

Branch Out Burlington!



2009 Annual Tree Walk

This year's annual stroll will wind through the Five Sisters neighborhood. On this year's tour, we see an impressive breadth of the trees capable of growing in the urban forest. We'll visit some that are common throughout the Queen City and also a few that are a bit rare. We'll also explore some issues with urban forest health that forest trees don't often have to face. Let's begin, shall we!

1. American Linden/Basswood - *Tilia americana* – This is the native Linden tree found in the upland forests of Vermont, and here in the urban environment. The distinct heart-shaped leaves have uneven bases, but both lobes connect to the same point. Fragrant flowers in June provide for pleasant aromas but also attract bees. This particular tree has problems with powerlines and pruning done to reduce conflicts with the powerlines. This illustrated the need to plant appropriate sized trees under overhead lines. In addition, dozens of holes arranged horizontally indicate that sapsuckers (cousins of woodpeckers) have been after the sap of this tree. Though not the *Tilia* best suited to the urban environment, we will soon meet one that is.

2. Silver Maple – *Acer saccharinum* – One of the Maple species native to the Champlain Valley lakeshore and floodplain forests. The leaves have 5 lobes and sinuses are deeply cut into the leaves. The scaly, shaggy bark is another indicator that you're looking at a Silver Maple. Native trees found in wet soil conditions are often suited for the urban environment. Soil compaction reduces the amount of oxygen in the soils, similar to what water-logged soils experience. This species grows fast but is somewhat weak-wooded, and can shed branches or break apart in storms. This specimen displays the importance of early pruning to develop a proper form. The recent removal of a large branch, though necessary, has caused the tree to lose its symmetry. An older cut we can see is healing over properly, though secondary insects have made their home in the tree, as evident by the exit holes in the dead wood.

3. Black Locust – *Robinia pseudoacacia* – In the Bean family, it produces drooping clusters of showy pea-like fragrant flowers in June. These are generally very tall, and can develop large diameter trunks with deeply furrowed bark. Leaves are compound with numerous small leaflets and have two small thorns at their base. It leafs out later in spring than most other trees. Birds and squirrels eat the seeds, but the twigs and bark are poisonous to cows. The wood is very tough and rot-resistant. Let's compare this tree with one often confused for it by name at least, the Honeylocust.

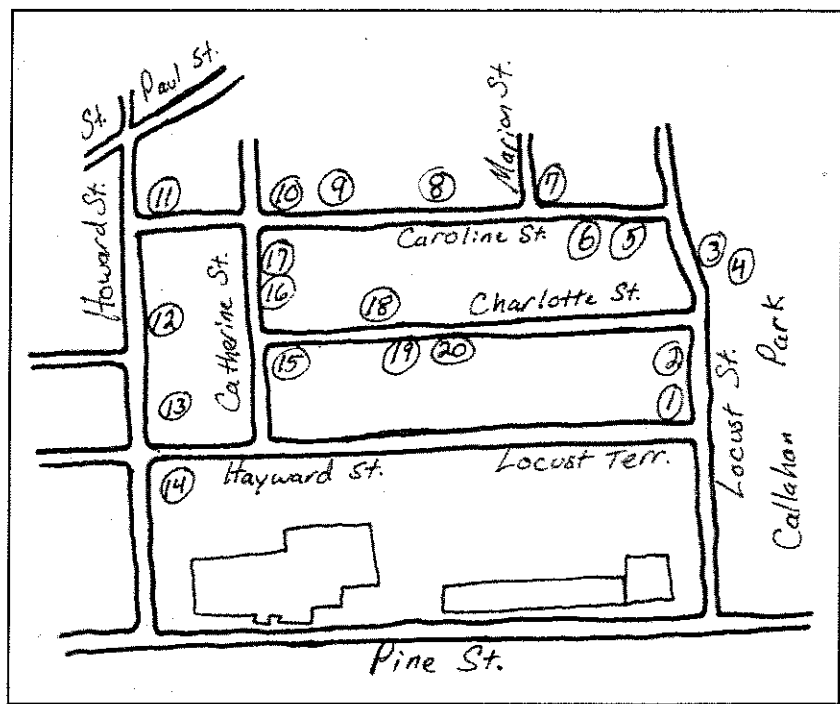
Our Mission:

We are a group of volunteers who help plant and care for the trees of Burlington. Our goal is to promote a vision of a city graced with a variety of beautiful and healthy trees, and a citizenry actively involved with the perpetual expansion and preservation of our urban forest.

Visit our website at www.branchoutburlington.org.

4. Thornless Honeylocust –

Gleditsia triacanthos var. *inermis* – Also in the Bean family, this cultivated variety of the Honeylocust has been extensively planted throughout Eastern North America due to its filtered shade and its tolerance of extreme urban conditions including drought, pollution and salt. The leaflets are much smaller than Black Locust, and often do not need to be raked up in the fall. To further contrast these two species, the form of a honeylocust is much shorter and broader, never really reaching the towering heights a Black Locust can. The true honeylocust species has branched thorns up to 12" long and is not suitable for urban planting. Its native habitat is the bottomlands of the mid-Atlantic states, south and west to Texas and Nebraska.



5. Silver Linden – *Tilia tomentosa* – This beautiful cousin of the Basswood is native to Eurasia. It has been widely planted due to its tolerance of difficult urban conditions and its good form. The leaves are similar in shape to the Basswood, but are somewhat smaller and have a beautiful silvery underside. Both trees can become large, reaching 70 feet tall, so placement should be considered very carefully.

6. Littleleaf Linden – *Tilia cordata* – Of the Lindens planted in the urban forest, this type is the most commonly planted, and has earned its place. It has excellent tolerance to urban conditions and overall is relatively free of problems and diseases. The crown forms a dense canopy that provides often needed shade. Parking your car under this or any of the Lindens we have met today will leave you with a sticky surprise, often covering your car with the honeydew coveted by bees and flies.

7. Common Hackberry – *Celtis occidentalis* – This is another hardy native tree that is a good choice for urban greenbelts. A relative of the Elms and Zelkova, it has acted as somewhat of a fill-in after Dutch Elm Disease claimed most of the urban Elms. The leaves have asymmetrical bases that connect to the petiole at a common point, similar to the Lindens. However, the rough, scratchy texture tells you it's different. The leaves of this species also usually host an insect pest which forms a "nipple gall." The green warty growths are harmless to the tree itself. If you still had any confusion identifying a Hackberry, just look at the bark. Described as warty by most, the bark is unique and shouldn't be confused with any other tree.

8. Norway Maple – *Acer platanoides* – This species is native to Europe and has been widely planted and naturalized in eastern North America. Its leaves are similar to the native Sugar Maple at first glance. Norway leaves are larger, have 7 lobes, and exude a milky white sap when broken. The love of this tree began when its tolerance of pollution, salt, and compaction- all conditions urban trees face- was discovered. Since then, several structural and ecological issues have surfaced. This specimen displays some of these, namely the issues with its form- multiple leaders that lead to poor crotch strength and potential failure. We also revisit the placement issue with powerlines through the crown. Norway Maples are now considered invasive due to the prolific spread of seed every year, and they are no longer widely planted. Norway Maple is also susceptible to "giant tar spot disease", which the native Maples are not. We won't even mention the decay present in this specimen!

9. Douglas Fir – *Pseudotsuga menziesii* – Not an everyday tree in Vermont! This species is a conifer native to the Pacific Northwest, and isn't even a true fir. Botanists have even been confused by this species, so let's look at the cone to make sure it is what we think. The signature of a Doug-fir is the long bracts that extend past each scale. It is one of the largest and most valuable timber species. Overall, this tree has few health issues.

10. Hedge Maple – *Acer campestre* – This tree is a good choice for a small to medium-sized urban tree that may need to be squeezed under a power line. The leaf arrangement is opposite, as with all Maples, and has a slightly 'wavy' leaf margin (edge). This is another excellent tree in terms of drought and heat tolerance. Hedge Maples have earned the name, especially in Europe, where hedge rows of this species often frame the highways. Used primarily as a utilitarian tree, the fall color is hit or miss.

11. Sugar Maple – *Acer saccharum* – This is our primary native upland forest Maple tree (and our State tree!) that is the bread and butter to many a syrup maker and logger. The leaves have 5 lobes with shallow sinuses. The crowns are often dense enough to prevent grass from growing. This particular tree is a relatively healthy specimen of a forest tree which does not deal well with urban pressures, including compaction and road salt. Its "cousins", Red and Silver Maple are better adapted to growing on infertile urban soils. This one is doing well perhaps because it is above the road and sidewalk and may escape much of the salt that is applied during winter.

12. Robusta Crabapple – *Malus x robusta* – One of dozens of varieties, crabapples make an excellent choice for the cityscape. Found in all shapes and sizes, we are given dazzling flower shows in May before the tiny apples develop later during the summer months. The fruit develops on small branches known as spur branches. This particular crabapple variety was once widely planted along city streets during the 1960's and '70's. Crabapples host large flocks of Cedar Waxwings in April.

13. Eastern Cottonwood – *Populus deltoides* – Another native tree common along the shores of Lake Champlain and inland lowlands, these are the monsters of our forests. As with the Silver Maple, they are fast growing trees that consequently develop soft, weak wood. This is also the culprit for the June Snowfalls. Its name came from the cotton-like fibers that surround the tiny seeds, allowing the wind to carry them great distances. This particular tree is a Champion in the Branch Out Burlington! arena, being a winner of the Awesome Tree Contest. It is undoubtedly one of the biggest trees in Burlington.

14. Butternut – *Juglans cinerea* – This species is native to the forests of Vermont, and is closely related to the more southern tree, the Black Walnut. It is sometimes called the White Walnut. The large, compound leaves have a single terminal leaflet (as opposed to the Black Walnut which has twin terminal leaflets.) Also notice the rich, silver bark with irregular furrows. The story of the Butternut is nearly as tragic as that of the Elm and Chestnut. Butternut Canker has decimated many of these trees. But like the Elm, they persist long enough to reach maturity and remain part of the natural landscape, if only in reduced numbers and quality. This particular specimen has escaped the plight of the canker, at least for now.

15. Northern Catalpa – *Catalpa speciosa* – This member of the Bignonia family has large clusters of white flowers in early summer, large rounded leaves, and long "bean pods" in fall, hence the nickname "Indian-bean". Usually about 40-60 feet high, its rot resistant wood has been used for railroad ties. This particular specimen has chronic problems with sooty mold and aphids. The aphids secrete sweet 'honeydew' on which the mold fungus thrives. The normally large leaves of this species have been reduced in this individual due to repeated attacks.

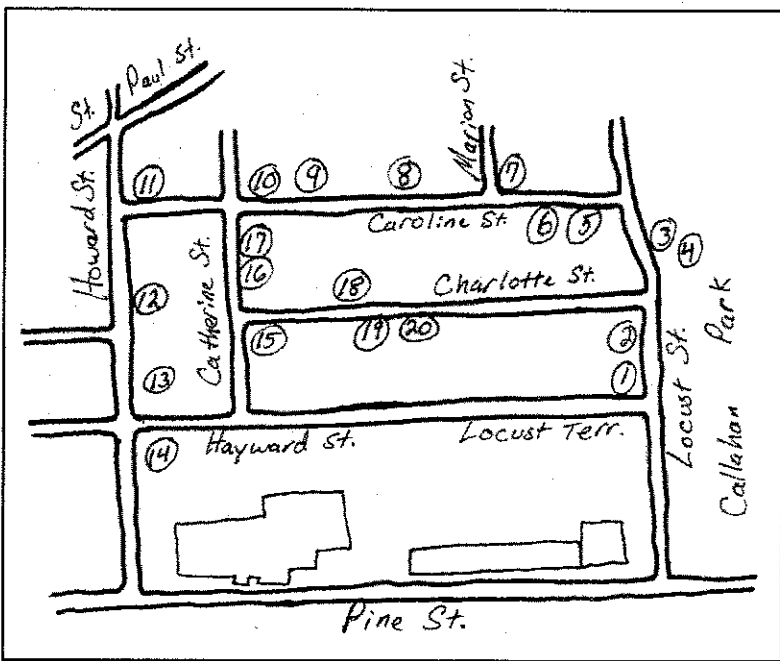
16. Freeman Maple – *Acer x freemanii* 'Autumn Blaze' – This tree is a fast growing hybrid cross that combines the desirable traits of the Red and Silver Maple. Most of these hybrids have leaves similar to the Silver Maple, 5 lobes with deep sinuses. It has the good, reliable red fall color, grows fast, and is very tolerant of urban conditions. Some of the weak wood issues are reduced by the influence of the Red Maple, which has somewhat stronger wood. This cultivar, 'Autumn Blaze' is especially colorful, often given a fiery fall display.

17. Red Maple – *Acer rubrum* – This species is quite ubiquitous in Vermont forests and has a significant role in the urban landscape. The leaves have 3 lobes (occasionally 5) with somewhat shallow sinuses. The “Red” comes from the bright fall color it often shows. This tree had two “leaders” which are co-dominant, and leads down to a seam visible from the outer bark. The tree was cabled to help address the problem of unstable structure with the two trunks. The seam you see is a weak point in the tree structure and is most likely the point the tree would have failed without remediation. There is some discussion as to the merits of cabling trees. It does remedy a potential hazard, though perhaps issues could have been addressed earlier or by other means.

18. Japanese Tree Lilac – *Syringa reticulata* – This native of Japan is a good choice for areas that require a smaller tree; good for small front yards and under power lines. It flowers later than its shrubby cousin, the Common Lilac, but has similar flowers and leaves. Few problems worry this species and it is well suited for what we see here. A good portion of this street on one side is planted with this species which is appropriate because of the overhead lines. This tree has gained in popularity in recent times because of its usefulness.

19. Green Ash – *Fraxinus pennsylvanica* – ‘Summit’ and ‘Cimarron’ are two of several Green Ash cultivars which became popular street trees in the 1970’s-80’s. Both cultivars were planted in the greenbelt along this street. Summit Ash grows in a wide variety of sites and has good form and yellow fall color. Green Ash as a species is native to river bottoms from eastern Canada to Texas. It has compound leaves like several trees we have seen today, but the leaf arrangement is opposite, as we have seen with the maples. The bark on this species is described as ridged and furrowed, usually in a “diamond” pattern. An exotic bug, the Emerald Ash Borer, threatens to destroy Ash trees all over eastern North America. In Michigan alone over one million infested Ash trees have been cut down. Many states have placed a moratorium on planting Ashes and carrying Ash firewood across state lines. EAB has been observed within 50 miles of the Vermont/Canadian border.

20. American Elm – *Ulmus american.* – A classic street tree that is hopeful to become a common site once again. The leaves of this species again have un-even bases, but each base attaches to the petiole at different point, unlike the Lindens and Hackberry we have seen before. If you were to cut a cross-section of the bark, you will notice alternating dark and white layers, separating this from other Elms. Current efforts are under way to develop varieties resistant to the Dutch Elm Disease. However, it is unlikely American Elm will ever be as ubiquitous as it was prior to the outbreak. The ecological lessons learned from the large monocultures that enabled such a tragic loss are hard to forget, and hopefully will not be repeated.



Want to get involved?

Everyone is welcome at our monthly meetings. Call Burlington Department of Parks and Recreation at 862-8245 for the time and place. Tax deductible donations can be made out to *Branch Out Burlington!* and sent to 93 Howard St., Burlington, VT 05401.