use recreation areas because of slippery dropped acorns.

Page Number	Name	Soil/Moisture	Sun/Shade	pH**-Size-Growth
 20	Red Maple *(Acer rubrum)*	Well-drained, moist	Full sun	Optimal pH: 5.0-7.0 Height: 40′-70′ Width: 30′-60′ Growth Rate: Med-Fast
 21	Sugar maple *(Acer saccharum)*	Well-drained, moist	Full sun	Optimal pH: 5.0-7.5 Height: 45′-75′ Width: 35′-55′ Growth Rate: Slow-Med
 22	River Birch *(Betula nigra)*	Well-drained, moist; tolerates short wet and dry periods	Full sun	Optimal pH: 5.0-7 Height: 40′-50′ Width: 30′-40′ Growth Rate: Med-Fast
 23	Black Gum *(Nyssa sylvatica)*	Well-drained, moist; tolerates short wet and dry periods	Full sun	Optimal pH: 5.0-7 Height: 30′-60′ Width: 20′-40′ Growth Rate: Slow
 24	Hop Hornbeam *(Ostrya virginiana)*	Well-drained, moist	Full sun to partial shade	Optimal pH: 5.0-8.2 Height: 30′-50′ Width: 20′-30′ Growth Rate: Slow
 25	Swamp White Oak (*Quercus bicolor)*	Wide tolerance – wet to dry	Full sun	Optimal pH: 5.0-7.5 Height: 50′-60′ Width: 50′-60′ Growth Rate: Slow

Flowers	Fruit	Fall Color	Notes of Interest and Cautions
Before leaves; red females, yellow males	Clusters of red winged *keys* (wind-carried dry fruit) in late spring	Orange to crimson-scarlet	Nearly pest-free and pollution tolerant. Shows red all year – from winter buds to fall leaves
Inconspicuous hanging chartreuse clusters before leaves	Clusters of winged green keys in fall	Yellow to deep red orange/burgundy	State Tree of New York, long-lived, salt intolerant
Inconspicuous separate male and female catkins	Inconspicuous nutlets in cone-like *catkins**	Yellow – grown for interesting bark, not fall foliage	Single or *clumped* (multi-stemmed cluster) stems available. Shedding bark tan with reddish brown edges
Inconspicuous	Small black berries in fall	Variable - yellow to orange to deep red	Interesting shape with right angle branching. Striking early leaf color. Somewhat salt resistant
Inconspicuous	Small inflated *hop*-like (cone shaped fruit used in brewing) pods in hanging clusters	Yellow	Shaggy bark, salt sensitive
Inconspicuous male catkins hanging briefly in spring	Acorns, heavy crop every 3-5 years	Yellow to copper to dark purple	Wide spreading, best for large areas, salt tolerant

*(Find italicized words like catkin defined in Glossary page 33)

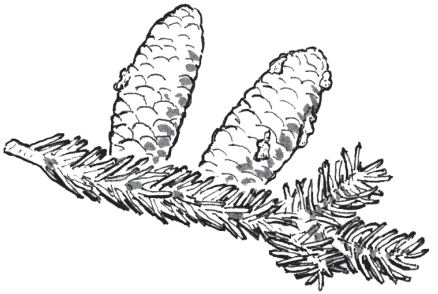
Medium and Tall Deciduous Trees (Continued)

Page Number	Name	Soil/Moisture	Sun/Shade	pH**-Size-Growth
 26	Scarlet Oak *(Quercus coccinea)*	Well-drained, moist	Full sun	Optimal pH: 5.0-7.5 Height: 60′-70′ Width: 40′-50′ Growth Rate: Slow
 27	Red Oak *(Quercus rubra)*	Well-drained, moist. Drought but not flood tolerant	Full sun, very shade toler-ant	Optimal pH: 5.0-7.5 Height: 60′-80′ Width: 50′-70′ Growth Rate: Medium
 28	Basswood American Linden *(Tilia americana)*	Well-drained, moist	Full sun to partial shade	Optimal pH: 5.0-8.2 Height: 60′-80′ Width: 35′-40′ Growth Rate: Medium
 29	American Elm *(Ulmus americana)*	Well-drained moist soils; tolerates flooding	Full sun to partial shade	Optimal pH: 5.0-8.2 Height: 70′-90′ Width: 50′-70′ Growth Rate: Med -Fast

Flowers	Fruit	Fall Color	Notes of Interest and Cautions
Inconspicuous male catkins hanging briefly in spring	Large acorns	Russet to scarlet in late fall	Spectacular scarlet late fall color, salt tolerant
Inconspicuous hanging catkins	Large acorns	Red, orange and bronze	Most shade tolerant and fastest growing of oaks, doesn't survive flooding
Very fragrant yellow, hanging from a leaf-like bract	Small gray nutlets drop attached to bract	Greenish yellow to pale yellow	Handsome heart-shaped leaves; flowers very popular with honey bees
Inconspicuous before the leaves	Half-inch wafer-like discs	Yellow	A tree only for the adventurous due to diseases. Choose only Dutch Elm Disease resistant cultivars.

BALSAM FIR | *(Abies balsamea)*

Also Canada fir



NATURAL HABITAT

The balsam fir is found throughout Canada, extending south into much of New England and New York and into the Appalachians as far as Virginia. Mountains are its home; Catskill and Adirondack travelers will recognize this evergreen conifer by its conical shape and unique upright cones.

LANDSCAPING INFORMATION | Grows 45 to 60 + feet

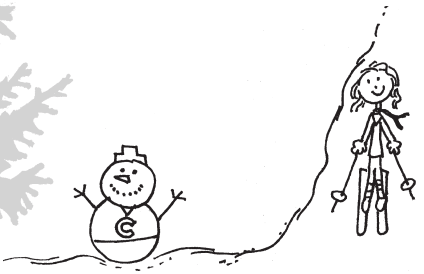
The classic shape and aromatic dark green needles of the balsam bring the flavor of northern woods wherever it is planted. It prefers full sun, tolerates light shade and some drought, but not heat. The preferred planting site of the balsam fir is moist, well-drained, upland locations away from roadside air pollution.

AMERICAN TRADITION

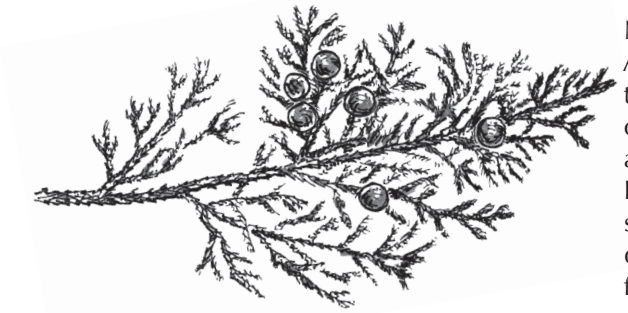
John Josselyn, an English visitor to the American colonies, noted in a book published in 1674 for prospective colonists, that the knots and resin of the balsam fir "are used by the [colonists] instead of candles, and it will burn a long time, but it makes people pale." Josselyn also observed that the resin of the balsam, like that of many other coniferous trees, had a dizzying array of medicinal qualities. Among them, it was "an excellent thing to take away those desperate Stitches of the Side."

Its turpentine (known as "Canada balsam") was included as a wound dressing in Lewis and Clark's medicine chest on their early 1800s expedition west. In the days before commercial chewing gum manufacture, the hardened balsam resin was regularly sold in small sticks in country stores.

Balsam firs have long been popular Christmas trees. In 1938, a balsam fir cut on a state game refuge near Grafton Mountain, NY, (now Grafton Lakes State Park), was shipped to Washington, D.C., for President Franklin D. Roosevelt's White House Christmas tree. Roosevelt himself dabbled in growing and selling Christmas trees (largely Norway spruces) on his experimental tree farm at Hyde Park. Other nearby tree dealers, envious of Roosevelt's competitive edge, called his trees "skunk spruce," insisting that the aromatic balsam made the "perfect" Christmas tree. Today, tree farmers throughout the northeast grow and sell balsam fir for the holidays. The aromatic needles are frequently used to stuff decorative pillows, a favorite memento purchased by tourists in New England and Canada.



EASTERN REDCEDAR | *(Juniperus virginiana)*



NATURAL HABITAT

Although commonly called redcedar, this evergreen tree is actually a juniper. It is found across the continent, reaching its greatest height in swamps and rich bottomlands of the South and Southwest. In the Northeast, redcedar is abundant on gravelly slopes and rocky ridges. The seeds dropped by birds quickly colonize fence lines and abandoned farm pastures.

LANDSCAPING INFORMATION | Grows 40 to 50 feet

Both redcedar and arborvitae are tough trees worthy of more frequent use. Available in both columnar and pyramidal forms, redcedar makes an excellent planting, either in groups or as a screening plant. It does best in full sun where it may spread 8 to 15 feet. Redcedar is tolerant of a wide variety of conditions: moist to dry and acid to alkaline soils, and locations near salted roads. It is an adaptable and desirable addition to most landscapes. Male and female cones develop on separate trees. Female redcedars produce decorative half-inch dark blue berries covered with a whitish waxy bloom which attract a wide variety of songbirds. Cedar waxwings often cluster in the trees feeding on the berries for which these birds are named.

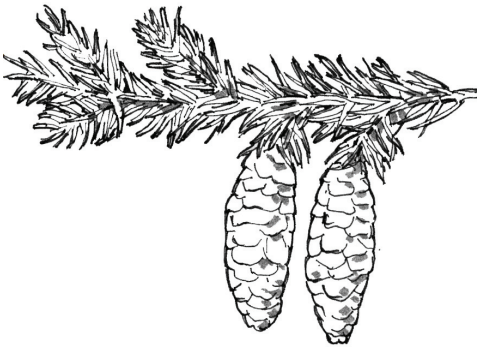
Redcedar habitually has two leaf forms: sharp, awl-shaped needles on young trees and new branches, and overlapping scales on more mature trees. Sharp awl leaves are certainly less palatable to forest browsers and pasture grazers than the scale form; this adaptation probably helps trees survive until foliage grows out of grazing reach. Although the leaves of native redcedars turn bronze in winter, some cultivars remain green.

AMERICAN TRADITION

Upon landing at Roanoke, Virginia in 1564, Arthur Barlowe and Philip Amadas were impressed with the many New World wonders, including this handsome, fragrant tree, "... the tallest and reddest Cedars in the world."

Harder to obtain now, aromatic and insect-resistant redcedar has long been prized for making moth resistant cedar chests, closet linings and cabinetry. Handsome contrasting red heartwood and white sapwood are as beautiful as practical. Highly rot-resistant, redcedar was formerly a staple for fence posts and railroad ties. Historically used as the wood for making lead pencils, the tree was also called "pencil cedar" - easy both to shape and to sharpen.

WHITE SPRUCE | *(Picea glauca)*



NATURAL HABITAT

White spruce is one of three native spruces in the Northeast. The others are red and black spruce. All inhabit the far north, perfectly adapted to long frozen winters and short wet summers. Of these three natives, only white spruce, occurring naturally in northern New York, is commonly cultivated. It ranges from the Arctic Ocean in the west across Canada, northern New York and New England to the coast of southern Maine.

LANDSCAPING INFORMATION | Grows 40 to 60 feet

White spruce is handsome as a single specimen tree, clumped on larger sites or well-spaced in rows for borders. Like most evergreen conifers, spruce maintains a single vertical trunk producing yearly whirls of lateral branches. The adaptation to hold frozen snow and then slough off melting snow without damage gives conifers their elegantly vertical symmetrical shape. While preferring full sun, spruce do well in partial sun away from hot open sites in summer. Because they are exposed to both Arctic and Atlantic coastal spray, white spruce can tolerate some road salt, but like all evergreens, should not be used as a street tree. It has a wide tolerance for both acid and alkaline conditions.

AMERICAN TRADITION

Jacques Cartier, the French explorer who claimed Canada for France in 1534, noted spruce among the dense forest of conifers that lined the coast of St. Lawrence Bay. White spruce played a special role in Cartier's travels. On his second voyage to Canada, nearly his entire crew was struck by scurvy, a vitamin C deficiency common among early maritime explorers, and 25 of the men died. Cartier noticed that a Native American who had been struck with the disease recovered quickly; the remedy was a drink concocted from boiled white spruce leaves and bark. Thanks to the spruce drink, all the rest of Cartier's crew recovered. Native Americans steamed long, slender white spruce roots and used the fibers to fabricate birch-bark canoes. Occasionally they used spruce bark for covering the frame if birch was not available. Spruce fibers were also used to weave water-tight baskets. Abundant and fast-growing with soft fibers, white spruce wood makes excellent paper pulp; many American newspapers owned vast tracts of Canadian spruce forests for a steady supply of pulp.

ARBORVITAE | *(Thuja occidentalis)*

Also northern white cedar

NATURAL HABITAT

Arborvitae trees are found primarily throughout eastern Canada and the northeastern states. They form thick evergreen stands along wet stream banks and alkaline swamps and on rocky limestone ledges in the Appalachians, Adirondacks and Catskills.

LANDSCAPING INFORMATION | Grows 40 to 60 feet

Arborvitae is very popular for landscaping and is available in many different cultivar forms. Some are globe-shaped shrubs whereas others are formal, narrow and columnar. Trees commonly seen in the wild on mountains and on limestone soils in New York are broad and oval. The tall columnar form often planted for edging and screening does not always harmonize well with other trees. Instead, landscapers might consider the more natural-looking oval trees for open spaces.

All forms of arborvitae do well in full sun on moist to well drained sites in both acid and alkaline soils. Inconspicuous cinnamon-brown half-inch upright cones are never a litter issue. Bruised leaves offer a pleasing aromatic odor.

AMERICAN TRADITION

Thuja is derived from the Greek word for an African resin-bearing, agreeable smelling evergreen. Occidentalis derives from occidental or western, describing our western hemisphere tree. Arborvitae occurs around the northern hemisphere. Native people living in the New York area descriptively named the tree Oo-soo-ha-tah meaning “Feather-leaf.” The name arborvitae – “tree of life” – refers to the medicines made from the bark and twigs by ancient peoples. The tree is long-lived with a life expectancy exceeding 200 years. Its soft wood cannot be used for beams, but can be split along the grain into tough fibers. Native Americans used stone tools to make fibers for constructing frames for birch bark canoes, weaving baskets and other products.

Native Americans used arborvitae oil to promote perspiration, relieve headaches, purify the blood and ameliorate coughs. Henry David Thoreau, camping in the 1840s and 1850s with lumberjacks in Maine, learned of its use to make tea; reciting as they did: “A quart of arbor-vitae/To make him strong and mighty.”

The tea was “too medicinal” for Thoreau’s taste, but he did use arborvitae foliage as camp bedding “and spread it particularly thick around the shoulders” to savor its fragrance.

SHADBUSH | *(Amalanchier laevis)*

Also Juneberry, serviceberry

NATURAL HABITAT

Nine species of shadbush, mostly shrubs, reside in New York State in a variety of habitats from swamps to mountainsides. A dwarf species thrives in the Albany Pine Bush and Long Island Pine Barrens.

LANDSCAPING INFORMATION | Grows 20 to 30 feet

Shadbush is the earliest of our showy flowering trees to bloom. The five-petaled, white flowers appear in mid-April before the leaves of this and other deciduous trees. By late June the delicious blueberry-sized fruit is ripening from red to purple. Those who come to pick must compete with robins and other birds for the delicious fruit. The smooth gray bark has attractive vertical markings. In autumn the orange or red leaves are a lovely addition to the landscape. Both tree and multi-stemmed shrub species are available. Their low height makes any of the shad trees ideal for planting in front yards or beneath utility lines.

AMERICAN TRADITION

The blooming time of the shadbush coincides with the spring run of the shad fish as they make their way up river to spawn – hence the name. The shores of the Hudson, its tributaries and other waters are graced by white clouds of blossoms before other trees show signs of spring. In Appalachia the flowering of the shadbush signaled the arrival of the circuit preachers who came to perform their annual rites-of-passage services.

Some argue the name *serviceberry* derives from sarvisberry because of the fruit's similarity to that of sarvisberry or European mountain ash *(Sorbus sp)*. Although the tree is too small to lumber, the heavy wood is traditionally used for tool handles.

American Hornbeam | *(Carpinus caroliniana)*

Also blue beech, ironwood, musclewood, water beech

NATURAL HABITAT

American hornbeam is the most widespread of American trees. It thrives from Ontario's Georgian Bay south to the mountains of Mexico and Honduras. An "understory" tree, American hornbeam grows slowly in shady, moist deciduous forests beneath taller canopy trees. As with all members of the birch family, the wind-pollinated flowers and fruit are not showy.

LANDSCAPING INFORMATION | Grows to 30 feet

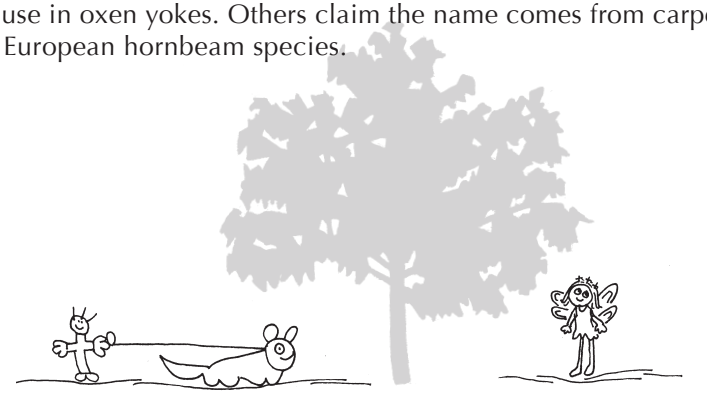
This shrubby tree is nearly pest free. It is well suited for planting along shady north sides of buildings, under taller trees or beneath overhead wires. Summer leaves are lustrous green giving way to yellow or orange-red in autumn. The attractive, smooth gray bark has a uniquely "muscled" texture. Inconspicuous flowers produce small nutlets in leafy 3-pointed, tan bracts. Several species of small birds feed on the nutlets. Although American hornbeam does best in shady, moist, well-drained soils, it can tolerate occasional drought conditions.

AMERICAN TRADITION

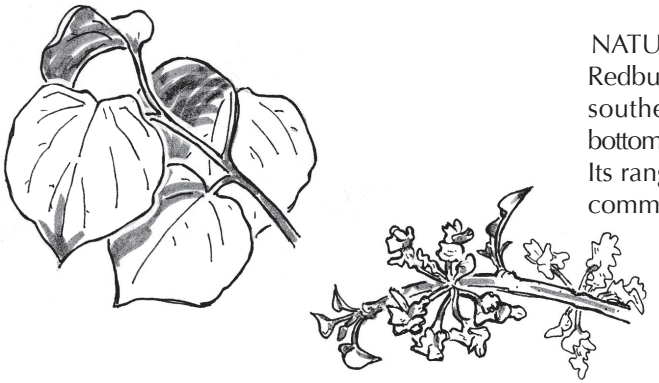
Nicknames for this tree include musclewood, for its fluted, striated bark, ironwood for its hardness, and blue beech for the smooth, blue-hued bark color. Often confused with its relative, hop hornbeam (Ostrya), American hornbeam is distinguished by its smooth, fluted bark and miniature leaf-like fruit.

Hornbeam alludes to "horn" for toughness and "beam," an old English word for tree. An early New England writer described it as "a tough kinde of Wood that requires much paines in riving as is almost incredible, being the best to make bolles and dishes, not subject to cracke and leake."

Some believe the name Carpinus is derived from the Celtic words car, for wood, and pix for head for its use in oxen yokes. Others claim the name comes from carpentum, a chariot Romans made of the European hornbeam species.



Eastern Redbud | *(Cercis canadensis)*



NATURAL HABITAT

Redbud is a low, spreading understory tree in the southern United States, where it grows on rich bottom lands and produces dense forest undergrowth. Its range extends north into Pennsylvania and is commonly cultivated in New York.

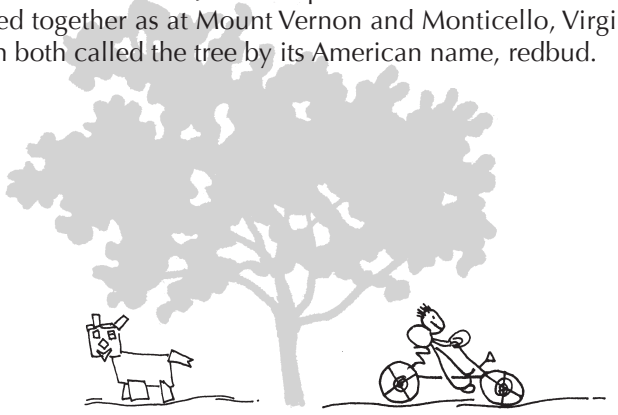
LANDSCAPING INFORMATION | Grows 12 to 30+ feet

The Society of Municipal Arborists honored the redbud with its 2010 Urban Tree of the Year Award. Ideal for limited yard spaces, redbud does well in all landscapes small and large, sunny and shaded. Lovely pink or magenta flowers cover the tree in May before the heart-shaped leaves emerge. Redbud is perfect for small gardens, front yards and under utility wires, providing it is not near salty roadsides. The redbud is wider than tall with stout spreading branches; it grows at a medium rate. Fall leaves are greenish yellow to golden. Bean pods hang from branches in winter, but podless varieties are available.

AMERICAN TRADITION

Like many plants, redbud was named in Europe from specimens sent from America. It is likely that its occurrence in Ontario, and thus it species name canadensis, was an error. The genus name, Cercis, is from an ancient weaver's tool which is shaped like the seed pods. Two unusual characteristics worth noting are the flowers, which develop from the trunk and branch surfaces as well as from the usual twig buds, and the leaves which emerge folded along the midrib.

Legend has it that the white flowers of the Mediterranean species blushed red when Judas was hung from the tree. The name Judastree persists in some areas. Redbud and flowering dogwood are often cultivated together as at Mount Vernon and Monticello, Virginia. George Washington and Thomas Jefferson both called the tree by its American name, redbud.



Flowering Dogwood | *(Cornus florida)*

NATURAL HABITAT

At home in the deciduous forest understory, showy dogwood thrives at forest edges, along fencerows and in ornamental plantings throughout the east. Much more common further south, central New York is at the northern edge of its range.

LANDSCAPING INFORMATION | Grows 15 to 30 feet

Appearing before the leaves, large white-bracted flower heads transform the tree into a spectacular bouquet. Dogwoods may be planted as single specimens or grouped in areas with full sun or partial shade. As a small tree it is lovely in front yards, beneath overhead wires or in any open space. Fall leaves and fruit are bright red, the latter enjoyed by both birds and squirrels. To succeed in east central New York, dogwood should be planted in moist, lower elevation sites protected from weather extremes.

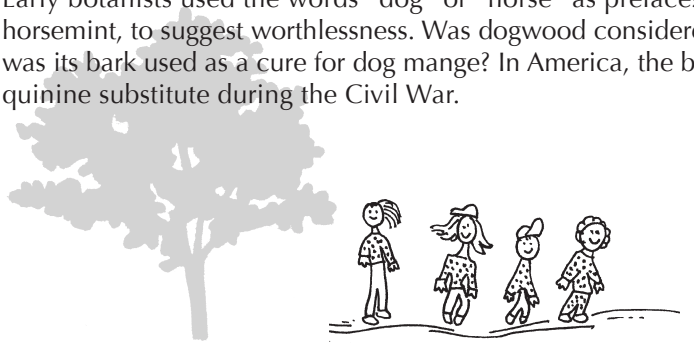
AMERICAN TRADITION

The large, showy white petal-like structures known as bracts are designed to attract pollinators to the central cluster of tiny flowers. By fall these flowers develop into a cluster of about five red berry-like fruit. Although there are numerous native shrub dogwoods in New York State, only the flowering and pagoda *(Cornus alternifolia)* dogwoods are trees.

Admired for its great beauty, flowering dogwood is a prized ornamental. Virginia has named dogwood its state tree. Along with redbud, dogwood is planted extensively at Mount Vernon and Monticello, homes of George Washington and Thomas Jefferson.

Cornus derives from the Latin *cornu*, horn, for hardness. Dogwood derives from dag and dagger, old English words for sharp tools. A dag made from dogwood was a smooth sharp-pointed shuttle used to pass weaving thread in textile mills here and in Europe.

Early botanists used the words “dog” or “horse” as prefaces to name certain plants e.g., dogbane, horsemint, to suggest worthlessness. Was dogwood considered useless for timber or, more positively, was its bark used as a cure for dog mange? In America, the bitter, astringent inner bark was used as a quinine substitute during the Civil War.



Red Maple | *(Acer rubrum)*

Also swamp maple

NATURAL HABITAT

Red maple grows wild in many habitats throughout New York State and New England. In wetlands it is often called swamp maple. Red maple shares the uplands with its relative, the sugar maple. A distinguishing feature of the red maple is the V-shaped notch between leaf lobes compared to the U-shape between the lobes of sugar maple and Norway maple (Acer platanoides) leaves. Both native maples are being crowded out near cities and suburbs where the invasive Norway maple spreads into areas occupied by natives. The seeds from the more aggressive Norway maple blow from yards and street plantings to nearby locations where they establish new trees.

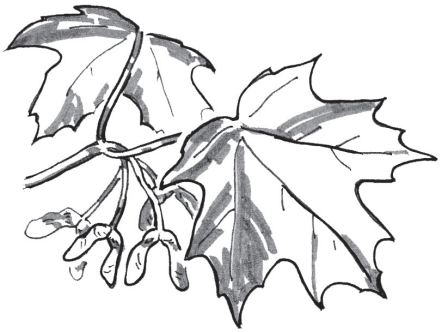
LANDSCAPING INFORMATION | Grows 40 to 70 feet

This beautiful maple shows red at all seasons – winter twigs, tiny male and female spring flowers, leaf stems and glorious orange to deep red fall foliage. Medium to fast growing, the red maple is ideal for side and back yards away from overhead wires. It should be planted at least 25 feet from buildings and paved surfaces to allow space for the mature tree which is nearly as wide as it is tall.

AMERICAN TRADITION

The red maple is one of our finest shade trees. The relatively soft wood is not usually used for lumber. This maple has gone to market as box veneer, interior finish, flooring, kitchenware, clothes hangers and clothes pins. Depending on which chemical was added, pioneers made ink or cinnamon-colored dye from the bark. Peter Kalm, Linnaeus' botanist in America, noted its use as a dye and for many small wood products: plates, spinning wheels, spools, feet for chairs and beds and other turnery. Native people burned rotten red maple wood to make lye, which was used in boiling white oak acorns to extract cooking oil.

Sugar Maple | *(Acer saccharum)*

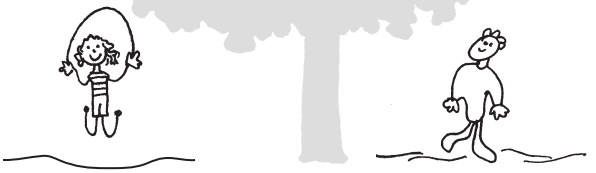


NATURAL HABITAT
Sugar maple thrives in rich, cool, upland forests throughout New York and New England, eastern Canada, and the Appalachians. This majestic tree dominates the canopy along with birch, beech and white pine.

LANDSCAPING INFORMATION | Grows 45 to 75 feet
Sugar maple grows best in full sun, away from curbs and salt. This tall tree is best suited for side and backyards and should be planted at least 20 feet from buildings and pavement. Slow to medium growth results in an oval to rounded shape nearly as wide as it is tall. Sugar Maple is easily confused with the invasive Norway maple because of similar leaf shape and U-shaped notches between leaf nodes. To distinguish between them, break off a leaf stem from a twig; if the stem has white latex it is a Norway maple.

AMERICAN TRADITION
New York State shares the sugar maple with Vermont, West Virginia, and Wisconsin as its official State Tree. The emblem on the Canadian flag is the sugar maple leaf. Sugar maple plays several important roles in the economy of the Northeast US and Canada. The hard wood is made into lumber much of which is used for fine cabinetry. Each spring the sap is collected and boiled down to make delicious maple syrup and candy. Tourists travel from all over the world to visit New England in autumn to enjoy the spectacular orange and red foliage of the sugar and red maples. Maple seeds are equipped with propeller-like winged keys which are dispersed by the wind in a whirling pattern which fascinates children, adults and would-be inventors.

Hudson valley naturalist John Burroughs (1831-1921) eloquently described the sugar maple:
I always feel at home where the sugar maple grows. It was paramount in the woods of the old home farm where I grew up. It looks and smells like home. When I bring in a maple stick to put on my fire, I feel like caressing it a little. Its fiber is as white as a lily, and nearly as sweet-scented. It is such tractable, satisfactory wood to handle—a clean, docile, wholesome tree; burning without snapping or sputtering, easily worked up into stovewood, fine of grain, hard of texture, stately as a forest tree, comely and clean as a shade tree, glorious in autumn, a fountain of coolness in summer, sugar in its veins, gold in its foliage, warmth in its fibers, and health in it the year round.



River Birch | *(Betula nigra)*

Also red birch

NATURAL HABITAT

River birch, like all the eastern birches, is named for its bark color – red. The others are white, gray, black and yellow. All are at home in forests or forest edges. In the wild, river birch prefers the wet overflowing banks of streams, ponds and swamps, but also adapts well to open landscape use.

LANDSCAPING INFORMATION | Grows 40 to 50 feet

River birch earned the 2008 Urban Tree of the Year Award from the Society of Municipal Arborists. Dark reddish, brown-edged, creamy *exfoliating* (shedding) bark makes this the most handsome birch. Often neglected by landscapers who overuse the white, the river birch is beautiful as a single specimen to be seen alone or grouped in more spacious areas. Single or multi-stemmed varieties are available.

Birches grow at a medium to fast rate. Leaves turn yellow in fall and cone shaped cone-like fruit on dark red twigs remain most of the winter providing food for a variety of birds.

AMERICAN TRADITION

Birch is fossilized in American rocks from the Cretaceous to the Tertiary Period in the north central plateau. In modern time when people began to harvest wood, river birch was seldom selected because it grew in difficult-to-reach places along muddy banks of rivers and lakes. Left in its wild habitat, this tree helps anchor stream banks to prevent extensive erosion from flooding.

In spite of harvesting problems, river birch was occasionally used for wood products. Oxen yokes and wooden shoes were its earliest uses. Carolina farmers substituted it for hickory to make cask hoops. In recent times, river birch has been introduced to the Pacific Northwest as a street-side shade tree.

As with so many plant names, more than one derivation is possible: *Betu* is the Celtic word for birch, while the Latin *batuere*, to beat, may refer to birch rods' infamous use for punishment.

BLACK GUM | *(Nyssa sylvatica)*

Also called sour gum, pepperidge, tupelo

NATURAL HABITAT

Black gum is found from Maine and southern Ontario south to northern Florida. It does well in poorly drained soils at the borders of swamps, but also grows on high mountain slopes.

LANDSCAPING INFORMATION | Grows 30 to 60 feet

This handsome tree with glossy, leathery leaves is well suited for side and back yards in full sun. It grows especially well in wet areas which are slow to dry after rain. Gum trees will tolerate dry periods and are somewhat resistant to salt damage. The dark blue blueberry-sized fruit which taste sour to humans are favored by songbirds. The attractive alligator-hide bark and scarlet autumn leaves – the first to color – make the black gum a desirable shade tree that does well in both wet and better drained areas. Leaf color is enhanced when the undersides stay summer green. All the twigs, small branches and main limbs grow at distinctive ninety degree angles to each other.

AMERICAN TRADITION

What's in a name? This interesting tree has a variety of common names *(sour gum, tupelo, pepperidge)* most of which seem unrelated to the actual characteristics. Unlike the sweet-gum *(Liquidambar styraciflua),* no gum has ever been extracted from any part of the black gum. "Sour" likely describes the sour tasting small fruit eaten by birds and by climbing opossums in the south. "Pepperidge," made famous by the New England farm bakery, is a mystery, as it is derived from an old English word for barberry bush. "Tupelo" has its contradictions. Some say it comes from the native Cree language: *eto* for 'tree' and *opelwu* for 'swamp.' However, southerners gave the name tupelo to another tree and to a city in Mississippi. The derivation of the scientific name makes more sense. *Nyssa* was a water nymph, recalling the tree's preference for wetlands, and *sylvatica* refers its forest home.

When old southern forest black gum trees rotted away at the center, they took on a whole new life. Short cut sections laid upon covered boards became hives known as bee-gums. Longer hollow sections called rabbit-gums were used as traps. The tupelo's non-splitting properties made the wood a good choice for maul handles, scaffolding and chopping bowls. On Long Island, where early autumn colors appear about Labor Day, the tupelo leaves are known by children heading back to school as "teachers' tears."

Hop Hornbeam | *(Ostrya virginiana)*

Also ironwood

NATURAL HABITAT

Like its birch family relative American hornbeam, *Ostrya* is an understory forest tree across the U.S. east of the Rockies. But unlike its relative which prefers moist sites, hop hornbeam is more at home beneath oaks and hickories on dry, gravelly slopes and ridges. The hop and American hornbeams may be found together with the American hornbeam closer to stream or marsh and the hop hornbeam just up the slope on well drained soils.

LANDSCAPING INFORMATION | Grows 30 to 50 feet

Nearly disease free, the hop hornbeam grows very well beneath or in front of established oaks and maples; the tree's medium size makes it useful for shading buildings without over-topping and dominating them. Slow growth is another asset near structures. Tiny nuts within overlapping paper sack-like fruit develop during summer. An attractive and interesting feature is the bark which grows in narrow slightly shredding strips. Hop hornbeam prefers full sun or partial shade; it tolerates occasional dry periods, but not salted pavements. Leaves turn clear yellow in fall. The most distinctive late summer feature is the hop-like bladder fruits which enclose the seeds. These papery fruits blow away or drop to the ground where they are raked up with fallen leaves.

AMERICAN TRADITION

Hop hornbeam's short height and limited girth made it impractical for lumber. However, the wood is heavier than all other native trees except dogwood. Because it is so tough and hard, the wood was used for mallets, axe handles and levers. A country name was leverwood. The tiny nuts within the hop-like bladders are food for grouse, quail, rabbits and deer.

The hop hornbeam is named for its fruit which resembles that of the hop vine which was cultivated throughout rural New York and New England until the late 19th century. The hops harvested from these vines were vital to the numerous breweries in nearby cities. A pathogen destroyed the eastern hop vine, but the development of canal and rail transportation enabled hops grown further west to reach eastern markets. Today the hop vine can be seen locally where it is planted at historic farm restorations. The fruit of the hop hornbeam tree is a faint reminder of a once important New York State agricultural crop.

Swamp White Oak | *(Quercus bicolor)*

NATURAL HABITAT

Most oak species – there are more than a dozen in New York, with many hybrids – inhabit dry uplands, but the swamp white makes its home and takes its name from its preference for stream and swamp borders. Its range extends from Maine south along the Appalachians to West Virginia. This oak grows in small groves which are widely scattered and nowhere very abundant. It is most common and grows tallest in western New York and northern Ohio.

LANDSCAPING INFORMATION | Grows 50 to 60 feet

With a spread in maturity as wide as it is tall, swamp white oak requires a spacious location in full sun, with a wide tolerance for wet or dry sites. Small hanging clumps of flowers appear in the spring as the leaves emerge. Every three to five years the tree may produce a heavy crop of acorns which could be a problem in areas with considerable foot traffic. In the fall leaves turn yellow and then dark purple. Attractive grayish brown, flaky bark is divided into long fissures with flat ridges.

AMERICAN TRADITION

Swamp white oak wood is heavy, hard and tough. The lumber has long been valued for a variety of commercial uses, including cabinet making and carriage and boat building. Hundreds of years ago the Seneca Indians singled out a massive swamp white oak growing beside the Geneseo River near the present day town of Geneseo, NY, and named the area “Big Tree.” The tree was 100 feet tall with a circumference of 27 feet. It was under this tree in 1797 that Robert Morris, financier and signer of the Declaration of Independence, negotiated with the Senecas for the purchase of much of the land that now constitutes western New York. The deal was commemorated as the “Treaty of Big Tree”. When the land where the tree was growing became part of the estate of the prominent Wadsworth family, the tree became known as the “Wadsworth Oak”. As was the case for the Wadsworth Oak, river bank locations for oaks can prove fatal. It was toppled by a flood in 1851, but a section remains preserved in the Livingston County Historical Museum.

Scarlet Oak | *(Quercus coccinea)*

NATURAL HABITAT
Often a companion of pines in sandy soils, scarlet oak thrives in dry habitats from Maine to Massachusetts, across New York State and as far west as Nebraska. Its southern range extends to North Carolina and Tennessee. Locally it can be seen in the Capital District Pine Bush where, in autumn, the scarlet leaves contrast brilliantly with the dark pitch pines.

LANDSCAPING INFORMATION | Grows 60 to 70 feet
Like other oaks, the scarlet is relatively slow growing, requires full sun and does best in acid to slightly alkaline, well drained soils. It will tolerate occasional periods of drought. The scarlet's late fall brilliance is unique. Holding its scarlet to russet red leaves into November, the round open form of the tree becomes a landscape focal point, especially when accompanied by contrasting dark green conifers.

AMERICANA
Because scarlet oaks keep their foliage late into the fall, tree historian Donald Culross Peattie speculated that scarlet oak was likely one of the first trees the Pilgrims saw when they arrived on the Massachusetts coast in November 1620.

Henry David Thoreau was ecstatic about the beauty of the scarlet oak. Lying back and looking up at the leaves of a mature tree, he saw them in a "dance, arm and arm with the light—tripping it on fantastic points, fit partners in those aerial halls."

Surveying the scene from a high point of land in Lincoln, MA, Thoreau saw the red leaves of the scarlet oaks in strong contrast to the evergreens, "I did not know there were so many redcoats in the forest army." The late fall leaves, said Thoreau, were "our chief November flower; abiding the approach of winter with us, imparting warmth to early November prospects."

Though strong and stiff, scarlet oaks were often passed over by loggers in favor of white oaks. Manufacturers of chairs, however, prized its stiffness, and would follow on the heels of other loggers to harvest these oaks after the other hardwoods had been cleaned out.

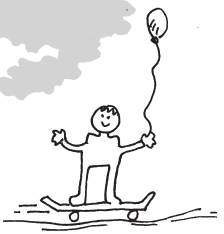
Red Oak | *(Quercus rubra)*

NATURAL HABITAT
Red oaks are important forest community members throughout the east from Maine to Georgia and west to Minnesota and Kansas. About a dozen species of oaks, including two shrub species, thrive in New York State. The red's large bitter acorns are ignored by most wildlife in favor of the sweeter nuts of other oaks.

LANDSCAPING INFORMATION | Grows 60 to 80 feet
Red oak is a popular choice among the oaks because it is relatively fast growing, producing a large rounded crown with wide-spreading lateral branches above a massive trunk. In spring, emerging leaves have a frosted pinkish hue before turning lustrous green in summer. Autumn leaves vary from yellow-brown to dark purplish-red. Like the other oaks it does best in full sun in acid to slightly alkaline soil. Becoming fifty or more feet wide in maturity, oaks require large spaces and should not be planted where slippery acorns can be an underfoot issue.

AMERICAN TRADITION
The association of oak, chestnut, and hickory trees came to dominate dry lowland habitats along the eastern seaboard after the last ice age. For the first few centuries of European settlement in North America, red oaks were generally considered inferior to other readily available hardwoods. Though they grew rapidly, the wood was light, hard to season, and porous. Some joked that smoke could be blown lengthwise through a three-foot section—making it less useful for barrel making. Although oak bark in general was a popular source of tannin, an astringent liquid used to tan or cure animal hides into leather, red oak bark produced less tannin than the more popular chestnut oak. Then, as lumbering reduced the more desirable trees and drying techniques became more refined, red oak was widely used for anything from railroad ties to rough lumber and building siding.

Oaks had a long history of cultural significance in Europe. Consequently, European colonists were especially attuned to them as landscape trees; red oaks were one of the most successful American expatriates to Europe, where they have been cultivated since the 1600s.



BASSWOOD | *(Tilia americana)*

Also American linden

NATURAL HABITAT

Basswood is native to the rich, fertile woods of northeast US and Canada. This tall tree thrives on well-drained bottomlands, along streams and lakes and on moist, even rocky slopes.

LANDSCAPING INFORMATION | Grows 60 to 80 feet

Medium to fast growing, basswood requires a spacious site and full sun. Its shape changes from pyramidal to oval or round with age. Heart-shaped leaves and fragrant flowers add to the appeal of this tree as an alternative to the often overused European littleleaf linden (Tilia cordata). Both the linden and basswood attract many bees during early summer flowering. Whereas bees reap great rewards from the pollen and nectar, birds show little interest in the fruits which fall from the tree attached to sailplane-like bracts. Basswoods provide welcome dense shade in parks and large lawns, but are too large and salt sensitive for urban residential use.

AMERICAN TRADITION

Basswood was among the most plentiful trees in the northern forests and among those first noted by the Dutch in their exploration of New Netherland in the early seventeenth century. Also known as the American linden, the name “bass” derives from the word bast, or fiber, referring to the fibrous inner bark of the tree. Native Americans soaked basswood bark for anywhere between a week and a month in order to separate the outer from the inner bark; they then pulled apart the inner strands and used them to make cordage and nets. Later industrial uses for basswood included chopping bowls, paper pulp and even the backing for wooden picture puzzles.

The summer blooms of basswood release a fragrance historian Donald Culross Peattie described as “more piercing, yet less drugging, than orange blossoms.” Though basswood was not particularly common around Concord, MA, where Henry David Thoreau rambled, he could always tell when he was drawing near one in late spring by the hum of the bees: “You will know if you pass within a few rods of a bass tree at this season in any part of the town, by this loud murmur, like a waterfall, which proceeds from it.”

AMERICAN ELM | (*Ulmus americana*)

NATURAL HABITAT

The American elm occurs from Nova Scotia west to British Columbia, and from Alberta south to Florida and central Texas. In New England and New York it was one of the best known and admired trees before being devastated by Dutch elm disease. This stately vase-shaped tree grew where settlers first traveled and worked – in rich *alluvial* soils of silt, sand and gravel deposited along rivers and streams throughout the north.

LANDSCAPING INFORMATION | Grows 70 to 90 feet

The tall, fast-growing elm requires a sunny open space in side or back yards away from pavement. It is tolerant of occasional wet soil as well as drought conditions. American elm will only regain some of its former prominence as an urban and suburban favorite if residents are willing to try growing it. While this booklet does not recommend specific tree varieties, at least two Dutch elm disease-resistant cultivars also show promise of resisting the elm leaf beetle and a disease known as elm yellows. The fate of the elm half a century ago is a classic example of why not more than 5 to 10% of any tree planting should consist of a single species.

AMERICAN TRADITION

Elms have held a special place in American history, first as ideal locations for Native American council meetings and later for negotiating treaties between tribes and European settlers. The more famous the historic event, the more frequent was the association between a tree and the commemoration. George Washington was linked to elms all across the northeast, most famously the "Washington Elm" in Cambridge, MA, where he took command of the American army in 1775. When the tree died in the 1920s, a tree ring count indicated the tree was only a sapling in 1775; another nearby tree undoubtedly shaded this famous event.

Though settlers found little practical use for elm wood except as hubs of carriage and wagon wheels, the tree's resemblance to European elms singled it out as a desirable shade tree. It was often planted to shade the ridgepole of a new house and for shade in streets, parks and commons of settlements across the northeast. The elm's singular beauty as a street tree was also its downfall. When Dutch elm disease arrived in the 1930s, closely planted elms helped the rapid spread of the disease; the character of entire communities was suddenly changed when street after street of elms succumbed. European elms had earlier experienced the same fate as American elms when the pathogen was introduced from China. A shipment of elm products from the Netherlands brought the disease to America.

Home Landscaping Tips and Safety Information

MAKE A SITE PLAN (sample below). Your certified tree nursery will provide valuable guidance on tree selection, planting and care. Plants are available bare rooted, containerized or balled and burlapped (B&B), with a range of options from self-planting to guaranteed planting by the nursery. Before selecting trees (and shrubs), you will want to make a site plan to scale on graph paper with location of house, garage, deck, garden and any sheds and outbuildings. You can indicate with tree symbols the location of existing plantings you want to keep and where you are considering replacements or new plantings.

REPLACING A TREE CAN BE RELATIVELY EASY AND STRAIGHTFORWARD: Testing soil pH and moisture, and such site conditions as soil type and sun/shade considerations to optimize success. Replacing or supplementing a number of trees or starting from scratch on a new home site will require more extensive planning.

COUNTY CORNELL COOPERATIVE EXTENSION provides many free and inexpensive publications and services. Ask about workshops and short courses. You might start with a free, very comprehensive, downloadable PDF file entitled: *Livable Landscape Design* by John F Collins, ASLA and Marvin I Adelman, ASLA, a Cornell Cooperative Extension Information Bulletin 211: 1988 Cornell University. Step by step assistance including sample site plans will guide the way.

Contact your County Cornell Cooperative Extension office http://www.cce.cornell.edu/ , click on NYS map and local region or see telephone directory county blue pages to request a variety of tree fact sheets.

SITING TREES FOR ESTHETICS AND ENERGY SAVINGS
Careful site planning will ensure that you locate your trees for appearance and energy conservation, for your enjoyment and to enhance property values. Be sure to check the cultivation charts for Short Deciduous, Medium and Tall and Evergreen Conifer Trees for tree height and width at maturity to give each tree ample room to grow unrestricted. Once you have a clear idea of your needs and wants, consider the native trees described in the Recommended Trees Unique Qualities chapter. Then contact or visit a member nursery of the Northeastern New York Nursery and Landscape Association, Inc. (www.nenynla.org), 72 Badgley Lane | Voorheesville, NY 12186. Email: info@nenynla.org | Phone: 518 779 6530

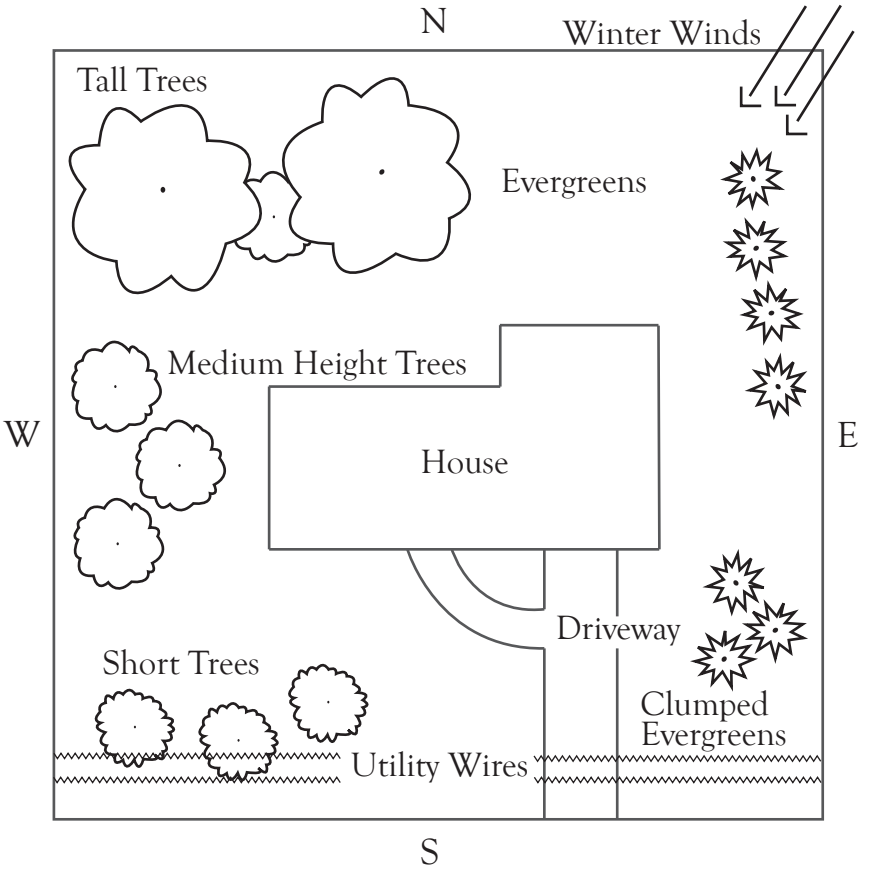
PLANTING IN SPRING OR FALL?
Remember that deciduous (shedding leaves annually) trees are best planted in the early spring before leaf out or in autumn after leaf fall. Plant evergreen conifers (with leaves all year and bearing seed cones) either in the spring or in early fall to enable some root growth before winter.

PRUNING AND MAINTENANCE
Initial pruning when planting is vital to getting your tree off to a long and healthy life under your care. Your county Cornell Cooperative Extension office and your tree nursery have illustrated guides. Following recommendations for soil conditioning, fertilizing and mulching plus regular watering will optimize your success. See NYSNLA's *To Know, To Grow: Tree Planting Guide* in our bibliography and at your local certified tree nursery.

BEFORE DIGGING TO PLANT, PLEASE CALL *DIG SAFELY*
Cable communications, electric, and gas utility lines that could be cut or damaged may be underground where least expected. Also remember that only short trees (under 30 feet tall at maturity) should be planted beneath overhead wires.

CALL DIG SAFELY NEW YORK AT 811 OR 1-800-962-7962 at least two full working days before digging to plant or to plan any excavation work. *Dig Safely* notifies National Grid and other participating utilities so they can mark underground wires, pipes or cables to prevent personal injury, property damage and service interruptions. To learn more, go to www.digsafely.com.

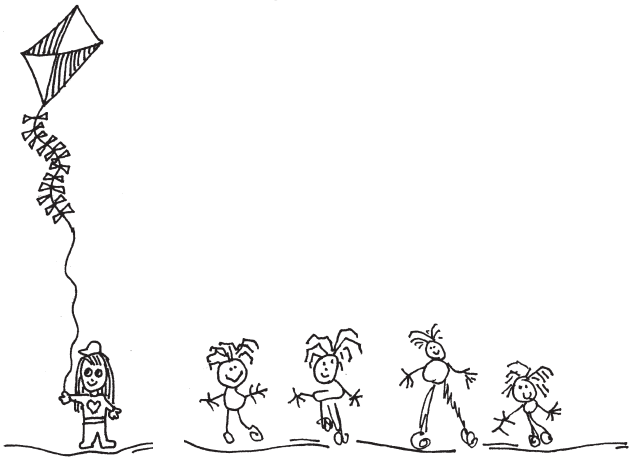
Site Plan Example



Glossary

ADAPTATION: a physical or behavior adjustment of a plant or animal to environmental conditions.
ALLUVIA: relating to alluvium: silt, sand, and gravel soil materials deposited by running water.
ARBORETUM: a park with an extensive collection of living trees.
AROMATIC: with a pleasing smell or fragrance; usually from bruised leaves or bark.
ALIEN SPECIES: a plant or animal not native to where it now resides. See exotic.
AWL-SHAPED: self-protective conifer leaves shaped like a sharp tool.
BIODIVERSITY: wide variety among native life forms for healthy plant and animal communities.
BINOMIAL: two Latinized names: genus and species to describe an organism, e.g. Acer rubrum.
BLADDER: a plant fruit shaped like an inflated bag.
BLOOM: a whitish, waxy covering on fruits or twigs.
BOTANIST: a scientist that studies plants and the science of botany.
BRACT: a leaf-like structure beneath a flower or flower cluster, as in dogwood.
CANOPY: dominant forest vegetation with high tree tops exposed to the sun.
CATKIN: long slim flower clusters with pollen-shedding males separate from fruiting females.
CLUMP: in landscaping, a multi-stemmed cluster of woody plants. See specimen.
COLUMNAR: tall thin column-shaped trees used for row planting or next to a building.
CONE: the fruit of a conifer usually with winged seeds beneath overlapping scales.
CONIFER: woody plants bearing seed cones and usually evergreen needle or scale-like leaves.
CULTIVAR: a variety of a species cultivated for its special qualities like color or disease resistance.
CULTIVATION: selecting, planting, growing and caring for plants.
DECIDUOUS PLANT: A woody plant that usually sheds its leaves annually.
ECO-SERVICE: natural community-provided air quality, water purification, pollination, and controls on climate, diseases and pests, and land erosion.
EVERGREEN: A plant that keeps most of its leaves throughout the year.
EXFOLIATING: leaf or bark shedding.
EXOTIC SPECIES: A plant or animal residing where not native. See alien.
FLOWER: plant reproductive structures with male and female parts resulting In fruits.
FORESTRY: the science of growing and caring for forests of trees.
FRUIT: A flowering plant reproductive structure that produces and disperses seeds.
GENUS: the first subdivision of a family of plants or animals. Plural – genera. See Species
HABIT: the form and shape of a growing plant, e.g. herb, vine, shrub, tree.
HABITAT: the physical environment where a plant or animal normally lives or adopts.
HERB: a non-woody plant that dies back annually.
HORTICULTURE: the science and art of growing food or ornamental plants.

INVASIVE SPECIES: A plant or animal that spreads aggressively detrimental to desirable species.
KEY: a winged dry fruit that can be carried by wind. Also a system for identifying plants.
LEAVES ALTERNATE: leaf attachment to the twig staggered along the twig.
LEAVES OPPOSITE: leaf attachment to the twig in pairs across from one another along twig
LOWLAND: habitat in valley adjacent to water, often with periodic standing water. See upland.
MARSH: a wetland dominated by floating and emergent soft-stemmed plants. See swamp.
MIDRIB: the main support-giving central vein of a leaf with attached lateral veins.
NATIVE: a plant or animal residing here before the year 1500.
NATURALIZED: plant or animal living independently escaped from cultivation or domestication.
NUT: a hard one seeded fruit.
NUTLET: a very small nut.
PATHOGEN: a specific disease-causing agent such as a bacterium or virus.
pH: a measure of acidity and alkalinity on a scale from 0 to 14 with 7 being neutral.
QUININE: a tropical medicine derived from bark used as an anti-malarial drug and bitter tonic.
RESIN: a thick sticky substance made by conifers with medicinal, fuel and lubricating uses.
SCALES OVERLAPPING: moisture-conserving scale-like leaves as in juniper and arborvitae.
SHRUB: multi-stemmed short woody plants reaching fruiting maturity at less than about 15 feet.
SPECIES: a group of interbreeding organisms producing viable offspring. See genus.
SPECIMEN: in landscaping, a plant grown to be seen by itself. See clump.
SWAMP: a wetland dominated by trees and/or shrubs. See marsh.
TANNIN: a soluble astringent liquid, usually from oak bark, for tanning leather or making ink.
TREE: a tall woody plant, usually single stemmed, that reaches fruiting maturity above 15 feet.
UNDERSTORY: area beneath the forest canopy inhabited by shorter trees and shrubs. See canopy.
UPLAND: Well-drained rainfall-dependent habitats without standing water. See lowland.
WIND POLLINATION: pollen transfer from male to female flowers by wind as in grass, birch, oak.



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Where to Purchase Recommended Trees:

Tree Nursery members of the Northeastern NY Nursery and Landscape Association, Inc.

BOB'S TREES | Hagaman, NY | (518) 882-9455 | bobstrees@nycap.rr.com

BOTANIC BARN | Troy, NY | (518) 279-3080 | botanicbarn@nycap.rr.com

DECKER'S LANDSCAPING & NURSERY | Pattersonville, NY | (518) 887-5552

ELEMENTAL LANDSCAPES, INC. | Voorheesville, NY | (518) 765-5002 | jparmenter@gotstone.com

FACE NURSERIES | Delanson, NY | (518) 895-2308

FADDEGON'S NURSERY, INC. | Latham, NY | (518) 785-6763 ext. 146 | fadd@earthlink.net

GEORGES MARKET & NURSERY | Latham, NY | (518) 785-4210

MEAD'S NURSERY, INC. | Queensbury, NY | (518) 792-6533

NATIVE TREE LANDSCAPING AND TREE SERVICES | Scotia, NY | (518) 377-3452

RED MAPLE LAND SERVICE | Altamont, NY | (518)-765-5561 | jsmith1224@aol.com

REDBUD DEVELOPMENT INC. | Wilton, NY | (518) 691-0428 | geff@redbuddevelopment.com

SCHOOL HOUSE ACRES WHOLESALE NURSERY | 390 Wilton St., Gansevoort, NY | (518) 745-7604

TROY'S LANDSCAPE SUPPLY CO. | Cohoes, NY | (518) 785-1526 | troysnursery@msn.com

WHELAN, INC. | Rexford, NY | (518) 371-4261 | gwhelan@aol.com

WHITE BIRCH NURSERY & FLORIST, INC. | Schenectady, NY | (518) 355-1710 | birch2004@aol.com

WM. P. MCKEOUGH, INC. | Delmar, NY | (518) 439-0206

ZEMA'S NURSERY, INC. | Stephentown, NY | (518) 733-5868 | zemasnursery@netscape.net

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Natural Areas of Albany County
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Natural Areas of Saratoga County
Natural Areas of Schenectady County
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