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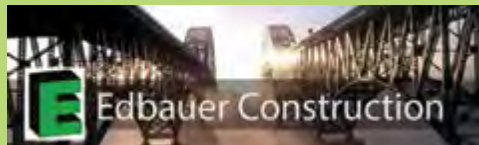
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Buffalo Niagara RIVERKEEPER®
721 Main Street Buffalo New York 14203
(716) 852-7483
info@bnriverkeeper.org
www.bnriverkeeper.org

BUFFALO NIAGARA RIVERKEEPER®

Western New York Guide to Native Plants for your Garden

Buffalo Niagara RIVERKEEPER®

Western New York Guide to *Native Plants for your Garden*



BUFFALO NIAGARA RIVERKEEPER®



The creation of this guide was made possible by the generous support of the New York Power Authority and the Niagara River Greenway Ecological Standing Committee.



www.niagaragreenway.org

This guide was developed under the guidance of Buffalo Niagara Riverkeeper's staff and volunteers. Despite considerable research by our team there may be errors in this guide. Please contact us if you do find an error so our next edition may be more accurate.

A special thanks to our many gracious partners and stakeholders who aided in the creation of this guide, including Sally Cunningham of Lockwood's Nursery, Lyn Chimera owner of Lessons from Nature, SUNY ESF Distinguished Professor Dr. Donald Leopold, and the Lady Bird Johnson Wildflower Center.

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Letter from the Executive Director

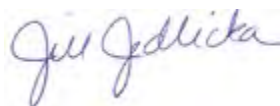
Buffalo Niagara RIVERKEEPER® is pleased to offer Western New Yorkers a guide for using native plants in their garden. As a leading water advocacy not-for-profit, we recognize the important role native plants play in the sustainability and biodiversity of our watershed.

Landowners play a significant role in the stewardship of our local waters especially as to the way they design, plant and care for their property. Utilizing native plants creates a more sustainable landscape that requires less maintenance while fostering water conservation and pollutant reduction.

In this guide you'll find a detailed overview of over 90 different plants native to Western New York, 6 different native garden planting plans, planning design considerations to take into account and proper planting instructions.

We encourage you to utilize this guide to incorporate native plants in your garden and improve the health and sustainability of our waterways.

Yours for Clean Water,



Jill Jedlicka
Executive Director
Buffalo Niagara RIVERKEEPER

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Why Garden with Native Plants?

Native Plants (also called indigenous plants) are plants that have evolved over thousands of years in a particular region, adapting to the geography, hydrography and climate of that region. As a result, communities with healthy populations of native plants are more sustainable and resilient, producing cleaner water and a diversity of wildlife in a thriving ecosystem.

By gardening with native plants you not only bring the beauty of these plants into your own landscape, you can feel good about the numerous benefits they provide. The plants presented in this guide have all been documented as native to Western New York by the United States Department of Agriculture.

Save Water

Native plants are acclimated to local weather patterns and rainfall. Once planted and established they require minimal additional watering beyond normal rainfall. Native plants are definitely a smart choice for water conservation, saving you time and money!

Less Maintenance

Utilizing native plants in your landscaping will help reduce the amount of additional maintenance needed to keep your property looking great. Native plants typically do not need fertilizers, pruning, or pesticides to flourish in your garden.

Reduce Pesticides

Native plants have developed their own defenses against many pests and diseases, and they support beneficial insects which help to counteract insect pests, negating the need for pesticides. Numerous beneficial insects, such as butterflies and pollinating bees, depend on native plants. Since pesticides kill indiscriminately, using fewer pesticides ultimately benefits beneficial insects.

Improve Water Quality

Lessening the use of fertilizers and pesticides is beneficial to the water quality of our waterways. When it rains, stormwater collects these chemicals and excess nutrients which are then conveyed into area streams, rivers and lakes. Too many chemicals and nutrients in our waters can have negative consequences, limiting safe and healthy waters to swim, fish and drink.

Save Time & Money with Native Plants!

Invite Wildlife

Native plants occur in communities where they have coevolved with other local flora and fauna. As a result, native plant communities provide excellent habitat for a variety of local wildlife, such as songbirds and butterflies, and are a key part of the food chain.

Support Biodiversity

Diversity in an ecosystem is imperative for sustainability. Habitat biodiversity creates a variety of food and shelter options, ensures a system of checks and balances that withstand environmental stresses and promotes the health and resiliency of life.

Help educate your friends and neighbors about the importance of saving water, reducing pollution from fertilizers and pesticides, and improving our natural environment by using native plants in your garden!



For more information on native plants please visit our website:
www.bnriverkeeper.org

Symbol Key

SUNLIGHT EXPOSURE:



Full Sun: The site is in direct sunlight for at least six hours a day during the growing season



Partly Shaded: The site receives approximately three to six hours of direct sunlight



Full Shade: The site receives less than three hours of direct sunlight or filtered light.



Full sun or part shade



Part shade or full shade



Full sun, part shade or full shade

SOIL MOISTURE CONDITIONS:



Dry: Areas where water does not remain after a wet weather event.



Moist: Areas where the soils are damp and may be occasionally saturated.



Wet: Areas where the soil is saturated for much of the growing season, except in droughts.



Dry to moist soil



Moist to wet soil



Dry, moist or wet soil

Symbol Key

SOIL TYPES:



Clay: Soil which is composed of very fine textured particles which impede the drainage of water. Many plants have difficulty growing in clay soil.



Loam: Soil which is composed of medium-textured soils that contain a mix of mostly silt and sand but does contain a small amount of clay.



Sand: Soil which is composed of coarse-textured soils with larger particles, which can support the flow of water.

WILDLIFE BENEFITS:



Supports Pollinators



Supports Hummingbirds



Supports Pest-Eating Insects



Supports Birds or Mammals



Supports Butterflies



GROUND COVERS: Low growing and usually spreading plants that fill in the ground plane of the garden, reducing overall maintenance. When used in combination with compost and mulch, groundcovers help keep the soil healthy and moist. Many species have delicate floral blooms that add to the color to the garden, and once established, dense groundcovers help to keep weeds from taking over your garden.

Section - 1

Canadian Anemone



Wild Ginger



Bunchberry



Groundcovers

Canadian Anemone (*Anemone canadensis*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moderately moist, sandy soils

Natural Habitat: Damp meadows and sandy shores

Mature Height: 12-24 inches

Wildlife Value: Bees and insects feed on the pollen

Garden Use: This is a very adaptable plant, excellent to fill in a large area quickly. As clumps become crowded, flowering may decrease. If this occurs, divide plants in the fall. Blooms with small white flowers in the spring.



Wild Ginger (*Asarum canadense*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moist, rich soils

Natural Habitat: Woodlands

Mature Height: 4-8 inches

Wildlife Value: Attracts butterflies

Garden Use: Wild Ginger has unique heart shaped leaves, and spreads slowly by rhizomes to form an attractive ground cover for shaded areas. Also used well in a garden edge. Flowers bloom from April to June.



Bunchberry (*Cornus canadensis*)

Sun Requirements: Sun, to full shade

Soil Requirements: Moist, cool and acidic (mulch with peat moss or pine needles)

Natural Habitat: Coniferous and mixed woods, thickets, cedar swamps and damp openings

Mature Height: 4-8 inches

Wildlife Value: Birds are attracted by the berries

Garden Use: Bunchberry makes an excellent groundcover in cool, damp, places. Note: it is difficult to establish and will need maintenance until mature but the beautiful flowers and berries are worth it.



Section - 1

Eastern Teaberry



Mayapple



Foamflower



Groundcovers

Eastern Teaberry (*Gaultheria procumbens*)

Sun Requirements: Part shade to full shade

Soil Requirements: Dry to moist acidic soils

Natural Habitat: Coniferous woods, clearings and bogs

Mature Size: 12-24 inches

Wildlife Value: Attracts birds

Garden Use: Tolerant of shade but grows and flowers best in sunny openings with light shade during the day. Perfect to use in a woodland garden, rock garden or around a foundation. Flowers bloom mid summer.



Mayapple (*Podophyllum peltatum*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moist, sandy, loam

Natural Habitat: Mixed deciduous forest, shaded fields, shaded riverbanks

Mature Size: 12-18 inches

Wildlife Value: Provides food and shelter for birds, squirrels and other small animals

Garden Use: Likes shaded areas, under hardwood trees. Do not place under coniferous trees as it will not survive.



Foamflower (*Tiarella cordifolia*)

Sun Requirements: Full Shade

Soil Requirements: Moist rich soils

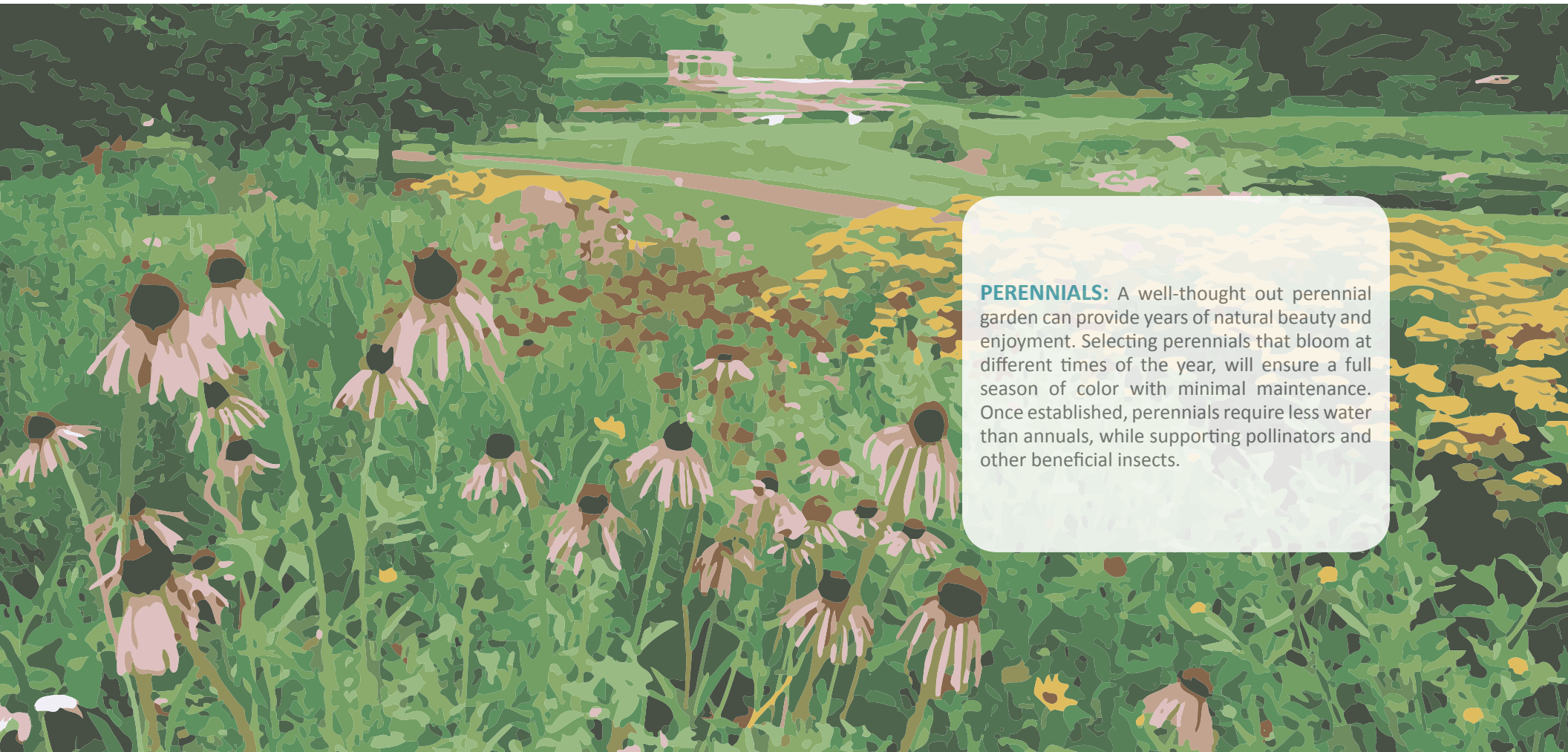
Natural Habitat: Deciduous woods and often found along stream banks

Mature Size: 6-12 inches

Wildlife Value: Attracts birds

Garden Use: This attractive wildflower, which spreads by underground stems, forms colonies and makes an excellent groundcover for shady wooded landscape sites. Flowers bloom from April to July.





PERENNIALS: A well-thought out perennial garden can provide years of natural beauty and enjoyment. Selecting perennials that bloom at different times of the year, will ensure a full season of color with minimal maintenance. Once established, perennials require less water than annuals, while supporting pollinators and other beneficial insects.

Section - 2

American Spikenard



Jack-in-the-Pulpit



Butterfly Milkweed



Perennials

American Spikenard (*Aralia racemosa*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist, rich soils

Natural Habitat: Woodlands

Mature Height: 3-5 feet

Wildlife Value: Attracts pollinating bees

Garden Use: Can be used as a specimen plant or in small groups, along a woodland border. Blooms from June to August with showy berries in the fall.



Jack-in-the-Pulpit (*Arisaema triphyllum*)

Sun Requirements: Part sun to full shade

Soil Requirements: Moist to wet soils

Natural Habitat: Forest, woodland, swamps and marshes

Mature Height: 1-3 feet

Wildlife Value: Birds are attracted to the berries

Garden Use: Jack in the Pulpit is a reliable shade garden plant. It is easy to cultivate and requires little care, thriving under a variety of conditions. It is a good choice for an understory plant, but tolerates sun if the soil is moist.



Butterfly Milkweed (*Asclepias tuberosa*)

Sun Requirements: Full sun to part shade

Soil Requirements: Dry to moist soils

Natural Habitat: Open woodlands, hillsides and prairies

Mature Height: 1-3 feet

Wildlife Value: Attracts butterflies and hummingbirds

Garden Use: Butterfly Milkweed makes a delightful cut flower for arrangements. It can be massed together for visual impact in the landscape or spread throughout a wildflower garden. Blooms mid summer, and is one of the showiest native wildflowers.



Section - 2

Whorled Tickseed



Showy Tick Trefoil



Purple Cone Flower



Perennials

Whorled Tickseed (*Coreopsis verticillata*)

Sun Requirements: Full sun to part shade

Soil Requirements: Sandy well drained soils, tolerates poor rocky soil

Natural Habitat: Woodland edges, upland open woods

Mature Height: 1-3 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Tickseed is a delicate looking perennial that blooms with yellow flowers in June and July. Performs well as a garden border or in a rock garden.



Showy Tick Trefoil (*Desmodium canadense*)

Sun Requirements: Full Sun

Soil Requirements: Dry to moist soils

Natural Habitat: Open woods, stream banks and ditches

Mature Height: 3-6 feet

Wildlife Value: Attracts butterflies and hummingbirds

Garden Use: Showy Tick Trefoil is highly adaptable and may take over a garden. Use in contained areas where it can be controlled, or naturalized areas such as a raingarden, or roadside garden. Blooms mid summer into fall.



Purple Cone Flower (*Echinacea purpurea*)

Sun Requirements: Full Sun to part shade

Soil Requirements: Dry

Natural Habitat: Open woods, hillsides and upland prairies

Mature Height: 2-4 feet

Wildlife Value: Attracts butterflies and pollinating bees

Garden Use: Excellent long blooming wildflower, looks good grouped in masses, spreads well and is easy to grow. Used effectively with Black Eyed Susan in a wildflower garden. Blooms pink and purple flowers from spring to late summer.



Section - 2

Spotted Joe-Pye Weed



Boneset



Queen of the Prairie



Perennials

Spotted Joe-Pye Weed (*Eutrochium maculatum*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist to wet soils

Natural Habitat: Wet meadows, stream banks and marshes

Mature Height: 3-6 feet

Wildlife Value: Attracts butterflies and pollinating bees

Garden Use: Joe-Pye Weed is a hardy flowering perennial that needs lots of space in the garden. It looks best when planted in groups that show off its spectacular flower and height. Best used behind other shorter plants. This is an excellent plant for a rain garden.



Boneset (*Eupatorium perfoliatum*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist and wet soils

Natural Habitat: Damp woodlands, bogs and meadows

Mature Height: 3-6 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Boneset is a good choice to mix in with other perennial plants to create color and texture contrast in the garden. Tolerates sandy or clay soils, but needs constant moisture. Used effectively in a rain garden. Blooms in late summer.



Queen of the Prairie (*Filipendula rubra*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist soil preferred, drought tolerant

Natural Habitat: Wet meadows, low-land woodlands

Mature Height: 3-6 feet

Wildlife Value: Attracts butterflies

Garden Use: A tall and commanding plant, stunning when planted in masses, and effective in the rear border on central location behind shorter plants. Good for rain gardens. Blooms with fragrant pink flowers in mid summer.



Section - 2

Wild Geranium



Blue Flag Iris



Prairie Blazing Star



Perennials

Wild Geranium (*Geranium maculatum*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moist

Natural Habitat: Woodlands, woodland edge and meadows

Mature Height: 1-2 feet

Wildlife Value: Attracts birds

Garden Use: Wild Geranium grows well under a variety of conditions, and is a hardy plant for use in a shaded woodland garden. Best grown in dappled light. Blooms delicate pink/purple flowers in spring.



Blue Flag Iris (*Iris versicolor*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist to wet soils

Natural Habitat: Wet meadows, stream banks, marshes

Mature Height: 1-3 feet

Wildlife Value: Attracts birds and hummingbirds

Garden Use: Blue Flag Iris is a hardy wetland plant that will tolerate flooding and dry conditions. Use along wetland edge or in a rain garden. Blooms early to mid summer with a bright purple flower.



Prairie Blazing Star (*Liatris pycnostachya*)

Sun Requirements: Full sun

Soil Requirements: Dry to moist soils

Natural Habitat: Prairies, rocky open areas and bluffs

Mature Height: 2-5 feet

Wildlife Value: Attracts butterflies and pollinating bees

Garden Use: Tolerant of dry soils and full sun. Use in wildflower meadows, perennial gardens and sunny naturalized areas. Large striking flower heads, blooms late summer into early fall.



Section - 2

Cardinal Flower



Great Blue Lobelia



False Lily of the Valley



Perennials

Cardinal Flower (*Lobelia cardinalis*)

Sun Requirements: Full sun to full shade

Soil Requirements: Moist to wet soils

Natural Habitat: Woodland edge, stream banks, meadows and swamps

Mature Height: 2-4 feet

Wildlife Value: Attracts birds, butterflies, hummingbirds

Garden Use: Cardinal Flower is a great plant to use in a rain garden or massed in low lying wet areas. Blooms late summer to early fall with bright red flowers.



Great Blue Lobelia (*Lobelia siphilitica*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist to wet soils

Natural Habitat: Meadows, woodland edge, stream bank

Mature Height: 2-4 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Great Blue Lobelia is a good rain garden plant, and works well as a border plant in a moist perennial garden bed. Provides late summer blooms with a unique blue flower.



False Lily of the Valley (*Maianthemum racemosum*)

Sun Requirements: Part shade

Soil Requirements: Moist cool soil

Natural Habitat: Cool low-woodlands, open woodlands

Mature Height: 1-3 feet

Wildlife Value: Attracts butterflies

Garden Use: Best when massed together with other shade loving plants such as ferns. Can be used in wet areas. Blooms a fragrant showy, but delicate white flower in springtime.



Section - 2

Wild Bergamont



Foxglove Beardtongue



Fall Phlox



Perennials

Wild Bergamont (*Monarda fistulosa*)

Sun Requirements: Full sun to part shade

Soil Requirements: Dry to moist, well drained

Natural Habitat: Dry and open woods, fields, wet meadows and woodland edges

Mature Height: 2-4 feet

Wildlife Value: Attracts birds, hummingbirds and butterflies

Garden Use: Can be used as a garden border, in an herb garden or roadside garden. Tolerates poor rocky soil conditions. Blooms with a pink/lavender flower from mid summer into fall.



Foxglove Beardtongue (*Penstemon digitalis*)

Sun Requirements: Full sun to part shade

Soil Requirements: Dry, moist to wet soil

Natural Habitat: Forested low lands to open uphill woodlands

Mature Height: 3-5 feet

Wildlife Value: Attracts hummingbirds and bees

Garden Use: Foxglove Beardtongue adds a delicate touch to your garden. Blooms from late spring to early summer, with a white trumpet-like flower with purple lines. Mass in sunny locations such as a wildflower garden or wet meadow.



Fall Phlox (*Phlox paniculata*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist soils

Natural Habitat: Open woods, meadows and swamp edges

Mature Height: 2-4 feet

Wildlife Value: Attracts hummingbirds, butterflies

Garden Use: This perennial has bright showy pink and purple flowers that bloom from July to September. Mass together to form garden borders. The flowers are highly attractive to butterflies.



Section - 2

Solomon's Seal



Eastern Coneflower



Blackeyed Susan



Perennials

Solomon's Seal (*Polygonatum biflorum*)

Sun Requirements: Part shade to full shade

Soil Requirements: Dry to moist soils

Natural Habitat: Woodlands and meadows

Mature Height: 1-3 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Solomon's Seal is best used as an understory plant where will add gracefulness to your garden with its arching stems and little hanging bell like flowers. This plant works well with other shade loving plants such as Jack in the Pulpit and ferns.



Eastern Coneflower (*Rudbeckia fulgida*)

Sun Requirements: Full sun

Soil Requirements: Moist soils

Natural Habitat: Open woods, meadows and pastures

Mature Height: 1-3 feet

Wildlife Value: Attracts birds

Garden Use: Eastern Coneflower is an easy and trouble free plant that adds great color to any garden. It is more delicate and smaller than the Black Eyed Susan. Flowers are orange and bright yellow, blooming mid-summer to fall.



Blackeyed Susan (*Rudbeckia hirta*)

Sun Requirements: Full sun to part shade

Soil Requirements: Dry to moist, well drained soils

Natural Habitat: Prairies, meadows and woodland edges

Mature Height: 1-3 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: The cheerful blossoms of the Blackeyed Susan liven up any garden. You can get a longer blooming season with some afternoon shade. Very easy to establish and maintain, spreads quickly. Blooms from June to September.



Section - 2

Wild Stonecrop



Wrinkle-Leaf Goldenrod



New England Aster



Perennials

Wild Stonecrop (*Sedum ternatum*)

Sun Requirements: Part shade

Soil Requirements: Moist soils

Natural Habitat: Damp and rocky woodlands, rocks and cliffs

Mature Height: 6-12 inches

Wildlife Value: Attracts butterflies

Garden Use: Wild Stonecrop loves to grow near rocks and boulders. Can be used as a groundcover and in rock gardens. Blooms with a unique small star shaped flower in springtime.



Wrinkle-Leaf Goldenrod (*Solidago rugosa*)

Sun Requirements: Full sun

Soil Requirements: Moist well drained soil

Natural Habitat: Meadows, wetlands and streambanks

Mature Height: 3-5 feet

Wildlife Value: Attracts birds, pollinating bees, butterflies

Garden Use: Can be used in a raingarden, provides bright color late in summer and into fall. Best if used in mass plantings in naturalized areas.



New England Aster (*Symphyotrichum novae-angliae*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist soils

Natural Habitat: Open woodland, meadows, stream banks

Mature Height: 3-6 feet

Wildlife Value: Attracts butterflies

Garden Use: A popular choice for perennial gardens, wildflower meadows, cottage gardens and raingardens. A very hardy plant, it will bloom with showy purple and yellow flowers in late summer.





GRASSES + FERNS: Ornamental grasses move pleasantly in the wind, catching the light. They soften, yet enhance garden elements with their airy form, offering unique colors ranging from browns, tans and purples. Perennial grasses add winter interest to any garden design, and are tolerant of a wide range of soils and moisture levels. Ferns are a highly useful plant for shaded woodland gardens, and they are tolerant of acidic soils and wet areas.

Section - 3

Big Bluestem



Broom Sedge



Side Oats Gamma



Grasses + Ferns

Big Bluestem (*Andropogon gerardii*)

Sun Requirements: Full sun

Soil Requirements: Dry to wet soils, tolerates salinity

Natural Habitat: Low meadows and open fields, grasslands

Mature Height: 4-6 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Big Bluestem grows in an upright clump and spreads easily once established, so is best used in a naturalized setting such as a rain garden or for erosion control. In winter it offers a nice yellow-rust color against the white snow.



Broom Sedge (*Andropogon virginicus*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist to dry soils

Natural Habitat: Dry fields, thin woodlands and upland meadows

Mature Height: 2-5 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Broom Sedge is an attractive clump grass that turns bright yellow in autumn. It can be used in a residential garden to add vertical height and a soft texture. It works best if planted in masses or grouped together.



Side Oats Gamma (*Bouteloua curtipendula*)

Sun Requirements: Full sun to part shade

Soil Requirements: Well drained soils

Natural Habitat: Prairies, open woodlands, forest openings

Mature Height: 1-3 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Side Oats Gamma is best used in masses and as a foreground plant with a large boulder or dark evergreen in the background. In winter, this plant turns bright yellow in the fall and offers a nice contrast against snow or evergreens.



Section - 3

Blue Joint Grass



Pennsylvania Sedge



Inland Sea Oats



Grasses + Ferns

Blue Joint Grass (*Calamagrostis canadensis*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist to wet soils

Natural Habitat: Marshes, open woodlands

Mature Height: 3-5 feet

Wildlife Value: Attracts birds

Garden Use: A clump forming grass well suited for a rain garden, and a favored grass for winter color and interest. This is a durable plant, often used for habitat restoration projects. It has a purplish look when flowering in mid summer, and holds its form well in wintertime.



Pennsylvania Sedge (*Carex pensylvanica*)

Sun Requirements: Full sun to full shade

Soil Requirements: Dry to moist soils

Natural Habitat: Dry to moist woodlands

Mature Height: 6-12 inches

Wildlife Value: Attracts birds

Garden Use: Pennsylvania Sedge can be used as a groundcover when planted closely together. It is a low growth clumped grass and in the autumn months will turn into a golden-rust color. Can be used in shade and will tolerate wet areas.



Inland Sea Oats (*Chasmanthium latifolium*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moist, sand, loam or clay

Natural Habitat: Shaded slopes, stream banks, thickets

Mature Height: 3-5 feet

Wildlife Value: Attracts birds, pollinating bees and small animals

Garden Use: An attractive clump forming grass that provides texture and contrast almost year round. Has graceful large seed pods which work well in dried flower arrangements. A good plant that can tolerate clay soils and wet areas.



Section - 3

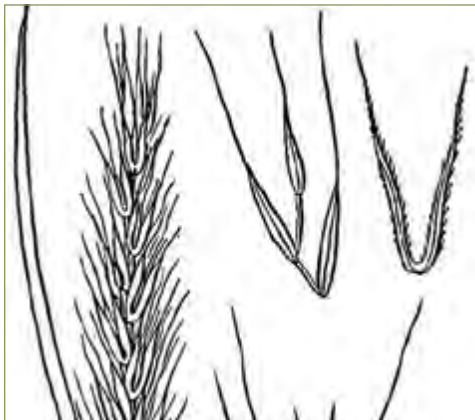
Canada Wild Rye



Bottlebrush Grass



Virginia Wild Rye



Grasses + Ferns

Canada Wild Rye (*Elymus canadensis*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist, well-drained soils, tolerates acidic soil

Natural Habitat: Grasslands, open woodlands

Mature Height: 2-4 feet

Wildlife Value: Attracts butterflies

Garden Use: Canada Wild Rye is a clump forming grass that establishes easily, providing quick initial cover. It is a hardy and versatile plant, and does well in dry sunny conditions. In autumn, the whiskery-like seedlings become evident and add a nice texture to the garden, continuing through the winter.



Bottlebrush Grass (*Elymus hystrix*)

Sun Requirements: Full sun to part shade

Soil Requirements: Dry to moist soils

Natural Habitat: Woodlands, woodland edge

Mature Height: 1-3 feet

Wildlife Value: Attracts butterflies

Garden Use: A clump forming grass that adapts to a wide range of soil conditions. Tolerant of urban pollution and effective for erosion control. Unique bristly flower heads appear mid summer and last through fall.



Virginia Wild Rye (*Elymus virginicus*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist heavy soils, tolerates clay

Natural Habitat: Fence rows, shaded stream banks, open woodlands

Mature Height: 1-3 feet

Wildlife Value: Attracts butterflies and birds

Garden Use: It has tall-flat grass blades with a unique seed structure. Green to silvery blue foliage. Excellent slope stabilizer, or used in masses for a naturalized landscape.



Section - 3

Switchgrass



Little Bluestem



Indian Grass



Grasses + Ferns

Switchgrass (*Panicum virgatum*)

Sun Requirements: Full sun to part shade

Soil Requirements: Dry to moist soils

Natural Habitat: Bluffs, stream banks, open woodlands

Mature Height: 3-6 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Switchgrass grows in large clumps. It has bright green stems all summer long, and turns bright yellow in autumn. A nice choice for winter interest, accent plantings, raingardens and difficult sites such as along a road or where snow will be piled.



Little Bluestem (*Schizachyrium scoparium*)

Sun Requirements: Full sun to part shade

Soil Requirements: Dry, well drained soils, can handle clay soils, but not wet areas

Natural Habitat: Woodland edge, hillsides, and meadows

Mature Height: 2-4 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Little Bluestem looks great when planted in masses, mixed in with rocks and flowering perennials. Has a dense mounding form. It can take over in small gardens over time. This grass has a blue-green stem color in the summer, and bronze/orange fall color.



Indian Grass (*Sorghastrum nutans*)

Sun Requirements: Full sun to part shade

Soil Requirements: Dry to moist soil

Natural Habitat: Prairies, open woodlands, fields

Mature Height: 3-6 feet

Wildlife Value: Attracts butterflies

Garden Use: Indian Grass stays low for most of the year, and then grows tall before blooming in autumn. Looks best when planted in masses or as part of a perennial/wildflower mixture. Tolerant of poor soil conditions, such as clay or infertile soil.



Section - 3

Maidenhair Fern



Lady Fern



Hay Scented Fern



Grasses + Ferns

Maidenhair Fern (*Adiantum pedatum*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moist, well-drained soils, does not tolerate clay

Natural Habitat: Shaded woodlands, low-land meadows

Mature Height: 8-20 inches

Wildlife Value: Offers shelter for small wildlife

Garden Use: In favorable conditions it will spread forming a lovely groundcover. Best used in a woodland or rockgarden, forms a nice dense border. Delicate fronds offer a light airy texture.



Lady Fern (*Athyrium filix-femina*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moist, wet soils

Natural Habitat: Forest, woodland, wet meadows, lake shores

Mature Height: 2-3 feet

Wildlife Value: Offers shelter for small wildlife

Garden Use: Lady Fern is a large, clustered fern that stands out in the landscape. It has delicate lacy fronds with dark red stems. It is easy to grow and dependable. Will tolerate sun if kept moist. Use in a woodland garden or shade garden border.



Hay Scented Fern (*Dennstaedtia punctilobula*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moist, well drained soils

Natural Habitat: Rocky woodlands, stream banks, shaded woodlands

Mature Height: 1-3 feet

Wildlife Value: Offers shelter for small wildlife

Garden Use: Hay Scented Fern gets its name from the sweet scent of freshly mowed hay when it is crushed and rubbed between your fingers. This fern can be planted along a garden edge as it can provide a soft buffer between lawn and garden.



Section - 3

Marginal Shield Fern



Ostrich Fern



Cinnamon Fern



Grasses + Ferns

Marginal Sheild Fern (*Dryopteris marginalis*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moist soils

Natural Habitat: Low-land woodlands, ravines

Mature Height: 1-3 feet

Wildlife Value: Offers shelter for small wildlife

Garden Use: Marginal Sheild Fern thrives in rocky gardens, and shady woodlands. It survives through winter making it good choice for a winter garden. Requires moist rich soils.



Ostrich Fern (*Matteuccia struthiopteris*)

Sun Requirements: Part shade to full shade

Soil Requirements: Cool, wet, sandy soils

Natural Habitat: Swamps, low-land woodlands

Mature Height: 2-6 feet

Wildlife Value: Offers shelter for small wildlife

Garden Use: Works well when mixed with other shade loving perennials that appear in early spring. Use in a raingarden, along a streambank or pond. Adds a tropical feel with it's large arching fronds. Can become aggressive in favorable conditions.



Cinnamon Fern (*Osmunda cinnamomea*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moist soils

Natural Habitat: Meadows, bogs

Mature Height: 1-3 feet

Wildlife Value: Offers shelter for small wildlife

Garden Use: Best for wet areas or a raingarden. Has dramatic architectural form and color. The fertile fronds are brown and contrast with the green. Use in a mass planting or shade garden border.



Section - 3

Interrupted Fern



Christmas Fern



New York Fern



Grasses + Ferns

Interrupted Fern (*Osmunda claytoniana*)

Sun Requirements: Part to full shade

Soil Requirements: Moist to dry, acidic soils

Natural Habitat: Woodland ravines

Mature Height: 3-6 feet

Wildlife Value: Offers shelter for small wildlife

Garden Use: Interrupted Fern is best used in heavily shaded areas, along streambanks and ponds. It flourishes in acidic soils, and can survive under evergreens and in full shade.



Christmas Fern (*Polystichum acrostichoides*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moist, well-drained soils

Natural Habitat: Rocky woodlands, stream banks, swamps

Mature Height: 1-3 feet

Wildlife Value: Offers shelter for small wildlife

Garden Use: Christmas Fern does not tolerate clay soils or standing water, it must have good drainage and ample shade, however it is the most drought tolerant of all the ferns. Has lustrous evergreen leaves which last all winter. Plant with perennials that flower in spring; the contrast will be striking.



New York Fern (*Thelypteris noveboracensis*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moist, well-drained soils

Natural Habitat: Open woodlands

Mature Height: 1-2 feet

Wildlife Value: Offers shelter for small wildlife

Garden Use: New York Fern has a soft delicate texture, effective as a groundcover as it fills gaps between other plants and forms dense colonies. It will survive in drier conditions but prefers moist rich soil.





SHRUBS: Critical to a well balanced landscape design, shrubs have year-round interest, and provide food and shelter for wildlife. They help control erosion, filter water and provide a windbreak. Shrubs give structure to the landscape, bridging the gap between the groundcover layer, herbaceous perennials and trees.

Section - 4

Canadian Serviceberry



Black Chokeberry



Buttonbush



Buffalo Niagara RIVERKEEPER

Shrubs

Canadian Serviceberry (*Amelanchier canadensis*)

Sun Requirements: Full sun to full shade

Soil Requirements: Moist, well drained soils

Natural Habitat: Woodland borders, upland forests

Mature Height: 6-20 feet

Wildlife Value: Attracts birds, and small animals

Garden Use: This plant is often used as a focal point in the garden. Serviceberry is one of the first to bloom in the springtime, it has crimson-colored, edible fruit and enduring fall foliage of orange to rusty-red. Serviceberry can be multi-stemmed or may have a single trunk.



Black Chokeberry (*Aronia melanocarpa*)

Sun Requirements: Full sun to part shade

Soil Requirements: Wet to well-drained soils

Natural Habitat: Meadows, bogs, lowland-woodlands

Mature Height: 3-6 feet

Wildlife Value: Attracts birds

Garden Use: Black Chokeberry provides interest throughout the seasons. It has beautiful white flowers in early spring, followed by a dark blue/purple berry all summer long. The fall foliage is a bright orange-red color. This plant is suitable for rain gardens and stream banks, as well as a hedge or border.



Buttonbush (*Cephalanthus occidentalis*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist and wet soils

Natural Habitat: In swamps, around ponds and streams

Mature Height: 6-12 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Buttonbush is a handsome ornamental shrub suited to wet soils and is ideal for a rain garden. Birds and butterflies will benefit immensely from this plant. It offers an interesting texture with round white flowers resembling pincushions and button-like balls of fruit.



Section - 4

Grey Dogwood



Redosier Dogwood



Witch-hazel



Shrubs

Grey Dogwood (*Cornus racemosa*)

Sun Requirements: Full sun to full shade

Soil Requirements: Moist soils

Natural Habitat: River banks in woodlands, wet meadows and dry uplands

Mature Height: 8-12 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: A dependable shrub for a variety of soil conditions; adapts well to difficult sites. Can be used as a hedge row or for slope stabilization. Offers significant wildlife value and is an excellent plant for erosion control.



Redosier Dogwood (*Cornus Sericea*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist, well drained soils

Natural Habitat: River banks, lake shores or wooden and open wet areas

Mature Height: 5-10 feet

Wildlife Value: Attracts birds

Garden Use: In early summer clusters of creamy-white blossoms are followed by umbrella-shaped clusters of white berries. This plant is a four-season favorite with beautiful autumn foliage, and bright red twigs that stand out in the winter against the snow.



Witch-hazel (*Hamamelis virginiana*)

Sun Requirements: Part shade to full shade

Soil Requirements: Dry to moist soil

Natural Habitat: Moist woodlands, thickets and bogs

Mature Height: 6-12 feet

Wildlife Value: Attracts birds

Garden Use: Aromatic bark and beautiful fall foliage make this an excellent choice for hedgerows or as a specimen plant. Witch-hazel is tolerant of poor soils and will survive in shade. The leaves last through the fall.



Section - 4

St. Johns Wort



Spicebush



Northern Bayberry



Shrubs

St. Johns Wort (*Hypericum kalmianum*)

Sun Requirements: Full sun

Soil Requirements: Dry sandy soil

Natural Habitat: Rocky slopes, sandy uplands

Mature Height: 2-3 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: A low shrub with bright yellow flowers in small clusters, blooming mid summer. Use in an open area with full sun; works well in a rock garden. Can be used for erosion control and as a groundcover.



Spicebush (*Lindera benzoin*)

Sun Requirements: Full sun to full shade

Soil Requirements: Dry to wet soil

Natural Habitat: Lowland woodlands, ravines, valleys and stream banks

Mature Height: 6-12 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Spicebush offers texture in early spring as flowers turn showy and fragrant. Foliage is yellow in the fall. The bark and flowers are fragrant. An excellent rain garden plant, it can survive in wet shade.



Northern Bayberry (*Morella pensylvanica*)

Sun Requirements: Part shade

Soil Requirements: Sandy, moist and clay

Natural Habitat: Woodland borders and open fields

Mature Height: 6-12 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Northern Bayberry has year round interest, it offers pretty yellow flowers in late summer and white berries lasting all winter. It is tolerant of clay soils and harsh urban conditions.



Section - 4

Ninebark



Chokecherry



Staghorn Sumac



Shrubs

Ninebark (*Physocarpus opulifolius*)

Sun Requirements: Full sun to full shade

Soil Requirements: Dry, moist to wet soil

Natural Habitat: Stream banks, rocky hillsides and woodland edges

Mature Height: 6-10 feet

Wildlife Value: Attracts birds

Garden Use: Ninebark is a fast growing, insect and disease resistant shrub. It offers an attractive flower that is beneficial to birds. The foliage is attractive, lasting through the fall with interesting seed pods. Use as a screen, hedge or for winter interest.



Chokecherry (*Prunus virginiana*)

Sun Requirements: Full sun to full shade

Soil Requirements: Dry to moist soil

Natural Habitat: Moist woodlands, stream banks, woodland edges and open hillsides

Mature Height: 8-20 feet

Wildlife Value: Attracts birds, butterflies and small animals

Garden Use: Chokecherry is remarkably shade tolerant and grows under a variety of conditions. Showy blooms in spring and early summer. Can also be a small tree. Use for hedgerows or for erosion control.



Staghorn Sumac (*Rhus typhina*)

Sun Requirements: Full sun to full shade

Soil Requirements: Dry rocky soil

Natural Habitat: Dry uplands, old fields and woodland edges

Mature Height: 12-20 feet

Wildlife Value: Attracts birds, pollinators and small animals

Garden Use: Best for dry, informal, naturalized areas where it can be allowed to spread. Effective when massed on slopes for erosion control or in hard-to-cover areas with poorer soils. Attractive foliage and fruiting clusters.



Section - 4

Elderberry



Nannyberry



American Cranberry Bush



Shrubs

Elderberry (*Sambucus canadensis*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist to wet soils, well drained soils

Natural Habitat: Open woodlands, meadows and hillsides

Mature Height: 6-12 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Elderberry looks best when planted in masses in a naturalized landscape, also can be used as a hedgerow or in a rain garden. The showy flowers bloom mid-summer. Useful for erosion control.



Nannyberry (*Viburnum lentago*)

Sun Requirements: Full sun to full shade

Soil Requirements: Dry to moist soils

Natural Habitat: Open woods, hillsides and stream banks

Mature Height: 12-20 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Nannyberry is a good selection for a screening plant and can be used as a garden background. Attractive white blossoms in spring followed by white berries. Grows in difficult sites, can be used for erosion control and hedges.



American Cranberry Bush (*Viburnum trilobum*)

Sun Requirements: Part shade

Soil Requirements: Moist to wet soils

Natural Habitat: Shorelines, slopes and woodlands

Mature Height: 6-12 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Bright white flowers bloom in early summer followed by persistent red berries. Colorful fall foliage. Use as a hedge or screen.





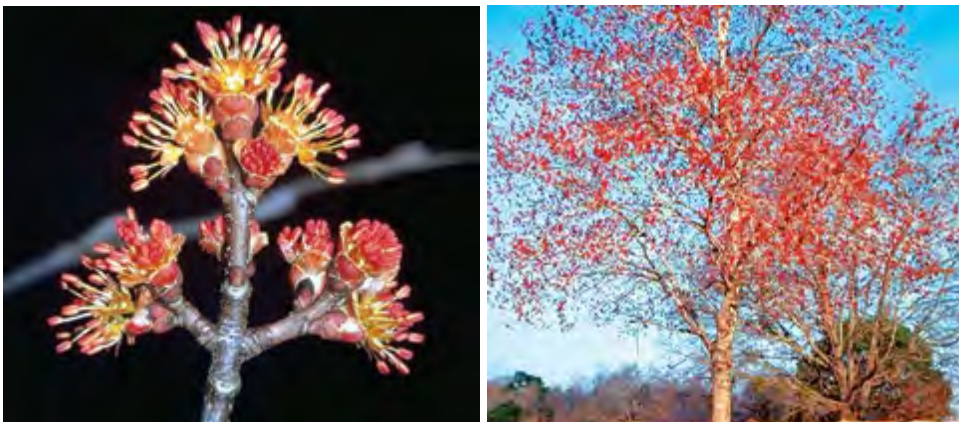
TREES: As well as adding majestic beauty to a landscape, trees moderate the effects of heat, sound, air pollution, excess storm water runoff, and soil erosion. Trees also provide a living space for wildlife, enhance property values, and contribute to the economic vitality of communities.

Section - 5

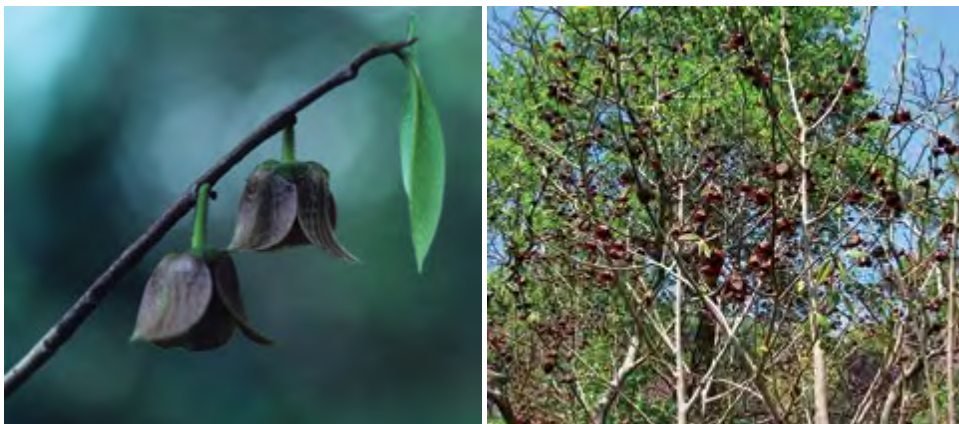
Snakebark Maple



Red Maple



Paw Paw



Trees

Snakebark Maple (*Acer pensylvanicum*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moist soils

Natural Habitat: Rich, shady woodlands

Mature Height: 15-25 feet

Wildlife Value: Attracts birds

Garden Use: Snakebark Maple has a unique bark which lends to its winter interest. Used effectively in and along a woodland border or as a specimen tree in shade. Bright yellow fall foliage.



Red Maple (*Acer rubrum*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist to well-drained soils

Natural Habitat: Meadows, wet woodlands, streambanks

Mature Height: 30-50 feet

Wildlife Value: Attracts birds

Garden Use: May be planted as a specimen tree or in groupings. Red Maple is tolerant of pollution and urban conditions. It also can be used in a rain garden as it tolerates wet feet. Bright red fall foliage.



Paw Paw (*Asimina triloba*)

Sun Requirements: Full sun to full shade

Soil Requirements: Moist soil

Natural Habitat: Ravines, floodplains, low-woodlands

Mature Height: 15-25 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Paw Paw is ideal for naturalizing landscapes and can be used in a raingarden. Unique purple blossoms appear in spring followed by fruit. Plant away from patios and driveways as the fruit can be messy.



Section - 5

River Birch



American Hornbeam



Hackberry



Trees

River Birch (*Betula nigra*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist soils

Natural Habitat: Swamps, flood plains, stream banks

Mature Height: 30-35 feet

Wildlife Value: Attracts birds

Garden Use: Excellent tree for raingardens and wet areas. Unique bark provides winter interest. Multi-stem form, that stands well on its own as a specimen or in a grove. Often planted with Red Oiser Dogwood for exceptional contrast and four season impact. Yellow fall foliage.



American Hornbeam (*Carpinus caroliniana*)

Sun Requirements: Part shade to full shade

Soil Requirements: Moist, well drained soils

Natural Habitat: Shaded woodlands, stream banks and low-woodlands

Mature Height: 35-50 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Typically an understory tree, the American Hornbeam is slow growing with unique smooth bulging and twisting bark. Scarlet orange fall foliage, with a symmetrical pleasing canopy shape. Yellow fall foliage.



Hackberry (*Celtis occidentalis*)

Sun Requirements: Full sun to full shade

Soil Requirements: Rich, moist soils

Natural Habitat: Stream banks, flood plains, hillsides and open woods

Mature Height: 60-100 feet

Wildlife Value: Attracts birds and butterflies – one of the best food and shelter trees for wildlife

Garden Use: This is a tough and versatile tree that offers great habitat value. Hackberry is tolerant of salt and urban conditions. Seed pods can pose a maintenance problem, so plant away from lawns, pools and pavements.



Section - 5

Eastern Redbud



Flowering Dogwood



American Beech



Trees

Eastern Redbud (*Cercis canadensis*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist, well drained soils

Natural Habitat: Woodlands, stream banks

Mature Height: 15-30 feet

Wildlife Value: Attracts butterflies

Garden Use: Redbud is a popular tree in the residential garden as it offers a unique form and character, and has stunning pink flowers in early spring. Use as a specimen or in groupings. Somewhat tolerant of urban conditions and clay soil.



Flowering Dogwood (*Cornus florida*)

Sun Requirements: Full sun to part shade

Soil Requirements: Rich, well-drained soils

Mature Height: 12-36 feet

Wildlife Value: Attracts birds and butterflies

Garden Use: Flowering Dogwood is considered one of the most spectacular native flowering trees. White flowers bloom in early spring with stunning red foliage in the fall. Flowering Dogwood has a pleasing multi-stem form and does not grow too large.



American Beech (*Fagus grandifolia*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist, well-drained soils

Natural Habitat: Shorelines, forests, uplands

Mature Height: 50-75 feet

Wildlife Value: Attracts birds

Garden Use: American Beech is best used as a shade tree in large spaces, as it grows quite large. It will bloom with small yellow-green flowers in early spring and fall. The foliage is bright yellow, turning a copper color through winter. American Beech has smooth gray bark and retains its leaves through much of the winter.



Section - 5

American Larch



Tulip Tree



Hophornbeam



Trees

American Larch (*Larix laricina*)

Sun Requirements: Full sun

Soil Requirements: Wet to moist acidic soils

Natural Habitat: Swamps, bogs, stream corridors

Mature Height: 50-75 feet

Wildlife Value: Attracts birds

Garden Use: American Larch is a unique tree because it has an evergreen appearance but is deciduous. In autumn the needles turn yellow and fall to the ground. The tiny and delicate seed cones add to the texture of this plant. Use in a rain garden or any wet area. *Not* tolerant of pollutants or urban conditions.



Tulip Tree (*Liriodendron tulipifera*)

Sun Requirements: Full sun to part shade

Soil Requirements: Rich, moist soils

Natural Habitat: Stream banks, open woodlands

Mature Height: 60-90 feet

Wildlife Value: Attracts birds, butterflies and hummingbirds

Garden Use: Tulip Tree is one of the tallest and most beautiful hardwoods in the Northeast. This tree offers showy flowers; it grows rapidly and is insect and disease free. Plant in areas with lots of growing room. Tulip shaped blooms in spring with yellow fall foliage.



Hophornbeam (*Ostrya virginiana*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist, but tolerates clay soils and drought

Natural Habitat: Upland woods, slopes understory tree

Mature Height: 25-40 feet

Wildlife Value: Attracts birds and small mammals

Garden Use: Excellent specimen for a yard or shaded woodland. Hophornbeam grows slowly but has a beautiful bark and form. Tolerant of tough soils and urban conditions.



Section - 5

Eastern White Pine



Swamp White Oak



Pin Oak



Trees

Eastern White Pine (*Pinus strobus*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist, well-drained soils

Natural Habitat: Uplands, northern slopes

Mature Height: 75-100 feet

Wildlife Value: Attracts birds

Garden Use: White Pine is a tall, fast growing evergreen. The soft needles create a feathery texture, and a soft rustling noise in the wind. Use as a specimen or in a grove. Intolerant of urban pollutants or difficult soils.



Swamp White Oak (*Quercus bicolor*)

Sun Requirements: Full sun

Soil Requirements: Poorly drained, heavy soils, clay

Natural Habitat: Moist woodlands, stream edges

Mature Height: 50-80 feet

Wildlife Value: Attracts birds

Garden Use: Swamp White Oak is a useful tree for a raingarden as it can tolerate wet and dry conditions. It has unique acorns, and offers a pleasant winter interest as the leaves remain on the tree with a light brown color. It is a favorable tree to use in urban and difficult environments.



Pin Oak (*Quercus palustris*)

Sun Requirements: Full sun to part shade

Soil Requirements: Heavy, poorly drained soils, tolerates a wide variety of soils

Natural Habitat: Wet woodlands, streambanks

Mature Size: 60-75 feet

Wildlife Value: Attracts birds, butterflies and hummingbirds

Garden Use: Pin Oak has a unique leaf structure with thin pointy spurs. A graceful tree, the dark green summer foliage turns red in the fall, and the leaves persist into winter. Use as a shade tree in open areas, along a streambank or in a raingarden.



Section - 5

American Basswood



Arborvitae



Eastern Hemlock



Trees

American Basswood (*Tilia americana*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist, well drained soils

Natural Habitat: Upland, woodlands

Mature Height: 75-100 feet

Wildlife Value: Attracts birds, and pollinating bees

Garden Use: American Basswood was once the dominant tree along Buffalo's waterfront. This tree has an attractive form with fragrant creamy-yellow flowers and provides a dense shade canopy. Use as a specimen tree in an open area or along a driveway or sidewalk.



Arborvitae (*Thuja occidentalis*)

Sun Requirements: Full sun to full shade

Soil Requirements: Moist, well drained soils

Natural Habitat: Swampy areas, open fields, hillsides

Mature Height: 20-50 feet

Wildlife Value: Attracts birds and small animals

Garden Use: Arborvitae are often used as a screening element when planted next to each other. Aromatic evergreen needles, with brown catkins offer visual contrast. Somewhat tolerant of urban pollution and dry conditions.



Eastern Hemlock (*Tsuga canadensis*)

Sun Requirements: Part shade to full shade

Soil Requirements: Rich, moist soils


Natural Habitat: Open woodlands, mountain slopes

Mature Height: 40-70 feet

Wildlife Value: Attracts birds

Garden Use: Eastern Hemlock has tiny, delicate silvery green colored needles and pine cones that offer a pleasant texture to the landscape. Highly aromatic, Hemlock can be used as a specimen plant or in a cluster. Plant in shady areas that are protected from wind.





VINES: Trailing plants that can be used to add a vertical interest by growing on a trellis, pergola or on a landscape wall. Vines often have showy flowers, that attract birds, hummingbirds and pollinating bees. Some of the vines recommended in this guide can be used as a groundcover where noted.

Section - 6

Dutchmans Pipe



Trumpet Creeper



Trumpet Honeysuckle



Vines

Dutchmans Pipe (*Aristolochia macrophylla*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist, well drained soils

Natural Habitat: Moist, shady woodlands

Mature Height: Climbs up to 30 feet

Wildlife Value: Attracts pollinating bees, hummingbirds and butterflies

Garden Use: Dutchmans Pipe is a climbing woody vine with distinct flowers that resemble an old Dutch pipe. The flowers are beautiful, with dark purple and bright red on the exterior, and a soft yellow color on the interior. Use on a trellis or arbor. Can create a dense screen or shade.



Trumpet Creeper (*Campsis radicans*)

Sun Requirements: Full Sun

Soil Requirements: Moist, well drained soil

Natural Habitat: Moist woods, along fence rows in old fields

Mature Height: Climbs up to 30 feet

Wildlife Value: Hummingbirds

Garden Use: Trumpet Creeper will add a vertical and colorful element to any landscape. Use a sturdy trellis as it can become aggressive and heavy. Blooms in early summer with a trumpet-like flower that changes color from deep red to bright yellow.



Trumpet Honeysuckle (*Lonicera sempervirens*)

Sun Requirements: Full sun

Soil Requirements: Moist

Natural Habitat: Woodlands

Mature Size: Climbs up to 20 feet

Wildlife Value: Attracts birds, pollinating bees, butterflies and hummingbirds

Garden Use: Trumpet Honeysuckle is a beautiful, slender climbing vine often visited by hummingbirds. This vine is not too aggressive and has bright red and orange flower clusters in spring and early summer. Can also be used as a groundcover.



Section - 5

Virginia Creeper



Fox Grape



American Wisteria



Vines

Virginia Creeper (*Parthenocissus quinquefolia*)

Sun Requirements: Full sun to part shade

Soil Requirements: Moist, well-drained soils

Natural Habitat: Hedgerows, abandoned sites, streambanks

Mature Height: Climbs up to 30 feet

Wildlife Value: Attracts birds, hummingbirds

Garden Use: Virginia Creeper can be used as a climbing vine or a groundcover. As a groundcover the leaves will carpet any surface in bright green before turning to red in the fall. This vine will not damage buildings as it does not have penetrating rootlets. Excellent vine for covering fences and rock walls.



Fox Grape (*Vitis labrusca*)

Sun Requirements: Full sun to full shade

Soil Requirements: Dry to moist

Natural Habitat: Woodlands, forest edge, disturbed sites and ditches

Mature Height: Climbs up to 30 feet

Wildlife Value: Attracts birds and bees

Garden Use: Aggressive climber that can be used on a trellis or pergola where shade is desired. Quickly establishes and provides a nice full leafy texture. Fruit is edible, often made into jams or in beverages.



American Wisteria (*Wisteria frutescens*)

Sun Requirements: Full sun to full shade

Soil Requirements: Rich moist soils

Natural Habitat: Low woodlands, riverbanks, upland thickets

Mature Height: Climbs up to 30 feet

Wildlife Value: Attracts butterflies

Garden Use: American Wisteria is a lovely aromatic plant that is less aggressive and less damaging to building structures than other vines. It has exquisite fragrant flowers that bloom white, blue, and purple from late spring into early summer. Excellent for arbors and trellises.





Garden Types: Creating a natural and native habitat on your property will improve the health and biodiversity of your community. When planning your landscape, consider the type of garden you wish to create that might be most suitable for your property. Six garden examples are shown in this guide which, not only provide beneficial habitat, but also contribute to water quality improvements.

Garden Examples



Butterfly Garden – pg 82



Songbird Garden – pg 84



Shade Garden – pg 86



Winter Garden – pg 88

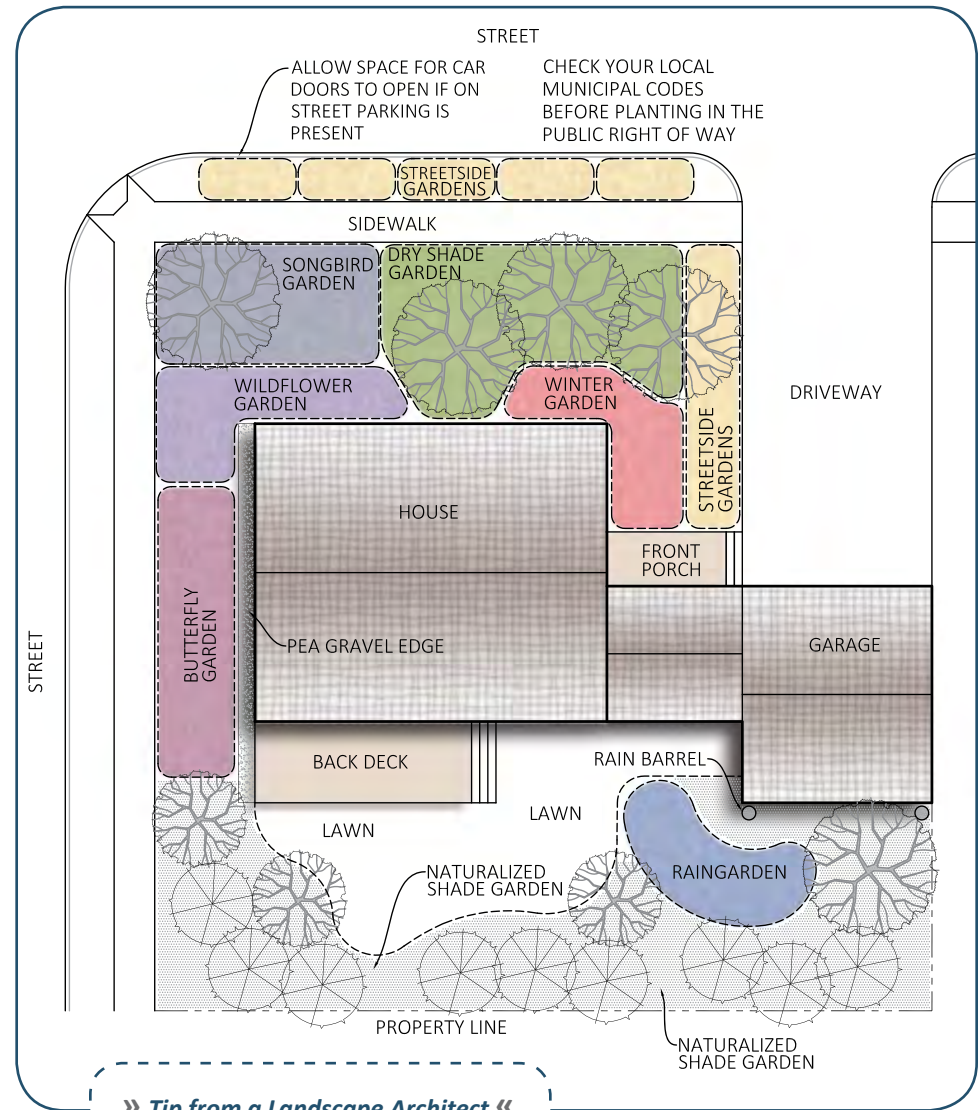


Raingarden – pg 90



Streetside Garden – pg 92

Landscape Plan



» Tip from a Landscape Architect «

Consider the micro-climates around your property when designing a new garden, as well as soil conditions, drainage and the number of hours of full sun.

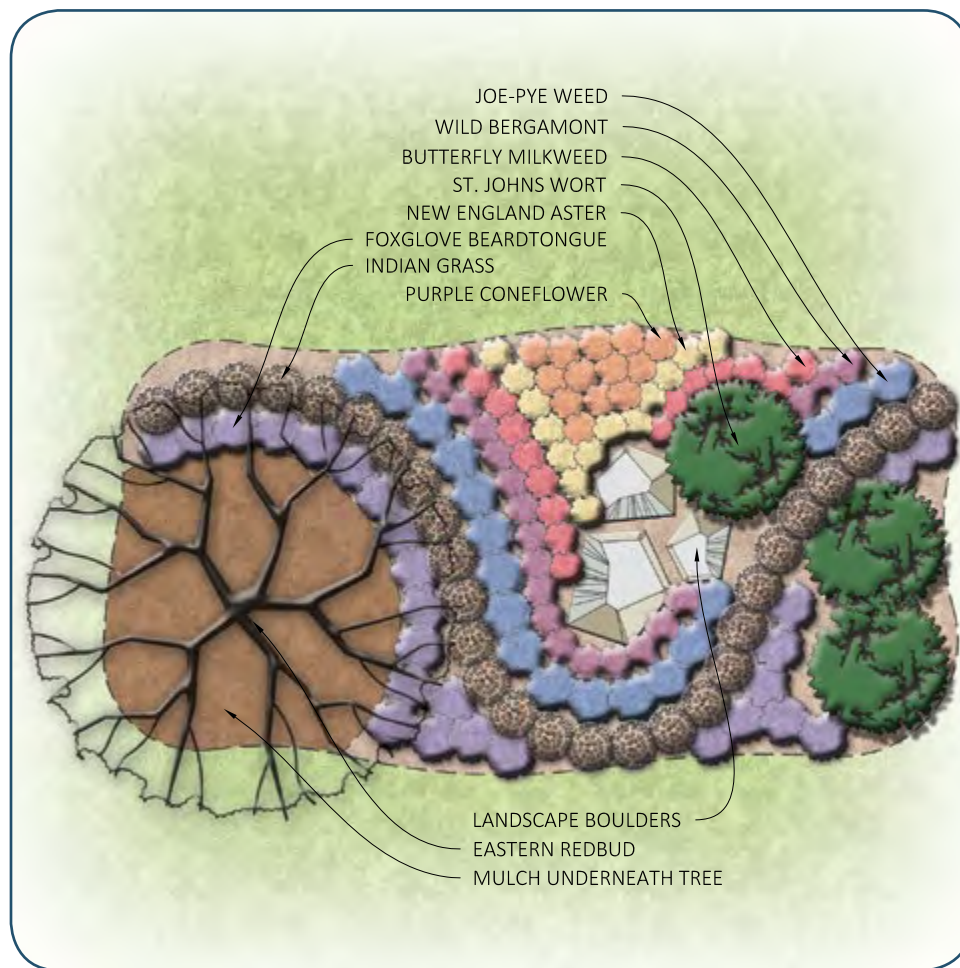
Section - 7

Butterfly Garden Plant List

COMMON NAME	LATIN NAME	PLANT TYPE	PAGE NO.
Butterfly Milkweed	Asclepias tuberosa	Flowering Perennial	14
Eastern Redbud	Cercis canadensis	Flowering Tree	64
Whorled Tickseed	Coreopsis verticillata	Flowering Perennial	16
Showy Tick Trefoil	Desmodium canadense	Flowering Perennial	16
Bottlebrush Grass	Elymus hystrix	Perennial Grass	36
Joe-Pye Weed	Eupatorium maculatum	Flowering Perennial	18
Boneset	Eupatorium perfoliatum	Flowering Perennial	18
Purple Coneflower	Echinacea purpurea	Flowering Perennial	16
Queen of the Prairie	Filipendula rubra	Flowering Perennial	18
St. Johns Wort	Hypericum kalmianum	Flowering Shrub	52
Cardinal Flower	Lobelia cardinalis	Flowering Perennial	22
Wild Bergamont	Monarda fistulosa	Flowering Perennial	24
Foxglove Beardtongue	Penstemon digitalis	Flowering Perennial	24
Eastern Coneflower	Rudbeckia fulgida	Flowering Perennial	26
Wild Stonecrop	Sedum ternatum	Perennial Succulent	28
Indian Grass	Sorghastrum nutans	Perennial Grass	38
New England Aster	Symphotrichum novae-angliae	Flowering Perennial	28

NOTE: Not all plants on this list are used in the planting graphic shown opposite.

Butterfly Garden



Butterfly Garden

This garden will bring a variety of butterflies to your yard. A number of plants from the Butterfly Garden plant list have been selected for this design. They can be substituted with others on the list based on availability.

» Tip from a Landscape Architect «

Mix flowering perennials, shrubs and grasses with landscape boulders and rocks to create a dynamic multi-textured landscape.

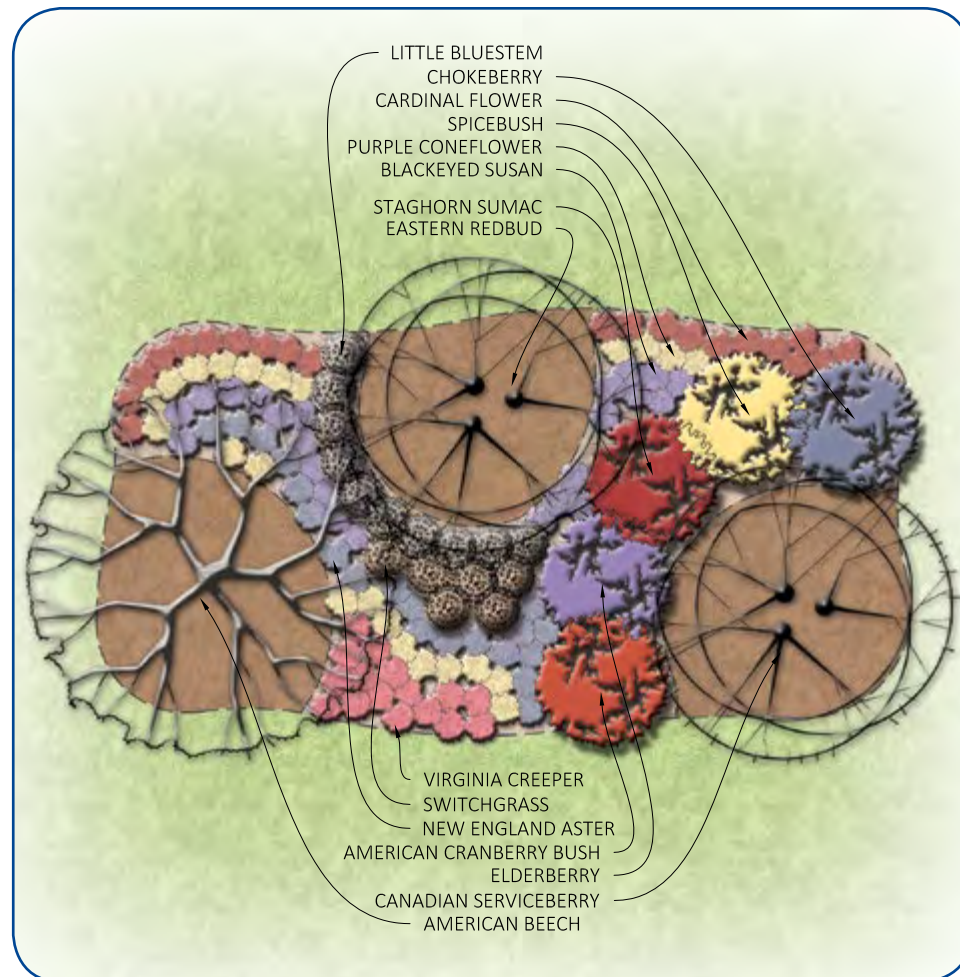
Section - 7

Songbird Garden Plant List

COMMON NAME	LATIN NAME	PLANT TYPE	PAGE NO.
Serviceberry	Amelanchier canadensis	Flowering Shrub/Small Tree	48
Big Bluestem	Andropogon gerardii	Perennial Grass	32
Paw Paw	Asimina triloba	Deciduous Shade Tree	60
Eastern Redbud	Cercis canadensis	Small Flowering Tree	64
Inland Sea Oats	Chasmanthium latifolium	Perennial Grass	34
Grey Dogwood	Cornus racemosa	Shrub	50
Purple Coneflower	Echinacea purpurea	Flowering Perennial	16
American Beech	Fagus grandifolia	Deciduous Shade Tree	64
Spicebush	Lindera benzoin	Shrub	52
Cardinal Flower	Lobelia cardinalis	Perennial	22
Northern Bayberry	Morella pensylvanica	Flowering Shrub	54
Switch Grass	Panicum virgatum	Perennial Grass	38
Virginia Creeper	Parthenocissus quinquefolia	Vine/ Groundcover	76
Staghorn Sumac	Rhus typhina	Shrub/Small Tree	54
Blackeyed Susan	Rudbeckia hirta	Perennial	26
Elderberry	Sambucus canadensis	Shrub	56
Eastern White Cedar	Thuja occidentalis	Coniferous Tree	70
American Cranberry Bush	Viburnum trilobum	Shrub	56

NOTE: Not all plants on this list are used in the planting graphic shown opposite.

Songbird Garden



Songbird Garden

The Songbird Garden will attract numerous birds throughout the seasons. A number of plants from the Songbird Garden plant list have been selected for this design. They can be substituted with others based on availability.

» Tip from a Landscape Architect «

Use plants of varying type and size to provide multiple layers for bird habitat. For example mixing shrubs and grasses will maximize cover, food source and nesting materials.

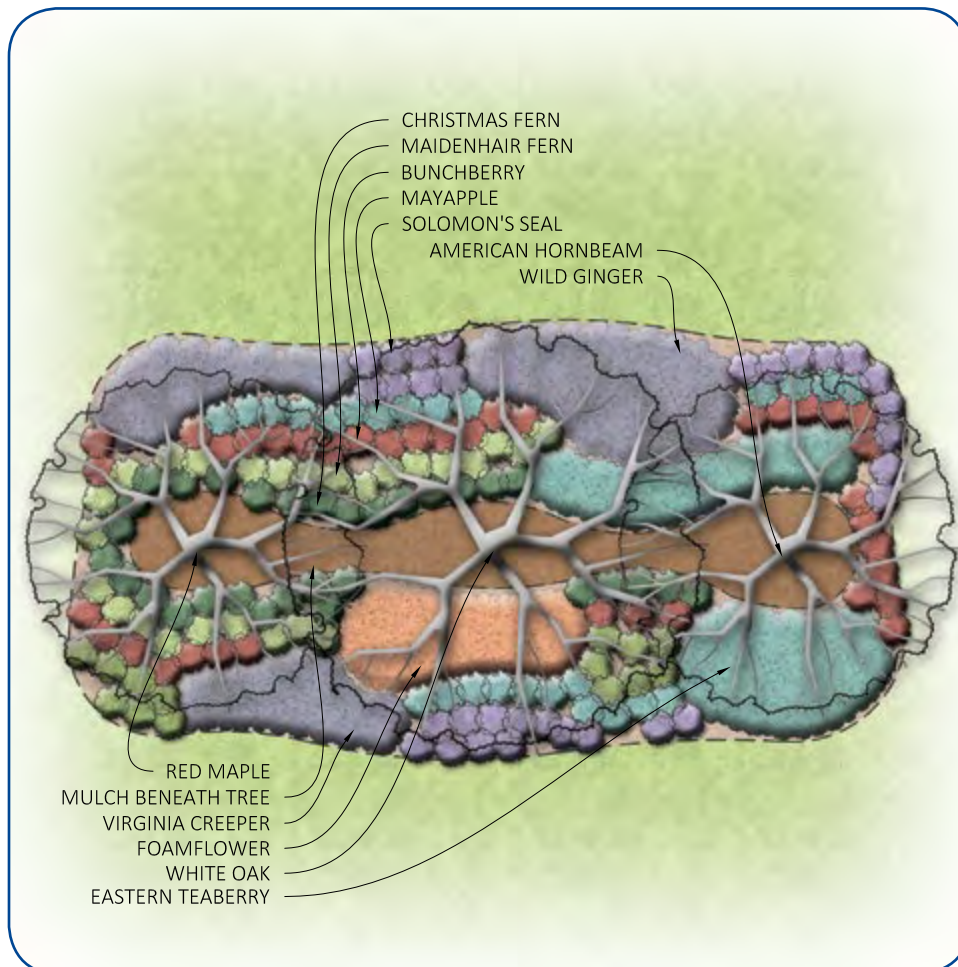
Section - 7

Shade Garden Plant List

COMMON NAME	LATIN NAME	PLANT TYPE	PAGE NO.
Red Maple	Acer rubrum	Deciduous Tree	60
Maidenhair Fern	Adiantum pedatum	Fern	40
Wild Ginger	Asarum canadense	Groundcover	8
Lady Fern	Athyrium filix-femina	Fern	40
American Hornbeam	Carpinus caroliniana	Deciduous Tree	66
Bunchberry	Cornus canadensis	Groundcover	8
Marginal Shield Fern	Dryopteris marginalis	Fern	42
Eastern Teaberry	Gaultheria procumbens	Groundcover	10
Tulip Tree	Liriodendron tulipifera	Deciduous Tree	66
Virginia Creeper	Parthenocissus quinquefolia	Vine	76
Mayapple	Podophyllum peltatum	Groundcover	10
Solomon's Seal	Polygonatum biflorum	Shade Perennial	26
Christmas Fern	Polystichum acrostichoides	Fern	44
White Oak	Quercus alba	Deciduous Tree	68
Foamflower	Tiarella cordifolia	Groundcover	10
New York Fern	Thelypteris noveboracensis	Fern	44

NOTE: Not all plants on this list are used in the planting graphic shown opposite.

Shade Garden



Shade Garden

These plant species will thrive in a wooded understory, where they also provide shelter for small wildlife and birds.

» Tip from a Landscape Architect «

When planting beneath existing trees be careful not to cut or damage tree roots as this can effect the health of the tree.

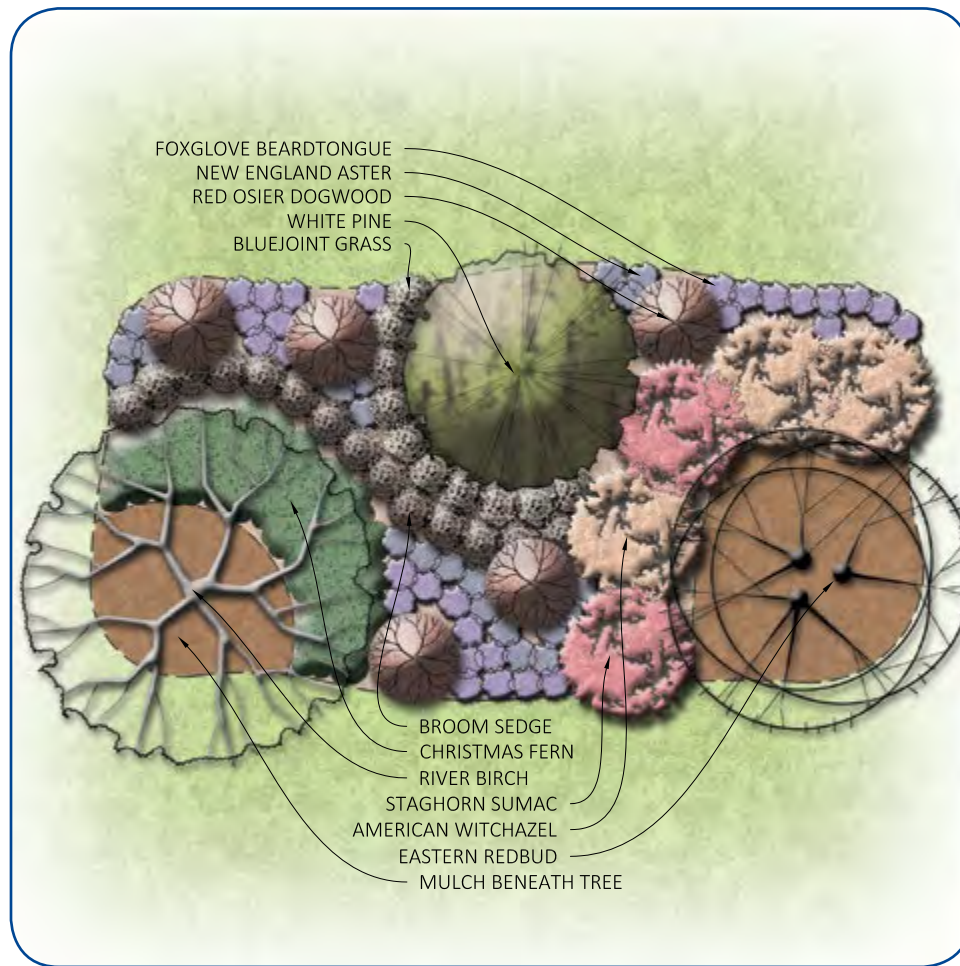
Section - 7

Winter Garden Plant List

COMMON NAME	LATIN NAME	PLANT TYPE	PAGE NO.
Broom Sedge	Andropogon virginicus	Perennial Grass	32
Paw Paw	Asimina triloba	Deciduous Shade Tree	60
River Birch	Betula nigra	Small Deciduous Tree	62
Bluejoint Grass	Calamagrostis canadensis	Perennial Grass	34
Eastern Redbud	Cercis canadensis	Small Flowering Tree	64
Flowering Dogwood	Cornus florida	Small Flowering Tree	64
Witch-hazel	Hamamelis virginiana	Shrub or Small Tree	50
Northern Bayberry	Morella pensylvanica	Shrub	52
Switchgrass	Panicum virgatum	Perennial Grass	38
Foxglove Beardtongue	Penstemon digitalis	Flowering Perennial	24
White Pine	Pinus strobus	Coniferous Tree	68
Christmas Fern	Polystichum acrostichoides	Fern	44
Staghorn Sumac	Rhus typhina	Shrub or Small Tree	54
Little Bluestem	Schizachyrium scoparium	Perennial Grass	38
New England Aster	Symphotrichum novae-angliae	Flowering Perennial	28
American Cranberry Bush	Viburnum trilobum	Shrub	56

NOTE: Not all plants on this list are used in the planting graphic shown opposite.

Winter Garden



Winter Garden

This garden provides visual interest year round by utilizing species with interesting bark, berries and form.

» Tip from a Landscape Architect «

Shrubs, trees and grasses can be aesthetically pruned to enhance the natural form of the plant, which is emphasized during the winter months.

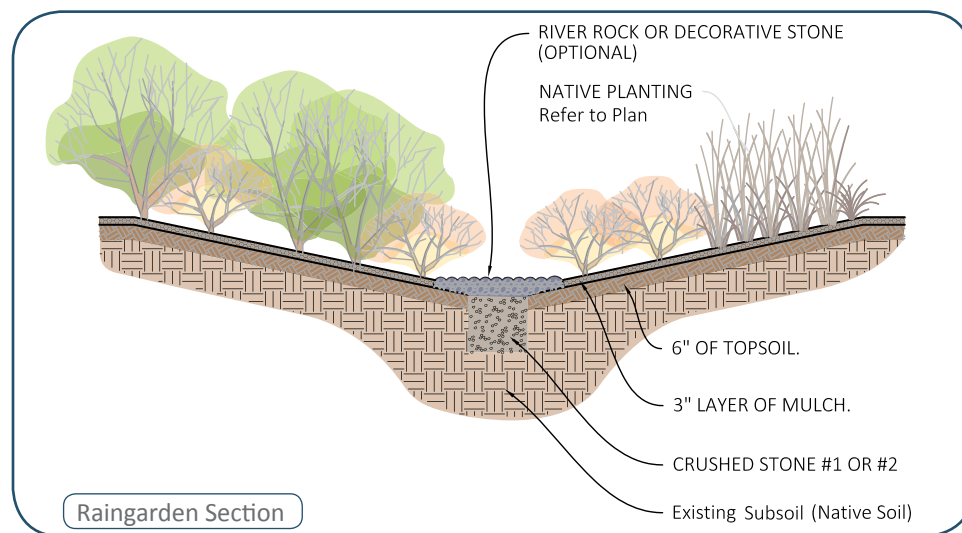
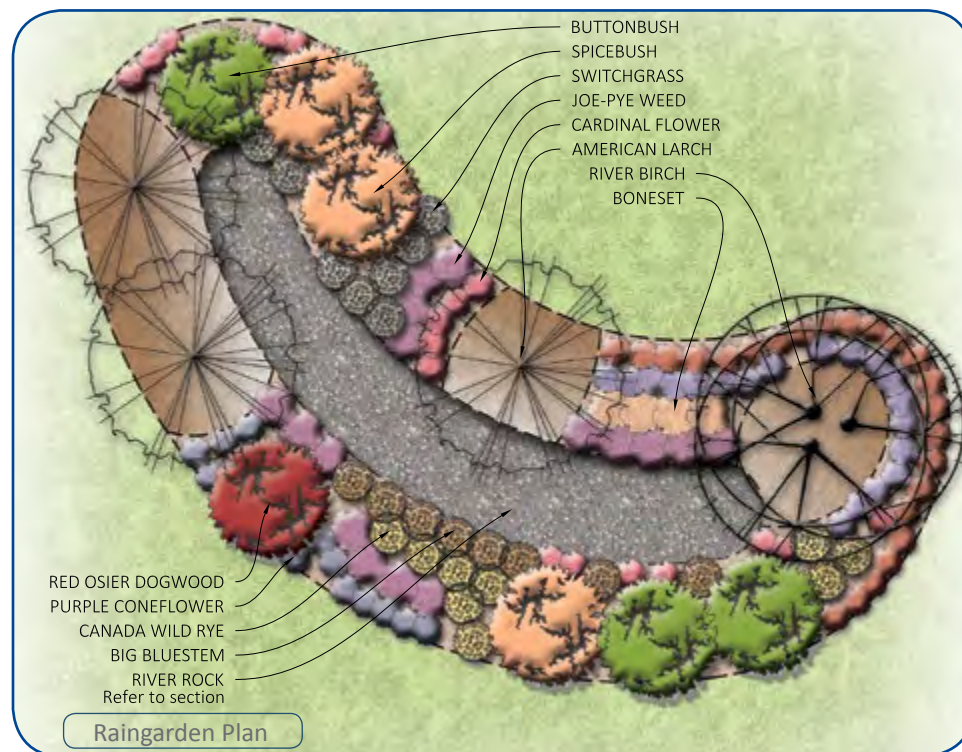
Section - 7

Raingarden Garden Plant List

COMMON NAME	LATIN NAME	PLANT TYPE	PAGE NO.
Big Bluestem	<i>Andropogon gerardii</i>	Perennial Grass	32
New England Aster	<i>Aster novae-angliae</i>	Flowering Perennial	28
River Birch	<i>Betula nigra</i>	Deciduous Tree	62
Button Bush	<i>Cephalanthus occidentalis</i>	Shrub	48
Red Osier Dogwood	<i>Cornus sericea</i>	Shrub	50
Canada Wild Rye	<i>Elmyus virginicus</i>	Perennial Grass	36
Joe-Pye Weed	<i>Eupatorium maculatum</i>	Flowering Perennial	18
Boneset	<i>Eupatorium perfoliatum</i>	Flowering Perennial	18
Blue Flag Iris	<i>Iris versicolor</i>	Flowering Perennial	20
America Larch	<i>Larix larcina</i>	Coniferous Tree	66
Spicebush	<i>Lindera benzoin</i>	Shrub	52
Cardinal Flower	<i>Lobelia cardinalis</i>	Flowering Perennial	22
Ostrich fern	<i>Matteuccia struthiopteris</i>	Fern	42
Switch Grass	<i>Panicum Virgatum</i>	Perennial Grass	38
Foxglove Beardtongue	<i>Penstemon digitalis</i>	Flowering Perennial	24
Purple Coneflower	<i>Rudbeckia fulgida</i>	Flowering Perennial	16

NOTE: Not all plants on this list are used in the planting graphic shown opposite.

Raingarden



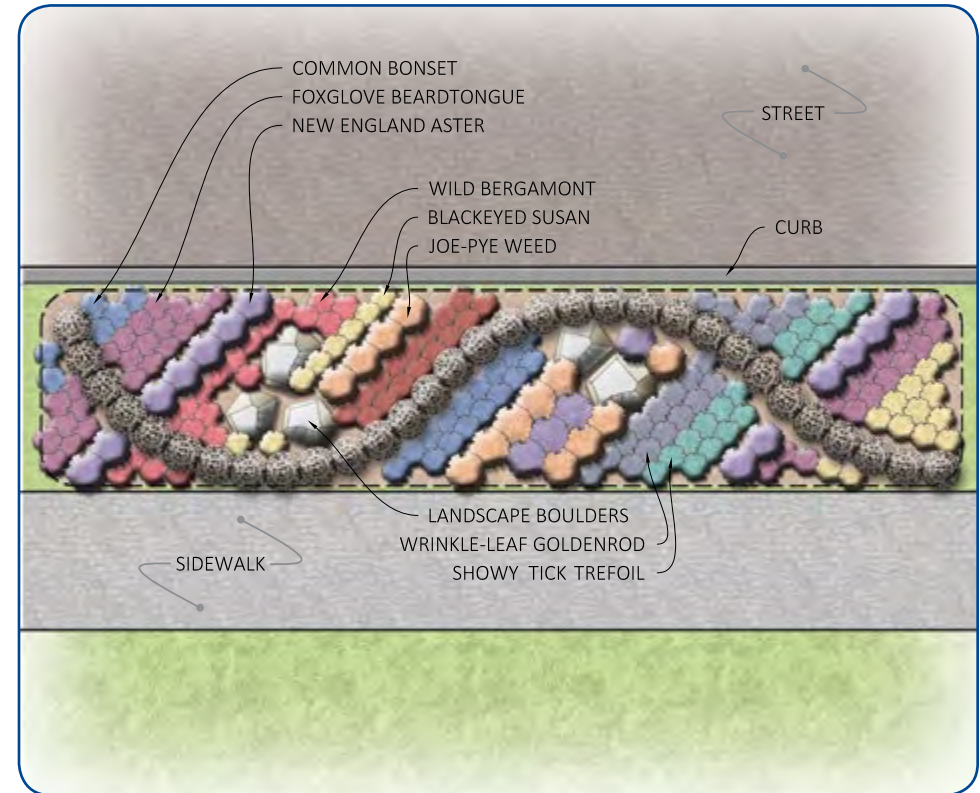
Section - 7

Streetside Garden Plant List

COMMON NAME	LATIN NAME	PLANT TYPE	PAGE NO.
Hackberry	<i>Celtis occidentalis</i>	Deciduous Tree	62
Showy Tick Trefoil	<i>Desmodium canadense</i>	Flowering Perennial	16
Canada Wild Rye	<i>Elymus canadensis</i>	Perennial Grass	36
Virginia Wildrye	<i>Elymus virginicus</i>	Perennial Grass	36
Joe-Pye Weed	<i>Eupatorium maculatum</i>	Flowering Perennial	18
Boneset	<i>Eupatorium perfoliatum</i>	Perennial Grass	18
Wild Bergamot	<i>Monarda fistulosa</i>	Flowering Perennial	24
Switchgrass	<i>Panicum virgatum</i>	Perennial Grass	38
Foxglove Beardtongue	<i>Penstemon digitalis</i>	Flowering Perennial	24
Blackeyed Susan	<i>Rudbeckia hirta</i>	Flowering Perennial	26
Indian grass	<i>Sorghastrum nutans</i>	Perennial Grass	38
Wrinkle-Leaf Goldenrod	<i>Solidago rugosa</i>	Perennial	28
New England Aster	<i>Symphotrichum novae-angliae</i>	Flowering Perennial	28

NOTE: Not all plants on this list are used in the planting graphic shown opposite.

Streetside Garden



Streetside Garden:

This garden can be implemented along streets and driveways where salt and other pollutants are a concern.

» Tip from a Landscape Architect «

When planting in a median or public right of way, get permission from your municipality first to avoid having to remove all your hard work! Leave enough space adjacent to the street for car doors to open if parking is present.



Design + Planting + Maintenance:

Understanding the correct way to plant a tree, shrub or herbaceous plant is critical for its long-term survivability. Some basic steps are provided here to ensure the right methods are utilized. After-care is also important, as proper maintenance and garden management are critical for successful establishment of native plantings.

UNDERSTANDING YOUR SITE CONSIDERATIONS

Use the following checklists to help you evaluate your existing site conditions.

Soil Conditions:

- ☐ Clay
- ☐ Sandy
- ☐ Loam

Planting Constraints:

- ☐ Underground Utilities
- ☐ Overhead Utilities
- ☐ Driveway/Sidewalk
- ☐ Standing water
- ☐ Structures (deck, pergola etc.)

Site Conditions:

- ☐ Wet
- ☐ Dry
- ☐ Windy
- ☐ Protected

Solar Orientation:

- ☐ Sun
- ☐ Full Shade
- ☐ Partial Sun

Garden Type Desired

- ☐ Butterfly Garden
- ☐ Songbird Garden
- ☐ Raingarden
- ☐ Winter Garden
- ☐ Shade Garden
- ☐ Streetside garden

Tree Selection:

- ☐ Shade tree
- ☐ Ornamental tree
- ☐ Multi-stem tree
- ☐ Flowering tree
- ☐ Nut tree

Tree Needs

- ☐ Space for root growth
- ☐ Soil amendments

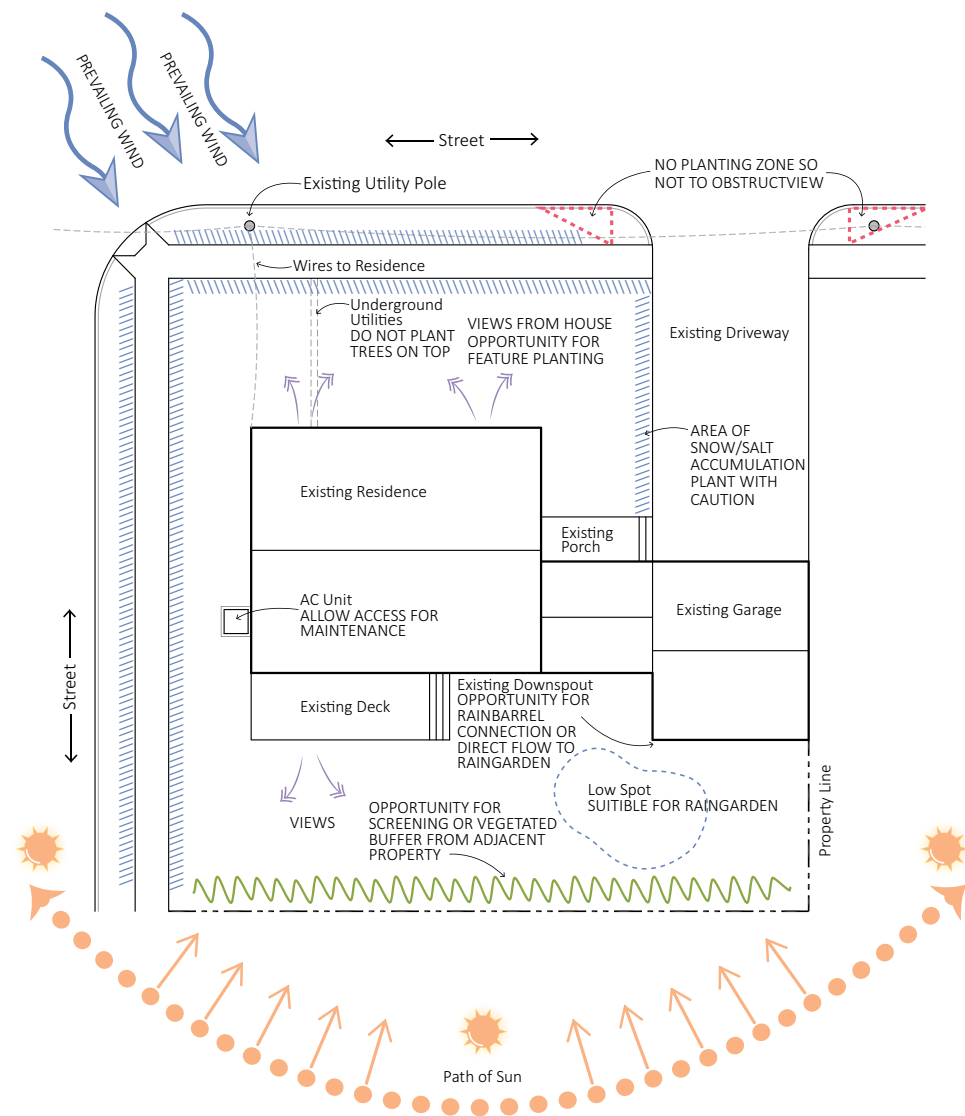
Existing Vegetation:

- ☐ Large shade trees
- ☐ Coniferous trees
- ☐ Hedge
- ☐ Invasive plants

» Tip from a Landscape Architect «

It is important to understand your current site conditions when planning your garden. Check for sun exposure, soil types, wet or dry conditions and prevailing winds.

SITE INVENTORY AND ANALYSIS



» Tip from a Landscape Architect «

A site analysis is a simple but highly effective tool used to identify opportunities and constraints on your site.

Site Considerations

For best results, always think holistically when planning for your garden. Here are some reminders:

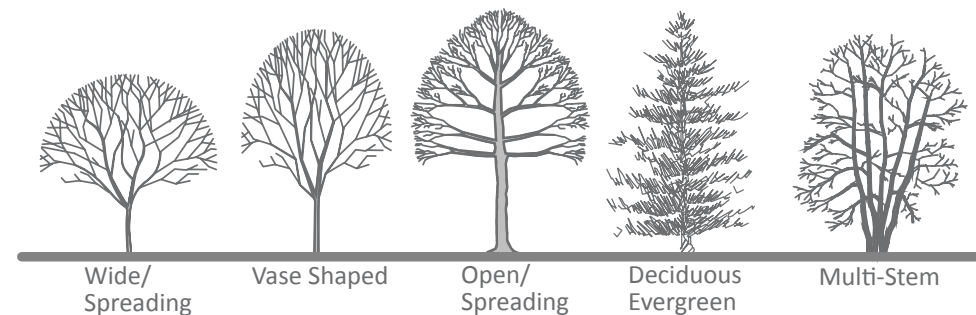
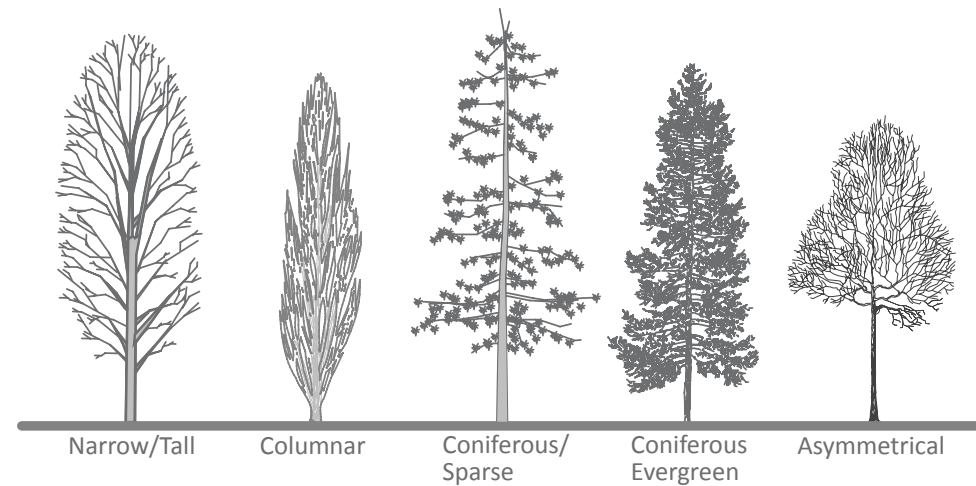
- Consider the maximum height and width the plant will grow
- Determine how much sunlight the plant requires and will receive based on its location
- Avoid planting species that have large fruit or nuts around driveways, decks or patios
- Consider the shape, character and features of the tree
- Plan for the aesthetics, color and/or texture each plant provides

» Tip from a Landscape Architect «

Tree roots should be able to spread beyond the branch area of a tree (dripline). Most of the critical air and water absorbing roots are found in the top 18-inches of soil. Be cautious when digging in the vicinity to avoid damaging the root system.



Tree Form and Character



» Tip from a Landscape Architect «

Consider the form of the tree before purchasing. For example; columnar trees can work well along a narrow pathway or drive. Round symmetrical trees are perfect for a front yard where they will be seen from all angles.

Nursery Selection + Planting Preparation

How to Select a Tree:

- ☐ Check trunk condition
- ☐ Look for good trunk taper beginning at root flair
- ☐ Ensure rootball is appropriate size for tree
- ☐ Check for signs of insects or disease
- ☐ Look for strong leader
- ☐ Ensure branches are distributed evenly along trunk without crossing or rubbing
- ☐ Ensure foliage is of uniform size and color for the species

Useful Tools:

- ☐ Shovel
- ☐ Small Pruning Saw
- ☐ Wire Cutters
- ☐ Utility Knife
- ☐ Measuring Tape
- ☐ Tarp
- ☐ Rake

How to Select Plant Material:

- ☐ Look for compact healthy plants with live dominant buds in leaf or in bloom.
- ☐ Check for signs of insects or disease on both sides of the leaves
- ☐ Check plant tags to ensure your site conditions meet the plants needs, and the final height and width is appropriate for your space.
- ☐ Do not select weak or diseased plants, even when at a bargain price

» Tip from a Landscape Architect «

When at the nursery select trees and plant materials that are in the middle of the size spectrum. A plant that is too large may be out of proportion with its roots, and a plant that is too small may have been stunted.

Indicators of Healthy Plants



Buds about to flower



Flowering



Healthy Buds and Branches



New Growth

» Tip from a Landscape Architect «

The quality of the root system is the most important factor in determining how well the plant will survive transplanting and how fast it will become fully adapted to its new site. Ensure there are both small and large roots.

Planting and After Care Information

When to plant: Spring may be the best time to plant, but even mid-summer and fall can be acceptable as long as the plants are watered.

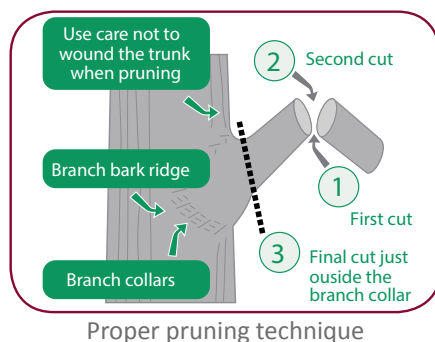
How to Plant a Tree

- Dig a hole. It is better for the planting hole to be much wider than the root ball. It should never be too deep. The depth should be only deep enough to ensure that the trunk flare will sit slightly above grade.
- Locate the trunk flare on the tree. You may need to brush away soil from the top of the root ball to reveal the trunk flare.
- Lift tree by root ball (not by the trunk) and place it in the center of the planting pit.
- Balance the tree upright.
- Take a step back and check to see if the tree is straight, make adjustments if needed.
- For trees with wire baskets, either fold wire down or cut wire (and remove) to one third or halfway down root ball.
- Cut away or remove burlap to expose the root ball (do not remove any soil from the root ball).
- Prune any dead or damaged branches.
- Begin refilling the planting space with soil while gently tamping backfill around the root ball.
- Once all of the soil is in the planting space, take a rake and smooth out the planting area.
- Remove any tree wrap or protection material on the trunk. Mulch lightly and evenly with 2-inches of dye-free mulch, keeping mulch two inches away from touching the trunk.

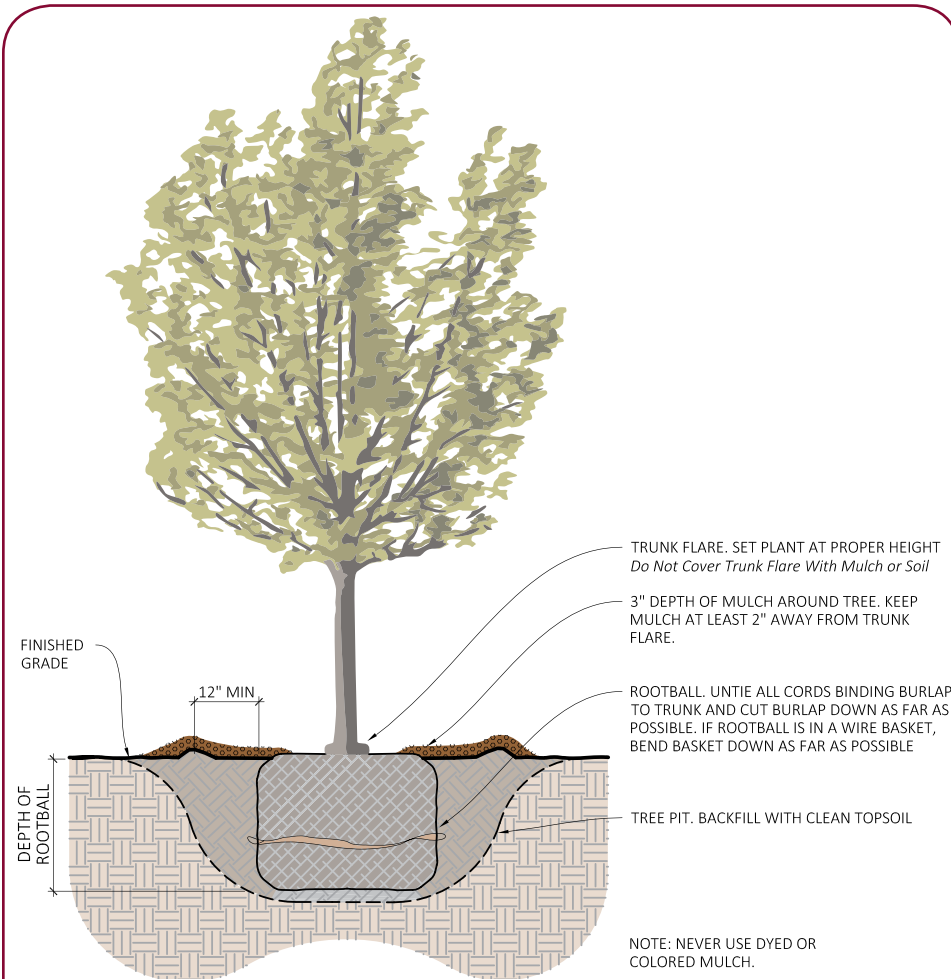
- Do not fertilize during planting.
- Water your newly planted tree (slow soak is recommended).

After Planting

- Water is a critical factor for tree survival after planting. Allow water to run slowly, soaking the soil (once or twice, in a dry week after initial planting).
- Do not over-water your plants.
- Keep lawn mowers and string trimmers away from the tree trunk to avoid any damage.
- Never fertilize stressed or newly planted trees.
- Keep weeds from growing in planting area.
- Prune dead or damaged branches, it is best to do so in late fall or during winter months.
- Never prune near overhead utilities.
- Continue to water plants during drought months to ensure healthy growing conditions.



Tree Planting Detail



DRAWING NOT TO SCALE

» Tip from a Landscape Architect «

Check for circulating roots around the root ball. If present, cut cleanly or untangle to encourage a healthy root system. This will help the tree thrive and grow beautifully in its new location in your garden.

About Invasive Plants

What is an Invasive Plant?

Invasive plant species are non-native species that can cause harm to the environment, the economy or to human health. Invasives come from all around the world. As international trade increases, so does the rate of invasive species introductions - New York State Department of Environmental Conservation (NYS-DEC)

Why are Invasive Species a Threat?

Invasive plants eliminate and displace native plants, and replace wildlife food sources with exotic plants. Many invasive plants are very aggressive and can take over a landscape rapidly. They are often inedible, harmful or toxic to both wild and domestic life including humans. They can also draw important pollinators away from beneficial native plants and cause an overall reduction in biodiversity, which damages vulnerable ecosystems.

Tips on How to Control Invasive Species:

- Learn to properly identify and manage invasive plants on your property. If an infestation is discovered, remove plants as soon as possible to prevent spreading.
- Refer to BNRRiverkeeper.org for proper removal techniques
- **Do not** compost the flowers or seeds of invasive plants, as seeds can remain viable long after the parent plant has been pulled and discarded.
- Know what you are growing and be cautious when exchanging seeds and plants with other gardeners.
- To determine whether a plant species is invasive, or to find out how it should be controlled, contact the New York Invasive Species Clearinghouse: <http://www.nyis.info/> or your local Cooperative Extension .

Native Alternatives to Common Invasive Plants

The table on the next page lists some of the invasive species commonly still sold and suggests native alternatives with similar characteristics. The invasive plants selected were taken from the *Revised Interim List of Invasive Plant Species in New York State*, May 14, 2012. NYS-DEC

Native Alternatives to Common Invasives

	DO NOT PLANT	INVASIVE SPECIES	NATIVE ALTERNATIVES
DO NOT PLANT		Norway Maple (<i>Acer platanoides</i>)	Red Maple (<i>Acer rubrum</i>) – pg 60
			American Beech (<i>Fagus grandifolia</i>) – pg 64
			Tulip Tree (<i>Liriodendron tulipifera</i>) – pg 66
			Pin Oak (<i>Quercus palustris</i>) – pg 68
			Hackberry (<i>Celtis occidentalis</i>) – pg 62
DO NOT PLANT		Japanese Barberry (<i>Berberis thunbergii</i>)	Northern Bayberry – pg 52 (<i>Morella pensylvanica</i>)
			Ninebark (<i>Physocarpus opulifolius</i>) – pg 54
			Red Dogwood (<i>Cornus sericea</i>) – pg 50
DO NOT PLANT		Burning Bush (<i>Euonymus alatus</i>)	Black Chokeberry – pg 48 (<i>Aronia melanocarpa</i>)
			American Cranberry Bush (<i>trilobum</i>) – pg 56
			Chokecherry (<i>Prunus virginiana</i>) – pg 54
DO NOT PLANT		Autumn Olive (<i>Elaeagnus umbellata</i>)	Witchazel (<i>Hamamelis virginiana</i>) – pg 08
			Grey Dogwood (<i>Cornus racemosa</i>) – pg 50
			Serviceberry – pg 48 (<i>Amelanchier canadensis</i>)
DO NOT PLANT		Non Native Honeysuckle Shrubs (<i>Lonicera tatarica</i> , <i>L. maackii</i> , <i>L. morrowii</i> , <i>L. x. bella</i> , <i>L. xylosteum</i>)	Trumpet Honeysuckle – pg 74 (<i>Lonicera sempervirens</i>)
			Ninebark (<i>Physocarpus opulifolius</i>) – pg 54
			Staghorn Sumac (<i>Rhus typhina</i>) – pg 54
DO NOT PLANT		Multiflora Rose (<i>Rosa multiflora</i>)	Elderberry (<i>Sambucus canadensis</i>) – pg 56
			Witchazel (<i>Hamamelis virginiana</i>) – pg 50
			St. Johns Wort – pg 52 (<i>Hypericum kalmianum</i>)
DO NOT PLANT		Japanese Honeysuckle Vine (<i>Lonicera japonica</i>)	Virginia creeper – pg 76 (<i>Parthenocissus quinquefolia</i>)
			Trumpet Honeysuckle – pg 74 (<i>Lonicera sempervirens</i>)

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