

# Native Species Planting Guide for New York City

4<sup>th</sup> Edition



NYC Parks

# Table of Contents

|   |           |
|---|-----------|
| <b>Letter from the Commissioner</b> .....                   | <b>4</b>  |
| <b>The Value of Native Plants</b> .....                     | <b>5</b>  |
| <b>How to Use This Guide</b> .....                          | <b>7</b>  |
| <b>Ecosystems of New York City</b> .....                    | <b>10</b> |
| A. Coastal Communities .....                                | 11        |
| B. Wetland Communities .....                                | 18        |
| C. Successional Communities.....                            | 31        |
| D. Upland Forest Communities .....                          | 40        |
| <b>Planting Near Natural Areas</b> .....                    | <b>48</b> |
| <b>Undesired Plants in New York</b> .....                   | <b>57</b> |
| <b>Native Alternatives to Common Invasive Plants</b> .....  | <b>63</b> |
| <b>Stormwater Tolerant Plants</b> .....                     | <b>72</b> |
| <b>Species Least Preferred by Deer</b> .....                | <b>77</b> |
| <b>Planting in the Built Environment</b> .....              | <b>83</b> |
| Altered Landscapes .....                                    | 83        |
| Closed Canopy Projects.....                                 | 84        |
| Invaded wetlands.....                                       | 84        |
| Street Trees Beds .....                                     | 86        |
| Pollinator Habitats .....                                   | 88        |
| <b>Common Conditions in NYC</b> .....                       | <b>90</b> |
| Plants for open, wet to moist soil .....                    | 90        |
| Plants for open, dry sites .....                            | 91        |
| Plants for shaded moist to wet sites .....                  | 92        |
| Plants for disturbed forest understories .....              | 93        |
| Plants for slope and soil stabilization in open sites ..... | 93        |
| <b>Native Plant Descriptions</b> .....                      | <b>95</b> |
| Ferns .....   | 98        |
| Forbs .....   | 118       |
| Graminoids.....   | 306       |
| Shrubs.....   | 389       |
| Trees .....   | 463       |
| Vines .....   | 519       |

|                               |            |
|-------------------------------|------------|
| <b>Glossary .....</b>         | <b>533</b> |
| <b>References.....</b>        | <b>538</b> |
| <b>Acknowledgements .....</b> | <b>543</b> |

# Letter from the Commissioner

January, 2025

Dear Parkies and Fellow Plant Lovers:

In 2024, NYC Parks launched the Vital Parks program and celebrated 40 years of the Natural Resources Group caring for 12,000 acres of urban nature on parkland. Both of these milestones highlight our commitment to cultivating unique and diverse spaces for all New Yorkers. Our parks are not only places to seek solace, exercise, explore nature, and spend time with friends – they also provide valuable ecological benefits to our City.

At the root of all our parks are our plants. Selecting the right plant for each project can be challenging. When designing our parks and natural spaces, we need to think carefully about the types of plants we choose, how they grow, and how we'll care for them. Our city plays a big role in supporting regional biodiversity, so picking the right plants is essential. By using native plants that have adapted to the local environment, we help create a stronger connection between the plants and the local wildlife, providing food, shelter, and rest for both local and migrating animals. This makes managing our parks even more important and meaningful.

As the City continues to adapt to a changing climate, open spaces and streetscapes with healthy plants are increasingly viewed as a key resiliency component. The deep root systems of native plants help improve soil health, reduce erosion, and enhance stormwater management by absorbing excess water. They offer a natural strategy to help mitigate floods and manage runoff.

In compliance with Local Law 11 of 2013, which requires the use of native species when planting in a natural area and the creation of a native plant guide updated every 5 years, I am proud to present the 4th Edition of the Native Species Planting Guide. This update includes new lists geared to specific site conditions, such as *Soil Stabilization*, *Disturbed Understories*, and *Open, Moist to Wet Sites*. These lists complement our habitat-based lists and provide an additional way for designers to understand different scenarios where each species can play a part.

Our Parks are Vital, not only to human New Yorkers, but to our wilder city inhabitants as well. The native plants in this guide have myriad benefits to all these New Yorkers, and it is my hope that this resource eases some of the challenges of selecting the right plant for the right place!



# The Value of Native Plants

New York City has over 30,000 acres of parkland, over a third of which is considered natural. The natural areas of New York City serve as anchors of biodiversity for the region. Corridors of habitat within the built environment facilitate the movement of pollinators, small mammals, and birds between these larger natural areas and the broader region. Native plants in landscaped parks of all sizes, and those in natural areas, are the primary resources needed to sustain our city's resident and migratory wildlife. Both natural areas and designed landscapes consist of a variety of planted and natural habitats ranging from small rain gardens to large coastal grasslands.

There are over 1,300 plant species native to the five boroughs. Many native plant species persist in protected natural areas, which also help provide clean air and water as well as recreational, mental health, and well-being benefits for the nearly nine million people inhabiting New York City. However, as humans continue to encroach upon the natural world and fossil fuel burning continues to exacerbate global climate change, this flora is increasingly at risk of being lost or diminished. One way to combat this risk is to wisely choose native plant species for planting plans, to ensure the legacy of our native flora persists.

Using native plants is a way to support the ecosystems of New York City. [Local Law 11 of 2013](#) was enacted to increase biodiversity within these ecosystems using native plants (§ 18-141 NYC Admin. Code). Every planting choice is a valuable opportunity to make a lasting, positive effect on the landscape. Because plants are a critical building block of ecosystems, designing with species not native to our area risks reducing the habitat and forage resources for various species that depend on healthy ecosystems for their existence. The native plant species in this guide have evolved with our local wildlife to provide the right source of food and shelter at the right time of year.

Introducing native plant species in a highly designed space can also transform the public's perception of these species. Designers and conservationists have the opportunity to springboard native species onto the public stage when they showcase native species in parks, green infrastructure, and other community spaces. Currently, only a fraction of our city's flora is used in planting projects. This guide highlights the potential for expanding this narrow palette if designers, gardeners, and landscape architects are willing to work with new species that are uncommon in the current market.

[The Greenbelt Native Plant Center \(GNPC\)](#), the municipal native plant nursery operated by NYC Parks, embodies Parks' conservation mission and has extensive knowledge of all the species listed in this guide. GNPC staff can assist in species selection and are confident that there is a native plant that can be successful in any scenario. Through their field and greenhouse experience, staff at GNPC have intimate knowledge of soil, light, and water requirements necessary for plant survival, as well as what propagation methods are successful for over half of New York City's native flora. Their expertise is invaluable when choosing the right plant for the right place.

This guide aims to be an inspiration to harness the power of native species in the urban landscape for a broad range of ecosystem services, including stormwater management and

coastal resiliency. For further information on the value of native plant species, please see the original introduction to this guide [published in 2014](#).

# How to Use This Guide

This guide is a resource written to provide support for increasing biodiversity in our urban ecosystems. The information in this guide should not be the sole resource for planting decisions, rather it should be used in conjunction with a complex analysis and inventory of soils, hydrological conditions, light resources, expected stressors and the existing native plant communities on or near a site. It is meant to support the creative, innovative, careful, and conscious choices made by New York City's landscape architects, horticulturists, ecologists, foresters, and other professionals. The New York City Native Species Planting Guide is updated every five years to reflect new information on species' use as well as nomenclature. The sections of this guide are listed and described below.

## **Ecosystems of New York City**

The New York Natural Heritage Program (NYNHP) has classified the ecosystems for [New York State](#) as well as [New York City](#). This section, adapted from the plant communities in the NYNHP classification system, highlights the characteristic species that are common throughout NYC ecosystems. These lists can be referenced when designing the landscape to mirror natural habitat composition.

## **Planting Near Natural Areas**

Planting native plants near or adjacent to natural areas, including NY State Parks, DEC Bluebelts, Unique Areas, and NYC Parks' Forever Wild can help buffer critical habitat from undesired plants that may otherwise colonize disturbed edges. This section includes plant lists of appropriate species that complement the naturally occurring native species found in a particular natural area type.

Forever Wild is NYC Parks' land conservation and protection program focused on natural areas. Only native plant species can be planted in these areas, and preference should be given to native species plant selection when planting adjacent or in proximity to these sites (§ 18-141 NYC Admin. Code). Maps have been provided for each borough to show areas within New York City designated as Forever Wild.

## **Invasive Species in New York and Native Alternatives**

Invasive species are prevalent throughout New York City and some of these plant species are now regulated and/or prohibited for use or sale within the state of New York. These lists, as well as native alternatives can be found in this section. In addition, we have created a list of "problematic species" that are not regulated by the State but are either regulated in neighboring states or have been flagged as spreading into natural areas.

## **Stormwater Tolerant Species**

Green infrastructure practices, such as right-of-way (ROW) rain gardens, stormwater greenstreets and Parkland retrofits, are being installed throughout the city to capture stormwater runoff at its source and before it contributes to pollution of the city's waterbodies. New York City provides bountiful opportunities for innovative green infrastructure designs; highlighted in this guide are native species that are well suited to an array of such projects.

## **Species Least Preferred by Deer**

Staten Island and the Bronx are home to a large number of deer. Planting in areas where deer populations are large presents a number of challenges. Native plant species that are least preferred by deer are provided in this section; however, we must stress that no plant species is deer resistant.

## **Planting in the Built Landscape**

Highly altered landscapes can be some of the most difficult areas in which to create sustainable designs. A successful way to limit the number of invasive species that may exist in these areas is to cover the ground with appropriate native species. This section provides suggestions of natural habitats to mirror and species that can thrive in closed canopies, tree beds, invaded wetlands and more.

## **Native Plant Descriptions**

This section contains descriptions of over 400 common native plant species. Research and field experience helped to provide detailed information on ecosystem requirements and design values for each species. There is one new component to this section in the 4<sup>th</sup> edition: the C Value (see explanation of Coefficient of Conservatism below)

### **Coefficients of Conservatism**

Coefficients of Conservatism ranks, also called C-Values, represent the best estimation of a given species' habitat fidelity, the tendency for a species to consistently occur, or thrive, in a specific habitat. The ranks range from 0 to 10, with a lower C-value indicating the species is more adaptable to a variety of habitats and disturbance regimes and high C-value indicating a species has a narrower range of ecological tolerances and are less likely to withstand anthropogenic disturbances. These values are often used to assess the quality of natural area habitats but can also be used to guide planting choices.

Plants with high C-Values (8, 9, or 10) show little tolerance for disturbance and are reliably found in very specific habitat types. As a result, many of these species are not well suited to restoration. In contrast, plants with lower C-Values (1, 2, or 3) are found in a variety of plant communities and are often the first species to move into disturbed sites. These species are often better suited to planting projects. Planting plans should include a range of C-Values, and plants with higher C-Values can be included, but should be used judiciously. C-Values from ecoregion 59 have been incorporated into the Native Plant Descriptions section for species included in this guide as a reference and should be considered when making planting decisions.



For more information on C-Values in the Northeast, including the methodology used to determine the values, please consult the 2018 NatureServe publication [Northeast Regional Floristic Quality Assessment Tools for Wetland Assessments](#). Additional information on the assessment [can be found here](#), and the [C-value database can be downloaded here](#).

# Ecosystems of New York City

The Mid-Atlantic region boasts a rich and diverse indigenous flora. The ecosystems of New York City are comprised of various native plant communities. Plant communities are associated species that thrive in conditions in which they are evolutionarily adapted in response to environmental conditions such as light exposure, soil characteristics, and salinity levels. New York City is a highly altered landscape, yet many native plants have maintained their community structure in natural areas and even evolved to reclaim some of the built landscape. The relative health of habitats within New York City varies greatly and ecosystem function is highly dependent on the response of plants to local environmental conditions. Through adaptation, many tough native plant species have co-existed alongside the ever-increasing human population and the effects of pollution, compaction, urban rubble, and fragmentation, and are therefore more suited to the varied conditions of our ecosystems.

The ecosystems listed within this manual contain common plant communities that can still be found throughout the five boroughs. To fully understand the possible values and limitations for landscape design, we encourage designers to examine the ecosystem context in which a given species naturally occurs. Its natural habitat can provide many clues about the conditions under which a species thrives. Furthermore, while climate change is leading to increased episodes of high rainfall, temperatures are becoming more extreme. Even when a species is ecologically appropriate to a site and will most likely require less maintenance in the future, new plantings require the appropriate attention to weeding and watering, especially during the one-to-two-year establishment period.

The lists in this section provide suggestions, but are not infallible guidelines, nor are they exhaustive. Consult the GNPC and the recommended resources within the [References](#) section for additional information on appropriate plants for various designed and restored landscapes. The native flora of today's New York City may not be what Henry Hudson encountered in 1609, but in choosing the right species for our restoration efforts and landscape designs, we can complement the native species that still naturally exist.

## A. Coastal Communities

At the juncture between the land and the ocean, coastal regions are characterized by highly mutable landforms and processes. Features such as dunes and wetlands are dynamic systems impacted by storms, sediment supply, and sea-level change<sup>1</sup>. Urban coastal regions often do not have the same literal or metaphorical space to change as they have in the past because of permanent alterations to the landscape to accommodate and protect high-density human populations. The effects of hurricanes and more frequent storms, combined with higher sea levels, are putting New York City's low-lying coastlines at risk. Restoration of our coastal plant communities and designing with nature will increase success of long-term coastal protection investments.

### MARITIME BEACH/DUNE

Maritime beach/dune communities are dominated by salt-tolerant grasses and herbs. The sand is relatively unstable at the ocean-fronting beach and a limited number of plant species can survive in these harsh conditions.

Examples Include: Plumb Beach (BK), Far Rockaway (QU), and Conference House Park (SI).

#### Characteristic Species:

##### Graminoids

|                                |                     |
|--------------------------------|---------------------|
| <i>Ammophila breviligulata</i> | American beachgrass |
| <i>Carex silicea</i>           | Beach sedge         |
| <i>Cenchrus longispinus</i>    | Common sandbur      |
| <i>Cyperus grayi</i>           | Gray's flatsedge    |
| <i>Eragrostis spectabilis</i>  | Purple lovegrass    |
| <i>Panicum virgatum</i>        | Switchgrass         |
| <i>Spartina x caespitosa</i>   | Mixed cordgrass     |

##### Forbs

|                                |                    |
|--------------------------------|--------------------|
| <i>Atriplex mucronata</i>      | Sea-beach orach    |
| <i>Cakile edentula</i>         | American searocket |
| <i>Euphorbia polygonifolia</i> | Seaside sandmat    |
| <i>Lathyrus japonicus</i>      | Beach pea          |
| <i>Lechea maritima</i>         | Beach pinweed      |
| <i>Polygonella articulata</i>  | Jointweed          |
| <i>Solidago sempervirens</i>   | Seaside goldenrod  |
| <i>Xanthium strumarium</i>     | Rough cocklebur    |

##### Vines

|                                    |                    |
|------------------------------------|--------------------|
| <i>Parthenocissus quinquefolia</i> | Virginia creeper   |
| <i>Strophostyles helvola</i>       | Trailing wild bean |

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<sup>1</sup> Titus, J. G., et al. (2009). Coastal sensitivity to sea-level rise: A focus on the Mid-Atlantic region. Washington, DC: U.S. Climate Change Science Program.

## Shrubs

*Hudsonia tomentosa*  
*Morella pensylvanica*  
*Prunus maritima*  
*Rosa carolina*

False heather  
Northern bayberry  
Beach plum  
Carolina rose

## **MARITIME GRASSLAND**

Stabilized back dunes transition into maritime grasslands and shrublands. These low-lying areas near the coast are subject to off-shore winds and occasional salt spray.

Examples Include: Marine Park (BK), Arverne Park Preserve (QU), Ocean Breeze Park (SI).

## Characteristic Species:

### Graminoids

*Ammophila breviligulata*  
*Andropogon virginicus*  
*Aristida dichotoma*  
*Aristida tuberculosa*  
*Eragrostis spectabilis*  
*Juncus greenei*  
*Panicum virgatum*  
*Schizachyrium littorale*  
*Schizachyrium scoparium*  
*Sorghastrum nutans*  
*Spartina x caespitosa*

American beachgrass  
Broom sedge bluestem  
Churchmouse threeawn  
Seaside threeawn  
Purple lovegrass  
Greene's rush  
Switchgrass  
Coastal little bluestem  
Little bluestem  
Yellow grass  
Mixed cordgrass

### Forbs

*Asclepias syriaca*  
*Asclepias tuberosa*  
*Desmodium paniculatum*  
*Eupatorium altissimum*  
*Eupatorium hyssopifolium*  
*Euthamia caroliniana*  
*Euthamia graminifolia*  
*Ionactis linariifolia*  
*Krigia virginica*  
*Lespedeza capitata*  
*Nuttallanthus canadensis*  
*Oenothera biennis*  
*Oenothera fruticosa*  
*Opuntia humifusa*  
*Potentilla canadensis*  
*Pseudognaphalium obtusifolium*

Common milkweed  
Butterflyweed  
Panicked ticktrefoil  
Tall boneset  
Hyssop-leaved throughwort  
Slender goldenrod  
Common flat-topped goldenrod  
Flaxleaf whitetop aster  
Virginia dwarfdandelion  
Roundhead lespedeza  
Canada toadflax  
Common evening primrose  
Narrowleaf evening primrose  
Eastern prickly pear  
Dwarf cinquefoil  
Rabbit-tobacco

|                                    |                   |
|------------------------------------|-------------------|
| <i>Rudbeckia hirta</i>             | Black-eyed Susan  |
| <i>Solidago canadensis</i>         | Canada goldenrod  |
| <i>Solidago nemoralis</i>          | Gray goldenrod    |
| <i>Solidago sempervirens</i>       | Seaside goldenrod |
| <i>Symphotrichum ericoides</i>     | White heath aster |
| <i>Symphotrichum novae-angliae</i> | New England aster |
| <i>Trichostema dichotomum</i>      | Forked blue curls |

Shrubs

|                             |                   |
|-----------------------------|-------------------|
| <i>Morella pensylvanica</i> | Northern bayberry |
| <i>Rhus copallinum</i>      | Winged sumac      |
| <i>Rubus flagellaris</i>    | Northern dewberry |

**MARITIME SHRUBLAND**

Offshore winds and salt spray naturally stunt trees and support the shrubland community that inhabit the dry, rolling outwash plains and moraine of the Atlantic coastal plain. The plant community lines naturally overlap in this maritime setting and can be of extraordinary floristic diversity.

Examples Include: Plumb Beach (BK), Dubos Point Park (QU), Ocean Breeze Park (SI).

Characteristic Species:

Graminoids

|                                       |                      |
|---------------------------------------|----------------------|
| <i>Ammophila breviligulata</i>        | American beachgrass  |
| <i>Andropogon virginicus</i>          | Broom sedge bluestem |
| <i>Aristida dichotoma</i>             | Churchmouse threeawn |
| <i>Aristida tuberculosa</i>           | Seaside threeawn     |
| <i>Carex pensylvanica</i>             | Pennsylvania sedge   |
| <i>Cyperus diandrus</i>               | Umbrella flatsedge   |
| <i>Eragrostis spectabilis</i>         | Purple lovegrass     |
| <i>Juncus tenuis</i>                  | Path rush            |
| <i>Panicum virgatum</i>               | Switchgrass          |
| <i>Schizachyrium scoparium</i>        | Little bluestem      |
| <i>Schoenoplectus pungens</i>         | Common threesquare   |
| <i>Schoenoplectus tabernaemontani</i> | Softstem bulrush     |
| <i>Sorghastrum nutans</i>             | Yellow grass         |
| <i>Tridens flavus</i>                 | Purpletop            |

Forbs

|                              |                       |
|------------------------------|-----------------------|
| <i>Agalinis purpurea</i>     | Purple false foxglove |
| <i>Asclepias syriaca</i>     | Common milkweed       |
| <i>Asclepias tuberosa</i>    | Butterflyweed         |
| <i>Cirsium discolor</i>      | Field thistle         |
| <i>Desmodium paniculatum</i> | Panicled ticktrefoil  |

*Eupatorium serotinum*  
*Euthamia graminifolia*  
*Ionactis linariifolius*  
*Lespedeza capitata*  
*Maianthemum stellatum*  
*Nuttallanthus canadensis*  
*Oenothera biennis*  
*Oenothera fruticosa*  
*Opuntia humifusa*  
*Potentilla canadensis*  
*Rudbeckia hirta*  
*Solidago rugosa*  
*Solidago sempervirens*  
*Suaeda linearis*  
*Suaeda maritima*  
*Symphotrichum ericoides*  
*Symphotrichum novi-belgii*

Late throughwort  
Common flat-topped goldenrod  
Flaxleaf whitetop aster  
Roundhead lespedeza  
Star-flowered Solomon's seal  
Blue toadflax  
Common evening primrose  
Narrowleaf evening primrose  
Eastern prickly pear  
Dwarf cinquefoil  
Black-eyed Susan  
Wrinkleleaf goldenrod  
Seaside goldenrod  
Annual sea blite  
Sea blite  
White heath aster  
New York aster

#### Vines

*Menispermum canadense*  
*Parthenocissus quinquefolia*  
*Strophostyles helvola*

Moon seed  
Virginia creeper  
Trailing wild bean

#### Shrubs

*Aronia arbutifolia*  
*Aronia melanocarpa*  
*Clethra alnifolia*  
*Gaylussacia baccata*  
*Hudsonia tomentosa*  
*Morella pensylvanica*  
*Prunus maritima*  
*Rhus copallinum*  
*Rhus glabra*  
*Rhus typhina*  
*Rosa carolina*  
*Rubus flagellaris*  
*Rubus pensilvanicus*  
*Sambucus nigra* ssp. *canadensis*  
*Vaccinium corymbosum*  
*Viburnum dentatum*

Red chokeberry  
Black chokeberry  
Sweet pepperbush  
Black huckleberry  
False heather  
Northern bayberry  
Beach plum  
Winged sumac  
Smooth sumac  
Staghorn sumac  
Carolina rose  
Northern dewberry  
Pennsylvania blackberry  
Common elderberry  
Highbush blueberry  
Arrowwood

#### Trees

*Acer rubrum*  
*Amelanchier canadensis*  
*Ilex opaca*

Red maple  
Canadian serviceberry  
American holly

|                             |                       |
|-----------------------------|-----------------------|
| <i>Juniperus virginiana</i> | Eastern red cedar     |
| <i>Pinus rigida</i>         | Pitch pine            |
| <i>Prunus serotina</i>      | Black cherry          |
| <i>Salix nigra</i>          | Black willow          |
| <i>Salix eriocephala</i>    | Missouri river willow |
| <i>Sassafras albidum</i>    | Sassafras             |

### **SUCCESSIONAL MARITIME OAK FOREST**

A maritime forest naturally succeeds a maritime shrubland if it is left undisturbed. A minimal amount of herbaceous material at ground-level can survive. The dense shrub layer, with a closing canopy, shades out many of the herbaceous species.

Examples Include: Pelham Bay Park – Hunter Island (BX), Paerdegat Basin (BK), Idlewild Park (QU), Saw Mill Creek (SI).

#### Characteristic Species:

##### Ferns

|                            |             |
|----------------------------|-------------|
| <i>Pteridium aquilinum</i> | Brackenfern |
|----------------------------|-------------|

##### Graminoids

|                                |                      |
|--------------------------------|----------------------|
| <i>Andropogon gerardii</i>     | Big bluestem         |
| <i>Aristida dichotoma</i>      | Churchmouse threeawn |
| <i>Aristida tuberculosa</i>    | Seaside threeawn     |
| <i>Agrostis perennans</i>      | Autumn bentgrass     |
| <i>Carex pensylvanica</i>      | Pennsylvania sedge   |
| <i>Eragrostis spectabilis</i>  | Purple lovegrass     |
| <i>Panicum virgatum</i>        | Switchgrass          |
| <i>Schizachyrium scoparium</i> | Little bluestem      |

##### Forbs

|                                 |                       |
|---------------------------------|-----------------------|
| <i>Agalinis purpurea</i>        | Purple false foxglove |
| <i>Baptisia tinctoria</i>       | Yellow wild indigo    |
| <i>Chrysopsis mariana</i>       | Maryland goldenaster  |
| <i>Cirsium discolor</i>         | Field thistle         |
| <i>Eupatorium album</i>         | White boneset         |
| <i>Lespedeza capitata</i>       | Roundhead lespedeza   |
| <i>Nuttallanthus canadensis</i> | Blue toadflax         |
| <i>Plantago aristata</i>        | Largebracted plantain |
| <i>Solidago odora</i>           | Sweet goldenrod       |
| <i>Tephrosia virginiana</i>     | Goat's rue            |
| <i>Trichostema dichotomum</i>   | Forked blue curls     |

##### Vines

|                                    |                  |
|------------------------------------|------------------|
| <i>Parthenocissus quinquefolia</i> | Virginia creeper |
|------------------------------------|------------------|

### Shrubs

*Arctostaphylos uva-ursi*  
*Comptonia peregrina*  
*Hudsonia ericoides*  
*Gaylussacia baccata*  
*Gaylussacia frondosa*  
*Ilex glabra*  
*Lyonia mariana*  
*Rhus copallinum*  
*Rubus hispidus*  
*Vaccinium angustifolium*  
*Vaccinium pallidum*

Bearberry  
Sweetfern  
Pine barren goldenheather  
Black huckleberry  
Blue huckleberry  
Inkberry  
Piedmont staggerbush  
Winged sumac  
Swamp dewberry  
Lowbush blueberry  
Blue Ridge blueberry

### Trees

*Acer negundo*  
*Acer rubrum*  
*Betula populifolia*  
*Juniperus virginiana*  
*Populus deltoides*  
*Populus tremuloides*  
*Prunus serotina*  
*Quercus ilicifolia*  
*Quercus marilandica*  
*Quercus prinoides*  
*Quercus stellata*  
*Sassafras albidum*

Boxelder  
Red maple  
Gray birch  
Eastern red cedar  
Cottonwood  
Quaking aspen  
Black cherry  
Scrub oak  
Blackjack oak  
Dwarf chinquapin oak  
Post oak  
Sassafras

## **MARITIME OAK FOREST**

This oak-dominated forest is typically found near a marine community, such as a salt marsh or at the edge of a back dune. These plant communities are heavily influenced by the coastal processes including salt spray, high winds, flooding, and sand deposition. The canopy may be stunted due to these processes and the understory is usually thick with a dense shrub layer and vines.

Examples Include: Pelham Bay Park – Hunter Island (BX), Paerdegat Basin (BK), Conference House Park (SI), Clay Pit Ponds Park (SI).

### Characteristic Species:

#### Ferns

*Pteridium aquilinum*  
*Thelypteris palustris*

Brackenfern  
Marsh fern



### Graminoids

*Avenella flexuosa*  
*Carex annectens*  
*Carex emmonsii*  
*Carex pensylvanica*  
*Danthonia compressa*  
*Danthonia spicata*

Wavy hairgrass  
Yellow-fruit sedge  
Emmons Sedge  
Pennsylvania sedge  
Flattened oatgrass  
Poverty oatgrass

### Forbs

*Baptisia tinctoria*  
*Helianthemum canadense*  
*Hieracium venosum*  
*Hypericum hypericoides*  
*Lechea mucronata*  
*Lespedeza capitata*  
*Lespedeza hirta*  
*Tephrosia virginiana*  
*Trichostema dichotomum*

Yellow wild indigo  
Longbranch frostweed  
Rattlesnakeweed  
St. Andrew's cross  
Hairy pinweed  
Roundhead lespedeza  
Hairy bush clover  
Goat's rue  
Forked blue curls

### Vines

*Parthenocissus quinquefolia*  
*Vitis vulpina*

Virginia creeper  
Frost grape

### Shrubs

*Arctostaphylos uva-ursi*  
*Comptonia peregrina*  
*Epigaea repens*  
*Gaultheria procumbens*  
*Gaylussacia baccata*  
*Gaylussacia frondosa*  
*Kalmia angustifolia*  
*Kalmia latifolia*  
*Ilex glabra*  
*Vaccinium angustifolium*  
*Vaccinium corymbosum*  
*Vaccinium macrocarpon*  
*Vaccinium pallidum*

Bearberry  
Sweetfern  
Trailing arbutus  
Eastern teaberry  
Black huckleberry  
Blue huckleberry  
Sheep laurel  
Mountain laurel  
Inkberry  
Lowbush blueberry  
Highbush blueberry  
American cranberry  
Blue Ridge blueberry

### Trees

*Acer rubrum*  
*Amelanchier canadensis*  
*Ilex opaca*  
*Nyssa sylvatica*  
*Pinus rigida*  
*Quercus alba*

Red maple  
Canadian serviceberry  
American holly  
Black tupelo  
Pitch pine  
White oak

*Quercus montana*  
*Quercus stellata*  
*Quercus velutina*

Chestnut oak  
Post oak  
Black oak

## B. Wetland Communities

### **TIDAL WETLANDS**

Tidal wetland habitats occur in low-lying areas along the coast where plants can tolerate daily inundation by the tides. Only about 4,000 acres of salt marsh still exist around New York City. By 1950, over 20,000 acres of tidal wetland were destroyed by filling with trash and construction debris<sup>2</sup>.

### **LOW SALT MARSH**

The low salt marsh is a tidal marsh zone characterized by daily flooding. The term “low” refers to the elevation of the land which occurs between the mean sea level and mean high tide. Very few plants in our region can tolerate this depth, duration, and frequency of flooding by salt water; the dominant species in this ecosystem is *Spartina alterniflora*, smooth cordgrass.

Examples Include: Pelham Bay Park (BX), Marine Park (BK), Four Sparrow Marsh, (BK), Inwood Hill Park (MN), Alley Pond Park (QU), Sawmill Creek (SI).

#### Characteristic Species:

##### Graminoids

*Spartina alterniflora*

Smooth cordgrass

*Spartina cynosuroides*

Big cordgrass

### **HIGH SALT MARSH**

The transition from the low marsh to the high marsh occurs approximately at the mean high-water mark. The high marsh, which extends to approximately the mean high high-water line, is flooded monthly during spring tides and in frequent coastal storm events. The high salt marsh community includes plants that tolerate brackish waters.

Examples Include: Pelham Bay Park (BX), Marine Park (BK), Four Sparrow Marsh, (BK), Inwood Hill Park (MN), Alley Pond Park (QU), Sawmill Creek (SI).

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<sup>2</sup> Luttenberg, D., Lev, D., and Feller, M. (1993). Native species planting guide for New York City and vicinity. New York, NY: City of New York, Department of Parks and Recreation.

## Characteristic Species:

### Graminoids

*Anthoxanthum nitens* spp. *nitens*  
*Bolboschoenus robustus*  
*Distichlis spicata*  
*Juncus gerardii*  
*Panicum virgatum*  
*Schoenoplectus pungens*  
*Spartina cynosuroides*  
*Spartina patens*

Sweetgrass  
Seacoast bulrush  
Saltgrass  
Saltmeadow rush  
Switchgrass  
Common threesquare  
Big cordgrass  
Saltmeadow cordgrass

### Forbs

*Hibiscus moscheutos*  
*Limonium carolinianum*  
*Persicaria pensylvanica*  
*Pluchea odorata*  
*Salicornia depressa*  
*Solidago sempervirens*  
*Suaeda linearis*  
*Suaeda maritima*  
*Symphyotrichum novi-belgii*  
*Symphyotrichum tenuifolium*  
*Teucrium canadense*

Crimson-eyed rosemallow  
Sea lavender  
Pennsylvania smartweed  
Saltmarsh fleabane  
Virginia glasswort  
Seaside goldenrod  
Annual sea-blite  
Herbaceous sea-blite  
New York aster  
Perennial saltmarsh aster  
American germander

### Shrubs

*Baccharis halimifolia*  
*Iva frutescens*

Eastern baccharis  
Marsh elder

## **FRESHWATER WETLANDS**

A non-tidal, freshwater wetland occurs in low-lying areas along streams and other bodies of fresh water that are subject to flooding. This may include isolated depressions that collect surface water, as well as areas with high groundwater tables. Wetland forests are plant communities which occur in poorly drained depressions on inorganic soils; their water levels fluctuate seasonally and usually drop in mid to late summer. Only about 2,000 acres of freshwater wetlands remain within the five boroughs from the hundreds of thousands of acres that date back to the Industrial Revolution.<sup>3</sup>

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<sup>3</sup> Luttenberg, D., Lev, D., and Feller, M. (1993). *Native species planting guide for New York City and vicinity*. New York, NY: City of New York, Department of Parks and Recreation.

## SHALLOW EMERGENT MARSH

A shallow emergent marsh occurs on mineral soils that are more well-drained than a deep emergent marsh and have water depths from 6" to 3'. Shallow emergent marshes can be considered wet meadows, gradually sloping shores of ponds, lakes, and streams, or temporarily flooded drainage swales.

Examples Include: Seton Falls park (BX), Prospect Park (BK), Flushing Meadows Corona Park – Willow Lake (QU), Blue Heron Park (SI), High Rock Park (SI).

### Characteristic Species:

#### Ferns

|                                |                |
|--------------------------------|----------------|
| <i>Onoclea sensibilis</i>      | Sensitive fern |
| <i>Osmundastrum cinnamomea</i> | Cinnamon fern  |
| <i>Osmunda regalis</i>         | Royal fern     |
| <i>Thelypteris palustris</i>   | Marsh fern     |

#### Graminoids

|                                       |                      |
|---------------------------------------|----------------------|
| <i>Andropogon virginicus</i>          | Broom sedge bluestem |
| <i>Carex annectens</i>                | Yellow-fruit sedge   |
| <i>Carex comosa</i>                   | Bristly sedge        |
| <i>Carex crinita</i>                  | Common fringed sedge |
| <i>Carex lupulina</i>                 | Hop sedge            |
| <i>Carex lurida</i>                   | Shallow sedge        |
| <i>Carex stipata</i>                  | Awlfruit sedge       |
| <i>Carex stricta</i>                  | Tussock sedge        |
| <i>Carex vulpinoidea</i>              | Fox sedge            |
| <i>Juncus canadensis</i>              | Canadian rush        |
| <i>Juncus effusus</i>                 | Common rush          |
| <i>Leersia oryzoides</i>              | Rice cutgrass        |
| <i>Rhynchospora capitellata</i>       | Brownish beaksedge   |
| <i>Schoenoplectus pungens</i>         | Common threesquare   |
| <i>Schoenoplectus tabernaemontani</i> | Softstem bulrush     |
| <i>Scirpus atrovirens</i>             | Green bulrush        |
| <i>Scirpus cyperinus</i>              | Woolgrass            |
| <i>Sparganium eurycarpum</i>          | Broadfruit bur-reed  |
| <i>Tripsacum dactyloides</i>          | Eastern gamagrass    |

#### Forbs

|   |                         |
|---|-------------------------|
| <i>Alisma subcordatum</i>                     | American water plantain |
| <i>Anthoxanthum nitens</i> spp. <i>nitens</i> | Sweetgrass              |
| <i>Asclepias incarnata</i>                    | Swamp milkweed          |
| <i>Chelone glabra</i>                         | White turtlehead        |
| <i>Desmodium canadense</i>                    | Showy tick trefoil      |
| <i>Doellingeria umbellata</i>                 | Parasol whitetop        |
| <i>Eupatorium perfoliatum</i>                 | Common boneset          |

|                                     |                               |
|-------------------------------------|-------------------------------|
| <i>Eutrochium maculatum</i>         | Spotted Joe Pye weed          |
| <i>Helenium autumnale</i>           | Common sneezeweed             |
| <i>Helianthus giganteus</i>         | Giant sunflower               |
| <i>Hibiscus moscheutos</i>          | Crimson-eyed rosemallow       |
| <i>Iris versicolor</i>              | Harlequin blueflag            |
| <i>Lobelia cardinalis</i>           | Cardinalflower                |
| <i>Lobelia siphilitica</i>          | Great blue lobelia            |
| <i>Ludwigia alternifolia</i>        | Seedbox                       |
| <i>Lycopus virginicus</i>           | Virginia water horehound      |
| <i>Peltandra virginica</i>          | Green arrow arum              |
| <i>Penthorum sedoides</i>           | Ditch stonecrop               |
| <i>Persicaria arifolia</i>          | Halberd-leaved tearthumb      |
| <i>Persicaria pensylvanica</i>      | Pennsylvania smartweed        |
| <i>Persicaria sagittata</i>         | Arrowleaf tearthumb           |
| <i>Pontederia cordata</i>           | Pickeralweed                  |
| <i>Sagittaria latifolia</i>         | Broadleaf arrowhead           |
| <i>Sisyrinchium angustifolium</i>   | Narrow-leaved blue-eyed grass |
| <i>Symphyotrichum novae-angliae</i> | New England aster             |
| <i>Symphyotrichum novi-belgii</i>   | New York aster                |
| <i>Teucrium canadense</i>           | American germander            |
| <i>Tradescantia virginiana</i>      | Spiderwort                    |
| <i>Verbena hastata</i>              | Swamp verbena                 |
| <i>Vernonia noveboracensis</i>      | New York ironweed             |
| <i>Viola cucullata</i>              | Marsh blue violet             |
| <u>Shrubs</u>                       |                               |
| <i>Baccharis halimifolia</i>        | Eastern baccharis             |
| <i>Cephalanthus occidentalis</i>    | Buttonbush                    |
| <i>Rosa palustris</i>               | Swamp rose                    |
| <i>Salix discolor</i>               | Pussy willow                  |
| <u>Trees</u>                        |                               |
| <i>Salix nigra</i>                  | Black willow                  |

## DEEP EMERGENT MARSH

A deep emergent marsh occurs on mineral soils or fine-grained organic soils (muck or well-decomposed peat) with water depths that varies from 6" to 6'. Most examples of this ecosystem in New York City are manmade impoundments or have been restored from naturally occurring, degraded habitats.

Examples Include: Van Cortlandt Lake (BX), Canarsie Park (BK), Central Park – Turtle Pond (MN), Baisley Pond (QU), Long Pond (SI).

Characteristic Species:

Graminoids

*Andropogon glomeratus*  
*Carex comosa*  
*Schoenoplectus tabernaemontani*  
*Spartina pectinata*

Bushy bluestem  
Bristly sedge  
Softstem bulrush  
Prairie cordgrass

Forbs

*Hibiscus moscheutos*  
*Impatiens capensis*  
*Lobelia cardinalis*  
*Peltandra virginica*  
*Pontederia cordata*  
*Rumex verticillatus*  
*Sagittaria latifolia*  
*Typha angustifolia*  
*Typha latifolia*

Crimsoneyed rosemallow  
Jewelweed  
Cardinalflower  
Green arrow arum  
Pickerelweed  
Swamp dock  
Broadleaf arrowhead  
Narrowleaf cattail  
Broadleaf cattail

Shrubs

*Alnus serrulata*  
*Cephalanthus occidentalis*  
*Cornus amomum*  
*Salix discolor*  
*Viburnum dentatum*

Smooth alder  
Buttonbush  
Silky dogwood  
Pussy willow  
Arrowwood

Trees

*Salix nigra*

Black willow

**SCRUB SHRUB**

A Scrub Shrub is an inland, freshwater wetland that is dominated by woody plant species less than 20 feet tall. These swamps occur along the shores of ponds, lakes, or rivers and in wet depressions and valleys. The substrate is usually a mineral soil or muck. Seasonal fluctuations in the water levels support diverse flora and fauna.

Examples Include: Seton Falls Park (BX), Alley Pond Park (QU), High Rock Park (SI), Siedenburg Park (SI).

Characteristic Species:

Ferns

*Dryopteris cristata*  
*Onoclea sensibilis*  
*Osmundastrum cinnamomea*  
*Osmunda regalis*

Crested woodfern  
Sensitive fern  
Cinnamon fern  
Royal fern

*Thelypteris palustris*  
*Woodwardia areolata*  
*Woodwardia virginica*

Marsh fern  
Netted chainfern  
Virginia chainfern

Graminoids

*Carex annectens*  
*Carex atlantica*  
*Carex comosa*  
*Carex crinita*  
*Carex lupulina*  
*Carex lurida*  
*Carex stipata*  
*Carex stricta*  
*Carex vulpinoidea*  
*Dulichium arundinaceum*  
*Juncus canadensis*  
*Juncus effusus*  
*Leersia oryzoides*  
*Rhynchospora capitellata*  
*Scirpus atrovirens*

Yellow-fruit sedge  
Prickly bog sedge  
Bristly sedge  
Common fringed sedge  
Hop sedge  
Shallow sedge  
Awlfruit sedge  
Tussock sedge  
Fox sedge  
Three-way sedge  
Canadian rush  
Common rush  
Rice cutgrass  
Brownish beaksedge  
Green bulrush

Forbs

*Asclepias incarnata*  
*Bidens frondosa*  
*Doellingeria umbellata*  
*Chelone glabra*  
*Decodon verticillatus*  
*Desmodium canadense*  
*Eupatorium perfoliatum*  
*Hibiscus moscheutos*  
*Impatiens capensis*  
*Lobelia cardinalis*  
*Lobelia siphilitica*  
*Ludwigia alternifolia*  
*Lysimachia ciliata*  
*Peltandra virginica*  
*Persicaria arifolia*  
*Persicaria hydropiperoides*  
*Persicaria sagittata*  
*Sisyrinchium angustifolium*  
*Symphyotrichum novae-angliae*  
*Thalictrum pubescens*  
*Vernonia noveboracensis*  
*Viola cucullata*

Swamp milkweed  
Devil's beggartick  
Parasol whitetop  
White turtlehead  
Swamp loostrife  
Showy tick trefoil  
Common boneset  
Chrimson-eyed rosemallow  
Jewelweed  
Cardinalflower  
Great blue lobelia  
Seedbox  
Fringed loosestrife  
Green arrow arum  
Halberd-leaved tearthumb  
Swamp smartweed  
Arrowleaf tearthumb  
Narrow-leaved blue-eyed grass  
New England aster  
Tall meadow-rue  
New York ironweed  
Marsh blue violet

### Vines

*Clematis virginiana*

Virginia virgin's bower

*Mikania scandens*

Climbing hempvine

### Shrubs

*Aronia arbutifolia*

Red chokeberry

*Aronia prunifolia*

Purple chokeberry

*Cephalanthus occidentalis*

Buttonbush

*Clethra alnifolia*

Sweet pepperbush

*Cornus amomum*

Silky dogwood

*Cornus racemosa*

Gray dogwood

*Eubotrys racemosa*

Swamp doghobble

*Ilex glabra*

Inkberry

*Ilex verticillata*

Winterberry

*Lindera benzoin*

Spicebush

*Lyonia ligustrina*

Maleberry

*Rhododendron viscosum*

Swamp azalea

*Rosa palustris*

Swamp rose

*Salix discolor*

Pussy willow

*Sambucus nigra* ssp. *canadensis*

Common elderberry

*Spiraea alba* var. *latifolia*

Meadowsweet

*Spiraea tomentosa*

Steeplebush

*Vaccinium corymbosum*

Highbush blueberry

*Viburnum dentatum*

Arrowwood

### Trees

*Acer rubrum*

Red maple

## **FLOODPLAIN FOREST**

This hardwood forest community occurs on mineral soils in low-lying areas near stream or river floodplains. Usually, these areas are regularly flooded in the spring, or after extreme rain events, particularly in urban watersheds. Small stream floodplain forests in catchments dominated by small watersheds are less disturbance prone than river floodplain forests where major floods through these areas can scour the landscape or deposit significant sediment.

Examples Include: Bronx River Corridor (BX), Willowbrook Park (SI).

### Characteristic Species:

#### Ferns

*Athyrium angustum*

Lady fern

*Onoclea sensibilis*

Sensitive fern

*Osmundastrum cinnamomea*

Cinnamon fern

*Osmunda claytoniana*

Interrupted fern



Graminoids

|                                 |                          |
|---------------------------------|--------------------------|
| <i>Carex crinita</i>            | Common fringed sedge     |
| <i>Carex intumescens</i>        | Bladder sedge            |
| <i>Carex lupulina</i>           | Hop sedge                |
| <i>Carex radiata</i>            | Eastern star sedge       |
| <i>Carex rosea</i>              | Common upland star sedge |
| <i>Carex vulpinoidea</i>        | Fox sedge                |
| <i>Cinna arundinacea</i>        | Stout woodreed           |
| <i>Danthonia compressa</i>      | Flattened oatgrass       |
| <i>Glyceria striata</i>         | Fowl mannagrass          |
| <i>Juncus tenuis</i>            | Path rush                |
| <i>Juncus canadensis</i>        | Canadian rush            |
| <i>Rhynchospora capitellata</i> | Brownish beaksedge       |
| <i>Scirpus atrovirens</i>       | Green bulrush            |

Forbs

|                                   |                          |
|-----------------------------------|--------------------------|
| <i>Ageratina altissima</i>        | Common white snakeroot   |
| <i>Allium canadense</i>           | Wild garlic              |
| <i>Arisaema triphyllum</i>        | Jack-in-the-Pulpit       |
| <i>Bidens frondosa</i>            | Devil's beggartick       |
| <i>Boehmeria cylindrica</i>       | False nettle             |
| <i>Chelone glabra</i>             | White turtlehead         |
| <i>Claytonia virginica</i>        | Spring beauty            |
| <i>Collinsonia canadensis</i>     | Northern horsebalm       |
| <i>Erythronium americanum</i>     | Trout lily               |
| <i>Eupatorium perfoliatum</i>     | Common boneset           |
| <i>Eutrochium maculatum</i>       | Spotted Joe Pye weed     |
| <i>Geranium maculatum</i>         | Wild geranium            |
| <i>Geum canadense</i>             | White avens              |
| <i>Helianthus decapetalus</i>     | Thin-leaved sunflower    |
| <i>Hydrophyllum virginianum</i>   | Virginia waterleaf       |
| <i>Impatiens capensis</i>         | Jewelweed                |
| <i>Iris versicolor</i>            | Harlequin blueflag       |
| <i>Lobelia cardinalis</i>         | Cardinalflower           |
| <i>Lycopus americanus</i>         | American water horehound |
| <i>Lysimachia ciliata</i>         | Fringed loosestrife      |
| <i>Osmorhiza longistylis</i>      | Longstyle sweetroot      |
| <i>Persicaria hydropiperoides</i> | Swamp smartweed          |
| <i>Persicaria virginiana</i>      | Jumpseed                 |
| <i>Thalictrum pubescens</i>       | Tall meadow-rue          |
| <i>Symplocarpus foetidus</i>      | Skunk cabbage            |

### Vines

|                            |                           |
|----------------------------|---------------------------|
| <i>Clematis virginiana</i> | Virginiana virgin's bower |
| <i>Smilax herbacea</i>     | Carrion flower            |
| <i>Vitis labrusca</i>      | Fox grape                 |
| <i>Vitis riparia</i>       | River grape               |

### Shrubs

|  |                    |
|--|--------------------|
| <i>Aronia arbutifolia</i>                    | Red chokeberry     |
| <i>Cephalanthus occidentalis</i>             | Buttonbush         |
| <i>Clethra alnifolia</i>                     | Sweet pepperbush   |
| <i>Cornus amomum</i>                         | Silky dogwood      |
| <i>Cornus racemosa</i>                       | ham                |
| <i>Eubotrys racemosa</i>                     | Swamp doghobble    |
| <i>Ilex verticillata</i>                     | Winterberry        |
| <i>Lindera benzoin</i>                       | Spicebush          |
| <i>Rhododendron viscosum</i>                 | Swamp azalea       |
| <i>Rosa palustris</i>                        | Swamp rose         |
| <i>Rubus occidentalis</i>                    | Black raspberry    |
| <i>Sambucus nigra</i> ssp. <i>canadensis</i> | Common elderberry  |
| <i>Spiraea alba</i> var. <i>latifolia</i>    | Meadowsweet        |
| <i>Spiraea tomentosa</i>                     | Steeplebush        |
| <i>Vaccinium corymbosum</i>                  | Highbush blueberry |
| <i>Viburnum dentatum</i>                     | Arrowwood          |

### Trees

|                                |                    |
|--------------------------------|--------------------|
| <i>Acer negundo</i>            | Boxelder           |
| <i>Acer rubrum</i>             | Red maple          |
| <i>Carya cordiformis</i>       | Bitternut hickory  |
| <i>Carya ovata</i>             | Shagbark hickory   |
| <i>Carya tomentosa</i>         | Mockernut hickory  |
| <i>Celtis occidentalis</i>     | Common hackberry   |
| <i>Liquidambar styraciflua</i> | Sweetgum           |
| <i>Nyssa sylvatica</i>         | Black tupelo       |
| <i>Platanus occidentalis</i>   | American sycamore  |
| <i>Populus deltoides</i>       | Eastern cottonwood |
| <i>Quercus bicolor</i>         | Swamp white oak    |
| <i>Quercus palustris</i>       | Pin oak            |
| <i>Salix nigra</i>             | Black willow       |
| <i>Ulmus americana</i>         | American elm       |

## **BOTTOMLAND FOREST**

In addition to the NYNHP Floodplain Forest ecosystem, the US Forest Service classifies a deciduous forest that occurs between the floodplain forest and a true upland as a Bottomland Forest<sup>4</sup>. These forested wetlands are seasonally flooded and often characterized by varying elevations and landforms. The changing soil elevations and hydrological conditions support diverse vegetation.

Examples Include: Buck's Hollow – La Tourette Park (SI), Long Pond (SI), Reed's Basket Willow Swamp (SI).

### Characteristic Species:

#### Ferns

|                                  |                    |
|----------------------------------|--------------------|
| <i>Athyrium angustum</i>         | Lady fern          |
| <i>Dennstaedtia punctilobula</i> | Hayscented fern    |
| <i>Dryopteris carthusiana</i>    | Spinulose woodfern |
| <i>Osmundastrum cinnamomea</i>   | Cinnamon fern      |
| <i>Osmunda claytoniana</i>       | Interrupted fern   |
| <i>Woodwardia virginica</i>      | Virginia chainfern |

#### Graminoids

|                                 |                          |
|---------------------------------|--------------------------|
| <i>Carex blanda</i>             | Eastern woodland sedge   |
| <i>Carex lupulina</i>           | Hop sedge                |
| <i>Carex radiata</i>            | Eastern star sedge       |
| <i>Carex rosea</i>              | Common upland star sedge |
| <i>Carex scoparia</i>           | Pointed broom sedge      |
| <i>Carex stipata</i>            | Awlfruit sedge           |
| <i>Carex swanii</i>             | Swan's sedge             |
| <i>Cinna arundinacea</i>        | Stout woodreed           |
| <i>Danthonia spicata</i>        | Poverty oatgrass         |
| <i>Glyceria obtusa</i>          | Atlantic mannagrass      |
| <i>Juncus tenuis</i>            | Path rush                |
| <i>Rhynchospora capitellata</i> | Brownish beaksedge       |

#### Forbs

|                                |                        |
|--------------------------------|------------------------|
| <i>Ageratina altissima</i>     | Common white snakeroot |
| <i>Allium canadense</i>        | Wild garlic            |
| <i>Bidens frondosa</i>         | Devil's beggartick     |
| <i>Cryptotaenia canadensis</i> | Canadian honewort      |
| <i>Decodon verticillatus</i>   | Swamp loosestrife      |
| <i>Eutrochium maculatum</i>    | Spotted Joe Pye weed   |
| <i>Eupatorium perfoliatum</i>  | Common boneset         |

<sup>4</sup> USDA Forest Service, Northern Research Station. Bottomland Hardwood Management Guide, 2008.  
[https://www.nrs.fs.fed.us/fmg/nfmg/bl\\_hardwood/def.html](https://www.nrs.fs.fed.us/fmg/nfmg/bl_hardwood/def.html)

*Eurybia divaricata*  
*Geranium maculatum*  
*Mitchella repens*  
*Penthorum sedoides*  
*Persicaria arifolia*  
*Persicaria hydropiperoides*  
*Persicaria sagittata*  
*Ranunculus arborvitus*  
*Sanicula canadensis*  
*Solidago caesia*  
*Maianthemum racemosum*  
*Symphotrichum cordifolium*  
*Symplocarpus foetidus*  
*Triadenum virginicum*  
*Thalictrum pubescens*  
*Viola cucullata*  
*Viola sororia*

#### Vines

*Parthenocissus quinquefolia*  
*Vitis labrusca*  
*Vitis riparia*

#### Shrubs

*Chimaphila maculata*  
*Clethra alnifolia*  
*Cornus amomum*  
*Corylus americana*  
*Lindera benzoin*  
*Pyrola rotundifolia*  
*Rubus occidentalis*  
*Rubus pensilvanicus*  
*Rubus hispidus*  
*Vaccinium corymbosum*  
*Viburnum dentatum*

#### Trees

*Acer rubrum*  
*Betula alleghaniensis*  
*Betula lenta*  
*Carya ovata*  
*Carya tomentosa*  
*Fagus grandifolia*  
*Juglans nigra*  
*Liquidambar styraciflua*

White wood aster  
Wild geranium  
Partridgeberry  
Ditch stonecrop  
Halberd-leaved tearthumb  
Swamp smartweed  
Arrowleaf tearthumb  
Small-flowered buttercup  
Canada sanicle  
Wreath goldenrod  
False Solomon's seal  
Blue wood aster  
Skunk cabbage  
Virginia marsh St. Johnswort  
Tall meadow-rue  
Marsh blue violet  
Common blue violet

Virginia creeper  
Fox grape  
River grape

Striped prince's pine  
Sweet pepperbush  
Silky dogwood  
American hazelnut  
Spicebush  
American wintergreen  
Black raspberry  
Pennsylvania blackberry  
Swamp dewberry  
Highbush blueberry  
Arrowwood

Red maple  
Yellow birch  
Black birch  
Shagbark hickory  
Mockernut hickory  
American beech  
Black walnut  
Sweetgum

|                                |                  |
|--------------------------------|------------------|
| <i>Liriodendron tulipifera</i> | Tulip poplar     |
| <i>Populus tremuloides</i>     | Quaking aspen    |
| <i>Prunus serotina</i>         | Black cherry     |
| <i>Quercus alba</i>            | White oak        |
| <i>Quercus bicolor</i>         | Swamp white oak  |
| <i>Quercus coccinea</i>        | Scarlet oak      |
| <i>Quercus rubra</i>           | Northern red oak |
| <i>Ulmus americana</i>         | American elm     |

### **RED-MAPLE HARDWOOD SWAMP**

This ecosystem has red maple (*Acer rubrum*) as the dominant canopy tree or as a co-dominant species with other mixed hardwoods. A common community throughout NYC historically, it occurs in poorly drained depressions, usually on inorganic soils<sup>5</sup>. The landscapes can vary in elevation and duration of standing water throughout the year.

Examples Include: Bronx Park (BX), Alley Pond Park (QU), Clay Pit Ponds Park (SI), Bloomingdale Park (SI) Bloodroot Valley (SI).

#### Characteristic Species:

##### Ferns

|                                |                    |
|--------------------------------|--------------------|
| <i>Athyrium angustum</i>       | Lady fern          |
| <i>Dryopteris carthusiana</i>  | Spinulose woodfern |
| <i>Dryopteris cristata</i>     | Crested woodfern   |
| <i>Onoclea sensibilis</i>      | Sensitive fern     |
| <i>Osmundastrum cinnamomea</i> | Cinnamon fern      |
| <i>Osmunda regalis</i>         | Royal fern         |
| <i>Woodwardia areolata</i>     | Netted chainfern   |

##### Graminoids

|                            |                            |
|----------------------------|----------------------------|
| <i>Carex crinita</i>       | Common fringed sedge       |
| <i>Carex debilis</i>       | White-edge sedge           |
| <i>Carex folliculata</i>   | Northern long sedge        |
| <i>Carex intumescens</i>   | Bladder sedge              |
| <i>Carex radiata</i>       | Eastern star sedge         |
| <i>Carex vulpinoidea</i>   | Fox sedge                  |
| <i>Cinna arundinacea</i>   | Stout woodreed             |
| <i>Elymus riparius</i>     | Eastern riverbank wild rye |
| <i>Elymus virginicus</i>   | Virginia wild rye          |
| <i>Glyceria canadensis</i> | Rattlesnake manna grass    |
| <i>Glyceria obtusa</i>     | Atlantic mannagrass        |

<sup>5</sup> Edinger, G.J., et al. (2002). *Ecological communities of New York State. Second Edition. A revised and expanded version of Carol Reschke's ecological communities of New York State.* Albany, NY: New York Natural Heritage Program, New York State Department of Environmental Conservation.

*Glyceria striata*  
*Juncus effusus*  
*Leersia virginica*  
*Scirpus atrovirens*

Fowl mannagrass  
Common rush  
Whitegrass  
Green bulrush

#### Forbs

*Arisaema triphyllum*  
*Boehmeria cylindrica*  
*Claytonia virginica*  
*Chelone glabra*  
*Erythronium americanum*  
*Eutrochium dubium*  
*Eupatorium perfoliatum*  
*Geum canadense*  
*Impatiens capensis*  
*Lilium superbum*  
*Lobelia cardinalis*  
*Lysimachia ciliata*  
*Mimulus ringens*  
*Saururus cernuus*  
*Symplocarpus foetidus*  
*Thalictrum pubescens*  
*Uvularia sessilifolia*

Jack-in-the-Pulpit  
False nettle  
Spring beauty  
White turtlehead  
Trout lily  
Coastal plain Joe Pye weed  
Common boneset  
White avens  
Jewelweed  
Turk's cap lily  
Cardinalflower  
Fringed loosestrife  
Allegheny monkeyflower  
Lizard's tail  
Skunk cabbage  
Tall meadow-rue  
Sessileleaf bellwort

#### Vines

*Clematis virginiana*  
*Vitis labrusca*  
*Vitis riparia*

Virginiana virgin's bower  
Fox grape  
River grape

#### Shrubs

*Aronia arbutifolia*  
*Aronia melanocarpa*  
*Aronia prunifolia*  
*Cephalanthus occidentalis*  
*Clethra alnifolia*  
*Eubotrys racemosa*  
*Ilex verticillata*  
*Lindera benzoin*  
*Lyonia ligustrina*  
*Rhododendron viscosum*  
*Vaccinium corymbosum*  
*Viburnum dentatum*

Red chokeberry  
Black chokeberry  
Purple chokeberry  
Buttonbush  
Sweet pepperbush  
Swamp doghobble  
Winterberry  
Spicebush  
Maleberry  
Swamp azalea  
Highbush blueberry  
Arrowwood

#### Trees

*Acer rubrum*

Red maple

|                                |                       |
|--------------------------------|-----------------------|
| <i>Amelanchier canadensis</i>  | Canadian serviceberry |
| <i>Liquidambar styraciflua</i> | Sweetgum              |
| <i>Nyssa sylvatica</i>         | Black tupelo          |
| <i>Platanus occidentalis</i>   | American sycamore     |
| <i>Quercus bicolor</i>         | Swamp white oak       |
| <i>Quercus palustris</i>       | Pin oak               |
| <i>Ulmus americana</i>         | American elm          |

### C. Successional Communities

Succession is a natural process that occurs on the landscape after a major disturbance such as farming, logging, fire, or flood. Herbaceous plants typically dominate these ecosystems, along with pioneer shrub and tree species. Many non-native species thrive in these communities, but native plants have adapted to compete and therefore are key players in maintaining balance in the constant battle of invasive plant management. Early successional habitats are important transitional plant communities that precede forested landscapes in natural succession. This never-ending process is shaped by the environment of the site and the species available in the natural seed bank or by seed dispersal.

#### **SUCCESSIONAL OLD FIELDS AND URBAN LOTS**

Successional old field/urban lots are home to some of the toughest native plants of New York City. These plants can thrive in areas with low nutrient levels, low permeability, a minimal amount of organic matter, high pH, and high salinity levels resulting from urban fill and runoff. Many may see these plants as “weeds” growing out of concrete cracks, but these pioneer species can survive in the most severe landscapes, providing important ecosystem services.

Examples Include: Van Cortlandt – Vault Hill (BX), Marine Park (BK), Central Park – North Woods (MN), Idlewild Park (QU), Mount Loretto Park (SI).

#### Characteristic Species:

##### Graminoids

|                                |                        |
|--------------------------------|------------------------|
| <i>Agrostis hyemalis</i>       | Winter bentgrass       |
| <i>Agrostis scabra</i>         | Rough bentgrass        |
| <i>Andropogon virginicus</i>   | Broom sedge bluestem   |
| <i>Carex blanda</i>            | Eastern woodland sedge |
| <i>Eragrostis spectabilis</i>  | Purple lovegrass       |
| <i>Juncus tenuis</i>           | Path rush              |
| <i>Digitaria cognata</i>       | Fall witchgrass        |
| <i>Tridens flavus</i>          | Purpletop              |
| <i>Panicum virgatum</i>        | Switchgrass            |
| <i>Schizachyrium scoparium</i> | Little bluestem        |

### Forbs

*Apocynum cannabinum*  
*Asclepias syriaca*  
*Bidens frondosa*  
*Cirsium discolor*  
*Desmodium paniculatum*  
*Eupatorium serotinum*  
*Euthamia graminifolia*  
*Krigia virginica*  
*Oenothera biennis*  
*Potentilla canadensis*  
*Potentilla simplex*  
*Solidago canadensis*  
*Solidago juncea*  
*Solidago nemoralis*  
*Solidago rugosa*  
*Solidago sempervirens*  
*Symphyotrichum ericoides*  
*Symphyotrichum laeve*  
*Symphyotrichum pilosum*  
*Verbena urticifolia*

Dogbane  
Common milkweed  
Devil's beggartick  
Field thistle  
Panicked ticktrefoil  
Late throughwort  
Common flat-topped goldenrod  
Virginia dwarfdandelion  
Common evening primrose  
Dwarf cinquefoil  
Common cinquefoil  
Canada goldenrod  
Early goldenrod  
Gray goldenrod  
Wrinkleleaf goldenrod  
Seaside goldenrod  
White heath aster  
Smooth blue aster  
Hairy white oldfield aster  
White vervain

### Vines

*Parthenocissus quinquefolia*  
*Strophostyles helvola*

Virginia creeper  
Tailing wild bean

### Shrubs

*Baccharis halimifolia*  
*Rhus copallinum*  
*Rhus glabra*  
*Rhus typhina*  
*Rubus flagellaris*  
*Rubus pensilvanicus*

Eastern baccharis  
Winged sumac  
Smooth sumac  
Staghorn sumac  
Northern dewberry  
Pennsylvania blackberry

### Trees

*Acer negundo*  
*Betula populifolia*  
*Celtis occidentalis*  
*Juglans nigra*  
*Juniperus virginiana*  
*Populus deltoides*  
*Populus grandidentata*  
*Prunus serotina*

Boxelder  
Gray birch  
Common hackberry  
Black walnut  
Eastern red cedar  
Cottonwood  
Bigtooth aspen  
Black cherry



*Quercus palustris*

Pin oak

### **SUCCESSIONAL SHRUBLAND**

This ecosystem is a shrubland that occurs on sites that have been cleared or otherwise disturbed, and has at least a 50% shrub cover. Pioneer tree species, such as the gray birch (*Betula populifolia*) and the red maple (*Acer rubrum*) are usually mixed in with this young habitat. Forbs, graminoids, and ferns provide a great ground cover for a diverse fauna.

Examples Include: Marine Park (BK), Mariner's Marsh Park (SI).

#### Characteristic Species:

##### Ferns

*Dennstaedtia punctilobula*

Hayscented fern

*Thelypteris noveboracensis*

New York fern

##### Graminoids

*Andropogon gerardii*

Big bluestem

*Andropogon virginicus*

Broom sedge bluestem

*Aristida oligantha*

Prairie threeawn

*Carex scoparia*

Pointed broom sedge

*Dichanthelium clandestinum*

Deertongue

*Juncus tenuis*

Path rush

*Panicum virgatum*

Switchgrass

*Rhynchospora capitellata*

Brownish beaksedge

*Schizachyrium scoparium*

Little bluestem

*Scirpus atrovirens*

Green bulrush

*Scirpus cyperinus*

Woolgrass

*Sorghastrum nutans*

Yellow grass

##### Forbs

*Asclepias syriaca*

Common milkweed

*Asclepias tuberosa*

Butterflyweed

*Cirsium discolor*

Field thistle

*Desmodium paniculatum*

Panicled ticktrefoil

*Eupatorium perfoliatum*

Common boneset

*Eupatorium serotinum*

Late throughwort

*Eutrochium maculatum*

Spotted Joe Pye weed

*Eutrochium purpureum*

Purple Joe Pye weed

*Krigia virginica*

Virginia dwarfdandelion

*Lespedeza capitata*

Roundhead lespedeza

*Monarda fistulosa*

Wild bergamot

*Monarda punctata*

Spotted beebalm

*Plantago aristata*

Largebracted plantain

*Potentilla simplex*  
*Pseudognaphalium obtusifolium*  
*Rudbeckia hirta*  
*Solidago odora*  
*Solidago nemoralis*  
*Solidago rugosa*  
*Solidago sempervirens*

Common cinquefoil  
Rabbit-tobacco  
Black-eyed Susan  
Sweet goldenrod  
Gray goldenrod  
Wrinkleleaf goldenrod  
Seaside goldenrod

#### Vines

*Menispermum canadense*  
*Parthenocissus quinquefolia*  
*Strophostyles helvola*  
*Vitis vulpina*

Moon seed  
Virginia creeper  
Trailing wild bean  
Frost grape

#### Shrubs

*Aronia melanocarpa*  
*Cornus racemosa*  
*Gaylussacia baccata*  
*Rhus copallinum*  
*Rhus glabra*  
*Rhus typhina*  
*Rosa carolina*  
*Rosa virginiana*  
*Rubus flagellaris*  
*Rubus idaeus*  
*Rubus pensilvanicus*  
*Sambucus nigra ssp. canadensis*  
*Spiraea tomentosa*  
*Vaccinium angustifolium*  
*Vaccinium pallidum*  
*Viburnum dentatum*

Black chokeberry  
Gray dogwood  
Black huckleberry  
Winged sumac  
Smooth sumac  
Staghorn sumac  
Carolina rose  
Virginia rose  
Northern dewberry  
Red raspberry  
Pennsylvania blackberry  
Common elderberry  
Steeplebush  
Lowbush blueberry  
Blue Ridge blueberry  
Arrowwood

#### Trees

*Acer rubrum*  
*Acer saccharinum*  
*Amelanchier canadensis*  
*Betula populifolia*  
*Juniperus virginiana*  
*Populus deltoides*  
*Populus grandidentata*  
*Populus tremuloides*  
*Prunus serotina*

Red maple  
Silver maple  
Canadian serviceberry  
Gray birch  
Eastern red cedar  
Cottonwood  
Bigtooth aspen  
Quaking aspen  
Black cherry

## **OAK OPENING**

Oak Openings were originally characterized as openings that occurred as gaps within extensive oak-hickory forests. This grass-savanna community flourishes on these very well-drained sites. They can also be described as knobs or hilltops with shallow soil over rock outcrops or sandy to gravelly soils. Fragmentation throughout New York City's remaining forests restricts areas where this plant community still naturally occurs. Woody species continue to creep in from the surrounding tree and shrub lines, unless maintained to keep a meadow-like open character. Generally, trees should not be part of the planting plan, however if necessary they should be planted much more sparsely than in other forested projects.

Examples Include: Pelham Bay Park – Orchard Beach Meadow (BX), Central Park – North Woods (MN), Clove Lakes Park (SI).

### Characteristic Species:

#### Ferns

*Dennstaedtia punctilobula*  
*Thelypteris noveboracensis*

Hayscented fern  
New York fern

#### Graminoids

*Agrostis perennans*  
*Andropogon gerardii*  
*Aristida oligantha*  
*Aristida purpurascens*  
*Carex pensylvanica*  
*Dichanthelium clandestinum*  
*Elymus hystrix*  
*Eragrostis spectabilis*  
*Panicum virgatum*  
*Schizachyrium scoparium*  
*Sorghastrum nutans*  
*Tridens flavus*

Autumn bentgrass  
Big bluestem  
Prairie threeawn  
Arrowfeather threeawn  
Pennsylvania sedge  
Deertongue  
Eastern bottlebrush grass  
Purple lovegrass  
Switchgrass  
Little bluestem  
Yellow grass  
Purpletop

#### Forbs

*Allium canadense*  
*Asclepias syriaca*  
*Asclepias tuberosa*  
*Cirsium discolor*  
*Desmodium canadense*  
*Doellingeria umbellata*  
*Eupatorium hyssopifolium*  
*Eupatorium serotinum*  
*Euthamia graminifolia*

Wild garlic  
Common milkweed  
Butterflyweed  
Field thistle  
Showy tick trefoil  
Parasol whitetop  
Hyssop-leaved thoroughwort  
Late thoroughwort  
Common flat-topped goldenrod

*Eutrochium purpureum*  
*Geranium maculatum*  
*Helianthus decapetalus*  
*Helianthus divaricatus*  
*Iris versicolor*  
*Lespedeza capitata*  
*Monarda fistulosa*  
*Oenothera fruticosa*  
*Potentilla simplex*  
*Pycnanthemum tenuifolium*  
*Rudbeckia hirta*  
*Silene stellata*  
*Solidago juncea*  
*Solidago nemoralis*  
*Solidago odora*  
*Solidago rugosa*  
*Solidago speciosa*  
*Trichostema dichotomum*

#### Shrubs

*Cornus racemosa*  
*Gaylussacia baccata*  
*Morella pensylvanica*  
*Rhododendron periclymenoides*  
*Rhus copallinum*  
*Rhus glabra*  
*Rhus typhina*  
*Rosa virginiana*  
*Rubus flagellaris*  
*Rubus idaeus*  
*Rubus pensilvanicus*  
*Spiraea alba var. latifolia*  
*Vaccinium angustifolium*  
*Vaccinium pallidum*  
*Viburnum dentatum*

#### Trees

*Prunus serotina*  
*Populus grandidentata*  
*Populus tremuloides*  
*Quercus alba*  
*Quercus palustris*  
*Quercus velutina*

Purple Joe Pye weed  
Wild geranium  
Thin-leaved sunflower  
Woodland sunflower  
Harlequin blueflag  
Roundhead lespedeza  
Wild bergamot  
Narrowleaf evening primrose  
Common cinquefoil  
Narrowleaf mountain mint  
Black-eyed Susan  
Starry campion  
Early goldenrod  
Gray goldenrod  
Sweet goldenrod  
Wrinkleleaf goldenrod  
Showy goldenrod  
Forked blue curls

Gray dogwood  
Black huckleberry  
Northern bayberry  
Pinxterbloom azalea  
Winged sumac  
Smooth sumac  
Staghorn sumac  
Virginia rose  
Northern dewberry  
Red raspberry  
Pennsylvania blackberry  
Meadowsweet  
Lowbush blueberry  
Blue Ridge blueberry  
Arrowwood

Black cherry  
Bigtooth aspen  
Quaking aspen  
White oak  
Pin oak  
Black oak

## **SUCCESSIONAL MIXED HARDWOODS**

A successional mixed hardwood forest is dominated by pioneer tree species such as poplars, birches, maples, and cherries. These sun-loving species grow fast and quickly colonize a disturbed area. As the canopy closes, more shade-tolerant species move into the understory and tree seedlings of the climax forest, such as oak or hickory, may appear.

Examples Include: Seton Falls Park (BX), Prospect Park (BK), Central Park (MN), Kissena Park (QU), La Tourette Park – Heyerdahl Hill (SI).

### Characteristic Species:

#### Ferns

*Dennstaedtia punctilobula*

Hayscented fern

*Onoclea sensibilis*

Sensitive fern

*Osmundastrum cinnamomea*

Cinnamon fern

#### Graminoids

*Carex blanda*

Eastern woodland sedge

*Carex rosea*

Common upland star sedge

*Cinna arundinacea*

Stout woodreed

*Dichanthelium clandestinum*

Deertongue

*Luzula multiflora*

Common woodrush

*Panicum virgatum*

Switchgrass

*Schizachyrium scoparium*

Little bluestem

*Sorghastrum nutans*

Yellow grass

#### Forbs

*Ageratina altissima*

Common white snakeroot

*Cirsium discolor*

Field thistle

*Cryptotaenia canadensis*

Canada honewort

*Desmodium paniculatum*

Panicled ticktrefoil

*Eutrochium purpureum*

Purple Joe Pye weed

*Helianthus decapetalus*

Thin-leaved sunflower

*Impatiens capensis*

Jewelweed

*Maianthemum racemosum*

False Solomon's seal

*Penthorum sedoides*

Ditch stonecrop

#### Vines

*Lonicera sempervirens*

Trumpet honeysuckle

*Vitis aestivalis*

Summer grape

*Vitis vulpina*

Frost grape

#### Shrubs

*Clethra alnifolia*

Sweet pepperbush

*Cornus amomum*  
*Cornus racemosa*  
*Gaylussacia baccata*  
*Gaylussacia frondosa*  
*Hamamelis virginiana*  
*Lindera benzoin*  
*Rhododendron periclymenoides*  
*Rhus glabra*  
*Rhus typhina*  
*Rubus allegheniensis*  
*Rubus idaeus*  
*Rubus occidentalis*  
*Rubus pensilvanicus*  
*Sambucus nigra ssp. canadensis*  
*Vaccinium angustifolium*  
*Vaccinium pallidum*  
*Viburnum acerifolium*  
*Viburnum dentatum*

Silky dogwood  
Gray dogwood  
Black huckleberry  
Blue huckleberry  
Witchhazel  
Spicebush  
Pinxterbloom azalea  
Smooth sumac  
Staghorn sumac  
Common blackberry  
Red raspberry  
Black raspberry  
Pennsylvania blackberry  
Common elderberry  
Lowbush blueberry  
Blue Ridge blueberry  
Mapleleaf viburnum  
Arrowwood

#### Trees

*Acer rubrum*  
*Acer saccharinum*  
*Amelanchier arborea*  
*Amelanchier canadensis*  
*Betula lenta*  
*Betula populifolia*  
*Celtis occidentalis*  
*Fagus grandifolia*  
*Ilex opaca*  
*Juniperus virginiana*  
*Liquidambar styraciflua*  
*Liriodendron tulipifera*  
*Populus deltoides*  
*Populus grandidentata*  
*Populus tremuloides*  
*Prunus serotina*  
*Sassafras albidum*

Red maple  
Silver maple  
Common serviceberry  
Canadian serviceberry  
Black birch  
Gray birch  
Common hackberry  
American beech  
American holly  
Eastern red cedar  
Sweetgum  
Tulip poplar  
Cottonwood  
Bigtooth aspen  
Quaking aspen  
Black cherry  
Sassafras

### **SERPENTINE BARRENS**

The plant communities of the serpentine barrens are a state and globally rare habitat because of the geographically restricted serpentine bedrock they are found on. Serpentine bedrock is light green bedrock that is thought to have been forced from the earth's core 450 million years ago during plate shifting activity. The green color is due to the high concentration of magnesium

in the rock<sup>6</sup>. Staten Island is the only borough where you can find remnants of this unique habitat. The open grass-savanna communities thrive in the nutrient-poor soils but most sites have been lost due to forest succession in the absence of wildfire and later, by conversion to urban uses<sup>7</sup>.

Examples Include: Blood Root Valley – Seaview Meadow (SI), La Tourette Park – Old Mill Road (SI).

Characteristic Species:

Graminoids

|                                 |                            |
|---------------------------------|----------------------------|
| <i>Aristida purpurascens</i>    | Arrowfeather threeawn      |
| <i>Danthonia spicata</i>        | Poverty oatgrass           |
| <i>Dichanthelium latifolium</i> | Broad-leaved rosette grass |
| <i>Eragrostis spectabilis</i>   | Purple lovegrass           |
| <i>Juncus tenuis</i>            | Path rush                  |
| <i>Panicum virgatum</i>         | Switchgrass                |
| <i>Schizachyrium scoparium</i>  | Little bluestem            |
| <i>Sorghastrum nutans</i>       | Yellow grass               |

Forbs

|                                 |                            |
|---------------------------------|----------------------------|
| <i>Eupatorium serotinum</i>     | Late throughwort           |
| <i>Lespedeza capitata</i>       | Roundhead lespedeza        |
| <i>Potentilla simplex</i>       | Common cinquefoil          |
| <i>Pycnanthemum tenuifolium</i> | Narrowleaf mountain mint   |
| <i>Solidago nemoralis</i>       | Gray goldenrod             |
| <i>Symphyotrichum ericoides</i> | White heath aster          |
| <i>Symphyotrichum laeve</i>     | Smooth blue aster          |
| <i>Symphyotrichum pilosum</i>   | Hairy white oldfield aster |

Vines

|                                    |                  |
|------------------------------------|------------------|
| <i>Parthenocissus quinquefolia</i> | Virginia creeper |
|------------------------------------|------------------|

Shrubs

|                          |                   |
|--------------------------|-------------------|
| <i>Rhus aromatica</i>    | Fragrant sumac    |
| <i>Rhus copallinum</i>   | Winged sumac      |
| <i>Rubus flagellaris</i> | Northern dewberry |

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<sup>6</sup> Edinger, G.J., et al. (2002). *Ecological communities of New York State. Second Edition. A revised and expanded version of Carol Reschke's ecological communities of New York State.* Albany, NY: New York Natural Heritage Program, New York State Department of Environmental Conservation.

<sup>7</sup> Kiviat, E., & Johnson E. A. (2013). *Biodiversity assessment handbook for New York City.* New York, NY: American Museum of Natural History.

### Trees

*Betula populifolia*  
*Quercus velutina*  
*Populus tremuloides*  
*Prunus serotina*  
*Sassafras albidum*

Gray birch  
Black oak  
Quaking aspen  
Black cherry  
Sassafras

### **SUCCESSIONAL MARITIME OAK FOREST**

A maritime forest naturally succeeds a maritime shrubland if it is left undisturbed. A minimal amount of herbaceous material at ground-level is able to survive. The dense shrub layer and a closing canopy shades out many of the herbaceous species. Please refer to the [Coastal Communities](#) section for the detailed plant lists for this ecosystem.

## **D. Upland Forest Communities**

Upland forest communities are plant communities characterized by a tree canopy cover of at least 60%. The majority of the forests in the New York City area occur on moist, well-drained soils.

### **MIXED OAK-HICKORY FOREST**

This hardwood forest occurs on well-drained sites with loam or sandy loam soils. These communities can be found on ridgetops, upper slopes, or on slopes in the coastal lowlands. The tree canopy typically contains hickory species mixed with two or more species of oaks.

Examples Include: Pelham Bay Park – Hunter Island (BX), Prospect Park (BK), Inwood Hill Park (MN), Forest Park (QU), High Rock Park (SI).

### Characteristic Species:

#### Ferns

*Adiantum aleuticum*  
*Asplenium platyneuron*  
*Dennstaedtia punctilobula*  
*Polypodium virginianum*  
*Polystichum acrostichoides*

Maidenhair fern  
Ebony Spleenwort  
Hayscented fern  
Rock polypody  
Christmas fern

#### Graminoids

*Andropogon gerardii*  
*Avenella flexuosa*  
*Carex appalachica*  
*Carex blanda*  
*Carex communis*

Big bluestem  
Wavy hairgrass  
Appalachian sedge  
Eastern woodland sedge  
Fibrousroot sedge



*Carex pensylvanica*  
*Carex swanii*  
*Carex virescens*  
*Danthonia compressa*  
*Danthonia spicata*  
*Dichanthelium latifolium*  
*Elymus hystrix*  
*Schizachyrium scoparium*

Pennsylvania sedge  
Swan's sedge  
Ribbed sedge  
Flattened oatgrass  
Poverty oatgrass  
Broadleaf rosette grass  
Eastern bottlebrush grass  
Little bluestem

#### Forbs

*Anemone virginiana*  
*Aquilegia canadensis*  
*Borodinia canadensis*  
*Corydalis sempervirens*  
*Eurybia divaricata*  
*Fragaria virginiana*  
*Helianthus divaricatus*  
*Ionactis linariifolius*  
*Lespedeza hirta*  
*Lysimachia quadrifolia*  
*Monarda fistulosa*  
*Osmorhiza claytonii*  
*Pycnanthemum incanum*  
*Silene stellata*  
*Solidago bicolor*  
*Solidago caesia*  
*Symphyotrichum cordifolium*  
*Thalictrum dioicum*  
*Verbena urticifolia*

Tall thimbleweed  
Wild columbine  
Sicklepod  
Rock harlequin  
White wood aster  
Wild strawberry  
Woodland sunflower  
Flaxleaf whitetop aster  
Hairy bush clover  
Whorled yellow loosestrife  
Wild bergamot  
Clayton's sweetroot  
Hoary mountain mint  
Starry campion  
White goldenrod  
Wreath goldenrod  
Blue wood aster  
Early meadow-rue  
White vervain

#### Shrubs

*Comptonia peregrina*  
*Gaylussacia baccata*  
*Gaylussacia frondosa*  
*Hamamelis virginiana*  
*Kalmia latifolia*  
*Rhododendron periclymenoides*  
*Rhus glabra*  
*Rhus typhina*  
*Rosa virginiana*  
*Rubus allegheniensis*  
*Rubus flagellaris*  
*Rubus idaeus*  
*Rubus odoratus*  
*Vaccinium angustifolium*

Sweetfern  
Black huckleberry  
Blue huckleberry  
Witchhazel  
Mountain laurel  
Pinxterbloom azalea  
Smooth sumac  
Staghorn sumac  
Virginia rose  
Common blackberry  
Northern dewberry  
Red raspberry  
Purpleflowering raspberry  
Lowbush blueberry

*Vaccinium corymbosum*  
*Vaccinium pallidum*  
*Vaccinium stamineum*  
*Viburnum acerifolium*  
*Viburnum prunifolium*

Highbush blueberry  
Blue Ridge blueberry  
Deerberry  
Mapleleaf viburnum  
Black haw

### Trees

*Acer rubrum*  
*Acer saccharum*  
*Amelanchier arborea*  
*Betula lenta*  
*Betula populifolia*  
*Carya glabra*  
*Carya cordiformis*  
*Carya ovata*  
*Carya tomentosa*  
*Cornus florida*  
*Liriodendron tulipifera*  
*Ostrya virginiana*  
*Pinus strobus*  
*Prunus serotina*  
*Prunus virginiana*  
*Quercus alba*  
*Quercus coccinea*  
*Quercus ilicifolia*  
*Quercus marilandica*  
*Quercus montana*  
*Quercus rubra*  
*Quercus velutina*  
*Tilia americana*

Red maple  
Sugar maple  
Common serviceberry  
Black birch  
Gray birch  
Pignut hickory  
Bitternut hickory  
Shagbark hickory  
Mockernut hickory  
Flowering dogwood  
Tulip poplar  
Hop hornbeam  
Eastern white pine  
Black cherry  
Chokecherry  
White oak  
Scarlet oak  
Bear oak  
Blackjack oak  
Chestnut oak  
Northern red oak  
Black oak  
American linden

## **RICH MESOPHYTIC FOREST**

The Rich Mesophytic Forest is home to some of New York City's most stunning plant communities. The rich, seasonally-moist, well-drained soils are favorable to spring ephemerals and the culturally significant sugar maple (*Acer saccharum*). The acidic qualities of the soils are maintained by the variety of oak species typical to these communities.

Examples Include: Van Cortlandt Park (BX), Inwood Hill Park (MN), Cunningham Park (QU), Bloodroot Valley (SI).

### Characteristic Species:

#### Ferns

*Athyrium angustum*  
*Deparia acrostichoides*

Lady fern  
Silvery glade fern

*Dryopteris marginalis*  
*Onoclea sensibilis*  
*Osmunda claytoniana*  
*Polystichum acrostichoides*  
*Thelypteris noveboracensis*

Marginal woodfern  
Sensitive fern  
Interrupted fern  
Christmas fern  
New York fern

#### Graminoids

*Carex swanii*  
*Carex radiata*  
*Carex rosea*  
*Juncus tenuis*  
*Leersia virginica*  
*Luzula multiflora*

Swan's sedge  
Eastern star sedge  
Common upland star sedge  
Path rush  
Whitegrass  
Common woodrush

#### Forbs

*Actaea pachypoda*  
*Actaea racemosa*  
*Ageratina altissima*  
*Allium tricoccum*  
*Anemone quinquefolia*  
*Aralia nudicaulis*  
*Aralia racemosa*  
*Asarum canadense*  
*Caulophyllum thalictroides*  
*Dicentra cucullaria*  
*Eutrochium purpureum*  
*Geranium maculatum*  
*Helianthus decapetalus*  
*Impatiens capensis*  
*Maianthemum canadense*  
*Mitchella repens*  
*Persicaria virginiana*  
*Phryma leptostachya*  
*Podophyllum peltatum*  
*Polygonatum biflorum*  
*Polygonatum pubescens*  
*Rubus odoratus*  
*Sanguinaria canadensis*  
*Maianthemum racemosum*  
*Thalictrum dioicum*  
*Thalictrum pubescens*  
*Viola pubescens*  
*Viola sororia*

Doll's eyes  
Black cohosh  
Common white snakeroot  
Wild leek  
Wood anemone  
Wild sarsaparilla  
American spikenard  
Wild ginger  
Blue cohosh  
Dutchman's breeches  
Purple Joe Pye weed  
Wild geranium  
Thin-leaved sunflower  
Jewelweed  
Canada mayflower  
Partridgeberry  
Jumpseed  
American lopseed  
Mayapple  
Smooth Solomon's seal  
Hairy Solomon's seal  
Purpleflowering raspberry  
Bloodroot  
False Solomon's seal  
Early meadow-rue  
Tall meadow-rue  
Yellow forest violet  
Common blue violet

### Vines

*Lonicera sempervirens*  
*Vitis aestivalis*

Trumpet honeysuckle  
Summer grape

### Shrubs

*Corylus americana*  
*Lindera benzoin*  
*Hamamelis virginiana*  
*Rhododendron periclymenoides*  
*Staphylea trifolia*  
*Vaccinium corymbosum*  
*Viburnum acerifolium*  
*Viburnum dentatum*  
*Viburnum prunifolium*

American hazelnut  
Spicebush  
Witchhazel  
Pinxterbloom azalea  
American bladdernut  
Highbush blueberry  
Mapleleaf viburnum  
Arrowwood  
Black haw

### Trees

*Acer rubrum*  
*Acer saccharum*  
*Amelanchier canadensis*  
*Betula lenta*  
*Carpinus caroliniana*  
*Carya ovata*  
*Cornus florida*  
*Juglans nigra*  
*Liquidambar styraciflua*  
*Liriodendron tulipifera*  
*Nyssa sylvatica*  
*Platanus occidentalis*  
*Prunus serotina*  
*Quercus alba*  
*Quercus coccinea*  
*Quercus palustris*  
*Quercus rubra*  
*Quercus velutina*  
*Sassafras albidum*  
*Tilia americana*

Red maple  
Sugar maple  
Canadian serviceberry  
Black birch  
American hornbeam  
Shagbark hickory  
Flowering dogwood  
Black walnut  
Sweetgum  
Tulip poplar  
Black tupelo  
American sycamore  
Black cherry  
White oak  
Scarlet oak  
Pin oak  
Northern red oak  
Black oak  
Sassafras  
American linden

## OAK-TULIP TREE FOREST

This mesophytic forest is a mixture of hardwoods and softwoods. The dominant species of oak and tulip poplar are usually joined by black birch, beech, or red maple. Moist, well-drained soils support a diverse understory of shrubs and herbaceous flora. Tulip poplars, with their very straight trunks, can reach over 100 feet tall. Their magnificent form helps to bring a natural giant to the famed New York City skyline.

Examples Include: Pelham Bay Park – Hunter Island (BX), Prospect Park (BK), Inwood Hill Park (MN), Forest Park (QU), Bloomingdale Park (SI).

### Characteristic Species:

#### Ferns

|                                   |                    |
|-----------------------------------|--------------------|
| <i>Athyrium angustum</i>          | Lady fern          |
| <i>Deparia acrostichoides</i>     | Silvery glade fern |
| <i>Thelypteris noveboracensis</i> | New York fern      |

#### Graminoids

|                                   |                          |
|-----------------------------------|--------------------------|
| <i>Carex blanda</i>               | Eastern woodland sedge   |
| <i>Carex rosea</i>                | Common upland star sedge |
| <i>Carex swanii</i>               | Swan's sedge             |
| <i>Danthonia spicata</i>          | Poverty oatgrass         |
| <i>Dichanthelium clandestinum</i> | Deertongue               |
| <i>Juncus tenuis</i>              | Path rush                |

#### Forbs

|                               |                       |
|-------------------------------|-----------------------|
| <i>Actaea racemosa</i>        | Black cohosh          |
| <i>Anemone quinquefolia</i>   | Wood anemone          |
| <i>Anemone virginiana</i>     | Tall thimbleweed      |
| <i>Aralia racemosa</i>        | American spikenard    |
| <i>Arisaema triphyllum</i>    | Jack-in-the-Pulpit    |
| <i>Eurybia divaricata</i>     | White wood aster      |
| <i>Geranium maculatum</i>     | Wild geranium         |
| <i>Helianthus decapetalus</i> | Thin-leaved sunflower |
| <i>Maianthemum canadense</i>  | Canada mayflower      |
| <i>Mitchella repens</i>       | Partridgeberry        |
| <i>Phryma leptostachya</i>    | American lopseed      |
| <i>Polygonatum biflorum</i>   | Smooth Solomon's seal |
| <i>Polygonatum pubescens</i>  | Hairy Solomon's seal  |
| <i>Maianthemum racemosum</i>  | False Solomon's seal  |
| <i>Symplocarpus foetidus</i>  | Skunk cabbage         |
| <i>Thalictrum dioicum</i>     | Early meadow-rue      |
| <i>Uvularia sessilifolia</i>  | Sessileleaf bellwort  |
| <i>Viola sororia</i>          | Common blue violet    |

### Vines

*Parthenocissus quinquefolia*  
*Vitis aestivalis*

Virginia creeper  
Summer grape

### Shrubs

*Hamamelis virginiana*  
*Pyrola rotundifolia*  
*Rubus occidentalis*  
*Rubus pensilvanicus*  
*Vaccinium angustifolium*  
*Vaccinium pallidum*  
*Viburnum acerifolium*  
*Viburnum prunifolium*

Witchhazel  
American wintergreen  
Black raspberry  
Pennsylvania blackberry  
Lowbush blueberry  
Blue Ridge blueberry  
Mapleleaf viburnum  
Black haw

### Trees

*Acer rubrum*  
*Betula lenta*  
*Cornus florida*  
*Fagus grandifolia*  
*Liriodendron tulipifera*  
*Prunus serotina*  
*Quercus alba*  
*Quercus coccinea*  
*Quercus rubra*  
*Quercus velutina*  
*Sassafras albidum*

Red maple  
Black birch  
Flowering dogwood  
American beech  
Tulip poplar  
Black cherry  
White oak  
Scarlet oak  
Northern red oak  
Black oak  
Sassafras

## **CHESTNUT OAK FOREST**

This hardwood forest is situated on well-drained sites on the coastal plain. Tree canopy species diversity is limited to two or three oak species and red maples. Historically, the American chestnut thrived in these habitats until the chestnut blight decimated the populations. American chestnut sprouts can still be found in the understory today. The understory consists of ericaceous shrubs such as black huckleberry (*Gaylussacia baccata*) and blueberry (*Vaccinium pallidum*).

Examples Include: Van Cortlandt Park (BX), Forest Park (QU), Deere Park (SI).

### Characteristic Species:

#### Ferns

*Asplenium platyneuron*  
*Osmunda claytoniana*  
*Thelypteris noveboracensis*

Ebony Spleenwort  
Interrupted fern  
New York fern

Graminoids

*Carex pensylvanica*  
*Carex swanii*

Pennsylvania sedge  
Swan's sedge

Forbs

*Eurybia divaricata*  
*Prenanthes trifoliata*

White wood aster  
Gall-of-the-Earth

Shrubs

*Gaylussacia baccata*  
*Hamamelis virginiana*  
*Kalmia latifolia*  
*Morella pensylvanica*  
*Rhododendron periclymenoides*  
*Vaccinium corymbosum*  
*Vaccinium pallidum*  
*Vaccinium stamineum*  
*Viburnum acerifolium*

Black huckleberry  
Witchhazel  
Mountain laurel  
Northern bayberry  
Pinxterbloom azalea  
Highbush blueberry  
Blue Ridge blueberry  
Deerberry  
Mapleleaf viburnum

Trees

*Liriodendron tulipifera*  
*Prunus serotina*  
*Quercus alba*  
*Quercus montana*  
*Quercus rubra*  
*Quercus velutina*  
*Sassafras albidum*

Tulip poplar  
Black cherry  
White oak  
Chestnut oak  
Northern red oak  
Black oak  
Sassafras

# Planting Near Natural Areas

The natural areas of NYC act as refuges for diverse wildlife. They represent the most valuable ecosystems in the ever-changing urban landscape, and though considerable effort is made annually to conserve these areas, they are continually threatened by the invasion of non-native species, development, and climate change. The edges of forests and other natural areas face the greatest risk. Non-native plant species easily colonize edges in part because light resources are widely available. Once established along the edges, non-native plants can spread into habitat interiors, reducing species diversity, and changing the way the whole ecosystem functions.

Many of NYC’s Natural Areas abut private property. This is particularly true in Staten Island and the Bronx, which contain some of the largest overall acreage of parkland in the five boroughs. Making wise native planting choices for landscape design on these private properties helps prevent edges of natural areas from becoming degraded habitats or corridors for invasive plants. Additionally, these properties can provide ecological connectivity with neighboring sites and between larger, publicly protected natural areas. This guide can and should be used to help determine the best species for landscaping projects adjacent to our natural resources.

Many of the private properties adjacent to natural areas, particularly on Staten Island, fall into one of the typologies listed below. The following lists can be used as a starting place for planning a project on these private properties. They offer a broad palette of species that are appropriate for clearly defined habitats and site typologies. Note that as sea levels rise, particularly in flat, low-lying coastal habitats, areas influenced by tide or salt spray might change.

## COASTAL HABITATS

### Recommended Plants:

#### Ferns

*Onoclea sensibilis* Sensitive fern

#### Graminoids

|                                |                      |
|--------------------------------|----------------------|
| <i>Ammophila breviligulata</i> | American beachgrass  |
| <i>Andropogon virginicus</i>   | Broom sedge bluestem |
| <i>Avenella flexuosa</i>       | Wavy hairgrass       |
| <i>Carex pennsylvanica</i>     | Pennsylvania sedge   |
| <i>Eragrostis spectabilis</i>  | Purple lovegrass     |
| <i>Panicum virgatum</i>        | Switchgrass          |
| <i>Schizachyrium scoparium</i> | Little bluestem      |
| <i>Schoenoplectus pungens</i>  | Common threesquare   |



### Forbs

*Asclepias syriaca*  
*Eupatorium hyssopifolium*  
*Eupatorium serotinum*  
*Euthamia graminifolia*  
*Hibiscus moscheutos*  
*Oenothera biennis*  
*Opuntia humifusa*  
*Solidago sempervirens*  
*Trichostema dichotomum*

Common milkweed  
Hyssop-leaved throughwort  
Late throughwort  
Common flat-topped goldenrod  
Crimson-eyed rosemallow  
Common evening primrose  
Eastern prickly pear  
Seaside goldenrod  
Forked blue curls

### Shrubs

*Arctostaphylos uva-ursi*  
*Baccharis halimifolia*  
*Iva frutescens*  
*Juniperus virginiana*  
*Morella pensylvanica*  
*Prunus maritima*  
*Rhus copallinum*  
*Rhus glabra*  
*Rosa carolina*

Bearberry  
Eastern baccharis  
Marsh elder  
Eastern red cedar  
Northern bayberry  
Beach plum  
Winged sumac  
Smooth sumac  
Carolina rose

### Trees

*Acer rubrum*  
*Quercus ilicifolia*  
*Quercus marilandica*  
*Quercus prinoides*  
*Quercus stellata*  
*Sassafras albidum*

Red maple  
Scrub oak  
Blackjack oak  
Dwarf chinquapin oak  
Post oak  
Sassafras

## **BLUEBELT HABITATS**

### Recommended Plants:

#### Ferns

*Osmundastrum cinnamomea*  
*Osmunda claytoniana*  
*Osmunda regalis*

Cinnamon fern  
Interrupted fern  
Royal fern

#### Graminoids

*Andropogon glomeratus*  
*Calamagrostis canadensis*  
*Carex comosa*  
*Carex intumescens*  
*Carex lupulina*  
*Carex lurida*  
*Cinna arundinacea*

Bushy bluestem  
Canada bluejoint grass  
Bristly sedge  
Bladder sedge  
Hop sedge  
Shallow sedge  
Stout woodreed

*Glyceria canadensis*  
*Juncus effusus*  
*Scirpus atrovirens*  
*Scirpus cyperinus*

Rattlesnake manna grass  
Common rush  
Green bulrush  
Woolgrass

#### Forbs

*Arisaema triphyllum*  
*Asarum canadense*  
*Chelone glabra*  
*Desmodium canadense*  
*Eupatorium perfoliatum*  
*Eutrochium purpureum*  
*Eutrochium maculatum*  
*Helenium autumnale*  
*Iris versicolor*  
*Lobelia cardinalis*  
*Mimulus ringens*  
*Packera aurea*  
*Podophyllum peltatum*  
*Pycnanthemum virginianum*  
*Solidago rugosa*  
*Symphotrichum novae-angliae*  
*Vernonia noveboracensis*

Jack-in-the-Pulpit  
Wild ginger  
White turtlehead  
Showy tick trefoil  
Common boneset  
Purple Joe Pye weed  
Spotted Joe Pye weed  
Common sneezeweed  
Harlequin blueflag  
Cardinalflower  
Allegheny monkeyflower  
Golden ragwort  
Mayapple  
Virginia mountain mint  
Wrinkleleaf goldenrod  
New England aster  
New York ironweed

#### Vines

*Clematis virginiana*

Virginia virgin's bower

#### Shrubs

*Alnus serrulata*  
*Aronia arbutifolia*  
*Cephalanthus occidentalis*  
*Clethra alnifolia*  
*Cornus amomum*  
*Eubotrys racemosa*  
*Ilex verticillata*  
*Lindera benzoin*  
*Rhododendron viscosum*  
*Rosa palustris*  
*Rubus hispidus*  
*Sambucus nigra ssp. canadensis*  
*Spiraea alba var. latifolia*  
*Vaccinium corymbosum*  
*Viburnum dentatum*

Smooth alder  
Red chokeberry  
Buttonbush  
Sweet pepperbush  
Silky dogwood  
Swamp doghobble  
Winterberry  
Spicebush  
Swamp azalea  
Swamp rose  
Swamp dewberry  
Common elderberry  
Meadowsweet  
Highbush blueberry  
Arrowwood

#### Trees

*Acer rubrum*  
*Liquidambar styraciflua*  
*Nyssa sylvatica*  
*Platanus occidentalis*

Red maple  
Sweetgum  
Black tupelo  
American sycamore

*Quercus bicolor*  
*Quercus palustris*

Swamp white oak  
Pin oak

## **BRACKISH HABITATS**

### Recommended Plants:

#### Ferns

*Onoclea sensibilis*  
*Thelypteris palustris*

Sensitive fern  
Marsh fern

#### Graminoids

*Andropogon virginicus*  
*Bolboschoenus robustus*  
*Calamagrostis canadensis*  
*Carex crinita*  
*Carex stricta*  
*Carex vulpinoidea*  
*Elymus virginicus*  
*Schoenoplectus pungens*  
*Scirpus cyperinus*

Broom sedge bluestem  
Seacoast bulrush  
Canada bluejoint grass  
Common fringed sedge  
Tussock sedge  
Fox sedge  
Virginia wild rye  
Common threesquare  
Woolgrass

#### Forbs

*Asclepias incarnata*  
*Eutrochium maculatum*  
*Hibiscus moscheutos*  
*Iris versicolor*  
*Lycopus virginicus*  
*Sisyrinchium angustifolium*  
*Symphotrichum novi-belgii*  
*Teucrium canadense*  
*Tradescantia virginiana*  
*Typha latifolia*  
*Verbena hastata*

Swamp milkweed  
Spotted Joe Pye weed  
Crimson-eyed rosemallow  
Harlequin blueflag  
Virginia water horehound  
Narrow-leaved blue-eyed grass  
New York aster  
American germander  
Spiderwort  
Broadleaf cattail  
Swamp verbena

#### Vines

*Parthenocissus quinquefolia*

Virginia creeper

#### Shrubs

*Aronia arbutifolia*  
*Baccharis halimifolia*  
*Cephalanthus occidentalis*  
*Iva frutescens*  
*Vaccinium corymbosum*

Red chokeberry  
Eastern baccharis  
Buttonbush  
Marsh elder  
Highbush blueberry

#### Trees

*Amelanchier canadensis*  
*Nyssa sylvatica*

Canadian serviceberry  
Black tupelo

*Quercus palustris*  
*Quercus stellata*

Pin oak  
Post oak

## **WOODLAND EDGES**

### Recommended Plants:

#### Ferns

*Adiantum pedatum*  
*Athyrium angustum*  
*Dryopteris marginalis*  
*Polystichum acrostichoides*  
*Thelypteris noveboracensis*

Northern maidenhair fern  
Lady fern  
Marginal woodfern  
Christmas fern  
New York fern

#### Graminoids

*Agrostis perennans*  
*Carex appalachica*  
*Carex blanda*  
*Carex intumescens*  
*Carex radiata*  
*Carex rosea*  
*Carex scoparia*  
*Carex swanii*  
*Cinna arundinacea*  
*Danthonia compressa*  
*Dichanthelium clandestinum*  
*Elymus hystrix*  
*Elymus riparius*  
*Elymus virginicus*  
*Juncus tenuis*  
*Panicum virgatum*  
*Tridens flavus*

Autumn bentgrass  
Appalachian sedge  
Eastern woodland sedge  
Bladder sedge  
Eastern star sedge  
Common upland star sedge  
Pointed broom sedge  
Swan's sedge  
Stout woodreed  
Flattened oatgrass  
Deertongue  
Eastern bottlebrush grass  
Eastern riverbank wild rye  
Virginia wild rye  
Path rush  
Switchgrass  
Purpletop

#### Forbs

*Actaea pachypoda*  
*Ageratina altissima*  
*Allium tricoccum*  
*Anemone quinquefolia*  
*Aquilegia canadensis*  
*Asarum canadense*  
*Baptisia tinctoria*  
*Caulophyllum thalictroides*  
*Geranium maculatum*  
*Helianthus decapetalus*  
*Heuchera americana*  
*Mitchella repens*

Doll's eyes  
Common white snakeroot  
Wild leek  
Wood anemone  
Wild columbine  
Wild ginger  
Yellow wild indigo  
Blue cohosh  
Wild geranium  
Thin-leaved sunflower  
American alumroot  
Partridgeberry

*Packera obovata*  
*Pycnanthemum incanum*  
*Rudbeckia hirta*  
*Solidago caesia*  
*Thalictrum pubescens*

Round-leaved ragwort  
Hoary mountain mint  
Black-eyed Susan  
Wreath goldenrod  
Tall meadow-rue

#### Vines

*Lonicera sempervirens*  
*Parthenocissus quinquefolia*

Trumpet honeysuckle  
Virginia creeper

#### Shrubs

*Aronia arbutifolia*  
*Aronia melanocarpa*  
*Corylus americana*  
*Hamamelis virginiana*  
*Ilex glabra*  
*Ilex verticillata*  
*Kalmia latifolia*  
*Lindera benzoin*  
*Rhododendron periclymenoides*  
*Rubus allegheniensis*  
*Rubus occidentalis*  
*Rubus pensilvanicus*  
*Spiraea alba* var. *latifolia*  
*Spiraea tomentosa*  
*Vaccinium angustifolium*  
*Vaccinium corymbosum*  
*Vaccinium pallidum*  
*Viburnum acerifolium*  
*Viburnum dentatum*

Red chokeberry  
Black chokeberry  
American hazelnut  
Witchhazel  
Inkberry  
Winterberry  
Mountain laurel  
Spicebush  
Pinxterbloom azalea  
Common blackberry  
Black raspberry  
Pennsylvania blackberry  
Meadowsweet  
Steeplebush  
Lowbush blueberry  
Highbush blueberry  
Blue Ridge blueberry  
Mapleleaf viburnum  
Arrowwood

#### Trees

*Acer saccharum*  
*Amelanchier arborea*  
*Betula lenta*  
*Carpinus caroliniana*  
*Cornus florida*  
*Fagus grandifolia*  
*Prunus serotina*  
*Sassafras albidum*  
*Quercus alba*  
*Quercus coccinea*  
*Quercus montana*  
*Quercus rubra*  
*Quercus velutina*

Sugar maple  
Common serviceberry  
Black birch  
American hornbeam  
Flowering dogwood  
American beech  
Black cherry  
Sassafras  
White oak  
Scarlet oak  
Chestnut oak  
Northern red oak  
Black oak

## OPEN EDGES

### Recommended Plants:

#### Ferns

*Athyrium angustum*

*Dennstaedtia punctilobula*

*Polystichum acrostichoides*

Lady fern

Hayscented fern

Christmas fern

#### Graminoids

*Andropogon gerardii*

*Andropogon virginicus*

*Avenella flexuosa*

*Carex pensylvanica*

*Carex scoparia*

*Carex vulpinoidea*

*Danthonia spicata*

*Elymus canadensis*

*Eragrostis spectabilis*

*Panicum virgatum*

*Schizachyrium scoparium*

*Sorghastrum nutans*

*Tridens flavus*

Big bluestem

Broom sedge bluestem

Wavy hairgrass

Pennsylvania sedge

Pointed broom sedge

Fox sedge

Poverty oatgrass

Canada wild rye

Purple lovegrass

Switchgrass

Little bluestem

Yellow grass

Purpletop

#### Forbs

\**Asclepias* spp.

*Baptisia tinctoria*

\**Eupatorium* spp.

*Euthamia graminifolia*

*Fragaria virginiana*

*Helianthus divaricatus*

*Monarda fistulosa*

*Oenothera biennis*

*Opuntia humifusa*

*Packera obovata*

*Penstemon digitalis*

\**Pycnanthemum* spp.

*Rudbeckia hirta*

\**Solidago* spp.

*Tradescantia virginiana*

Milkweeds

Yellow wild indigo

Joe Pye weeds

Common flat-topped goldenrod

Wild strawberry

Woodland sunflower

Wild bergamot

Common evening primrose

Eastern prickly pear

Round-leaved ragwort

White Beardtongue

Mountain mint's

Black-eyed Susan

Goldenrods

Spiderwort

\* if a number of species are appropriate from a particular genus, "spp." was used. Any species from that particular genus that is listed in this guide would be acceptable

### Vines

*Parthenocissus quinquefolia*

Virginia creeper

### Shrubs

*Arctostaphylos uva-ursi*

Bearberry

*Aronia melanocarpa*

Black chokeberry

*Baccharis halimifolia*

Eastern baccharis

*Crataegus crus-galli*

Cockspur hawthorn

*Ilex glabra*

Inkberry

*Juniperus virginiana*

Eastern red cedar

*Morella pensylvanica*

Northern bayberry

*Rhus aromatica*

Fragrant sumac

*Rhus copallinum*

Winged sumac

*Rosa carolina*

Carolina rose

*Rosa virginiana*

Virginia rose

*Rubus flagellaris*

Northern dewberry

*Spiraea alba* var. *latifolia*

Meadowsweet

*Spiraea tomentosa*

Steeplebush

*Vaccinium angustifolium*

Lowbush blueberry

*Vaccinium pallidum*

Blue Ridge blueberry

*Viburnum prunifolium*

Black haw

### Trees

*Acer saccharinum*

Silver maple

*Amelanchier arborea*

Common serviceberry

*Betula populifolia*

Gray birch

*Cornus florida*

Flowering dogwood

*Ilex opaca*

American holly

*Prunus serotina*

Black cherry

*Quercus montana*

Chestnut oak

*Quercus palustris*

Pin oak

*Quercus rubra*

Northern red oak

*Quercus velutina*

Black oak

## **FOREVER WILD**

Established in 2001, the Forever Wild program identified the most ecologically valuable areas within the NYC Parks system for protection, conservation, and restoration. As the entity responsible for managing over half the natural areas in the City, it is NYC Parks' policy to protect natural areas under our jurisdiction and manage them over time so that they continue to provide benefits for future generations. One of these best management practices is the mandated use of native plants in city-owned natural areas by Local Law 11 (2013) (§ 18-141 NYC Admin. Code). In general, the Forever Wild management guidelines work in concert with legal regulations and policies to emphasize natural resource protection in a comprehensive and integrated way for all parts of the Parks Department. Forever Wild maps were updated in 2018 to reflect the latest information about New York City's natural areas, to correct boundaries, and to take advantage of the significant technological advances in geospatial data management. The boundaries will continue to be regularly updated on an annual basis. The maps and geospatial data are available on NYC's open data portal.

From a bird's eye view, New York City is a mosaic of green spaces, and even intermittent assemblages of native plant species can facilitate the movement of native pollinators and seed dispersers throughout our diverse landscape. Genetic variation and connectivity are critical to the population health of native plant communities. The Forever Wild Program was established to help maintain reservoirs of genetic diversity and connectivity for our native flora. Natural areas in New York City are an irreplaceable element of our cultural heritage. The increased use of native plants in appropriate settings creates a landscape vital to both contemporary and future New Yorkers.



# Undesired Plants in New York

## Undesired Species

At NYC Parks, we aim to maintain biodiversity in our natural areas in order to contribute to the ecological resilience of the city. One challenge in meeting this goal is the overabundance and proliferation of undesired species. These species harm the environment by displacing native flora, which in turn, impacts wildlife and other species dependent on the native flora. They impact ecological stability and biodiversity by disrupting such processes as hydrology, nutrient cycling, natural succession, wildfire regime, and soil erosion. In order for a diversity of species to thrive, we must remove or control the overabundant undesired plant species. Some of these undesired plant species are designated and regulated as invasive species by New York State (see next section). In the field of ecology, an invasive species is defined as an organism that is not native to the ecosystem under consideration and whose introduction causes or is likely to cause harm to the environment, economy, or human health<sup>8</sup>.

NYC Parks' natural areas are significantly impacted by the expansion of undesired species. NYC Parks and Natural Areas Conservancy's Forest Management Framework estimates it costs between \$6,000 and \$42,000 per acre to restore forests impacted by such species. By adhering to the regulations of New York State by prohibiting the planting of invasive plants, the City's economic burden of managing these species will be reduced and the ecological resilience will increase by promoting native biodiversity and functional ecosystems. NYC Parks' division of Environment & Planning, along with our dedicated volunteers, makes significant strides in reducing these monocultures and restoring our natural areas every year.

## New York State Regulation

In 2012, the Governor of New York State signed into law the **Invasive Species Prevention Act**, which prohibits or regulates the transport and sale of certain invasive species<sup>9</sup>, including plants. This Act requires the New York State Department of Agriculture and Markets and the New York State Department of Environmental Conservation to develop regulations concerning the sale, purchase, possession, introduction, importation, and transport of these species.

The New York State law was passed in consultation with a broad range of stakeholders including ecologists and representatives from the nursery and landscape industry. Under the regulatory framework, a given species is examined through both a scientific and socioeconomic assessment. Criteria including ecological impact and distribution, biological traits, dispersal ability, and difficulty of control are among those characteristics assessed. Cultivars of these species are assessed separately.

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<sup>8</sup> ECL §9-1703 (10).

<sup>9</sup> Under the law, invasive species is defined as (a) nonnative to the ecosystem under the consideration; and (b) whose introduction causes or is likely to cause economic harm or harm human health, Environmental Conservation Law §9-1709 as amended.

Species exceeding certain thresholds as determined by the ranking protocols are placed in one of two categories. Those species not listed in one of the categories below are considered unregulated.

Prohibited – Unlawful to possess with the intent to sell, import, purchase, transport, introduce, or propagate except under a permit for disposal, control, research, or education.

Regulated – Possession, sale, purchase, propagation, and transport are legal, but these species may not be introduced into a free-living state on public land or in natural areas.

This Act also directs the agencies to develop both a permit process and specific lists of species, which are subject to varying degrees of regulation. Towards this end, protocols have been developed to determine if a species' tendency toward invasion warrants regulation.

The list below does not include all invasive or potentially invasive plant species, but it does include those that are currently regulated by the state. These lists are excerpted from the final adopted [New York State regulations](#). Cultivars of these species are regulated in the same manner as the parent species until a separate cultivar assessment is performed. Several of the species below have had updates to their taxonomic name, the full list of alternative scientific names can be found on the webpage linked above.

## What Does This Mean for New York City?

This law is primarily intended to exclude listed plants from commerce, so they are no longer available for purchase or planting. It bars certain plants from being used in public landscapes. Residents and agencies can no longer specify prohibited plants in project designs, plant them in ornamental beds on private or public property, grow them in greenhouses, or offer them for sale. There is a permit process for disposal, control, and research activities involving some of these species. These restrictions aim to reduce the potential for these species to spread beyond where they were intentionally planted so that they do not crowd out other species that wildlife depend on and do not create a maintenance burden on green space managers.

# NYS Invasive Plant List

## Floating & Submerged Aquatic

| Scientific Name  | Common Name                    | NYS Designation |
|--|--------------------------------|-----------------|
| <i>Cabomba caroliniana</i>                             | Fanwort                        | Prohibited      |
| <i>Didymosphenia geminata</i>                          | Rock spot (diatom)             | Prohibited      |
| <i>Egeria densa</i>                                    | Brazilian waterweed            | Prohibited      |
| <i>Hydrilla verticillata</i>                           | Water thyme                    | Prohibited      |
| <i>Hydrocharis morsus-ranae</i>                        | Common frogbit                 | Prohibited      |
| <i>Myriophyllum aquaticum</i>                          | Parrot-feather                 | Prohibited      |
| <i>Myriophyllum heterophyllum</i>                      | Broadleaf water-milfoil        | Prohibited      |
| <i>Myriophyllum heterophyllum</i><br><i>X M. laxum</i> | Broadleaf water-milfoil hybrid | Prohibited      |
| <i>Myriophyllum x pinnatum</i>                         | Broadleaf water milfoil hybrid | Prohibited      |
| <i>Myriophyllum spicatum</i>                           | Spiked water-milfoil           | Prohibited      |
| <i>Nymphoides peltata</i>                              | Yellow floating heart          | Prohibited      |
| <i>Nymphoides obtusa</i>                               | Starry stonewort               | Prohibited      |
| <i>Potamogeton crispus</i>                             | Curly pondweed                 | Prohibited      |
| <i>Trapa natans</i>                                    | Water chestnut                 | Prohibited      |

## Emergent Wetland & Littoral

| Scientific Name                                       | Common Name              | NYS Designation |
|---|--------------------------|-----------------|
| <i>Glyceria maxima</i>                                | Reed mannagrass          | Prohibited      |
| <i>Iris pseudacorus</i>                               | Yellow iris              | Prohibited      |
| <i>Ludwigia hexapetala</i><br><i>(L. grandiflora)</i> | Creeping water primrose  | Prohibited      |
| <i>Ludwigia peploides</i>                             | Floating primrose willow | Prohibited      |
| <i>Lythrum salicaria</i>                              | Purple loosestrife       | Prohibited      |
| <i>Murdannia keisak</i>                               | Marsh dewflower          | Prohibited      |
| <i>Phragmites australis</i>                           | Common reedgrass         | Prohibited      |
| <i>Rhamnus frangula</i>                               | Glossy buckthorn         | Prohibited      |

## Terrestrial – Herbaceous

| Scientific Name                | Common Name            | NYS Designation |
|--------------------------------|------------------------|-----------------|
| <i>Achyranthes japonica</i>    | Chaff flower           | Prohibited      |
| <i>Alliaria petiolata</i>      | Garlic mustard         | Prohibited      |
| <i>Anthriscus sylvestris</i>   | Wild chervil           | Prohibited      |
| <i>Artemisia vulgaris</i>      | Mugwort                | Prohibited      |
| <i>Arthraxon hispidus</i>      | Small carpetgrass      | Prohibited      |
| <i>Brachypodium sylvaticum</i> | Slender false brome    | Prohibited      |
| <i>Cardamine impatiens</i>     | Narrowleaf bittercress | Prohibited      |
| <i>Centaurea stoebe</i>        | Spotted knapweed       | Prohibited      |
| <i>Cirsium arvense</i>         | Creeping thistle       | Prohibited      |

|   |                        |            |
|---|------------------------|------------|
| <i>Cynanchum louiseae</i>                 | Black swallow-wort     | Prohibited |
| <i>Cynanchum rossicum</i>                 | Pale swallow-wort      | Prohibited |
| <i>Dioscorea polystachya</i>              | Cinnamon-vine          | Prohibited |
| <i>Dipsacus laciniatus</i>                | Cut-leaved teasel      | Prohibited |
| <i>Euphorbia cyparissias</i>              | Cypress spurge         | Prohibited |
| <i>Euphorbia esula</i>                    | Leafy spurge           | Prohibited |
| <i>Ficaria verna (Ranunculus ficaria)</i> | Lesser celandine       | Prohibited |
| <i>Heracleum mantegazzianum</i>           | Giant hogweed          | Prohibited |
| <i>Humulus japonicus</i>                  | Japanese hop           | Prohibited |
| <i>Imperata cylindrica</i>                | Cogon grass            | Prohibited |
| <i>Lepidium latifolium</i>                | Broad-leaf peppergrass | Prohibited |
| <i>Lespedeza cuneata</i>                  | sericea lespedeza      | Prohibited |
| <i>Lysimachia vulgaris</i>                | Garden loosestrife     | Prohibited |
| <i>Microstegium vimineum</i>              | Stiltgrass             | Prohibited |
| <i>Miscanthus sinensis</i>                | Silvergrass            | Regulated  |
| <i>Oplismenus hirtellus</i>               | Wavyleaf basketgrass   | Prohibited |
| <i>Pastinaca sativa</i>                   | Wild Parsnip           | Prohibited |
| <i>Reynoutria japonica</i>                | Fleeceflower           | Prohibited |
| <i>Reynoutria sachalinensis</i>           | Giant knotweed         | Prohibited |
| <i>Reynoutria x bohemica</i>              | Hybrid knotweed        | Prohibited |
| <i>Silphium perfoliatum</i>               | Cup plant              | Prohibited |

### **Terrestrial - Vines**

| <b>Scientific Name</b>             | <b>Common Name</b>            | <b>NYS Designation</b> |
|------------------------------------|-------------------------------|------------------------|
| <i>Ampelopsis brevipedunculata</i> | Porcelain berry               | Prohibited             |
| <i>Celastrus orbiculatus</i>       | Round leaf bittersweet        | Prohibited             |
| <i>Clematis terniflora</i>         | Sweet autumn clematis         | Regulated              |
| <i>Cynanchum louiseae</i>          | Black swallow-wort            | Prohibited             |
| <i>Cynanchum rossicum</i>          | Pale swallow-wort             | Prohibited             |
| <i>Lonicera japonica</i>           | Golden-and-silver honeysuckle | Prohibited             |
| <i>Persicaria perfoliata</i>       | Mile-a-minute weed            | Prohibited             |
| <i>Pueraria montana</i>            | Kudzu                         | Prohibited             |

### **Terrestrial – Shrubs & Trees**

| <b>Scientific Name</b>        | <b>Common Name</b>  | <b>NYS Designation</b> |
|-------------------------------|---------------------|------------------------|
| <i>Acer platanoides</i>       | Harlequin maple     | Regulated              |
| <i>Acer pseudoplatanus</i>    | Sycamore maple      | Prohibited             |
| <i>Aralia elata</i>           | Angelica tree       | Prohibited             |
| <i>Berberis thunbergii</i>    | Thunberg's barberry | Prohibited             |
| <i>Euonymus fortunei</i>      | Winter creeper      | Regulated              |
| <i>Elaeagnus umbellata</i>    | Autumn olive        | Prohibited             |
| <i>Euonymus alatus</i>        | Winged euonymus     | Regulated              |
| <i>Frangula alnus</i>         | Glossy buckthorn    | Prohibited             |
| <i>Ligustrum obtusifolium</i> | Border privet       | Prohibited             |
| <i>Lonicera maackii</i>       | Amur honeysuckle    | Prohibited             |

|                                   |                      |            |
|-----------------------------------|----------------------|------------|
| <i>Lonicera morrowii</i>          | Morrow's honeysuckle | Prohibited |
| <i>Lonicera tatarica</i>          | Tatarian honeysuckle | Prohibited |
| <i>Lonicera x bella</i>           | Fly honeysuckle      | Prohibited |
| <i>Phellodendron amurense</i>     | Amur cork tree       | Prohibited |
| <i>Phyllostachys aurea</i>        | Golden bamboo        | Prohibited |
| <i>Phyllostachys aureosulcata</i> | Yellow groove bamboo | Prohibited |
| <i>Rhamnus cathartica</i>         | Common buckthorn     | Prohibited |
| <i>Robinia pseudoacacia</i>       | Black locust         | Regulated  |
| <i>Rosa multiflora</i>            | Multiflora rose      | Prohibited |
| <i>Rubus phoenicolasius</i>       | Wineberry            | Prohibited |
| <i>Salix atrocinerea</i>          | Rusty willow         | Prohibited |
| <i>Vitex rotundifolia</i>         | Beach vitex          | Prohibited |

## Problematic Species

There are a number of additional species that have demonstrated tendencies to escape from cultivation and are naturalizing throughout parks and natural areas. The species on this list are recognized by professionals and institutions in the tri-state area, and/or nationwide, as potentially damaging to our natural systems. While the use of these species is not likely to be regulated by State Law, NYC Parks does not recommend planting these species within 500 feet of a Forever Wild or other natural area.

### Graminoids

|                                 |                |
|---------------------------------|----------------|
| <i>Carex flacca</i>             | Heath sedge    |
| <i>Festuca arundinacea</i>      | Tall fescue    |
| <i>Pennisetum alopecuroides</i> | Fountain Grass |
| <i>Pseudosasa japonica</i>      | Arrow bamboo   |

### Forbs

|                                  |                     |
|----------------------------------|---------------------|
| <i>Arum italicum</i>             | Orange candleflower |
| <i>Ajuga reptans</i>             | Common bugle        |
| <i>Corydalis incisa</i>          | Incised fumewort    |
| <i>Hemerocallis fulva</i>        | Orange daylily      |
| <i>Nipponanthemum nipponicum</i> | Nippon daisy        |
| <i>Pachysandra terminalis</i>    | Carpet box          |

### Vines

|                                    |                   |
|------------------------------------|-------------------|
| <i>Campsis radicans</i>            | Trumpet vine      |
| <i>Hedera helix</i>                | Common ivy        |
| <i>Parthenocissus tricuspidata</i> | Grape ivy         |
| <i>Vinca minor</i>                 | Periwinkle        |
| <i>Wisteria floribunda</i>         | Japanese wisteria |
| <i>Wisteria sinensis</i>           | Chinese wisteria  |

### Shrubs

*Acer campestre*  
*Acer ginnala*  
*Buddleja davidii*  
*Callicarpa dichotoma*  
*Callicarpa japonica*  
*Lonicera fragrantissima*  
*Rosa rugosa*  
*Viburnum dilatatum*  
*Viburnum sieboldii*  
*Vitex agnus-castus*

Hedge maple  
Amur maple  
Butterfly bush  
Purple beautyberry  
Beautyberry  
Winter honeysuckle  
Rugosa rose  
Linden arrowwood  
Siebold Viburnum  
Lilac chastetree

### Trees

*Acer palmatum*  
*Acer tartaricum*  
*Alnus glutinosa*  
*Koelreuteria paniculata*  
*Malus hupehensis*  
*Populus alba*  
*Prunus cerasifera*  
*Prunus padus*  
*Prunus x yedoensis*  
*Pyrus calleryana*  
*Quercus robur*  
*Styphnolobium japonica*  
*Ulmus parvifolia*  
*Ulmus pumila*  
*Zelkova serrata*

Palmate maple  
Amur Maple  
Black alder  
Golden raintree  
Tea crabapple  
White poplar  
Cherry plum  
Bird cherry  
Yoshino cherry  
Callery pear  
Pedunculate oak  
Scholar tree  
Lacebark elm  
Littleleaf elm  
Zelkova

# Native Alternatives to Common Invasive Plants

Horticultural value is one of the many reasons why non-native plant species have been imported. These plants usually have some desirable characteristics such as form, fall color, or attractive fruit. As indicated earlier in this guide, some of these species have become invasive. There are, however, native plants which can provide similar horticultural characteristics.

The species listed in this section are alternatives to invasive plant species that are either regulated and prohibited by New York State or are considered problematic when planted near natural areas. They have been chosen because they can provide a similar form, growth habit, or other desirable horticultural characteristics. A number of alternatives have been provided for each invasive species to best accommodate a variety of growing conditions. This is not an exhaustive list, and a landscape architect, designer or knowledgeable gardener may suggest additional species.

## NYS REGULATED AND PROHIBITED SPECIES

| SCIENTIFIC NAME   | COMMON NAMES              | VALUED CHARACTERISTICS                      |
|---|---------------------------|---|
| <b>GRAMINOIDS</b>   |                           |   |
| <i>Miscanthus sinensis</i> , Silvergrass - Regulated                  |                           |   |
| <i>Andropogon gerardii</i>  | Big bluestem              | Similar height and upright form             |
| <i>Andropogon virginicus</i>  | Broom sedge bluestem      | Upright form, good for screening            |
| <i>Panicum virgatum</i>   | Switchgrass               | Form and height, interesting flowers        |
| <i>Sorghastrum nutans</i>   | Yellow grass              | Form and height interesting flowers         |
| <i>Oplismenus hirtellus</i> , Wavyleaf basketgrass - Prohibited       |                           |   |
| <i>Dichanthelium clandestinum</i>                                     | Deertongue                | Similar leaves, groundcover                 |
| <i>Dichanthelium latifolium</i>                                       | Broadleaf rosette grass   | Similar leaves, shade tolerant, groundcover |
| <i>Elymus hystrix</i>   | Eastern bottlebrush grass | Shade tolerance                             |
| <i>Leersia virginica</i>  | Whitegrass                | Similar form, shade tolerant, groundcover   |
| <i>Phyllostachys aurea</i> , Golden bamboo - Prohibited               |                           |   |
| <i>Andropogon gerardii</i>  | Big bluestem              | Columnar form, winter color                 |
| <i>Salix nigra</i>  | Black willow              | Leaves, yellow flowers                      |
| <i>Schizachyrium scoparium</i>  | Little bluestem           | Upright form, winter color                  |
| <i>Sorghastrum nutans</i>   | Indiangrass               | Columnar form, winter color                 |
| <i>Phyllostachys aureosulcata</i> , Yellow groove bamboo - Prohibited |                           |   |
| <i>Andropogon gerardii</i>  | Big bluestem              | Columnar form, winter color                 |
| <i>Salix nigra</i>  | Black willow              | Leaves, yellow flowers                      |
| <i>Schizachyrium scoparium</i>  | Little bluestem           | Upright form, winter color                  |

|                           |             |                             |
|---------------------------|-------------|-----------------------------|
| <i>Sorghastrum nutans</i> | Indiangrass | Columnar form, winter color |
|---------------------------|-------------|-----------------------------|

## FORBS

### *Iris pseudacorus*, Yellow iris - Prohibited

|                           |                    |                                       |
|---------------------------|--------------------|---------------------------------------|
| <i>Alisma subcordatum</i> | Water plantain     | Gold flowers, varied soil moisture    |
| <i>Caltha palustris</i>   | Marsh marigold     | Yellow flowers                        |
| <i>Chelone glabra</i>     | White turtlehead   | Lance-like leaves, attractive flowers |
| <i>Iris versicolor</i>    | Harlequin blueflag | Form and moisture tolerance           |
| <i>Lobelia cardinalis</i> | Cardinalflower     | Lance-like leaves, attractive flowers |

### *Ludwigia grandiflora* ssp. *hexapetala*, creeping water primrose or *Ludwigia peploides*, Floating primrose willow - Prohibited

|                              |                         |                             |
|------------------------------|-------------------------|-----------------------------|
| <i>Decodon verticillatus</i> | Swamp loosestrife       | Habitat and long bloom time |
| <i>Hibiscus moscheutos</i>   | Crimson-eyed rosemallow | Habitat and long bloom time |
| <i>Ludwigia alternifolia</i> | Seedbox                 | Leaves and yellow flowers   |
| <i>Oenothera fruticosa</i>   | Sundrops                | Yellow, similar flowers     |
| <i>Oenothera biennis</i>     | Evening primrose        | Yellow, similar flowers     |

### *Lythrum salicaria*, Purple loosestrife - Prohibited

|                               |                      |                                       |
|-------------------------------|----------------------|---------------------------------------|
| <i>Asclepias incarnata</i>    | Swamp milkweed       | Purple flowers, moisture loving       |
| <i>Desmodium canadense</i>    | Showy tick trefoil   | Purple flowers, adaptable             |
| <i>Eutrochium maculatum</i>   | Spotted Joe Pye weed | Pink/purple flowers, moist conditions |
| <i>Eutrochium purpureum</i>   | Purple Joe Pye weed  | Purple flowers, moisture loving       |
| <i>Liatris spicata</i>        | Dense blazingstar    | Lance-like leaves, flower form        |
| <i>Lobelia cardinalis</i>     | Cardinalflower       | Lance-like leaves, attractive flowers |
| <i>Lobelia siphilitica</i>    | Great blue lobelia   | Blue flower of similar form           |
| <i>Penstemon digitalis</i>    | White Beardtongue    | Flower form, tolerates high moisture  |
| <i>Physostegia virginiana</i> | Obedient plant       | Lance-like leaves flower form         |
| <i>Verbena hastata</i>        | Blue vervain         | Flower form, high moisture, tough     |

### *Nymphoides peltata*, Yellow floating heart - Prohibited

|                     |                  |                                   |
|---------------------|------------------|-----------------------------------|
| <i>Nuphar lutea</i> | Yellow pond lily | Yellow flower, similar leaf shape |
|---------------------|------------------|-----------------------------------|

## VINES

### *Celastrus orbiculatus*, Roundleaf bittersweet - Prohibited

|                              |                     |                              |
|------------------------------|---------------------|------------------------------|
| <i>Lonicera sempervirens</i> | Trumpet honeysuckle | Attractive flowers and fruit |
|------------------------------|---------------------|------------------------------|

### *Clematis terniflora*, Sweet autumn clematis - Regulated

|                                    |                         |                                    |
|------------------------------------|-------------------------|------------------------------------|
| <i>Apios americana</i>             | Groundnut               | Leaflets, attractive flowers       |
| <i>Clematis virginiana</i>         | Virginia virgin's bower | Flowers and fruit                  |
| <i>Lonicera sempervirens</i>       | Trumpet honeysuckle     | Leaf shape, good climber           |
| <i>Parthenocissus quinquefolia</i> | Virginia creeper        | Good groundcover, attractive fruit |

### *Euonymus fortunei*, Winter creeper - Regulated

|                                |           |                             |
|--------------------------------|-----------|-----------------------------|
| <i>Arctostaphylos uva-ursi</i> | Bearberry | Groundcover form, evergreen |
|--------------------------------|-----------|-----------------------------|



|                              |                  |  |
|------------------------------|------------------|--|
| <i>Gaultheria procumbens</i> | Eastern teaberry | Groundcover form, evergreen            |
| <i>Rhus aromatica</i>        | Fragrant sumac   | Attractive fruit, tolerates poor soils |

***Lonicera japonica*, Golden-and-silver honeysuckle - Prohibited**

|                              |                     |                                |
|------------------------------|---------------------|--------------------------------|
| <i>Lonicera sempervirens</i> | Trumpet honeysuckle | Form, very adaptable           |
| <i>Vitis aestivalis</i>      | Summer grape        | Twining form, attractive fruit |
| <i>Vitis labrusca</i>        | Fox grape           | Twining form, attractive fruit |
| <i>Vitis riparia</i>         | River grape         | Twining form, attractive fruit |

**SHRUBS**

***Berberis thunbergii*, Thunberg's barberry - Prohibited**

|                             |                    |                                       |
|-----------------------------|--------------------|---------------------------------------|
| <i>Cornus racemosa</i>      | Gray dogwood       | Tolerates partial shade, fall foliage |
| <i>Gaylussacia baccata</i>  | Black huckleberry  | Fall foliage color, edible fruit      |
| <i>Ilex verticillata</i>    | Winterberry        | Fall foliage, shade tolerant          |
| <i>Rosa virginiana</i>      | Virginia rose      | Large red fruit and neat habit        |
| <i>Viburnum acerifolium</i> | Mapleleaf viburnum | Fall foliage color, shade tolerant    |

**For green cultivars of *B. thunbergii* - Prohibited**

|                                |                    |  |
|--------------------------------|--------------------|--|
| <i>Aronia arbutifolia</i>      | Red chokeberry     | Green leaves, red fall color           |
| <i>Gaylussacia baccata</i>     | Black huckleberry  | Green leaves, red/purple fall color    |
| <i>Ilex verticillata</i>       | Winterberry        | Green leaves, yellow fall color        |
| <i>Rosa virginiana</i>         | Virginia rose      | Green leaves, yellow to red fall color |
| <i>Vaccinium angustifolium</i> | Lowbush blueberry  | Green leaves, red fall color           |
| <i>Viburnum acerifolium</i>    | Mapleleaf viburnum | Green leaves, red/purple fall color    |

**For yellow or gold cultivars of *B. thunbergii* - Prohibited**

|                                     |                     |                        |
|-------------------------------------|---------------------|------------------------|
| <i>Clethra alnifolia</i>            | Sweet pepperbush    | Yellow fall color      |
| <i>Lindera benzoin</i>              | Spicebush           | Yellow fall color      |
| <i>Rhododendron periclymenoides</i> | Pinxterbloom azalea | Yellow fall color      |
| <i>Rhus aromatica</i>               | Fragrant sumac      | Gold to red fall color |
| <i>Spiraea tomentosa</i>            | Steeplebush         | Gold fall color        |

***Euonymus alatus*, Burning bush - Regulated**

|                             |                           |                                       |
|-----------------------------|---------------------------|---------------------------------------|
| <i>Aronia arbutifolia</i>   | Red chokeberry            | More attractive fruit, shade tolerant |
| <i>Aronia melanocarpa</i>   | Black chokeberry          | More attractive fruit, shade tolerant |
| <i>Diervilla lonicera</i>   | Northern bush honeysuckle | Orange/red foliage in fall            |
| <i>Rhus aromatica</i>       | Fragrant sumac            | Red foliage in fall                   |
| <i>Rhus copallinum</i>      | Winged sumac              | Red foliage in fall                   |
| <i>Rhus glabra</i>          | Smooth sumac              | Red foliage in fall                   |
| <i>Rhus typhina</i>         | Staghorn sumac            | Red foliage in fall                   |
| <i>Rubus odoratus</i>       | Purpleflowering raspberry | Large attractive flowers and fruits   |
| <i>Staphylea trifolia</i>   | American bladdernut       | Attractive fruit, shade tolerant      |
| <i>Vaccinium corymbosum</i> | Highbush blueberry        | Similar size and fall foliage color   |

***Elaeagnus umbellata*, Autumn olive - Prohibited**

|                               |                       |   |
|-------------------------------|-----------------------|---|
| <i>Amelanchier canadensis</i> | Canadian serviceberry | Good for wildlife, varied soil moisture |
| <i>Baccharis halimifolia</i>  | Eastern baccharis     | Form and size                           |
| <i>Cornus racemosa</i>        | Gray dogwood          | Good for wildlife, varied soil moisture |
| <i>Morella pensylvanica</i>   | Northern bayberry     | Form and size                           |
| <i>Rhus typhina</i>           | Staghorn sumac        | Size, provides good habitat             |
| <i>Ilex glabra</i>            | Inkberry holly        | Form, good for wildlife                 |

***Lonicera maackii*, Amur honeysuckle; *Lonicera morrowii*, Morrow's honeysuckle; *Lonicera tatarica*, Tartarian honeysuckle; *Lonicera x bella*, Fly honeysuckle - Prohibited**

|   |                           |                                       |
|---|---------------------------|---------------------------------------|
| <i>Cornus racemosa</i>                    | Gray dogwood              | Can tolerate varying conditions       |
| <i>Diervilla lonicera</i>                 | Northern bush honeysuckle | Smiliar habit, tolerates poor soils   |
| <i>Hamamelis virginiana</i>               | Witchhazel                | Shade tolerant, good for wildlife     |
| <i>Spiraea alba</i> var. <i>latifolia</i> | Meadowsweet               | Good for screening, erosion control   |
| <i>Staphylea trifolia</i>                 | American bladdernut       | Attractive fruit, shade tolerant      |
| <i>Vaccinium corymbosum</i>               | Highbush blueberry        | Edible fruit, adaptable to many sites |
| <i>Viburnum dentatum</i>                  | Arrowwood                 | Form, attractive fruit                |

**TREES**

***Acer platanoides*, Harlequin maple - Regulated**

|                              |                   |                             |
|------------------------------|-------------------|-----------------------------|
| <i>Acer rubrum</i>           | Red maple         | Form and habit              |
| <i>Acer saccharum</i>        | Sugar maple       | Form, habit, and fall color |
| <i>Betula lenta</i>          | Black birch       | Fall color, tolerates shade |
| <i>Carpinus caroliniana</i>  | American hornbeam | Fall color, tolerates shade |
| <i>Platanus occidentalis</i> | American sycamore | Form and size               |
| <i>Quercus rubra</i>         | Northern red oak  | Size and form               |
| <i>Tilia americana</i>       | American linden   | Fall color, tolerates shade |

**For red cultivars of *A. platanoides* including 'Crimson King' and 'Royal Red' - Regulated**

|                          |                   |                     |
|--------------------------|-------------------|---------------------|
| <i>Cornus florida</i>    | Flowering dogwood | Fall color          |
| <i>Nyssa sylvatica</i>   | Black tupelo      | Form and fall color |
| <i>Prunus virginiana</i> | Chokecherry       | Year round color    |

***Acer pseudoplatanus*, Sycamore maple - Prohibited**

|                         |              |                          |
|-------------------------|--------------|--------------------------|
| <i>Acer negundo</i>     | Boxelder     | Urban tolerance          |
| <i>Acer saccharinum</i> | Silver maple | Form and urban tolerance |

***Phellodendron amurense*, Amur cork tree - Prohibited**

|                            |                  |                                    |
|----------------------------|------------------|------------------------------------|
| <i>Acer rubrum</i>         | Red maple        | Shade tolerance                    |
| <i>Acer saccharum</i>      | Sugar maple      | Form, tolerances, fall color       |
| <i>Carya ovata</i>         | Shagbark hickory | Form, tolerances, fall color       |
| <i>Celtis occidentalis</i> | Common hackberry | Interesting bark, persistent fruit |
| <i>Prunus serotina</i>     | Black cherry     | Urban tolerance, attractive fruit  |
| <i>Quercus alba</i>        | White oak        | Can provide similar canopy cover   |
| <i>Quercus palustris</i>   | Pin oak          | Habit, drought and urban tolerance |

|  |                   |  |
|--|-------------------|--|
| <i>Quercus rubra</i>   | Northern red oak  | Can provide similar canopy cover         |
| <b><i>Robinia pseudoacacia</i>, Black locust - Regulated</b> |                   |  |
| <i>Betula populifolia</i>                                    | Gray birch        | Fast growing, drought tolerant           |
| <i>Carya cordiformis</i>                                     | Bitternut hickory | Compound leaves, yellow fall color       |
| <i>Carya glabra</i>  | Pignut hickory    | Compound leaves, yellow fall color       |
| <i>Prunus serotina</i>                                       | Black cherry      | Attractive flowers, drought tolerant     |
| <i>Sassafras albidum</i>                                     | Sassafras         | Colonial, fast growing, attractive fruit |

## PROBLEMATIC SPECIES

| SCIENTIFIC NAME | COMMON NAMES | VALUED CHARACTERISTICS |
|-----------------|--------------|------------------------|
|-----------------|--------------|------------------------|

### FORBS

#### ***Arum italicum*, Orange candleflower - Problematic**

|                                   |                    |                                      |
|-----------------------------------|--------------------|--------------------------------------|
| <i>Arisaema triphyllum</i>        | Jack-in-the-Pulpit | Form, habit, fruit color             |
| <i>Caulophyllum thalictroides</i> | Blue cohosh        | Interesting form, strong fruit color |
| <i>Erythronium americanum</i>     | Yellow trout lily  | Striking foliage, attractive         |
| <i>Polystichum acrosticoides</i>  | Christmas fern     | Interesting form, leathery leaves    |

#### ***Ajuga reptans*, Common bugle – Problematic**

|  |                      |                           |
|--|----------------------|---------------------------|
| <i>Asarum canadense</i>                    | Canadian wild ginger | Form, habit               |
| <i>Viola sororia</i>                       | Common blue violet   | Form, habit, flower color |
| <i>Lobelia siphilitica</i>                 | Great blue lobelia   | Habit, flower color       |
| <i>Packera aurea</i>                       | Golden ragwort       | Habit, attractive         |
| <i>Packera obovate</i>                     | Round-leaved ragwort | Habit, attractive         |
| <i>Phlox subulata</i> spp. <i>subulata</i> | Moss phlox           | Habit, attractive         |

#### ***Corydalis incisa*, Incised fumewort – Problematic**

|                             |                     |                               |
|-----------------------------|---------------------|-------------------------------|
| <i>Dicentra cucullaria</i>  | Dutchman's breeches | Form, habit, dissected leaves |
| <i>Claytonia virginica</i>  | Spring beauty       | Seasonality                   |
| <i>Anemone quinquefolia</i> | Wood anemone        | Habit, seasonality            |
| <i>Geranium maculatum</i>   | Wild geranium       | Foliage texture, flower color |

#### ***Hemerocallis fulva*, Orange daylily– Problematic**

|                                |                 |                            |
|--------------------------------|-----------------|----------------------------|
| <i>Lilium superbum</i>         | Turk's cap lily | Form, flower color, leaves |
| <i>Tradescantia virginiana</i> | Spiderwort      | Form, leaves, attractive   |

#### ***Nipponanthemum nipponicum*, Nippon daisy– Problematic**

|                                |                    |                              |
|--------------------------------|--------------------|------------------------------|
| <i>Baptisia tinctoria</i>      | Yellow wild indigo | Form, adaptable              |
| <i>Helianthus divaricatus</i>  | Woodland sunflower | Form and flower type         |
| <i>Rudbeckia hirta</i>         | Black-eyed Susan   | Form and flower type         |
| <i>Symphotrichum ericoides</i> | White heath aster  | Form, profuse flowers, color |

#### ***Pachysandra terminalis*, Japanese pachysandra – Problematic**

|                         |                      |             |
|-------------------------|----------------------|-------------|
| <i>Asarum canadense</i> | Canadian wild ginger | Form, habit |
|-------------------------|----------------------|-------------|

|                                    |                      |                                     |
|------------------------------------|----------------------|-------------------------------------|
| <i>Geum canadense</i>              | White avens          | Evergreen groundcover, flower color |
| <i>Eurybia divaricata</i>          | White wood aster     | Early groundcover, flower color     |
| <i>Fragaria virginiana</i>         | Wild strawberry      | Groundcover, flower                 |
| <i>Packera aurea</i>               | Golden ragwort       | Habit, attractive                   |
| <i>Packera obovate</i>             | Round-leaved ragwort | Habit, attractive                   |
| <i>Parthenocissus quinquefolia</i> | Virginia creeper     | Good groundcover, attractive fruit  |

## GRAMINOIDS

### *Carex flacca*, Heath sedge - Problematic

|                       |                          |                             |
|-----------------------|--------------------------|-----------------------------|
| <i>Carex blanda</i>   | Eastern woodland sedge   | Form, habit, semi-evergreen |
| <i>Carex communis</i> | Fiborousroot sedge       | Form and habit              |
| <i>Carex debilis</i>  | White edge sedge         | Form and habit              |
| <i>Carex emonsii</i>  | Emmon's sedge            | Form, habit, salt tolerance |
| <i>Carex rosea</i>    | Common upland star sedge | Form and habit              |
| <i>Carex scoparia</i> | Pointed broom sedge      | Form and habit              |

### *Festuca arundinacea*, Tall fescue – Problematic

|                                 |                        |                |
|---------------------------------|------------------------|----------------|
| <i>Calamagrostis canadensis</i> | Canada bluejoint grass | Form and habit |
| <i>Panicum virgatum</i>         | Switchgrass            | Form and habit |
| <i>Sorghastrum nutans</i>       | Indiangrass            | Form and habit |
| <i>Tridens flavus</i>           | Purpletop grass        | Form and habit |

### *Pennisetum alopecuroides*, Fountain grass – Problematic

|                                 |                        |                       |
|---------------------------------|------------------------|-----------------------|
| <i>Andropogon glomeratus</i>    | Bushy bluestem         | Similar inflorescence |
| <i>Calamagrostis canadensis</i> | Canada bluejoint grass | Form                  |
| <i>Scirpus cyperinus</i>        | Woolgrass              | Form and habit        |

### *Pseudosasa japonica*, Arrow bamboo – Problematic

|                                |                      |                           |
|--------------------------------|----------------------|---------------------------|
| <i>Andropogon gerardii</i>     | Big bluestem         | Columnar form, leaf shape |
| <i>Andropogon virginicus</i>   | Broom sedge bluestem | Low screening effect      |
| <i>Schizachyrium scoparium</i> | Little bluestem      | Low screening effect      |

## VINES

### *Campsis radicans*, Trumpet vine – Problematic

|                              |                     |                     |
|------------------------------|---------------------|---------------------|
| <i>Lonicera sempervirens</i> | Trumpet honeysuckle | Habit, flower color |
| <i>Clematis virginiana</i>   | Virgin's bower      | Habit, flowering    |

### *Hedera helix*, Common ivy – Problematic

|                                    |                  |                   |
|------------------------------------|------------------|-------------------|
| <i>Parthenocissus quinquefolia</i> | Virginia creeper | Habit, fall color |
| <i>Dioscorea villosa</i>           | Wild yam         | Habit             |

### *Parthenocissus tricuspidata*, Grape ivy – Problematic

|                                    |                  |                   |
|------------------------------------|------------------|-------------------|
| <i>Parthenocissus quinquefolia</i> | Virginia creeper | Habit, fall color |
|------------------------------------|------------------|-------------------|

### *Vinca minor*, Periwinkle – Problematic

*Parthenocissus quinquefolia* Virginia creeper Habit, fall color

***Wisteria floribunda*, Japanese wisteria – Problematic**

*Apios americana* Groundnut Habit, flower

*Mikania scandens* Climbing hempvine Habit

***Wisteria sinensis*, Chinese wisteria – Problematic**

*Apios americana* Groundnut Habit, flower

*Mikania scandens* Climbing hempvine Habit

**SHRUBS**

***Buddleja davidii*, Butterfly bush – Problematic**

*Spiraea tomentosa* Steeplebush Similar inflorescence form

***Callicarpa dichotoma*, Purple beautyberry and *Callicarpa japonica*, Beautyberry – Problematic**

*Aronia arbutifolia* Red chokeberry White flowers, red fall fruit

*Aronia melanocarpa* Black chokeberry White flowers, black fall fruit

*Aronia prunifolia* Purple chokeberry White flowers, purple fall fruit

*Ilex verticillata* Winterberry Flowers in axils, red fall fruit

*Vaccinium pallidum* Lowbush blueberry White flowers, blue fruit

***Lonicera fragrantissima*, Winter honeysuckle – Problematic**

*Diervilla lonicera* Northern bush honeysuckle Habit, flower

*Staphylea trifolia* Bladdernut Spring flower, form

*Vaccinium corymbosum* Highbush blueberry Spring flower, form

***Rosa rugosa*, Rugosa rose – Problematic**

*Rosa carolina* Carolina rose Similar habitat and flower

***Viburnum dilatatum*, Linden arrowwood – Problematic**

*Ilex verticillata* Winterberry Fruit color

*Rhus glabra* Smooth sumac Fruit color

*Sambucus nigra* ssp. *canadensis* Common Elderberry Cyme flower, fruit for birds

***Viburnum sieboldii*, Siebold Viburnum – Problematic**

*Cornus alternifolia* Alternateleaf dogwood Similar form and habit

*Cornus racemosa* Gray dogwood Red fruiting stems

*Viburnum dentatum* Arrowwood Similar form and habit

***Vitex agnus-castus*, Lilac chastetree – Problematic**

*Rhus typhina* Staghorn sumac Form and flower shape

**TREES**

***Acer campestre*, Hedge maple – Problematic**

*Acer rubrum* Red maple Fall foliage

|                              |                       |       |
|------------------------------|-----------------------|-------|
| <i>Amelancier canadensis</i> | Canadian serviceberry | Habit |
| <i>Amelancier arborea</i>    | Common serviceberry   | Habit |
| <i>Prunus serotina</i>       | Black cherry          | Size  |

*Acer ginnala*, Amur maple – Problematic

|                              |                       |              |
|------------------------------|-----------------------|--------------|
| <i>Acer rubrum</i>           | Red maple             | Fall foliage |
| <i>Amelancier arborea</i>    | Common serviceberry   | Habit        |
| <i>Amelancier canadensis</i> | Canadian serviceberry | Habit        |

*Acer palmatum*, Palmate maple and *Acer tartaricum*, Amur maple – Problematic

|                         |              |                   |
|-------------------------|--------------|-------------------|
| <i>Acer rubrum</i>      | Red maple    | Fall foliage      |
| <i>Acer saccharinum</i> | Silver maple | Leaf shape, habit |
| <i>Acer saccharum</i>   | Sugar maple  | Fall foliage      |

*Alnus glutinosa*, Black alder – Problematic

|                        |              |                |
|------------------------|--------------|----------------|
| <i>Nyssa sylvatica</i> | Black tupelo | Habit, habitat |
|------------------------|--------------|----------------|

*Koelreuteria paniculata*, Golden raintree – Problematic

|                     |                |                 |
|---------------------|----------------|-----------------|
| <i>Rhus glabra</i>  | Smooth sumac   | Leaves, flowers |
| <i>Rhus typhina</i> | Staghorn sumac | Leaves, flowers |

*Malus hupehensis*, Tea crabapple – Problematic

|                               |                       |                           |
|-------------------------------|-----------------------|---------------------------|
| <i>Amelancier arborea</i>     | Common serviceberry   | Size, flowers, fall color |
| <i>Amelanchier canadensis</i> | Canadian serviceberry | Size, flowers, fall color |

*Populus alba*, White poplar – Problematic

|                              |                    |                   |
|------------------------------|--------------------|-------------------|
| <i>Populus deltoides</i>     | Eastern cottonwood | Leaf shape, habit |
| <i>Populus grandidentata</i> | Bigtooth aspen     | Leaf shape, habit |
| <i>Populus tremuloides</i>   | Quaking aspen      | Leaf shape, habit |

*Prunus cerasifera*, Cherry plum – Problematic

|                              |                       |                     |
|------------------------------|-----------------------|---------------------|
| <i>Amelancier canadensis</i> | Canadian serviceberry | Habit, flower color |
| <i>Amelancier arborea</i>    | Common serviceberry   | Habit, flower color |
| <i>Aronia arbutifolia</i>    | Red chokeberry        | Habit, flower color |
| <i>Aronia melanocarpa</i>    | Black chokeberry      | Habit, flower color |

*Prunus padus*, Bird cherry – Problematic

|                        |              |                        |
|------------------------|--------------|------------------------|
| <i>Prunus serotina</i> | Black cherry | Habit, flowers, fruits |
|------------------------|--------------|------------------------|

*Prunus x yedoensis*, Yoshino cherry – Problematic

|                              |                       |               |
|------------------------------|-----------------------|---------------|
| <i>Amelancier canadensis</i> | Canadian serviceberry | Habit, flower |
| <i>Amelancier arborea</i>    | Common serviceberry   | Habit, flower |
| <i>Prunus serotina</i>       | Black cherry          | Habit, fruits |

*Pyrus calleryana*, Callery pear – Problematic

|  |                   |  |
|--|-------------------|--|
| <i>Prunus serotina</i>                                     | Black cherry      | Habit, flowers, fruits                   |
| <i>Quercus robur</i> , Pedunculate oak – Problematic       |                   |  |
| <i>Quercus alba</i>  | White oak         | Form, habit, leaf shape                  |
| <i>Quercus bicolor</i>                                     | Swamp white oak   | Form, habit, leaf shape                  |
| <i>Styphnolobium japonica</i> , Scholar tree – Problematic |                   |  |
| <i>Carya cordiformis</i>                                   | Bitternut hickory | Compound leaves, yellow fall color       |
| <i>Carya glabra</i>  | Pignut hickory    | Compound leaves, yellow fall color       |
| <i>Sassafras albidum</i>                                   | Sassafras         | Colonial, fast growing, attractive fruit |
| <i>Ulmus parvifolia</i> , Laceback elm – Problematic       |                   |  |
| <i>Platanus occidentalis</i>                               | American sycamore | Similar bark                             |
| <i>Ulmus americana</i>                                     | American elm      | Form, leaf shape                         |
| <i>Ulmus pumila</i> , Littleleaf elm – Problematic         |                   |  |
| <i>Ulmus americana</i>                                     | American elm      | Form, leaf shape                         |
| <i>Zelkova serrata</i> , Zelkova – Problematic             |                   |  |
| <i>Celtis occidentalis</i>                                 | Hackberry         | Leaf shape, fall color                   |

# Stormwater Tolerant Plants

New York City has embarked on a major effort to use green infrastructure (GI) to reduce combined sewer overflows and the flow of pollutants in stormwater into the city’s waterbodies. Green infrastructure, including Green Roofs, Right-of-Way (ROW) Bioswales, Stormwater Greenstreets, Rain Gardens, and Retention Ponds, is used to capture, store and treat stormwater at its source, before it enters the city’s combined stormwater and sewer systems. The design and construction of vegetated GI projects vary greatly by their location and by the goals for stormwater capture. For example, ROW Rain Gardens need to be designed with plants that can survive periodic inundation, drought, and harsh roadside conditions. This guide has been developed to help users identify plant species that are best suited for each specific location in the urban landscape. Within the [Native Species Description](#) section, species have been designated according to the specific stormwater management systems they are best suited for. Many of the stormwater species that are in the following lists are known to perform well based on field testing and practical experience. Many of these species are also proven performers in a variety of different soil conditions. However, in the interest of promoting innovation and diversity, some species have been included in this list based on the premise that their naturally occurring habitats and conditions suggest that they would make them excellent candidates for GI (i.e., species that are found in habitats that are seasonally flooded). These “suggested” species are annotated with an asterisk (\*). In the lists below, the zones are defined by the following categories: a) inundation, b) slopes, and c) upland. The inundation zone is the plant zone at the bottom of the soil depression of a rain garden where there can be standing water after a rainstorm. Inundation typically lasts for more than 24 hours. This zone is best planted with species that can tolerate both occasional inundation and dry periods. The slopes zone occurs along the slope of a rain garden, which is best planted with species that can survive in a variety of soil moisture conditions. The upland zone typically occurs above the slope and around the rain garden.

## RIGHT-OF-WAY RAIN GARDENS AND STORMWATER GREENSTREETS

| SCIENTIFIC NAME               | COMMON NAME            | ZONE               |
|-------------------------------|------------------------|--------------------|
| <u>Trees</u>                  |                        |                    |
| <i>Acer rubrum</i>            | Red maple              | Inundation, Slopes |
| <i>Acer saccharinum*</i>      | Silver maple           | Inundation         |
| <i>Amelanchier arborea</i>    | Common serviceberry    | Inundation, Slopes |
| <i>Amelanchier canadensis</i> | Canadian serviceberry  | Inundation         |
| <i>Amelanchier laevis</i>     | Allegheny serviceberry | Inundation         |
| <i>Betula populifolia</i>     | Gray birch             | Slopes, Upland     |
| <i>Carpinus caroliniana</i>   | American hornbeam      | Inundation         |
| <i>Celtis occidentalis</i>    | Common hackberry       | Slopes, Upland     |
| <i>Crataegus crus-galli</i>   | Cockspur hawthorn      | Upland             |
| <i>Ilex opaca</i>             | American holly         | Slopes             |
| <i>Juniperus virginiana</i>   | Eastern red cedar      | Upland             |



|                                |                   |                            |
|--------------------------------|-------------------|----------------------------|
| <i>Liquidambar styraciflua</i> | Sweetgum          | Inundation, Slopes, Upland |
| <i>Nyssa sylvatica</i>         | Black tupelo      | Inundation                 |
| <i>Platanus occidentalis</i>   | American sycamore | Inundation                 |
| <i>Quercus bicolor</i>         | Swamp white oak   | Slopes, Upland             |
| <i>Quercus palustris</i>       | Pin oak           | Inundation, Slopes, Upland |
| <i>Quercus rubra</i>           | Northern red oak  | Upland                     |
| <i>Salix nigra</i>             | Black willow      | Inundation, Slopes         |
| <i>Ulmus americana</i>         | American elm      | Slopes                     |

### Shrubs

|                                       |                      |                            |
|---------------------------------------|----------------------|----------------------------|
| <i>Alnus serrulata*</i>               | Smooth alder         | Inundation                 |
| <i>Aronia arbutifolia</i>             | Red chokeberry       | Inundation, Slopes         |
| <i>Aronia melanocarpa</i>             | Black chokeberry     | Inundation, Slopes         |
| <i>Aronia prunifolia*</i>             | Purple chokeberry    | Inundation, Slopes         |
| <i>Baccharis halimifolia</i>          | Eastern baccharis    | Inundation, Slopes         |
| <i>Cephalanthus occidentalis</i>      | Buttonbush           | Inundation, Slopes         |
| <i>Clethra alnifolia</i>              | Sweet pepperbush     | Inundation, Slopes         |
| <i>Cornus amomum</i>                  | Silky dogwood        | Inundation, Slopes         |
| <i>Cornus racemosa</i>                | Gray dogwood         | Inundation, Slopes         |
| <i>Cornus sericea</i>                 | Redosier dogwood     | Inundation, Slopes         |
| <i>Hamamelis virginiana</i>           | Witchhazel           | Slopes                     |
| <i>Ilex glabra</i>                    | Inkberry             | Inundation, Slopes, Upland |
| <i>Ilex verticillata</i>              | Winterberry          | Inundation                 |
| <i>Iva frutescens*</i>                | Marsh elder          | Inundation                 |
| <i>Lindera benzoin</i>                | Spicebush            | Inundation, Slopes, Upland |
| <i>Lyonia mariana</i>                 | Piedmont staggerbush | Slopes                     |
| <i>Lyonia lingustrina*</i>            | Maleberry            | Slopes                     |
| <i>Morella pensylvanica</i>           | Northern bayberry    | Inundation, Slopes, Upland |
| <i>Prunus maritima*</i>               | Beach plum           | Upland                     |
| <i>Rhus aromatica</i>                 | Fragrant sumac       | Slopes, Upland             |
| <i>Rosa carolina</i>                  | Carolina rose        | Upland                     |
| <i>Rosa palustris</i>                 | Swamp rose           | Inundation                 |
| <i>Rosa virginiana</i>                | Virginia rose        | Inundation, Slopes         |
| <i>Rubus hispidus*</i>                | Swamp dewberry       | Slopes, Upland             |
| <i>Sambucus nigra ssp. canadensis</i> | Common elderberry    | Inundation, Slopes, Upland |
| <i>Spiraea alba var. latifolia</i>    | Meadowsweet          | Inundation, Slopes         |
| <i>Spiraea tomentosa</i>              | Steeplebush          | Slopes                     |
| <i>Vaccinium corymbosum*</i>          | Highbush blueberry   | Inundation, Slopes, Upland |
| <i>Viburnum dentatum</i>              | Arrowwood            | Slopes                     |
| <i>Viburnum lentago</i>               | Nannyberry           | Slopes                     |
| <i>Viburnum prunifolium</i>           | Black haw            | Inundation, Slopes, Upland |

### Forbs

|                             |                        |                |
|-----------------------------|------------------------|----------------|
| <i>Ageratina altissima*</i> | Common white snakeroot | Slopes, Upland |
| <i>Apocynum cannabinum</i>  | Dogbane                | Upland         |

|                                     |                               |                            |
|-------------------------------------|-------------------------------|----------------------------|
| <i>Alisma subcordatum</i> *         | Southern water plantain       | Inundation, Slopes         |
| <i>Asclepias incarnata</i>          | Swamp milkweed                | Inundation                 |
| <i>Asclepias tuberosa</i>           | Butterflyweed                 | Slopes                     |
| <i>Boehmeria cylindrica</i> *       | False nettle                  | Inundation, Slopes         |
| <i>Cryptotaenia canadensis</i> *    | Honewort                      | Upland                     |
| <i>Desmodium canadense</i> *        | Showy tick trefoil            | Slopes, Upland             |
| <i>Eupatorium perfoliatum</i> *     | Common Boneset                | Inundation, Slopes         |
| <i>Euthamia graminifolia</i> *      | Common flat-topped goldenrod  | Slopes, Upland             |
| <i>Eutrochium dubium</i> *          | Coastal plain Joe Pye weed    | Inundation                 |
| <i>Eutrochium fistulosum</i> *      | Hollow Joe Pye weed           | Slopes                     |
| <i>Eutrochium purpureum</i> *       | Purple Joe Pye weed           | Slopes, Upland             |
| <i>Helenium autumnale</i> *         | Common sneezeweed             | Inundation, Slopes         |
| <i>Hibiscus moscheutos</i>          | Crimson-eyed rosemallow       | Inundation                 |
| <i>Iris versicolor</i>              | Harlequin blueflag            | Inundation                 |
| <i>Ludwigia alternifolia</i> *      | Alternate-leaved seed-box     | Inundation, Slopes         |
| <i>Lycopus americanus</i> *         | American bugleweed            | Inundation, Slopes         |
| <i>Oenothera biennis</i>            | Common evening primrose       | Upland                     |
| <i>Osmorhiza longistylis</i> *      | Long-styled sweet cicely      | Upland                     |
| <i>Penstemon digitalis</i>          | White Beardtongue             | Inundation, Slopes         |
| <i>Persicaria virginiana</i> *      | Jumpseed                      | Slopes, Upland             |
| <i>Phryma leptostachya</i> *        | Lopseed                       | Upland                     |
| <i>Pycnanthemum virginianum</i> *   | Virginia mountain mint        | Slopes, Upland             |
| <i>Rudbeckia hirta</i>              | Black-eyed Susan              | Upland                     |
| <i>Saururus cernuus</i> *           | Lizard's tail                 | Inundation, Slopes         |
| <i>Sisyrinchium angustifolium</i>   | Narrow-leaved blue-eyed grass | Inundation, Slopes, Upland |
| <i>Solidago canadensis</i>          | Canadian goldenrod            | Slopes                     |
| <i>Solidago juncea</i> *            | Early goldenrod               | Upland                     |
| <i>Solidago rugosa</i>              | Wrinkleleaf goldenrod         | Slopes                     |
| <i>Symphyotrichum ericoides</i> *   | Heath aster                   | Slopes, Upland             |
| <i>Symphyotrichum novae-angliae</i> | New England aster             | Slopes                     |
| <i>Symphyotrichum novi-belgii</i>   | New York aster                | Inundation                 |
| <i>Symphyotrichum pilosum</i> *     | Frostweed aster               | Upland                     |
| <i>Teucrium canadense</i> *         | American germander            | Slopes, Upland             |
| <i>Verbena hastata</i>              | Swamp verbena                 | Slopes                     |
| <i>Vernonia noveboracensis</i>      | New York ironweed             | Inundation                 |

#### Graminoids

|                                   |                        |                    |
|-----------------------------------|------------------------|--------------------|
| <i>Andropogon gerardii</i>        | Big bluestem           | Slopes, Upland     |
| <i>Andropogon glomeratus</i>      | Bushy bluestem         | Inundation         |
| <i>Andropogon virginicus</i>      | Broom sedge bluestem   | Slopes, Upland     |
| <i>Calamagrostis canadensis</i> * | Canada bluejoint grass | Inundation         |
| <i>Carex annectens</i> *          | Yellow-fruited sedge   | Slopes, Upland     |
| <i>Carex bromoides</i> *          | Brome-like sedge       | Inundation         |
| <i>Carex comosa</i> *             | Bristly sedge          | Inundation, Slopes |
| <i>Carex crinita</i> *            | Common fringed sedge   | Inundation         |

|                                     |                           |                            |
|-------------------------------------|---------------------------|----------------------------|
| <i>Carex folliculata</i> *          | Long sedge                | Inundation, Slopes         |
| <i>Carex intumescens</i> *          | Bladder sedge             | Slopes                     |
| <i>Carex lupulina</i> *             | Hope sedge                | Inundation                 |
| <i>Carex lurida</i> *               | Sallow sedge              | Inundation, Slopes         |
| <i>Carex pennsylvanica</i>          | Pennsylvania sedge        | Upland                     |
| <i>Carex rosea</i> *                | Common upland star sedge  | Slopes, Upland             |
| <i>Carex scoparia</i> *             | Pointed broom sedge       | Inundation, Slopes, Upland |
| <i>Carex silicea</i> *              | Beach sedge               | Upland                     |
| <i>Carex stipata</i> *              | Awl-fruited sedge         | Inundation, Slopes         |
| <i>Carex stricta</i> *              | Tussock sedge             | Inundation                 |
| <i>Carex vulpinoidea</i> *          | Fox sedge                 | Inundation, Slopes         |
| <i>Cinna arundinacea</i> *          | Stout woodreed            | Inundation, Slopes         |
| <i>Dichanthelium clandestinum</i> * | Deer-tongue rosette grass | Slopes                     |
| <i>Elymus virginicus</i> *          | Virginia wild rye         | Inundation, Slopes         |
| <i>Glyceria canadensis</i> *        | Rattlesnake manna grass   | Slopes                     |
| <i>Glyceria obtusa</i> *            | Coastal manna grass       | Inundation                 |
| <i>Juncus canadensis</i> *          | Canada rush               | Inundation, Slopes         |
| <i>Juncus effusus</i>               | Common rush               | Inundation                 |
| <i>Juncus gerardii</i> *            | Black grass               | Inundation                 |
| <i>Juncus tenuis</i> *              | Path rush                 | Slopes, Upland             |
| <i>Panicum virgatum</i>             | Switchgrass               | Inundation                 |
| <i>Schizachyrium scoparium</i>      | Little bluestem           | Upland                     |
| <i>Sorghastrum nutans</i>           | Yellow grass              | Upland                     |
| <u>Ferns</u>                        |                           |                            |
| <i>Polystichum acrostichoides</i> * | Christmas fern            | Slopes                     |
| <i>Thelypteris noveboracensis</i> * | New York fern             | Slopes                     |
| <i>Thelypteris palustris</i> *      | Marsh fern                | Inundation                 |

In addition to the species list above, the following ecosystems can be referenced for selecting other species that may be suited for green infrastructure projects.

- [Floodplain Forest, Bottomland Forest, Red-Maple Hardwood Swamp, and Wetland Communities](#) can provide a range of suitable species for green infrastructure projects, though attention to the salt and drought tolerance of individual species should be considered. These species are best used in the lowest areas of rain gardens that receive the most runoff and would be periodically inundated. Many of these companion plants offer quality resources for pollinator habitat throughout every season.
- [Maritime communities](#) are often a good starting point for urban green infrastructure sites, due to their tolerance of salts, high sand content in soils and tolerance of periodic inundation. Take note that green infrastructure sites can also be dry during non-rainy seasons, so plants selected should also have a range of drought tolerance.

- [\*Shrub Swamp and Successional Shrubland\*](#) offer a range of species that tolerate seasonal fluctuations in soil moisture, making them ideally suited to rain gardens and other stormwater capture installations. Successional Shrubland species often exhibit greater urban tolerance, and so are especially suited to road runoff projects.
- Grasses and herbaceous species from [\*Mixed Oak-Hickory Forest\*](#) and [\*Maritime Grasslands\*](#) communities work well on green roofs, due to their tolerance of winds, shallow soils and drought.

# Species Least Preferred by Deer

The native ecosystems and horticultural plantings in the boroughs of the Bronx and Staten Island are experiencing extreme pressure by white-tailed deer (*Odocoileus virginianus*). White-tailed deer have no natural predators in New York City and hunting is prohibited. NYC Parks is engaged in active management of the deer population on Staten Island through a male sterilization program. This effort has successfully reduced the number of deer on the island, but the population still has significant impacts on the regeneration of our forests and other habitats. There are no plant species that are truly deer resistant; white-tailed deer are herbivores and if they are hungry, they eat any plant material – even tree bark. Deer have developed preferences for the native species they have co-evolved with, but there many species that are less desirable, or that they may ignore in their grazing patterns. For these species, browsing by deer may only occur as fresh new growth appears on plants and are then ignored for the rest of the season. Planting with a high diversity of species minimizes the impact that any deer browse has in overall garden design. Aesthetically pleasing native species, which minimize horticultural inputs and maximize the benefits to pollinators and the greater ecosystem, can be used in highly designed landscapes or to offer a more natural look to a landscape. Many ferns and grasses are rarely damaged by deer and strong scented perennials are often avoided. Additional measures, such as deer fencing, may be essential to ensure complete protection of the landscape.

## FERNS

Ferns are a group of plants that are generally not preferred by deer. Fiddleheads, the new spring growth of ferns, may experience some browse. The most likely plant specimens to be affected are those along high traffic deer paths. This unfortunate collateral damage can be mitigated by planting strategically if traffic patterns are observed.

|                                   |                          |
|-----------------------------------|--------------------------|
| <i>Adiantum pedatum</i>           | Northern maidenhair fern |
| <i>Athyrium angustum</i>          | Lady fern                |
| <i>Dennstaedtia punctilobula</i>  | Hayscented fern          |
| <i>Dryopteris marginalis</i>      | Marginal woodfern        |
| <i>Onoclea sensibilis</i>         | Sensitive fern           |
| <i>Osmundastrum cinnamomea</i>    | Cinnamon fern            |
| <i>Osmunda claytoniana</i>        | Interrupted fern         |
| <i>Osmunda regalis</i>            | Royal fern               |
| <i>Polystichum acrostichoides</i> | Christmas fern           |
| <i>Thelypteris noveboracensis</i> | New York fern            |
| <i>Thelypteris palustris</i>      | Marsh fern               |

## GRAMINOIDS

Grasses make up less than 10% of a deer's annual diet. Mature grass specimens are less palatable to deer because of the coarse structure of the cellulose in the blades, which is harder to digest. Grasses are also lower in nutrients when compared to forbs or woody plants. Fresh new growth on clumping grasses may experience some browse and cool season species like wild rye (*Elymus* spp.) are foraged. Many species within the sedge family (*Cyperaceae*) are ignored by deer; listed below are a few popular choices.

|                                 |                        |
|---------------------------------|------------------------|
| <i>Agrostis perennans</i>       | Autumn bentgrass       |
| <i>Andropogon gerardii</i>      | Big bluestem           |
| <i>Andropogon virginicus</i>    | Broom sedge bluestem   |
| <i>Calamagrostis canadensis</i> | Canada bluejoint grass |
| <i>Carex crinita</i>            | Common fringed sedge   |
| <i>Carex pensylvanica</i>       | Pennsylvania sedge     |
| <i>Carex stricta</i>            | Tussock sedge          |
| <i>Carex vulpinoidea</i>        | Fox sedge              |
| <i>Elymus canadensis</i>        | Canada wild rye        |
| <i>Elymus virginicus</i>        | Virginia wild rye      |
| <i>Eragrostis spectabilis</i>   | Purple lovegrass       |
| <i>Juncus effusus</i>           | Common rush            |
| <i>Panicum virgatum</i>         | Switchgrass            |
| <i>Schizachyrium scoparium</i>  | Little bluestem        |
| <i>Scirpus cyperinus</i>        | Woolgrass              |
| <i>Sorghastrum nutans</i>       | Yellow grass           |
| <i>Tridens flavus</i>           | Purpletop              |

## FORBS

Forbs are among the most highly desired group of plants for deer. Forbs are highly nutritious, easily digestible, and available throughout each growing season. Forb species most likely to be avoided are those that are strongly scented, like a species from the mint family (*Lamiaceae*), or those with a coarse texture.

|                             |                        |
|-----------------------------|------------------------|
| <i>Actaea racemosa</i>      | Black cohosh           |
| <i>Actaea pachypoda</i>     | Doll's eyes            |
| <i>Ageratina altissima</i>  | Common white snakeroot |
| <i>Allium tricoccum</i>     | Wild leek              |
| <i>Aquilegia canadensis</i> | Wild columbine         |
| <i>Arisaema triphyllum</i>  | Jack-in-the-Pulpit     |
| <i>Asarum canadense</i>     | Wild ginger            |
| <i>Asclepias incarnata</i>  | Swamp milkweed         |
| <i>Asclepias syriaca</i>    | Common milkweed        |
| <i>Asclepias tuberosa</i>   | Butterflyweed          |
| <i>Baptisia tinctoria</i>   | Yellow wild indigo     |
| <i>Caltha palustris</i>     | Marsh marigold         |

|                                    |                               |
|------------------------------------|-------------------------------|
| <i>Caulophyllum thalictroides</i>  | Blue cohosh                   |
| <i>Chelone glabra</i>              | White turtlehead              |
| <i>Cirsium discolor</i>            | Field thistle                 |
| <i>Dicentra cucullaria</i>         | Dutchman's breeches           |
| <i>Eutrochium dubium</i>           | Coastal plain Joe Pye weed    |
| <i>Eutrochium fistulosum</i>       | Trumpetweed                   |
| <i>Eutrochium maculatum</i>        | Spotted Joe Pye weed          |
| <i>Eupatorium perfoliatum</i>      | Common boneset                |
| <i>Eutrochium purpureum</i>        | Purple Joe Pye weed           |
| <i>Eurybia divaricata</i>          | White wood aster              |
| <i>Geranium maculatum</i>          | Wild geranium                 |
| <i>Geum canadense</i>              | White avens                   |
| <i>Helenium autumnale</i>          | Common sneezeweed             |
| <i>Helianthus decapetalus</i>      | Thin-leaved sunflower         |
| <i>Helianthus divaricatus</i>      | Woodland sunflower            |
| <i>Hibiscus moscheutos</i>         | Crimson-eyed rosemallow       |
| <i>Iris versicolor</i>             | Harlequin blueflag            |
| <i>Lobelia cardinalis</i>          | Cardinalflower                |
| <i>Lobelia siphilitica</i>         | Great blue lobelia            |
| <i>Mimulus ringens</i>             | Allegheny monkeyflower        |
| <i>Monarda fistulosa</i>           | Wild bergamot                 |
| <i>Monarda punctata</i>            | Spotted beebalm               |
| <i>Oenothera biennis</i>           | Common evening primrose       |
| <i>Oenothera fruticosa</i>         | Narrowleaf evening primrose   |
| <i>Opuntia humifusa</i>            | Eastern prickly pear          |
| <i>Packera aurea</i>               | Golden ragwort                |
| <i>Penstemon digitalis</i>         | White Beardtongue             |
| <i>Podophyllum peltatum</i>        | Mayapple                      |
| <i>Potentilla canadensis</i>       | Dwarf cinquefoil              |
| <i>Potentilla fruticosa</i>        | Shrubby cinquefoil            |
| <i>Potentilla simplex</i>          | Common cinquefoil             |
| <i>Pycnanthemum incanum</i>        | Hoary mountain mint           |
| <i>Pycnanthemum tenuifolium</i>    | Narrowleaf mountain mint      |
| <i>Pycnanthemum virginianum</i>    | Virginia mountain mint        |
| <i>Rudbeckia hirta</i>             | Black-eyed Susan              |
| <i>Sanguinaria canadensis</i>      | Bloodroot                     |
| <i>Sisyrinchium angustifolium</i>  | Narrow-leaved blue-eyed grass |
| <i>Solidago caesia</i>             | Wreath goldenrod              |
| <i>Solidago canadensis</i>         | Canada goldenrod              |
| <i>Solidago rugosa</i>             | Wrinkleleaf goldenrod         |
| <i>Solidago sempervirens</i>       | Seaside goldenrod             |
| <i>Symphotrichum ericoides</i>     | White heath aster             |
| <i>Symphotrichum laeve</i>         | Smooth blue aster             |
| <i>Symphotrichum novae-angliae</i> | New England aster             |
| <i>Symphotrichum novi-belgii</i>   | New York aster                |

*Symplocarpus foetidus*  
*Teucrium canadense*  
*Thalictrum dioicum*  
*Thalictrum pubescens*  
*Tradescantia virginiana*  
*Verbena hastata*  
*Verbena urticifolia*  
*Vernonia noveboracensis*

Skunk cabbage  
American germander  
Early meadow-rue  
Tall meadow-rue  
Spiderwort  
Swamp verbena  
White vervain  
New York ironweed

## WOODY SPECIES

Woody species are a favorite among deer for their fruits and seeds as well as the tender leaves and twigs of new growth. Shrubs and trees are targeted every season as a potential food source. Some species are avoided because of their toxicity level or coarse texture. Forest regeneration is increasingly threatened by the presence of deer and their preference for tree nuts, fruits, and tender saplings.

### Vines

*Clematis virginiana*  
*Lonicera sempervirens*  
*Parthenocissus quinquefolia*

Virginia virgin's bower  
Trumpet honeysuckle  
Virginia creeper

### Shrubs

*Amelanchier canadensis*  
*Aronia arbutifolia*  
*Aronia melanocarpa*  
*Cephalanthus occidentalis*  
*Clethra alnifolia*  
*Cornus amomum*  
*Cornus racemosa*  
*Cornus sericea*  
*Corylus americana*  
*Crataegus crus-galli*  
*Eubotrys racemosa*  
*Hamamelis virginiana*  
*Ilex glabra*  
*Ilex verticillata*  
*Juniperus virginiana*  
*Kalmia angustifolia*  
*Kalmia latifolia*  
*Lindera benzoin*  
*Morella pensylvanica*  
*Oenothera fruticose*  
*Prunus maritima*  
*Rhododendron periclymenoides*  
*Rhododendron viscosum*

Canadian serviceberry  
Red chokeberry  
Black chokeberry  
Buttonbush  
Sweet pepperbush  
Silky dogwood  
Gray dogwood  
Redosier dogwood  
American hazelnut  
Cockspur hawthorn  
Swamp doghobble  
Witchhazel  
Inkberry  
Winterberry  
Eastern red cedar  
Sheep laurel  
Mountain laurel  
Spicebush  
Northern bayberry  
Narrowleaf evening primrose  
Beach plum  
Pinxterbloom azalea  
Swamp azalea



|  |                           |
|--|---------------------------|
| <i>Rhus aromatica</i>                        | Fragrant sumac            |
| <i>Rubus allegheniensis</i>                  | Common blackberry         |
| <i>Rubus occidentalis</i>                    | Black raspberry           |
| <i>Rubus odoratus</i>                        | Purpleflowering raspberry |
| <i>Rubus pensilvanicus</i>                   | Pennsylvania blackberry   |
| <i>Sambucus nigra</i> ssp. <i>canadensis</i> | Common elderberry         |
| <i>Spiraea alba</i> var. <i>latifolia</i>    | Meadowsweet               |
| <i>Spiraea tomentosa</i>                     | Steeplebush               |
| <i>Vaccinium corymbosum</i>                  | Highbush blueberry        |
| <i>Vaccinium pallidum</i>                    | Blue Ridge blueberry      |
| <i>Viburnum acerifolium</i>                  | Mapleleaf viburnum        |
| <i>Viburnum dentatum</i>                     | Arrowwood                 |
| <i>Viburnum prunifolium</i>                  | Black haw                 |

### Trees

|                                |                     |
|--------------------------------|---------------------|
| <i>Acer negundo</i>            | Boxelder            |
| <i>Acer rubrum</i>             | Red maple           |
| <i>Acer saccharinum</i>        | Silver maple        |
| <i>Acer saccharum</i>          | Sugar maple         |
| <i>Amelanchier arborea</i>     | Common serviceberry |
| <i>Betula alleghaniensis</i>   | Yellow birch        |
| <i>Betula lenta</i>            | Black birch         |
| <i>Betula populifolia</i>      | Gray birch          |
| <i>Cornus florida</i>          | Flowering dogwood   |
| <i>Fagus grandifolia</i>       | American beech      |
| <i>Ilex opaca</i>              | American holly      |
| <i>Liquidambar styraciflua</i> | Sweetgum            |
| <i>Nyssa sylvatica</i>         | Black tupelo        |
| <i>Pinus rigida</i>            | Pitch pine          |
| <i>Pinus strobus</i>           | White pine          |
| <i>Platanus occidentalis</i>   | American sycamore   |
| <i>Prunus serotina</i>         | Black cherry        |
| <i>Sassafras albidum</i>       | Sassafras           |
| <i>Ulmus americana</i>         | Marsh fern          |

### **GROUNDCOVERS**

Bare soil is often colonized by non-native plant species. Planting native groundcovers can help discourage invasive species from taking hold in the landscape. Leaf texture and prickles on stems can deter deer from browsing the groundcover.

|                                |                    |
|--------------------------------|--------------------|
| <i>Anemone quinquefolia</i>    | Wood anemone       |
| <i>Arctostaphylos uva-ursi</i> | Bearberry          |
| <i>Asarum canadense</i>        | Wild ginger        |
| <i>Carex pensylvanica</i>      | Pennsylvania sedge |
| <i>Fragaria virginiana</i>     | Wild strawberry    |

*Mitchella repens*  
*Potentilla canadensis*  
*Potentilla simplex*  
*Rubus flagellaris*  
*Rubus hispidus*  
*Vaccinium angustifolium*

Partridgeberry  
Dwarf cinquefoil  
Common cinquefoil  
Northern dewberry  
Swamp dewberry  
Lowbush blueberry

# Planting in the Built Environment

Plant communities found in the built environment include unique assemblages of species that tolerate disturbance and stress. Soil composition, microclimate, and resource availability are highly dependent on the land use history of a project site and impact plant survivability. Just as the constructed parts of our city vary from developed high-rises to abandoned lots, the plant species thriving in our city vary by niche, from streetscapes and plazas to open lots and privately owned parks or yards.

The palette of our natural plant communities can be used to help select the right plant species for the right urban place. Understanding the conditions that these plants naturally occur in reveals the compatibility of a particular species to a project's site conditions.

Often when planting in built environments, plant size selection and seed mixes can be critical to the success of the design. Consultation with experts can help ensure the proper quantities, spacing, and methods for installation are applied when using native plant species. For example, the diversity of a native seed mix and the proper ratio of grasses and forbs differs by habitat and site conditions. Additionally, when planting perennials (bare rooted or of any size class) tighter spacing aids in quick establishment and soil coverage. It will also result in more efficient sharing of moisture and nutrients, making a planting more drought tolerant from the outset.

## Altered Landscapes

Highly altered landscapes, which are common to urban areas, can be some of the most challenging sites to select plants for. Some of the many issues that need to be considered when planting in urban sites are pollution, compaction, poor soils (i.e., nutrient deficient, contaminated, high pH), runoff, drought, and maintenance. These conditions may lead people to fall back on a palette of mostly non-native plants because of the belief that “nothing else will grow there.” In reality, many native pioneer species already successfully inhabit and thrive in abandoned lots and rail lines, cracks in the concrete, and roadsides.

- Many of the species found in [Successional Communities - Old Fields and Urban Lots](#), are the ideal species to consider for challenging sites. Designers should consider these species for a variety of urban parks.
- Poor soils with low nutrients, or other soils with high content of magnesium or other metals, where remediation or restoration is not possible or desired, can prove challenging for landscaping. Plants from the [Serpentine Barrens](#) community may be appropriate, given their adaptations to thrive in low-nutrient soils close to bedrock. Their native soil conditions are only found on Staten Island; however, these plants can be considered for use in other disturbed soils.
- For new parks or sites with minimal canopy, [Successional Mixed Hardwoods](#) provide a range of species that are hardy, establish quickly, and tolerate a range of soils. Utilizing a successional planting approach to reach a desired climax habitat is necessary for the long term sustainability of a healthy ecosystem.

## Closed Canopy Projects

Many established parks have a dense tree canopy that can limit the amount of sun and nutrients that reach the forest floor. In projects that aim to expand understory species diversity, there are a range of opportunities to use native plants. Knowing the habitat your project is situated within can help guide you to species that are suitable for the existing conditions.

- In openings in the established canopy that are being expanded into planting beds, the species of the [Oak Opening](#) community would be appropriate and most beneficial to the fauna traveling in between the fragmented forest.
- In areas within the established canopy, the species of [Rich Mesophytic Forest](#), [Oak-Tulip Tree Forest](#) and [Chestnut Oak Forest](#) are well suited to the topsoil specified in Parks' projects and provide a wide range of understory and herbaceous diversity.
- For areas with greater salt exposure, species from [Maritime Oak Forest](#) and [Successional Maritime Oak Forest](#) may be well suited, though this community is dominated by a shrub layer and offers few herbaceous selections.
- For greater drought tolerance, species listed in the [Mixed Oak-Hickory Forest](#) ecosystem have adapted well to shallow soils, low water, and exposure.
- Creating vegetative buffers near or around natural areas can help protect and enhance high quality habitat, while helping to facilitate pollinator connectivity. The [Natural Area](#) typologies section, which include coastal, bluebelt and brackish habitats, as well as woodland and open edges, recommends species appropriate for vegetative buffers.

## Invaded wetlands

Many of New York City's wetlands have been subject to filling and dumping that drastically changed the soil, hydrology, and native plant communities, for example through invasion by prolific species such as common reed (*Phragmites australis*). Restoration in these degraded wetlands is a long-term, often high-effort process and requires a multi-pronged approach that includes understanding the current soils and hydrologic conditions and whether these conditions can be changed to help suppress invasive species and to allow native plant species to thrive. If appropriate conditions are present or can be established, native plants can be introduced and cared for to help colonize newly disturbed land, remediate the soil, and compete with the aggressive invasive species. Each site is different, and existing and future physical and ecological conditions need to be considered when selecting species. For example, in coastal areas in particular, sea level rise might increase tidal inundation and help suppress *Phragmites*. In these locations planting salt marsh species might aid in the invasive plant control.

### Recommended Plants for Freshwater Systems:

#### Graminoids

*Calamagrostis canadensis*

Canada bluejoint grass

*Carex atlantica*

Prickly bog sedge

*Carex crinita*

Common fringed sedge

*Carex stricta*  
*Juncus canadensis*  
*Juncus effusus*  
*Panicum virgatum*  
*Scirpus cyperinus*  
*Schoenoplectus tabernaemontani*

Tussock sedge  
Canadian rush  
Common rush  
Switchgrass  
Woolgrass  
Softstem bulrush

#### Forbs

*Decodon verticillatus*  
*Hibiscus moscheutos*  
*Solidago rugosa*

Swamp loosestrife  
Crimson-eyed rosemallow  
Wrinkleleaf goldenrod

#### Vines

*Parthenocissus quinquefolia*  
*Vitis labrusca*  
*Vitis riparia*

Virginia creeper  
Fox grape  
River grape

#### Shrubs

*Baccharis halimifolia*  
*Cephalanthus occidentalis*  
*Iva frutescens*  
*Rubus pensilvanicus*  
*Sambucus nigra* ssp. *canadensis*

Eastern baccharis  
Buttonbush  
Marsh elder  
Pennsylvania blackberry  
Common elderberry

### Recommended Plants for Saltwater Systems:

#### Graminoids

*Bolboschoenus robustus*  
*Calamagrostis canadensis*  
*Distichlis spicata*  
*Juncus gerardii*  
*Panicum virgatum*  
*Schoenoplectus pungens*  
*Spartina alterniflora*  
*Spartina cynosuroides*  
*Spartina patens*

Seacoast bulrush  
Canada bluejoint grass  
Saltgrass  
Saltmeadow rush  
Switchgrass  
Common threesquare  
Smooth cordgrass  
Big cordgrass  
Saltmeadow cordgrass

#### Forbs

*Hibiscus moscheutos*  
*Pluchea odorata*  
*Solidago sempervirens*  
*Symphotrichum tenuifolium*  
*Teucrium canadense*

Crimson-eyed rosemallow  
Saltmarsh fleabane  
Seaside goldenrod  
Perennial saltmarsh aster  
American germander

#### Shrubs

*Baccharis halimifolia*  
*Iva frutescens*

Eastern baccharis  
Marsh elder

## Street Trees Beds

Street trees are essential to New York City's landscape, enhancing neighborhood health and beauty despite challenging growing conditions. To thrive, champion plants in tree beds must be drought-tolerant and resilient to salt spray. When herbaceous plants are incorporated into tree beds, their roots help retain soil moisture by reducing compaction, improving water infiltration, and preventing erosion by holding the soil together.

Successfully establishing plants in tree beds requires extra care during their first two years. This includes weeding, watering frequently, using mulch to retain moisture, installing tree guards to protect the beds, and posting signage to indicate their active care. Street Tree Habitats is a project started by Greenbelt Native Plant Center that uses data submitted by stewards across the boroughs to learn about the ability of certain species to thrive in the challenging environments of street tree beds. Data submitted by stewards participating in the Street Tree Habitats project in 2023 showed drought was the leading cause of plant loss, highlighting the importance of proper watering. Plants should be watered at least once a week, and more frequently during particularly hot or dry conditions.

Keep in mind the shade conditions of the tree bed when selecting a species to plant, as some will tolerate shade while others require full sun.

*\*Species marked with an asterisk have shown higher overall survival in the Street Tree Habitats Project.*

### Recommended Plants:

#### Ferns

*Polystichum acrostichoides*

Christmas fern

#### Graminoids

*Avenella flexuosa*

Wavy hairgrass

*Carex blanda*\*

Eastern woodland sedge\*

*Carex communis*

Fibrousroot sedge

*Carex pennsylvanica*

Pennsylvania sedge

*Carex rosea*

Rosy sedge

*Carex silicea*\*

Beach Sedge\*

*Carex swanii*

Swan's sedge

*Danthonia compressa*

Flattened oatgrass

*Danthonia spicata*

Poverty oatgrass

*Elymus hystrix*

Eastern bottlebrush grass

*Eragrostis spectabilis*

Purple lovegrass

*Juncus tenuis*

Path rush

#### Forbs

*Anaphalis margaritacea*  
*Antennaria plataginifolia*  
*Aquilegia canadensis*  
*Eurybia divaricata*  
*Fragaria virginiana\**  
*Geum canadense*  
*Ionactis linariifolius*  
*Oenothera biennis*  
*Potentilla canadensis*  
*Potentilla simplex*  
*Pycnanthemum tenuifolium*  
*Rudbeckia hirta\**  
*Solidago bicolor*  
*Solidago caesia\**  
*Solidago nemoralis*  
*Symphotrichum laeve\**  
*Symphotrichum pilosum*  
*Viola sororia*

#### Shrubs

*Aronia arbutifolia*  
*Gaylussacia baccata*  
*Ilex glabra*  
*Prunus maritima*  
*Rosa carolina*  
*Rosa virginiana*  
*Sambucus nigra ssp. canadensis*  
*Vaccinium angustifolium*

#### Trees

*Acer rubrum*  
*Amelanchier canadensis*  
*Carpinus caroliniana*  
*Celtis occidentalis*  
*Cornus florida*  
*Liquidambar styraciflua*  
*Liriodendron tulipifera*  
*Quercus palustris*

Pearly everlasting  
Woman's tobacco  
Wild columbine  
White wood aster  
Wild strawberry\*  
White avens  
Flaxleaf whitetop aster  
Common evening primrose  
Dwarf cinquefoil  
Common cinquefoil  
Narrowlead mountain mint  
Black-eyed Susan\*  
White goldenrod  
Wreath goldenrod\*  
Gray goldenrod  
Smooth blue aster\*  
Hairy white oldfield aster  
Common blue violet

Red chokeberry  
Black huckleberry  
Inkberry  
Beach plum  
Carolina rose  
Virginia rose  
Common elderberry  
Lowbush blueberry

Red maple  
Canadian Serviceberry  
American hornbeam  
Common hackberry  
Flowering dogwood  
Sweetgum  
Tulip poplar  
Pin oak

## Pollinator Habitats

A new Parks initiative stresses the planting of gardens and landscapes in our city parks with plants that are known to offer support to a diverse population of insects, birds and small mammals. *Pollinator Place*'s are native plant installations in traditionally landscaped areas intended to support biodiversity and provide a lush swath of flowering plants, specifically targeted at pollinating insects. Plants that are native to the local NYC region offer greater ecosystem benefits to area wildlife when contrasted with plants brought here by humans, and as such should be dominant in all settings across our Park system. This initiative has provided some insights into specific plant species that do well in tough urban settings but provide essential support to our local wildlife. We encourage the use of the following species for all settings, but particularly in gardens intended to attract our local fauna, and where considerations of ornamentality exist. The below are all known to be of special value to native bees, butterflies, moths, flower flies, or other insects. However, if you are limited on time and resources but still want to provide useful plants to pollinators, remember this rule of three: plant asters (*Symphyotrichum*, *Eurybia*, etc.), goldenrods (*Solidago*, *Euthamia*), and sunflowers (*Helianthus*, *Heliopsis*). The below is by no means an exhaustive list.

### Ferns

|                                  |                |
|----------------------------------|----------------|
| <i>Polystichum acrosticoides</i> | Christmas Fern |
| <i>Pteridium aquilinum</i>       | Brackenfern    |

### Graminoids

|                                |                  |
|--------------------------------|------------------|
| <i>Panicum virgatum</i>        | Switchgrass      |
| <i>Andropogon gerardii</i>     | Big Bluestem     |
| <i>Schizachyrium scoparium</i> | Little Blue Stem |
| <i>Carex vulpinodea</i>        | Fox Sedge        |

### Forbs

|                                     |                            |
|-------------------------------------|----------------------------|
| <i>Ageratina altissima</i> White    | Snakeroot                  |
| <i>Anaphalis margaritacea</i>       | Pearly Everlasting         |
| <i>Asclepias incarnata</i> Swamp    | Milkweed                   |
| <i>Asclepias tuberosa</i>           | Butterfly Weed             |
| <i>Baptisia tinctoria</i> Yellow    | Wild Indigo                |
| <i>Eupatorium hyssopifolium</i>     | Hyssop-leaved Thoroughwort |
| <i>Euthamia graminifolia</i>        | Flat Top Goldenrod         |
| <i>Eutrochium maculatum</i> Spotted | Joe Pye Weed               |
| <i>Helenium autumnale</i>           | Sneezeweed                 |
| <i>Helianthus decapetalus</i>       | Thin-leaved Sunflower      |
| <i>Helianthus divaricata</i>        | Woodland Sunflower         |
| <i>Lobelia siphilitica</i>          | Great Blue Lobelia         |
| <i>Monarda fistulosa</i>            | Wild Bergamot              |
| <i>Packera aurea</i>                | Golden Ragwort             |
| <i>Physostegia virginiana</i>       | Obedient Plant             |



*Euthamia graminifolia*  
*Penstemon digitalis*  
*Pycnanthemum incanum*  
*Rudbeckia hirta*  
*Rudbeckia triloba*  
*Solidago nemoralis*  
*Solidago speciosa*  
*Symphotrichum cordifolium*  
*Symphotrichum novae-angliae*  
*Verbena hastata*  
*Vernonia noveboracensis*  
*Zizia aurea*

Flat Top Goldenrod  
Foxglove Beardtongue  
Hoary Mountain Mint  
Black-eyed Susan  
Brown Eyed Susan  
Gray Goldenrod  
Showy Goldenrod  
Blue Wood Aster  
New England Aster  
Swamp Verbena  
New York Ironwood  
Golden Alexanders

### Shrubs

*Aronia melanocarpa*  
*Ceanothus americanus*  
*Clethra alnifolia*  
*Comptonia peregrina*  
*Cornus sericea*  
*Dasiphora fruticosa*  
*Diervilla lonicera*  
*Lindera benzoin*  
*Quercus illicifolia*  
*Rhus aromatica*  
*Rosa carolina*  
*Rubus odoratus*  
*Spiraea alba var. latifolia*  
*Spiraea tomentosa*  
*Viburnum acerfolium*  
*Viburnum dentatum*

Black Chokeberry  
New Jersey Tea  
Sweet Pepperbush  
Sweet Fern  
Red Osier Dogwood  
Shrubby Cinquefoil  
Northern Bush Honeysuckle  
Spicebush  
Bear Oak  
Fragrant Sumac  
Carolina Rose  
Flowering Raspberry  
Meadowsweet  
Steeplebush  
Mapleleaf Viburnum  
Arrowwood

### Trees

*Amelanchier arborea*  
*Amelanchier canadensis*  
*Cornus florida*  
*Prunus serotina*  
*Quercus alba*  
*Quercus coccinea*

Common Serviceberry  
Canadian Serviceberry  
Flowering Dogwood  
Black Cherry  
White Oak  
Scarlet Oak

# Common Conditions in NYC

## Plants for open, wet to moist soil

### Ferns

*Onoclea sensibilis*

Sensitive fern

### Graminoids

*Calamagrostis canadensis*

Canada bluejoint grass

*Carex crinita*

Common fringed sedge

*Carex intumescens*

Bladder sedge

*Carex lurida*

Sallow sedge

*Carex scoparia*

Pointed broom sedge

*Carex vulpinoidea*

Fox sedge

*Dichanthelium clandestinum*

Deer-tongue rosette grass

*Dulichium arundinaceum*

Three-way sedge

*Juncus effusus*

Common rush

*Leersia oryzoides*

Rice cutgrass

*Scirpus atrovirens*

Green bulrush

*Scirpus cyperinus*

Woolgrass

*Schonoplectus pungens*

Common threesquare

### Forbs

*Asclepias incarnata*

Swamp milkweed

*Chelone glabra*

White turtlehead

*Eutrochium maculatum*

Spotted Joe Pye weed

*Eupatorium perfoliatum*

Common Boneset

*Hibiscus moscheutos*

Crimson-eyed rosemallow

*Iris versicolor*

Harlequin blueflag

*Lobelia cardinalis*

Cardinalflower

*Packera aurea*

Golden ragwort

*Symphyotrichum lanceolatum*

Lance-leaved aster

*Symphyotrichum novae-angliae*

New England aster

*Symphyotrichum novi-belgii*

New York aster

*Verbena hastata*

Swamp verbena

*Vernonia noveboracensis*

New York ironweed

### Shrubs

*Clethra alnifolia*

Sweet pepperbush

*Cephalanthus occidentalis*

Buttonbush

*Cornus amomum*

Silky dogwood

*Cornus racemosa*

Gray dogwood

*Cornus sericea*

Red-osier dogwood

*Hamamelis virginiana*

Witchhazel

*Ilex glabra*

Inkberry

*Ilex verticillate*

Winterberry

*Lindera benzoin*

Spicebush

*Rosa palustris*

Swamp rose

*Salix discolor*

Pussy willow

*Sambucus nigra ssp. canadensis*

Common elderberry

### Trees

*Betula populifolia*  
*Salix nigra*

Gray birch  
Black willow

## **Plants for open, dry sites**

### Ferns

*Dennstaedtia punctilobula*

Hayscented fern

### Graminoids

*Andropogon virginicus*  
*Andropogon gerardii*  
*Carex swanii*  
*Dichanthelium clandestinum*  
*Eragrostis spectabilis*  
*Juncus tenuis*  
*Panicum virgatum*  
*Schizachyrium scoparium*  
*Sorghastrum nutans*  
*Sporobolus heterolepis*

Broomsedge  
Big bluestem  
Swan's sedge  
Deertongue  
Purple lovegrass  
Path rush  
Switchgrass  
Little bluestem  
Yellow grass  
Prairie dropseed

### Forbs

*Asclepias syriaca*  
*Asclepias tuberosa*  
*Chamaecrista fasciculata*  
*Eupatorium serotinum*  
*Euthamia graminifolia*  
*Helianthus divaricatus*  
*Heliopsis helianthoides*  
*Ionactis linarifolia*  
*Monarda fistulosa*  
*Penstemon digitalis*  
*Pycnanthemum tenuifolium*  
*Rudbeckia hirta*  
*Solidago caesia*  
*Solidago sempervirens*  
*Symphotrichum leave*  
*Tradescantia virginiana*

Common milkweed  
Butterfly milkweed  
Partridge pea  
Late throughwort  
Common flat-topped goldenrod  
Woodland sunflower  
Smooth oxeye  
Stiff aster  
Wild bergamot  
Foxglove beardtongue  
Narrowleaf mountainmint  
Black-eyed Susan  
Wreath goldenrod  
Seaside goldenrod  
Smooth blue aster  
Spiderwort

### Woody Vines

*Parthenocissus quinquefolia*

Virginia creeper

### Shrubs

*Amelanchier canadensis*  
*Amelanchier laevis*  
*Aronia arbutifolia*  
*Aronia melanocarpa*  
*Hamamelis virginiana*  
*Morella pensylvanica*  
*Rhus aromatica*

Canada serviceberry  
Allegheny serviceberry  
Red chokeberry  
Black chokeberry  
American witch-Hazel  
Northern bayberry  
Fragrant sumac

*Rhus copallinum*  
*Rhus typhina*  
*Rosa carolina*  
*Viburnum prunifolium*

Winged sumac  
Staghorn sumac  
Carolina rose  
Blackhawk viburnum

#### Trees

*Betula lenta*  
*Betula populifolia*  
*Carpinus caroliniana*  
*Celtis occidentalis*  
*Pinus rigida*  
*Quercus rubra*  
*Quercus stellata*  
*Quercus velutina*  
*Sassafras albidum*  
*Tilia americana*

Sweet birch  
Gray birch  
Ironwood  
Hackberry  
Pitch pine  
Red oak  
Post oak  
Black oak  
Sassafras  
American basswood

### **Plants for shaded moist to wet sites**

#### Ferns

*Adiantum pedatum*  
*Athyrium angustum*  
*Matteuccia struthiopteris*  
*Onoclea sensibilis*  
*Osmundastrum cinnamomeum*  
*Osmunda regalis*  
*Thelypteris palustris*

Northern maidenhair fern  
Lady fern  
Ostrich fern  
Sensitive fern  
Cinnamon fern  
Royal fern  
Marsh fern

#### Graminoids

*Carex lurida*  
*Carex vulpinoidea*  
*Elymus virginicus*  
*Juncus effusus*

Shallow sedge  
Fox sedge  
Virginia wild rye  
Common rush

#### Forbs

*Asclepias incarnata*  
*Eupatorium perfoliatum*  
*Eutrochium fistulosum*  
*Eupatorium perfoliatum*  
*Helianthus decapetalus*  
*Lobelia cardinalis*  
*Lobelia siphilitica*  
*Ludwigia alternifolia*  
*Mimulus ringens*  
*Packera aurea*  
*Symphyotrichum novae-angliae*  
*Verbena hastata*

Swamp milkweed  
Common Boneset  
Hollow Joe Pye weed  
Common Boneset  
Cardinal flower  
Great blue lobelia  
Seedbox  
Allegheny monkeyflower  
Golden ragwort  
New England aster  
Swamp verbena

#### Shrubs

*Clethra alnifolia*  
*Hamamelis virginiana*  
*Lindera benzoin*

Sweet pepperbush  
Witchhazel  
Spicebush

*Vaccinium corymbosum*  
*Viburnum lantanoides*

Highbush blueberry  
Hobblebush

#### Trees

*Carpinus caroliniana*  
*Chionanthus virginicus*

American hornbeam  
Fringetree

### **Plants for disturbed forest understories**

#### Ferns

*Dennstaedtia punctilobula*  
*Polystichum acrostichoides*  
*Thelypteris noveboracensis*

Hayscented fern  
Christmas fern  
New York fern

#### Graminoids

*Carex pensylvanica*  
*Carex radiata*  
*Carex rosea*  
*Danthonia compressa*  
*Danthonia spicata*  
*Juncus tenuis*

Pennsylvania sedge  
Eastern star sedge  
Common upland star sedge  
Flattened oatgrass  
Poverty oatgrass  
Path rush

#### Forbs

*Ageratina altissima*  
*Eurybia divaricata*  
*Geum canadense*  
*Persicaria virginiana*  
*Solidago caesia*  
*Symphotrichum cordifolium*  
*Viola sororia*

Common white snakeroot  
White wood aster  
White avens  
Jumpseed  
Wreath goldenrod  
Blue wood aster  
Common blue violet

#### Woody Vines

*Parthenocissus quinquefolia*

Virginia creeper

#### Shrubs

*Amelanchier spicata*  
*Cornus rugosa*  
*Corylus americana*  
*Rubus allegheniensis*  
*Rubus odoratus*  
*Viburnum dentatum*

Dwarf serviceberry  
Round-leaved dogwood  
American hazelnut  
Common blackberry  
Purpleflowering raspberry  
Arrowwood

### **Plants for slope and soil stabilization in open sites**

(\*Denotes the species is an annual and may be appropriate for a cover crop)

#### Graminoids

*Andropogon virginicus*  
*Dichanthelium clandestinum*  
*Elymus canadensis*  
*Elymus virginicus*  
*Juncus tenuis*

Broom sedge bluestem  
Deertongue  
Canada wild rye  
Virginia wild rye  
Path rush

*Panicum virgatum*  
*Schizachyrium scoparium*  
*Tridens flavus*

Switchgrass  
Little bluestem  
Purpletop

#### Forbs

*Apocynum cannabinum*  
*Asclepias syriaca*  
*Chamaecrista fasciculata\**  
*Chamaecrista nictitans\**  
*Diodia teres\**  
*Euthamia caroliniana*  
*Euthamia graminifolia*  
*Lobelia inflata\**  
*Oenothera biennis\**  
*Pseudognaphalium obtusifolium\**  
*Solidago juncea*  
*Solidago rugosa*  
*Symphyotrichum lanceolatum*  
*Symphyotrichum novae-angliae*  
*Symphyotrichum pilosum*  
*Verbena urticifolia\**

Dogbane  
Common milkweed  
Partridge pea  
Wild sensitive plant  
Poorjoe  
Slender goldentop  
Common flat-topped goldenrod  
Bladder-pod lobelia  
Common evening primrose  
Rabbit-tobacco  
Early goldenrod  
Wrinkleleaf goldenrod  
Lance-leaved aster  
New England aster  
Frostweed aster  
White vervain

#### Woody Vines

*Parthenocissus quinquefolia*

Virginia creeper

#### Shrubs

*Cornus racemosa*  
*Morella pensylvaica*  
*Rhus copallinum*  
*Rhus glabra*  
*Rhus typhina*  
*Rubus allegheniesis*  
*Rubus flagellaris*  
*Rubus occidentalis*  
*Viburnum dentatum*

Gray dogwood  
Northern bayberry  
Winged sumac  
Smooth sumac  
Staghorn sumac  
Common blackberry  
Northern dewberry  
Black raspberry  
Arrowwood

#### Trees

*Betula populifolia*  
*Celtis occidentalis*  
*Populus deltoides*  
*Populus grandidentata*  
*Prunus serotina*  
*Sassafras albidum*

Gray birch  
Common hackberry  
Cottonwood  
Bigtooth aspen  
Black cherry  
Sassafras

# Native Plant Descriptions

Successful plant communities are usually composed of a combination of various species in unique proportions. These proportions characterize the various ecological communities described in the guide. For instance, trees are largely absent from coastal dune communities, but form the dominant vegetation in a bottomland forest. Effective planting strategies can be based on supplementing existing vegetation to replicate the plant communities of naturally occurring ecosystems, depending on careful analysis of soils, light conditions, and hydrologic resources. It is important to consider the mature size of selected plants to best determine the appropriate spacing.

The following section contains descriptions of common native species representative of the existing metropolitan flora all of which are suitable for planting in the five boroughs. All of the species in the various lists above can be found in this section. We have compiled research on many important ecological characteristics for the species in this guide. However, information on every characteristic is not available for every species and we note this where applicable. If you are looking for more information about a specific species, please consult staff at the Greenbelt Native Plant Center, your local Landscape Architects, or one of the online resources in the resources section of this guide. In addition to species that are not native to this area, a number of species in the flora of New York City are considered [rare, threatened, or endangered](#). It is not recommended that these species are planted, as a particular protocol needs to be followed to properly reintroduce them to the landscape; these species have not been included in this guide.

Species names that have been denoted with a (†) are **not** available from the Greenbelt Native Plant Center. Unavailability is attributed to one of three factors: germplasm is not available in the seed bank, naturally occurring populations are not large enough for collection, or populations in the metropolitan region (defined as a 50-100-mile radius around the city) have not been located.

Some of the information presented is technical in nature, so to assist the reader the following tables are provided to clarify the data.

## Wetland Classification:

| Indicator Code | Indicator Status    | Designation   | Comment   |
|----------------|---------------------|---------------|---|
| OBL            | Obligate Wetland    | Hydrophyte    | Almost always occurs in wetlands                          |
| FACW           | Facultative Wetland | Hydrophyte    | Usually occurs in wetlands, but may occur in non-wetlands |
| FAC            | Facultative         | Hydrophyte    | Occurs in wetlands and non-wetlands                       |
| FACU           | Facultative Upland  | Nonhydrophyte | Usually occurs in non-wetlands, but may occur in wetlands |
| UPL            | Obligate Upland     | Nonhydrophyte | Almost never occurs in wetlands                           |
| NC             | Not classified      |               | Species has no wetland classification                     |

Salt Tolerance:

| <b>Designation</b>                 | <b>Definition</b>   |
|------------------------------------|---|
| High tolerance                     | The plant naturally exists in habitats in close proximity to salt water and can tolerate being flooded with salt water either daily or occasionally.  |
| Tolerant                           | Can be exposed to salt spray or occasional salt water inundation. Good candidates for street edges, where winter road salting occurs.   |
| Moderately tolerant                | Can be exposed to salt spray, but may be intolerant to salt water inundation or coastal flooding.   |
| Low tolerance                      | Minimum exposure to salt spray and intolerant to salt water inundation.   |
| Intolerant                         | Not tolerant to salt water inundation or salt spray.  |
| Insufficient research to determine | Current research is not available or has not been found to determine its tolerance to salt. Consider the plants' natural habitat and its likely association with salt as a potential indicator. |

Soil pH

| <b>pH</b>   | <b>Soil Category</b>                        |
|-------------|---|
| <3.0        | Severely acidic                             |
| 3.01 – 4.0  | Strongly acidic                             |
| 4.01 – 5.5  | Moderately acidic                           |
| 5.51 to 6.8 | Slightly acidic (optimum for many plants)   |
| 6.81 – 7.2  | Near neutral (optimum for many plants)      |
| 7.21 – 7.5  | Slightly alkaline (optimum for many plants) |
| 7.51 – 8.5  | Moderately alkaline                         |
| >8.5        | Strongly alkaline                           |

Shade Tolerance:

| <b>Designation</b>        | <b>Definition</b>   |
|---------------------------|---|
| Shade tolerant            | Can handle fully shaded habitats, ranging from 2-25% sun exposure |
| Tolerant of partial shade | Can handle limited shade, 25-50% sun needed                       |
| Intolerant                | Needs full sun, 50-100% sun exposure                              |



Stormwater Tolerance:

| <b>Designation</b>                 | <b>Definition</b>  |
|------------------------------------|--|
| Green Roof                         | Plantings on built roof structures, including both ‘extensive green roofs’ (plantings with shallow depth) and ‘intensive green roofs’ (greater soil depth that can sustain deep rooted herbaceous plants as well as trees and shrubs).             |
| ROW Rain Garden (*)                | Relatively small rectangular planted areas in the street landscape that capture stormwater from the street, usually in the sidewalk where street tree beds are also located.   |
| Stormwater Greenstreet (*)         | Similar to the ROW Rain Garden but larger and more varied in shape. These larger planting beds along the roadway or in the street median allow for more options of species that can withstand varied inundation levels and may be larger in habit. |
| Retention Pond                     | A pond that captures and holds stormwater, typically with a planted edge.  |
| Rain Garden                        | Planted area in parklands or yards that capture stormwater and vary in shape and size.   |
| Unsuitable                         | This species is not appropriate for stormwater systems.  |
| Insufficient research to determine | Current research is not available or has not been found to determine its tolerance to salt. Consider the plants’ natural habitat and if necessary, its likely association with salt as a potential indicator.                                      |

\* Within the Native Plant Descriptions section, species that have been field tested for these systems have not been distinguished from those that have been suggested based on their naturally occurring habitats and the conditions they tolerate. Please refer to the lists in the [Stormwater Management](#) section above for specific species that have been field tested for ROW Rain Gardens and Stormwater Greenstreets.

## Ferns

Ferns add texture to the ground layer. There are species adapted to sun or shade, wet or dry conditions, and various heights and degrees of vigor. Most ferns in New York State are protected under the heading “**exploitably vulnerable**”. These plants may not be rare but are susceptible to overharvesting if not protected. Being informed on where your plants have come from can help in the protection of the natural populations of these important species.



Top: *Dennstaedtia punctilobula* (Hayscented fern), Bottom left: *Athyrium angustum* (Lady fern), Bottom right: *Osmunda claytoniana* (Interrupted fern)

**Adiantum pedatum**

**Habitat:** Rich, moist woods, stream banks.

**Wetland Indicator:** FACU

**Exposure:** Shade

**Soil Moisture:** Tolerant of mild drought.

**Soil pH:** Acidic

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Unsuitable

**Form/Color:** Slow grower to 3', erect stipe that forks in two, leaf blades lax and arching, spores in July-August.

**Northern maidenhair fern**

**Coefficient of Conservatism:** 8

**Urban Tolerance:** Adapted to coarse and medium soils, low tolerance of soil compaction.

**Ecosystem Services:** Fronds occasionally eaten by rabbits, secondary species for increased diversity.

**Horticultural Value:** Fine fronds, semi-erect shape.

**Compatibility:** Slow seed spread rate, low seedling vigor, moderate vegetative spread rate.

**Other:**

**Asplenium platyneuron**

**Habitat:** Moist, open, rocky woods, rich, circumneutral soil.

**Wetland Indicator:** FACU

**Exposure:** Part Shade

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic; Neutral

**Ebony spleenwort**

**Coefficient of Conservatism:** 5

**Urban Tolerance:** Will colonize masonry in urban sites, found in disturbed sites.

**Ecosystem Services:** Minor species for increased diversity.

**Horticultural Value:** Fronds have herringbone shape and are light and dark green.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Green roof

**Compatibility:** Does not compete well with aggressive plants.

**Form/Color:** Semievergreen perennial, grows to 1.5', spores June-October.

**Other:** Exploitably vulnerable in New York state.

**Athyrium angustum**

**Northern lady fern**

**Habitat:** Moist woods, shady edges.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** NC

**Urban Tolerance:** Somewhat tolerant of urban pollution.

**Exposure:** Part Shade

**Ecosystem Services:** Leaves eaten by rabbits and deer, secondary species for increased diversity.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Fine-textured fronds, upright growing.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Retention ponds, Upland

**Compatibility:** Moderate rate of vegetative spread.

**Form/Color:** Perennial, fine-textured, upright-growing fern, moderate grower to 2-3', spores June-September.

**Other:**

**Dennstaedtia punctilobula**

**Hayscented fern**

**Habitat:** Open woods, gaps, edges.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** UPL

**Urban Tolerance:** Somewhat tolerant of urban pollution, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Habitat for birds and bees.

**Soil Moisture:** Tolerant of drought when well established.

**Soil pH:** Acidic

**Horticultural Value:** Single, very fine fronds, that will colonize.

**Salt Tolerance:** Stormwater

**Tolerance:**

Tolerant

Upland

**Compatibility:**  
May crowd out less aggressive

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**Form/Color:** Perennial, groundcover, single, very fine fronds in large colonies, 1-3.5', spreads primarily by rhizomes, spores June-August.

**Other:** Often colonizes old burn sites.

**Deparia acrostichoides†**

**Silver false spleenwort**

**Habitat:** Damp woods, slopes.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Needs consistently moist soil.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Silvery fronds.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention pond, Slopes

**Compatibility:**

**Form/Color:** Perennial, fronds to 4' long, long-tapering fronds, forms in asymmetric clumps.

**Other:** Exploitably vulnerable in New York state, parts of plant poisonous if ingested.

**Dryopteris carthusiana†**

**Spinulose woodfern**

**Habitat:** Rich, moist to wet woods, circumneutral soil.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Secondary or minor species for increased diversity.

**Soil Moisture:** Needs consistently moist soil.

**Soil pH:** Acidic

**Horticultural Value:** Delicate, lacy-cut, lance-shaped fronds.

**Salt Tolerance:** Tolerance:

Insufficient research to determine Unsuitable

**Stormwater**

**Compatibility:**

**Form/Color:** Evergreen, delicate, lacy-cut, lance-shaped fronds, grow in colonies, 1-2.5', spores May-August.

**Other:**



**Dryopteris cristata**

**Crested woodfern**

**Habitat:** Wet woods, swamp forests, bogs in acid soil.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** OBL

**Urban Tolerance:** Adapted to medium and fine soils, high tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Secondary or minor species for increased diversity.

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic

**Horticultural Value:** Blue-green narrow lance-shaped fronds.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention ponds, Rain garden, Inundation, Slopes

**Compatibility:** Slow seed spread rate, moderate vegetative spread rate.

**Form/Color:** Evergreen, blue-green narrow lance-shaped fronds, 1.5-2.5', spores July-August.

**Other:**

**Dryopteris marginalis**

**Marginal woodfern**

**Habitat:** Woods, shaded, rocky slopes.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Somewhat tolerant of urban pollution.

**Exposure:** Part Shade

**Ecosystem Services:** Secondary species for increased diversity, provides habitat and shelter for birds and bees.

**Soil Moisture:** Tolerant of drought, prefers moist soil.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Fine, clustered fronds.

**Salt Tolerance:** **Stormwater Tolerance:**

Low tolerance

Retentions  
ponds, Rain  
garden,  
Slopes

**Compatibility:**

**Form/Color:** Evergreen, fine, clustered fronds, vase-like, 1.5-2', spores June-October.

**Other:** Exploitably vulnerable in New York state.

## *Onoclea sensibilis*

## Sensitive fern

|                              |  |                                     |   |
|------------------------------|--|-------------------------------------|---|
| <b>Habitat:</b>              | Open swamp forests, freshwater tidal and nontidal marshes, undisturbed ditches.                              | <b>Coefficient of Conservatism:</b> | 2   |
| <b>Wetland Indicator:</b>    | FACW   | <b>Urban Tolerance:</b>             | Somewhat tolerant of urban pollution, performs well in the right of way.  |
| <b>Exposure:</b>             | Shade  | <b>Ecosystem Services:</b>          | Wildlife value low, but eaten by some insects.  |
| <b>Soil Moisture:</b>        | Tolerant of flooding. Intolerant of drought.   |                                     |   |
| <b>Soil pH:</b>              | Acidic; Neutral  | <b>Horticultural Value:</b>         | Broad triangular fronds with persistent fertile frond throughout.   |
| <b>Salt Tolerance:</b>       | Moderately tolerant  |                                     |   |
| <b>Stormwater Tolerance:</b> | Retention pond, Rain garden, Inundation, Slopes  | <b>Compatibility:</b>               | Can form colonies.  |
| <b>Form/Color:</b>           | Perennial, sturdy, coarse, with broad triangular fronds, grows moderately to 1-2', spores mature in October. | <b>Other:</b>                       | Eaten by some insects, toxic to horses, tolerant of disturbed sites with wet soil. Used for swamp forest restoration. |

## *Osmunda claytoniana*

## Interrupted fern

|                           |  |                                     |  |
|---------------------------|--|-------------------------------------|--|
| <b>Habitat:</b>           | Moist to somewhat dry open woods, rocky or sandy acid soils. | <b>Coefficient of Conservatism:</b> |  |
| <b>Wetland Indicator:</b> | FAC  | <b>Urban Tolerance:</b>             | Adapted to medium and fine soils, moderate tolerance of soil compaction. |
| <b>Exposure:</b>          | Part Shade   | <b>Ecosystem Services:</b>          | Used infrequently by wildlife.   |
| <b>Soil Moisture:</b>     | Low tolerance to drought, prefers moist soil.                |                                     |  |
| <b>Soil pH:</b>           | Acidic   | <b>Horticultural Value:</b>         | Large pinnate fronds. Fertile pinnae interrupting the fronds.            |
| <b>Salt Tolerance:</b>    | <b>Tolerance:</b>  |                                     | Intolerant   |
| <b>Stormwater</b>         |  |                                     | Retention Pond, Rain garden, Slopes, Upland                              |

**Compatibility:** Slow seed

spread rate, rapid  
vegetative spread rate.

**Form/Color:** Perennial, large, coarse, pinnate fronds, 2-4', spores May-June.

**Other:**

## *Osmunda regalis*

## Royal fern

|                              |   |                                     |  |
|------------------------------|---|-------------------------------------|--|
| <b>Habitat:</b>              | Stream banks, freshwater tidal marshes, swamp forests, vernal pond margins, shallow water to wet soil, prefers acid soil. | <b>Coefficient of Conservatism:</b> | 6  |
| <b>Wetland Indicator:</b>    | OBL s.  | <b>Urban Tolerance:</b>             | Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.              |
| <b>Exposure:</b>             | Part Shade  | <b>Ecosystem Services:</b>          |  |
| <b>Soil Moisture:</b>        | Tolerant of flooding and drought.   | <b>Horticultural Value:</b>         | Fine fronds. Delicate soft green fertile fronds.   |
| <b>Soil pH:</b>              | Acidic; Neutral   | <b>Compatibility:</b>               | Rapid vegetative spread.   |
| <b>Salt Tolerance:</b>       | Intolerant  | <b>Other:</b>                       | Slow grower. Used for restoration of swamp forest habitats, woodland pond edges, stream banks. |
| <b>Stormwater Tolerance:</b> | Retention Pond, Rain garden, Inundation   |                                     |  |
| <b>Form/Color:</b>           | Perennial, fine, bipinnate fronds, to 2-6', spores May-June.  |                                     |  |

## *Osmundastrum cinnamomea*

## Cinnamon fern

|                              |  |                                     |  |
|------------------------------|--|-------------------------------------|--|
| <b>Habitat:</b>              | Swamp forests, shady stream banks, moist to wet forest soil. | <b>Coefficient of Conservatism:</b> | 6  |
| <b>Wetland Indicator:</b>    | FACW   | <b>Urban Tolerance:</b>             | Adapted to medium and fine soils, moderate tolerance of soil compaction. |
| <b>Exposure:</b>             | Shade  | <b>Ecosystem Services:</b>          | Eaten by rabbits, but overall wildlife value low.                        |
| <b>Soil Moisture:</b>        | Tolerant of flooding and drought.                            | <b>Horticultural Value:</b>         | Large, pinnate fronds in circular clusters. Cinnamon colored fronds.     |
| <b>Soil pH:</b>              | Acidic; Neutral  | <b>Compatibility:</b>               | Moderate seed spread rate.   |
| <b>Salt Tolerance:</b>       | Low tolerance  |                                     |  |
| <b>Stormwater Tolerance:</b> | Retention Pond, Rain garden, Slopes, Upland                  |                                     |  |

**Form/Color:** Perennial, large, pinnate fronds growing in circular clusters, to 2.5-3', spores mature May-June.

**Other:** Slow grower. Used for restoration of swamp forest habitats, woodland pond edges.

**Polypodium virginianum**

**Rock cap fern**

**Habitat:** Moist to dry shade, in thin, circumneutral soils on glacial erratics in rocky woods, sometimes on banks, tree bases, old logs,

**Coefficient of Conservatism:** 7

**Wetland Indicator:** N1C  
Limestone cliffs.

**Urban Tolerance:** Tolerant of soil compaction.

**Exposure:** Shade

**Ecosystem Services:**

**Soil Moisture:** Tolerant of drought and moist, well-drained soil.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Persistent leathery fronds that will colonize on rocky areas.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Evergreen, grows to 1' or less, spores June-October.

**Other:** Exploitably vulnerable in New York state. Secondary species for increased diversity.

**Polystichum acrostichoides**

**Christmas fern**

**Habitat:** Rich soil of wooded slopes with minimal deep leaf litter, rocky slopes.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Somewhat tolerant of urban pollution.

**Exposure:** Shade

**Ecosystem Services:**

**Soil Moisture:** Tolerant of drought, prefers well-drained soil.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Clustered persistent fronds that thrive on slopes.

**Salt Tolerance:** Tolerance:

Moderately tolerant Slopes

**Stormwater**

**Compatibility:**

**Form/Color:** Evergreen groundcover, fronds clustered, tall, bushy, 1-3', spores May-October.

**Other:** Minor species for increased diversity.



**Pteridium aquilinum**

**Brackenfern**

**Habitat:** Dry, sterile soils, open, shrubby successional habitats or open woodlands in sterile, sandy soils.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACU

**Urban Tolerance:** Adapted to coarse and medium soils, no tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Eaten by insect larvae, especially moths.

**Soil Moisture:** Moderate tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Large, triangular shaped leaves.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Can be aggressive, particularly in burned-over sites, allelopathic.

**Form/Color:** Perennial, coarse fern to approximately 4', produces new fronds all season, blade is broadly triangular and divided into 3 nearly equal parts with leathery or papery texture.

**Other:** Somewhat weedy, infected by fungi, leaf spot, root/stem rot, no edible parts, toxic to animals.

**Thelypteris noveboracensis**

**New York fern**

**Habitat:** Open, moist to wet woodlands.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Somewhat tolerant of urban pollution.

**Exposure:** Shade

**Ecosystem Services:** Wildlife value low.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Very fine, pinnate fronds.

**Salt Tolerance:** Stormwater

**Tolerance:**

Intolerant

Slopes

**Compatibility:**  
Aggressively clonal with rapid

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**Form/Color:** Perennial, very fine, pinnate fronds, 1-2', spores June-October.

**Other:** Used for erosion control.

**Thelypteris palustris**

**Marsh fern**

**Habitat:** Freshwater tidal and nontidal marshes, wet meadows, rich muddy, subacid soil, stream banks

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACW

**Urban Tolerance:** Somewhat tolerant of urban pollution.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value low, good cover for smaller insects.

**Soil Moisture:** Does not prefer standing water, but grows well by water.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Lance-oblong fronds, slightly narrower at base, turns harvest gold in the fall.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Inundation, Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Perennial, slender fronds, moderate grower to 18", spore production June-October.

**Other:** Exploitably vulnerable in New York state.

**Woodwardia areolata**

**Netted chainfern**

**Habitat:** Swamp forests, in acid soil, acid bogs, shrub swamps.

**Coefficient of Conservatism:** 10

**Wetland Indicator:** OBL

**Urban Tolerance:** Somewhat tolerant of urban pollution.

**Exposure:** Shade

**Ecosystem Services:** Wildlife value low.

**Soil Moisture:** Requires consistently moist soil.

**Soil pH:** Acidic

**Horticultural Value:** Leaves begin pink and mature to forest-green.

**Salt Tolerance:** **Stormwater Tolerance:**

Intolerant

Retention  
pond, Rain  
garden,  
Inundation

**Compatibility:** Can form  
colonies.

**Form/Color:** Perennial, lobed fronds, slow grower to 2',  
spore production July-September.

**Other:** Transplants well. Exploitably  
vulnerable in New York state.

**Woodwardia virginica**

**Virginia chainfern**

**Habitat:** Swamps, still water, stream, river banks, near lakes or ponds.

**Coefficient of Conservatism:** 9

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Moist or wet soil conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:**

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation, Slopes

**Compatibility:**

**Form/Color:** Perennial, grows to 2-3', leathery fronds with deeply cut leaflets on purple brown stalks.

**Other:**

## Forbs

Herbaceous flowering annual, biennial, or perennial plants, known as forbs, can add visual interest to the ground layer of a designed landscape as well as habitat for wildlife. Careful consideration of flowering color and season can extend the period of interest and ensure adequate vegetative cover.



Clockwise from top left: *Eupatorium hyssopifolium* (Hyssop-leaved thoroughwort), *Cirsium discolor* (Field thistle), *Lobelia cardinalis* (Cardinal flower), and *Chrysopsis mariana* in seed (Maryland golden aster).

## **Acorus americanus †**

## **Sweetflag**

|                              |   |                                     |  |
|------------------------------|---|-------------------------------------|--|
| <b>Habitat:</b>              | Quiet pond and lake margins, marshes.   | <b>Coefficient of Conservatism:</b> | 5  |
| <b>Wetland Indicator:</b>    | OBL   | <b>Urban Tolerance:</b>             | Performs well in the right of way.                         |
| <b>Exposure:</b>             | Full Sun  | <b>Ecosystem Services:</b>          | Provides habitat and food for small mammals and songbirds. |
| <b>Soil Moisture:</b>        | Intolerant of drought; high moisture usage.   | <b>Horticultural Value:</b>         | Yellow-brown flowers.                                      |
| <b>Soil pH:</b>              | Acidic; Neutral   | <b>Compatibility:</b>               | Can form colonies.   |
| <b>Salt Tolerance:</b>       | Intolerant  | <b>Other:</b>                       | Moderate lifespan.   |
| <b>Stormwater Tolerance:</b> | Retention pond, Rain garden, Inundation   |                                     |  |
| <b>Form/Color:</b>           | Aromatic, alternating, grasslike leaves; yellow-brown flowers on 5-10 cm long spike; produces small, hard berries May-August. |                                     |  |

## **Actaea pachypoda**

## **Doll's eyes**

|                              |                            |                                     |  |
|------------------------------|----------------------------|-------------------------------------|--|
| <b>Habitat:</b>              | Ravines, rich thick woods. | <b>Coefficient of Conservatism:</b> | 7  |
| <b>Wetland Indicator:</b>    | UPL                        | <b>Urban Tolerance:</b>             | Somewhat tolerant of urban pollution.  |
| <b>Exposure:</b>             | Shade                      | <b>Ecosystem Services:</b>          | Wildlife value low, attractive to beetles, berries eaten by some birds and mice.                                 |
| <b>Soil Moisture:</b>        | Moist well-drained soil.   | <b>Horticultural Value:</b>         | White flowers and clusters of white globular fruit. Known for its ornamental fruits which look like doll's eyes. |
| <b>Soil pH:</b>              |                            | <b>Compatibility:</b>               |  |
| <b>Salt Tolerance:</b>       | Moderately tolerant        |                                     |  |
| <b>Stormwater Tolerance:</b> | Unsuitable                 |                                     |  |

**Form/Color:** Perennial, grows to 1' to 3', flowers white in terminal racemes, May-June. flowers white in May-June, white berries.

**Other:** Exploitably vulnerable in New York state, plant is toxic.



**Actaea racemosa**

**Black cohosh**

**Habitat:** Rocky woods, ravines, creek margins, thickets, deciduous forests, moist meadowlands.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Somewhat tolerant of urban pollution.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to beneficial insects, songbirds, and host to Appalachian

**Soil Moisture:** Tolerant of drought.

blue and spring azure butterflies.

**Soil pH:** Acidic

**Horticultural Value:** Terminal cluster of small white flowers are held above divided leaves.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Grows well with other woodland plants.

**Form/Color:** Perennial, large, compound basal leaves, grows to 5-6', flowers white racemes 1-3' high in June-July.

**Other:** Slow to establish.

**Aqalinis purpurea**

**Purple false foxglove**

**Habitat:** Moist to wet open soils.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to several bee species, butterflies, and beetles.

**Soil Moisture:** Moist soil.

**Soil pH:** Acidic

**Horticultural Value:** Large pink bell shaped flowers grow close to the axils of this annual. The

**Salt Tolerance:** **Stormwater Tolerance:**

Tolerant

ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Slopes

spreading form is dotted with small linear leaves all along the stems.

**Compatibility:** Thrives with occasional disturbance to eliminate some competing vegetation.

**Form/Color:** Annual, grows to 4', simple to branched stems, dark seeds, round capsule fruit.

**Other:**

**Agastache scrophulariifolia**

**Purple giant hyssop**

**Habitat:** Dry upland woodlands.

**Wetland Indicator:** NC

**Exposure:** Part Shade

**Soil Moisture:** Moist to dry soil conditions.

**Soil pH:** Neutral

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes

**Form/Color:** Single stem growing to 3-5'; purple irregular flowers bloom July-September; dry-seeded achenes.

**Coefficient of Conservatism:** 2

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attracts hummingbirds and butterflies.

**Horticultural Value:** One of the tallest mints. Terminal spikes of purple-red flowers are held atop purplish stems with opposite leaves.

**Compatibility:**

**Other:**

**Ageratina altissima**

**Common white snakeroot**

**Habitat:** Moist forests.

**Wetland Indicator:** FACU

**Exposure:** Part Shade

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic

**Salt Tolerance:** **Stormwater Tolerance:**

**Coefficient of Conservatism:** 4

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attracts butterfly species and birds.

**Horticultural Value:** White inflorescence throughout fall.

Moderately tolerant

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Slopes,  
Upland

**Compatibility:**

C  
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**Form/Color:** Single stem growing to 5', flowers white in July-October.

**Other:**

Somewhat weedy, poisonous if ingested.

**Alisma subcordatum**

**Southern water plantain**

**Habitat:** Shallow water, edges of open ponds, swamps.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** OBL

**Urban Tolerance:** Adapated to medium and fine soils, high tolerance of soil compaction, tolerates moderate disturbance.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value moderate.

**Soil Moisture:** Intolerant of drought, water depth to 1' or saturated soil.

**Soil pH:** Neutral

**Horticultural Value:** Leaves in a basal rosette with small white flowers held on long branched stems in summer. Dense rings of dry seeds give the overall plant a gold to

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Compatibility:** Clonal from rhizomes.

**Form/Color:** Perennial emergent aquatic, grows to 4', triangular flower stem, flowers white in July-August.

**Other:**

**Allium canadense**

**Meadow garlic**

**Habitat:** Moist, open areas.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun; Part Shade

**Ecosystem Services:** Attractive to some bees and butterflies, avoided by rabbits and deer.

**Soil Moisture:** Tolerant of some drought.

**Soil pH:** Neutral

**Horticultural Value:** Grass-like leaves with a strong onion odor surround a flowering stalk with a

**Salt Tolerance:** Tolerance:

Intolerant

**Stormwater**

Retention pond, Rain garden, Slopes

c  
l  
u  
ster of star-like  
white-pink flowers.

**Compatibility:** Does not compete well with taller  
forbs. Can form colonies.

**Form/Color:** Perennial succulent grass-like form grows  
to 8-24", flowers white-pink in May-June.

**Other:** Smells strongly of onion or garlic.

**Allium tricoccum**

**Wild leek**

**Habitat:** Forest interior, rich woods.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Moist to wet soil conditions.

**Soil pH:** Neutral

**Horticultural Value:** Pairs of glossy green leaves appear in spring before the flower stalk. White flowers form in umbrella-shaped cluster and produce black seeds.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Succulent grass-like spring ephemeral, flower stalks appear after leaves die back, flowers white in June-July.

**Other:**

**Anaphalis margaritacea**

**Pearly everlasting**

**Habitat:** Dry open sites.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Medium textured soils; medium drought tolerance; medium moisture usage.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Cotton-like appearance. White pearly bracts surround a yellow center in the cluster of flowers.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** 1' to 3' high, white flowers; stem and underside of leaves white wooly, July - September, fast grower.

**Other:** Minor species for increased diversity and aesthetics in restoration of open habitats, dry grasslands, meadows, sandy fill.



## **Anemone canadensis**

## **Canadian anemone**

|                              |  |                                     |  |
|------------------------------|--|-------------------------------------|--|
| <b>Habitat:</b>              | Sandy shores, wet meadows.                             | <b>Coefficient of Conservatism:</b> | 5  |
| <b>Wetland Indicator:</b>    | FACW   | <b>Urban Tolerance:</b>             | Insufficient information to determine tolerance.                                   |
| <b>Exposure:</b>             | Part Shade   | <b>Ecosystem Services:</b>          | Attracts butterflies and insects.  |
| <b>Soil Moisture:</b>        | Moderately drought tolerant, prefers moist sandy soil. |                                     |  |
| <b>Soil pH:</b>              | Neutral  | <b>Horticultural Value:</b>         | White flowers.   |
| <b>Salt Tolerance:</b>       | Tolerant   |                                     |  |
| <b>Stormwater Tolerance:</b> | Retention pond, Rain garden, Slopes                    | <b>Compatibility:</b>               | Can be aggressive in favorable conditions. Can form colonies.                      |
| <b>Form/Color:</b>           | Perennial, grows to 2'; white flowers bloom May-July.  | <b>Other:</b>                       | Used for increased diversity and aesthetics in wetland restoration and mitigation. |

## **Anemone quinquefolia**

## **Wood anemone**

|                              |  |                                     |   |
|------------------------------|--|-------------------------------------|---|
| <b>Habitat:</b>              | Rich, moist, open woods.                 | <b>Coefficient of Conservatism:</b> | 7   |
| <b>Wetland Indicator:</b>    | FACU                                     | <b>Urban Tolerance:</b>             | Insufficient information to determine tolerance.  |
| <b>Exposure:</b>             | Part Shade                               | <b>Ecosystem Services:</b>          |   |
| <b>Soil Moisture:</b>        | Prefers moist soil, tolerant of drought. |                                     |   |
| <b>Soil pH:</b>              | Acidic                                   | <b>Horticultural Value:</b>         | Early spring flowering in large, low-lying patches. Foliage is finely divided with delicate five-petaled white flowers. |
| <b>Salt Tolerance:</b>       | Low tolerance                            |                                     |   |
| <b>Stormwater Tolerance:</b> | Rain garden, Slopes, Upland              | <b>Compatibility:</b>               | Can form colonies.  |

**Form/Color:** Perennial, spring ephemeral, grows to 8", solitary basal leaf, flowers white in April-May.

**Other:** Poisonous if ingested.

**Anemone virginiana**

**Tall thimbleweed**

**Habitat:** Rocky or dry open woods, wooded slopes, river banks, fields, meadows.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to bees.

**Soil Moisture:** Dry to moderately wet soil conditions.

**Soil pH:** Neutral

**Horticultural Value:** White flowers in the Spring and Summer and fluffy seedheads in the Fall and Winter.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Insufficient research to determine

**Compatibility:**

**Form/Color:** Perennial, grows up to 2-3', white flowers in May-Jun.

**Other:** Toxic if eaten in large quantities.

**Antennaria neglecta**

**Field pussytoes**

**Habitat:** Dry fields, sterile meadows, sandy fill.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** UPL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts birds and butterflies. Host of painted lady butterfly.

**Soil Moisture:** Dry soil conditions; fine and medium textured soil; low drought tolerance.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Creates groundcover of white, hairy, rounded basal leaves. Flowering heads

**Salt Tolerance:** Stormwater

**Tolerance:** Intolerant Green roof

**Compatibility:** are dense and turn a fluffy white when in seed.

**Form/Color:** Perennial single stem growing to 1'; white flowers bloom in May-July; slow grower.

**Other:** Minor species for increasing diversity and aesthetics in restoration of dry, open habitats, dry grasslands, meadows.

**Antennaria plantaginifolia**

**Woman's tobacco**

**Habitat:** Dry open woodlands, meadows, and rocky places.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** NC

**Urban Tolerance:** Tolerant of compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts bees and flies. Eaten by flies, moths, Bobwhite Quail, White-Tailed

**Soil Moisture:** Dry soil conditions.

Deer, and Cottontail Rabbits.

**Soil pH:** Acidic

**Horticultural Value:** Pure white male flowers and pink tinged female flowers.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Perennial, grows up to 6", terminal cluster of fuzzy, rayless white or slightly pink flower heads that resemble a cat's paw in Mar-Jun.

**Other:**

**Apocynum cannabinum**

**Indianhemp**

**Habitat:** Open areas, fill, edges, roadsides, vacant lots, meadows.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerates fill, vacant lots, nutrient poor soil, concrete debris, moderate tolerance of soil compaction.

**Exposure:** Full Sun; Part Shade

**Ecosystem Services:** Attractive to butterflies, host to some butterfly larvae.

**Soil Moisture:** Moderate tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Reddish purple stems and long oval leaves. White flowers grow in clusters

**Salt Tolerance:** Stormwater Tolerance:

Low tolerance

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Upland

and produce  
long skinny  
pods that turn  
brown and  
fluffy when  
mature.

**Compatibility:** Can  
compete  
with  
mugwort  
. Can  
form  
colonies.

**Form/Color:** Perennial, grows to 4', red in full sun,  
flowers whitish in terminal clusters in May-  
September.

**Other:** Contains various toxins.

**Aquilegia canadensis**

**Wild columbine**

**Habitat:** Rocky, undisturbed woods.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** FACU

**Urban Tolerance:** Somewhat tolerant of urban pollution.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to hummingbirds and bees.

**Soil Moisture:** Tolerant of drought, well-drained soil.

**Soil pH:** Alkaline; Neutral

**Horticultural Value:** Finely divided blue green foliage lays low beneath a flowering stem. Showy red and yellow flowers nod with long spurs pointing upward.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Perennial, grows to 6.5', flowers red and yellow in May-June.

**Other:**

**Aralia nudicaulis**

**Wild sarsaparilla**

**Habitat:** Undisturbed, moist forest understories.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, no tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to bumble bees, other bees, and syrphid flies, fruits eaten by some birds and mammals.

**Soil Moisture:** Moderate tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Single leaf stalks divide with oval leaflets. Whitish flowers in round

**Salt Tolerance:** Stormwater Tolerance

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Intolerant  
Unsuitable

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**Compatibility:**  
Frequently  
forms  
colonies.

**Form/Color:** Perennial, grows to 15", dioecious,  
flowers tiny, whitish in May-July, blackish  
fruit in July-August, dioecious.

**Other:**



**Aralia racemosa**

**Habitat:** Undisturbed forest understories, moist to moderately dry soil.

**Wetland Indicator:** FACU

**Exposure:** Part Shade

**Soil Moisture:** Tolerant of drought, prefers moist soil.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Unsuitable

**Form/Color:** Perennial, grows to 6.5', widely branched, large leaves, flowers white in June-August, dark purple fruit.

**American spikenard**

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Fruit eaten by a few birds and mammals.

**Horticultural Value:** Large compound leaves with aromatic, white flowers in branched clusters.  
Purple red berries follow in fall.

**Compatibility:** Can form colonies.

**Other:**

**Arisaema triphyllum**

**Habitat:** Undisturbed moist woods, swamp forests, edges in good soil.

**Wetland Indicator:** FAC

**Exposure:** Part Shade

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** **Stormwater Tolerance:**

**Jack-in-the-pulpit**

**Coefficient of Conservatism:** 5

**Urban Tolerance:** Adapted to coarse and medium soils, moderate tolerance of soil compaction.

**Ecosystem Services:** Fruit eaten by birds, foliage eaten by pheasants.

**Horticultural Value:** Brown-purple to green spath arches over a white spadix. Oval cluster of red

Intolerant

Retention  
pond, Rain  
garden,  
Inundation,  
Slopes

**Compatibility:**

berries.

**Form/Color:** Perennial, slow grower to 2', brown-purple  
spath arches over whitish spadix, red fruit.

**Other:**

May change sex seasonally,  
susceptible to rust fungus.

**Asarum canadense**

**Wild ginger**

**Habitat:** Forest interior, rich, moist soil.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** UPL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Eaten by the pipevine swallowtail butterfly.

**Soil Moisture:** Intolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Low-growing perennial with heart shaped leaves. Velvety stem hides solitary dark red-brown flower.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Rain garden, Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Perennial, very slow grower to 8", round-cordate dark green leaves, flowers at base of stems.

**Other:** Spreads very slowly.

**Asclepias exaltata**

**Forest milkweed**

**Habitat:** Flood plains, forest edges, forests, marshes, meadows, open woods, prairies.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** UPL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts bumblebees and butterflies.

**Soil Moisture:**

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Purple flowers.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Perennial, grows from 2-6', bicolored (green or pale purple petals, white or light pink hoods and column) and slightly droopy flowers in Jun-Aug.

**Other:**

**Asclepias incarnata**

**Swamp milkweed**

**Habitat:** Open, undisturbed wet areas, marshes, pond edges.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** OBL

**Urban Tolerance:** Adapted to medium and fine soils, high tolerance of soil compaction, performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value high, attractive to butterflies, bees, wasps. As with other milkweeds, host to monarch butterfly.

**Soil Moisture:** Tolerant of drought and periodic flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Small rose-purple flowers with reflexed petals clustered in an inflorescence atop a thick stem. Long pointed seed pods fluff out when ripe.

**Salt Tolerance:** Moderately tolerant

**Compatibility:** Can form colonies.

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

**Form/Color:** Perennial, single-stemmed, slow grower to 5', leafy stems, flowers pink in July-August, narrow fruit pods.

**Other:** Occasionally attacked by chrysomelid beetles, monarch butterfly larvae, and some aphids.

**Asclepias syriaca**

**Common milkweed**

**Habitat:** Open areas, roadsides, fill, abandoned lots.

**Coefficient of Conservatism:** 0

**Wetland Indicator:** UPL

**Urban Tolerance:** Tolerant of fill soils, disturbance, concrete debris.

**Exposure:** Full Sun

**Ecosystem Services:** Attractive to bees, wasps, flies, butterflies, moths, eaten by monarch butterfly larvae, curculionid and cerambycid beetles, lygaeid bugs.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Large ball shaped drooping flowers that are pink-brown and fragrant. Wide oval

**Salt Tolerance:** **Stormwater Tolerance:**

Moderately tolerant

Stormwater  
greenstreet,  
Retention  
pond, Rain  
garden,  
Upland

leaves and  
green seed  
pods with warts  
will split and  
fluff out when  
mature.

**Compatibility:** Can form  
colonies. Often found with  
dogbane and  
common aster.

**Form/Color:** Perennial, single-stemmed, grows to 6.5',  
stout, hairy stem, umbrella-shaped  
inflorescence, flowers muddy mauve.

**Other:** Sap is toxic, attacked by aphids,  
parasitized by several fungi.

**Asclepias tuberosa**

**Butterflyweed**

**Habitat:** Open, undisturbed, upland areas.

**Wetland Indicator:** NC

**Exposure:** Full Sun

**Soil Moisture:** High tolerance to drought.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Slopes

**Form/Color:** Perennial, single-stemmed, grows to 2', flowers orange in July-August, in umbels.

**Coefficient of Conservatism:** 2

**Urban Tolerance:** Adapted to coarse and medium soils, no tolerance of soil compaction, performs well in the right of way.

**Ecosystem Services:** Attractive to bees, butterflies, seedlings eaten by rabbits.

**Horticultural Value:** Showy orange flowers radially symmetrical. Narrow lanceolate leaves line the stem and excrete a milky-sap when damaged.

**Compatibility:** Not a good competitor in dense vegetation, easily shaded out by other plants.

**Other:**

**Baptisia tinctoria**

**Yellow wild indigo**

**Habitat:** Dry, open areas, sandy soil.

**Wetland Indicator:** NC

**Exposure:** Full Sun

**Soil Moisture:** High tolerance to drought.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Green roof

**Coefficient of Conservatism:** 4

**Urban Tolerance:** Adapted to coarse and medium soils, no tolerance of soil compaction.

**Ecosystem Services:** Moderately palatable by browse animals, host to some butterfly species.

**Horticultural Value:** Small rounded, blue-green foliage in threes along thin green stems. Yellow flowers at tips of branches. Seed pods turn black and rattle when mature.

**Compatibility:**

**Form/Color:** Perennial, grows to 3', sometimes mounding, freely branched, flowers yellow, in short, unbranched clusters in June-July.

**Other:** Leaves are black when dead, nitrogen fixer.



## **Bidens frondosa**

## **Devil's beggarticks**

|                              |  |                                     |   |
|------------------------------|--|-------------------------------------|---|
| <b>Habitat:</b>              | Wet, open areas, fields, edges, disturbed soil.  | <b>Coefficient of Conservatism:</b> | 2   |
| <b>Wetland Indicator:</b>    | FACW   | <b>Urban Tolerance:</b>             | Adapted to coarse and medium soils, moderate tolerance of soil compaction.  |
| <b>Exposure:</b>             | Full Sun   | <b>Ecosystem Services:</b>          | Seeds eaten by birds, plant eaten by rabbits.   |
| <b>Soil Moisture:</b>        | Low tolerance to drought.  |                                     |   |
| <b>Soil pH:</b>              | Acidic; Neutral  | <b>Horticultural Value:</b>         | Yellow flower heads without rays can reach up to 4 ft tall. The distinctive seeds are flat and awned, hitchhiking with all those that pass it by. |
| <b>Salt Tolerance:</b>       | Intolerant   | <b>Compatibility:</b>               | Can be weedy.   |
| <b>Stormwater Tolerance:</b> | ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes |                                     |   |
| <b>Form/Color:</b>           | Annual, grows to 4', purple stems, flowers yellow in June-October.                       | <b>Other:</b>                       |   |

## **Boehmeria cylindrica**

## **False nettle**

|                           |   |                                     |  |
|---------------------------|---|-------------------------------------|--|
| <b>Habitat:</b>           | Wet to moist shady areas, swamp forests, flood plains, edges, stream corridors. | <b>Coefficient of Conservatism:</b> | 7  |
| <b>Wetland Indicator:</b> | OBL   | <b>Urban Tolerance:</b>             | Adapted to medium and fine soils, moderate tolerance of soil compaction.               |
| <b>Exposure:</b>          | Part Shade  | <b>Ecosystem Services:</b>          | Host to mourning cloak butterfly larvae, question mark butterfly, and comma butterfly. |
| <b>Soil Moisture:</b>     | Low tolerance to drought.   |                                     |  |
| <b>Soil pH:</b>           | Acidic; Neutral   | <b>Horticultural Value:</b>         | Large toothed leaves hang below tiny green flowers that grow on spikes from            |
| <b>Salt Tolerance:</b>    | <b>Tolerance:</b>   | Intolerant                          | garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes        |
| <b>Stormwater</b>         |   | ROW Rain                            |  |

the leaf axils.

**Compatibility:**

**Form/Color:** Perennial, grows to 3', dioecious, stem erect and opaque, flowers green/white in rounded clusters, female flowers in slender clusters.

**Other:** Similar in form to stinging nettle.

**Borodinia canadensis**

**Sicklepod**

**Habitat:** Rocky banks, rich woods, thickets.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to bees and flies.

**Soil Moisture:** Prefers mesic to dry conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Small cream-white flowers on long stalks line a thin stem. Long drooping sickle-shaped pods form covering papery seeds.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Stormwater greenstreet, Upland

**Compatibility:**

**Form/Color:** Biennial to 40", winter rosette evergreen, flowers cream-white in May-July, fruits in August-September.

**Other:**

**Cakile edentula**

**American searocket**

**Habitat:** Coastal, primary dunes, upland of high high-tide line.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerant of gravelly, rocky, sandy soils.

**Exposure:** Full Sun

**Ecosystem Services:** Attractive to bees and other insects.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Succulent stems with shallow toothed leaves and pale purple to white flowers.

**Salt Tolerance:** Stormwater Tolerance

**:** Tolerant Unsuitable

**Compatibility:** Rocked-shaped seed pods turn a pale yellow when ripening.

**Form/Color:** Annual, grows to 32", succulent leaves, flowers pale purple to white in June-October.

**Other:**

**Caltha palustris**

**Marsh marigold**

**Habitat:** Wet woodland, marshy hollows, swamps, floodplains, stream edges, ditches.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Nectar and pollen attracts flies and bees. Seeds eaten by Wood Ducks,

**Soil Moisture:** Moist or wet soil conditions.

Sora Rails, some upland gamebirds, and small rodents.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Large, showy yellow flowers.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation

**Compatibility:**

**Form/Color:** Perennial, grows to 1-2', heart-shaped leaves, large, showy, buttercup-like yellow flowers in Apr-May.

**Other:**

**Capnoides sempervirens**

**Pink corydalis**

**Habitat:** Dry rocky woodlands.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Dry soil conditions.

**Soil pH:** Acidic

**Horticultural Value:** Bluish-green foliage is very delicate and lacy. Pink and yellow tubular dangling

**Salt Tolerance:** **Tolerance:**

Insufficient determine Green roof

**Stormwater**

research to

flowers.

**Compatibility:**

**Form/Color:** Wintergreen, annual or biennial, grows to 2', pale foliage, waxy-green, flowers pink/yellow in May-June, fruit in June-September.

**Other:**

**Caulophyllum thalictroides**

**Blue cohosh**

**Habitat:** Interior, moist forests, rich woods.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Adapted to medium soils, low tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to bees.

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow-green to purplish flowers and globe-like blue fruits covered with a whitish bloom. Foliage has lobed leaflets and is purplish in the spring.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Perennial, grows to 32", stems and leaves waxy-pale, flowers yellow-green or purplish in April-June, blue seeds.

**Other:** Plant poisonous, leaves live 20 weeks.

**Chamaecrista fasciculata**

**Partridge pea**

**Habitat:** Prairies, bluffs, riverbanks and river bottoms, as well as upland woods of the Great Plains. Sandy to sandy loam soils.

**Coefficient of Conservatism:** 1

**Wetland Indicator:** FACU

**Urban Tolerance:** Can be found along railroads and roadsides. Favors disturbed areas.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds eaten by birds and small mammals. Dense stands are used as cover by game birds and non game birds, small mammals, and waterfowl. Nectar attracts ants and leaves

**Soil Moisture:**

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Bright yellow flowers.

**Salt Tolerance:** Tolerance:

Moderately tolerant Green roof

**Stormwater**

**Compatibility:**

Fixes soil nitrogen.

**Form/Color:** Annual, grows from 1-3', large yellow flowers in Jun-Oct.

**Other:** Leaves fold together when touched and can be used along road and stream banks to control erosion.



**Chelone glabra**

**Habitat:** Open marshes, open swamp forest.

**Wetland Indicator:** OBL

**Exposure:** Part Shade

**Soil Moisture:** Tolerant of wet soil.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation, Slopes

**Form/Color:** Perennial, grows to 3' tall, flowers white to pinkish in July-August.

**Coefficient of Conservatism:** 6

**Urban Tolerance:** Performs well in the right of way.

**Ecosystem Services:** Host for some butterfly species, including Baltimore checkerspot butterfly, attractive to hummingbirds.

**Horticultural Value:** White to pinkish tubular flowers bunched in a terminal cluster atop a stem of long narrow dark opposite green leaves.

**Compatibility:**

**Other:** Exploitably vulnerable in New York state.

**White turtlehead**

**Chrysopsis mariana**

**Habitat:** Sandy soil, open woods.

**Wetland Indicator:** UPL

**Exposure:** Part Shade

**Soil Moisture:** Wet to moist soil conditions.

**Soil pH:** Acidic

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Green roof

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:**

**Horticultural Value:** Stems and leaves that are slightly hairy with a purplish tinge. Yellow asters bloom in late summer. Attractive fluffy seed heads persist throughout the fall.

**Compatibility:**

**Maryland goldenaster**

**Form/Color:** Grows to 32", fruits and flowers yellow in August-November.

**Other:**

## *Cirsium discolor*

## Field thistle

**Habitat:** Open sites, fields, disturbed sites, moist to dry soils, wetland margins, forest edges, roadsides.

**Coefficient of Conservatism:** 1

**Wetland Indicator:** UPL

**Urban Tolerance:** Will grow in poor soils

**Exposure:** Full Sun

**Ecosystem Services:** Nectar flower for bees, butterflies, hummingbirds and beetles. Seeds eaten by birds.

**Soil Moisture:** Drought tolerant, can handle damp to wet soil conditions

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Tall flowering biennial that will self seed

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Stormwater greenstreet, Retention pond, Rain garden, Slopes, Upland

**Compatibility:**

**Form/Color:** Grows to 6', spiny leaves with white underside, flower purple in July-October.

**Other:**

## *Claytonia virginica*

## Spring beauty

**Habitat:** Understory of moist forests, sometimes in lawns and hedgerows.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to bees, flies, seeds eaten by mice.

**Soil Moisture:** Rich, moist soil conditions.

**Soil pH:** Acidic

**Horticultural Value:** This delicate spring ephemeral has showy pinkish-white flowers and long

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Retention pond, Rain

garden,

narrow smooth  
leaves.

Slopes

**Compatibility:** Forms colonies in  
nature. Often  
found with trout-lily.

**Form/Color:** Perennial, spring ephemeral, grows to 7",  
several flowering stems, flowers pinkish-  
white in April-June.

**Other:**

**Collinsonia canadensis**

**Northern horsebalm**

**Habitat:** Woodland herb of moist or wet soil.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Medium moisture usage.

**Soil pH:** Neutral

**Horticultural Value:** Flowers and foliage have a distinct lemon or citronella scent. Wide oval leaves line the stems. Small yellow flowers.

**Salt Tolerance:** Insufficient research to determine

**Compatibility:**

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes

**Form/Color:** Perennial, grows to 3', egg-shaped leaves, flowers pale yellow in July-September.

**Other:**

**Cryptotaenia canadensis**

**Canada honewort**

**Habitat:** Moist to wet, rich woods.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to butterfly species.

**Soil Moisture:** Moist soil conditions.

**Soil pH:** Neutral

**Horticultural Value:** Irregular umbels of flowers with ascending white rays. Three-parted

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine ROW Rain garden, Stormwater greenstreet, Upland

toothed leaves line the stem  
and distinctive narrow seeds  
split in two.

**Compatibili  
ty:**

**Form/Color:** Perennial, grows to 3.3', shiny,  
unbranched stem, flowers white, black  
and dark Gray striped fruit.

**Other:**

**Decodon verticillatus**

**Swamp loosestrife**

**Habitat:** Open, shallow water, saturated soils of ponds and sunny vernal pools.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** OBL

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, high tolerance of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Attractive to bees, butterflies, wasps.

**Soil Moisture:** Intolerant of drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Sessile pink-purple flower clusters. Arching leafy stems can become woody and root at the tip.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Inundation

**Compatibility:** Forms extensive colonies.

**Form/Color:** Perennial, grows to 4', flowers pink-purple in July-August.

**Other:**

**Desmodium canadense**

**Showy tick trefoil**

**Habitat:** Moist, open woods, edges.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds eaten by some birds and mammals, host to some butterfly species.

**Soil Moisture:** Dry to moist soil conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Large rose-purple pea like flowers make this the showiest species of the

**Salt Tolerance:** Tolerance:

Low tolerance garden, Stormwater greenstreet, Retention pond, Rain garden, Slopes, Upland

**Stormwater**

ROW Rain

Genus. Velvet hairs cover the stems and leaves and the plant can get quite

**Compatibility:**

**Form/Color:** Perennial, grows to 6.5', one to several stems, flowers rose-purple to blue in July-August.

**Other:** Seeds stick to fur and clothing, nitrogen fixer.



**Desmodium paniculatum**

**Panicked ticktrefoil**

**Habitat:** Dry woods and edges.

**Coefficient of Conservatism:**

**Wetland Indicator:** FACU

**Urban Tolerance:** Adapted to medium and fine soils, no tolerance of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Host to larvae of orange sulfur butterfly.

**Soil Moisture:** Moderate tolerance to drought.

**Soil pH:** Neutral

**Horticultural Value:** Slender, pinkish flowers line long stems with narrow lanceolate leaves in threes.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Perennial, grows to 3', slender, erect, several stems from base, flowers pinkish in July-August.

**Other:** Seeds stick to fur and clothing, nitrogen fixer.

**Dicentra cucullaria**

**Dutchman's breeches**

**Habitat:** Moist forests.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to bees, ants.

**Soil Moisture:** Intolerant of flooding, intolerant of drought.

**Soil pH:** Neutral

**Horticultural Value:** Blue-green fern-like foliage. Rows of nodding white-yellow flowers line a thin

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Unsuitable

stem.

**Compatibility:**

**Form/Color:** Perennial, spring ephemeral, grows to 6", pale blue-green plant with dark blotches, flowers white-yellowish in April-May, foliage disappears by mid-May.

**Other:**

**Doellingeria umbellata**

**Parasol whitetop**

**Habitat:** Moist thickets, swamp edges, woods.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts butterflies and bees.

**Soil Moisture:** Loamy, sandy soil; moist to wet.

**Soil pH:** Acidic

**Horticultural Value:**

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes, Upland

**Compatibility:**

**Form/Color:** Herbacious perennial; wide flat-top cluster of white flowers bloom August-September.

**Other:**

**Drymocallis arguta**

**Tall cinquefoil**

**Habitat:** Dry, rocky, open woods, fields.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Adapted to medium soils, moderate tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Low tolerance to drought; deep mesic or alluvial soils; moist soil conditions.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** White flowers.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Grows to 3', flowers white in May-June,  
fruits in July-August.

**Other:**

**Equisetum hyemale**

**Scouringrush horsetail**

**Habitat:** Open or partly shaded areas in moist to wet sandy soil, shady stream margins.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerates wide range of soil, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Moist, wet sandy soil.

**Soil pH:** Acidic

**Horticultural Value:**

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation

**Compatibility:** Aggressive spreader.

**Form/Color:** Evergreen chambered stalk growing to 4'; no flowers; can form dense colonies.

**Other:**

**Erigeron pulchellus**

**Robin's plantain**

**Habitat:** Rich, open woods, meadows, streambanks.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** High wildlife value.

**Soil Moisture:** Moist soil conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Numerous narrow rays of violet to white make up the inflorescence. Basal

**Salt Tolerance:** Tolerance:

Low tolerance

**Stormwater**

Green roof **Compatibility:**

leaves are paddle shaped, soft and hairy.

**Form/Color:** Well-branched aster with erect stem growing to 20"; violet to whitish flowers bloom May-June.

**Other:**

**Erythronium americanum**

**Trout lily**

**Habitat:** Undisturbed moist woods.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Attractive to bees, seeds eaten by mice, birds, insects.

**Soil Moisture:** Moist, rich soil conditions.

**Soil pH:** Acidic

**Horticultural Value:** Yellow, bell-shaped flowers with darker spots, blue-green plant.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Forms extensive colonies.

**Form/Color:** Perennial, spring ephemeral, grows to 8", pale blue-green plant with dark blotches, flowers yellow.

**Other:**

**Eupatorium altissimum**

**Tall boneset**

**Habitat:** Dry, open woods.

**Coefficient of Conservatism:** 0

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Attractive to bees, wasps, butterflies, plant eaten by caterpillars.

**Soil Moisture:** Moist to dry soils.

**Soil pH:** Neutral

**Horticultural Value:** White flowers throughout the fall.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Unsuitable

**Compatibility:**

**Form/Color:** Perennial, grows to 31"-6.5', stems solitary or paired, very leafy, flowers white in August-October.

**Other:**



**Eupatorium hyssopifolium**

**Hyssop-leaved thoroughwort**

**Habitat:** Dry, sandy or gravelly fields roadsides, and railroad right of ways; woods, fields, salt meadows

**Coefficient of Conservatism:** 3

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance

**Exposure:** Full Sun

**Ecosystem Services:** Attracts birds

**Soil Moisture:** Dry to moist sandy soils

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Large cluster of late season white flowers

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Grows 1-3', flowers white, Aug - Nov, vary narrow leaves usually growing in whorls of four

**Other:**

**Eupatorium perfoliatum**

**Common boneset**

**Habitat:** Open wet areas, marsh edges, wet roadsides.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to bees, wasps, butterflies, plant eaten by caterpillars.

**Soil Moisture:** Moist to wet soil conditions.

**Soil pH:** Neutral

**Horticultural Value:** White flowers.

**Salt Tolerance:**

**Stormwater Tolerance:** Low tolerance

ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Compatibility:**

**Form/Color:** Perennial, grows to 4', most parts very hairy, flowers dull white in July-October.

**Other:**

**Eupatorium serotinum**

**Late throughwort**

**Habitat:** Moist to dry open areas, sandy soil, fill.

**Coefficient of Conservatism:** 1

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds eaten by some birds.

**Soil Moisture:** Moist soil conditions; medium moisture usage.

**Soil pH:** Neutral

**Horticultural Value:** Pinkish-white flowers in heads of 9-15 flowers.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Perennial, grows to 1-6.5', stems Grayish-purple, flowers dull pinkish-white in August-October.

**Other:**

**Euphorbia polygonifolia**

**Seaside sandmat**

**Habitat:** Dunes, beaches, sandy soil.

**Coefficient of Conservatism:** 9

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to small bees and flies, seeds eaten by birds.

**Soil Moisture:** Prefers mesic to dry conditions.

**Soil pH:**

**Horticultural Value:** Spreading with red stems and small flowers. Rounded seed pods develop on the ends of the branching stems.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Annual, widely branching, prostrate, forms mat, flowers in July-October.

**Other:**

**Eurybia divaricata**

**White wood aster**

**Habitat:** Dry woods.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts butterflies; seeds eaten by birds.

**Soil Moisture:** Dry to medium moisture conditions; well-drained soil; tolerates drought.

**Soil pH:** Neutral

**Horticultural Value:** Showy white flowers in late summer to early fall.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Can form colonies. Can be aggressive in the right environment.

**Form/Color:** 2.5"; herbaceous perennial; white with yellow/red centers bloom August-September.

**Other:**

**Euthamia caroliniana**

**Slender goldenrod**

**Habitat:** Moist, marshy, sandy areas.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:**

**Soil Moisture:** Moist soils.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Yellow flowers bloom in late fall.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Green roof

**Compatibility:**

**Form/Color:** Herbaceous perennial; yellow flowers  
bloom August-November; deciduous.

**Other:**

**Euthamia graminifolia**

**Common flat-topped goldenrod**

**Habitat:** Open areas, dry to moist soil of meadows, roadsides and path edges.

**Coefficient of Conservatism:** 1

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of poor, gravelly, sandy, or dry soils.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds eaten by some birds and small mammals, foliage eaten by rabbits, flowers eaten by Blister beetles. `

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow flowers.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Slopes, Upland

**Compatibility:** Leaf extracts have inhibited seed germination in other plants, may displace other species if left unmanaged.

**Form/Color:** Perennial, grows to 1-5', ray flowers yellow in July-October.

**Other:**

**Eutrochium dubium**

**Coastal plain Joe Pye weed**

**Habitat:** Open moist sandy, gravelly acidic soil, wet woods, edges.

**Coefficient of Conservatism:** 10

**Wetland Indicator:** FACW

**Urban Tolerance:** Performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Eaten by some birds, host for some butterfly species.

**Soil Moisture:** Medium moisture usage.

**Soil pH:** Acidic

**Horticultural Value:** Purple flowers.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Retention  
pond, Rain  
garden,  
Inundation

**Compatibility:**

**Form/Color:** Perennial, grows to 15-40", stems have purple speckles, flowers dull purple in July-September.

**Other:**



**Eutrochium fistulosum**

**Trumpetweed**

**Habitat:** Alluvial woods, meadows, bogs and marshes, stream banks.

**Coefficient of Conservatism:** 1

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Nectar attracts a variety of pollinators, including butterflies, skippers, and long-tongued bees. Eaten by various caterpillars and also attractive to birds.

**Soil Moisture:** Damp, moist to wet, rich soils.

**Horticultural Value:** Fragrant, purple or pink flowers with leaves in whorls of 4 to 7.

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:** Low tolerance

**Compatibility:**

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Slopes

**Form/Color:** Perennial, grows from 2-7', stem is hollow, flowers are fragrant and purple or pink in Jul-Sep.

**Other:**

**Eutrochium maculatum**

**Spotted Joe Pye weed**

**Habitat:** Moist soil along shores.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Moist soil conditions.

**Soil pH:** Alkaline; Neutral

**Horticultural Value:** Pink, purplish flowers.

**Salt Tolerance:** **Stormwater Tolerance:**

Low tolerance

Retention  
pond, Rain  
garden,  
Inundation,  
Slopes

**Compatibility:**

**Form/Color:** 2-10'; Perennial; clusters of pink to  
purplish flowers blooms July-September.

**Other:**

**Eutrochium purpureum**

**Purple Joe Pye weed**

**Habitat:** Low moist ground; wooded slopes; wet meadows; thickets; stream margins.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Average to medium moisture soil conditions.

**Soil pH:** Alkaline

**Horticultural Value:** Showy, fragrant pink and purple flowers.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Slopes, Upland

**Compatibility:**

**Form/Color:** Herbaceous perennial; grows to 7'; pink and purple flowers blooms July-September.

**Other:**

**Fragaria virginiana**

**Wild strawberry**

**Habitat:** Low vegetation, fields or open woods, good soil.

**Coefficient of Conservatism:** 0

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Fruit eaten by songbirds, pheasants, and mammals, foliage eaten by rabbits, deer, and other herbivores.

**Soil Moisture:** Dry soil conditions.

**Soil pH:** Acidic

**Horticultural Value:** Red fruit in summer.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Green roof

colonies.

**Compatibility:** Can form

**Form/Color:** Perennial, low growing to about 6", winter-green, flowers white, red fruit with small seeds in fruit surface, fruits in June-July.

**Other:**

**Geranium maculatum**

**Wild geranium**

**Habitat:** Undisturbed moist to dry woods, good soil.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Performs well in the right of way.

**Exposure:** Shade

**Ecosystem Services:** Seeds eaten by birds and small mammals, foliage eaten by deer.

**Soil Moisture:** Tolerant of drought; medium moisture usage.

**Soil pH:** Acidic

**Horticultural Value:** Pink-purple clusters of flowers.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Rain garden, Slopes, Upland

**Compatibility:**

**Form/Color:** Perennial, grows to 15", flowers pink-purple in loose clusters in April-June.

**Other:**

**Geum canadense**

**White avens**

**Habitat:** Woods, part shaded edges, meadows in moist to dry soil.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Dry to moist soil conditions; medium moisture usage.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White flowers.

**Salt Tolerance:** Stormwat

**er Tolerance:**

Intolerant

Unsuitable

**Compatibility:**

**Form/Color:** Perennial, evergreen, grows to 3', flowers white with petals longer than sepals, upper stem and leaves hairy.

**Other:**

**Helenum autumnale**

**Common sneezeweed**

**Habitat:** Rich, moist thickets, shores.

**Wetland Indicator:** FACW

**Exposure:** Part Shade

**Soil Moisture:** Medium to wet moisture soil conditions.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Form/Color:** Perennial, grows to 20-60", flowers yellow in August-October.

**Coefficient of Conservatism:** 4

**Urban Tolerance:** Performs well in the right of way.

**Ecosystem Services:**

**Horticultural Value:** Yellow flowers in the fall.

**Compatibility:**

**Other:**

**Helianthemum canadense**

**Longbranch frostweed**

**Habitat:** Dry, sandy soil, wooded edges, barrens.

**Wetland Indicator:** NC

**Exposure:** Part Shade

**Soil Moisture:** Sandy, loamy, well-drained soil; dry to moist soil.

**Soil pH:** Acidic

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Green roof

**Coefficient of Conservatism:**

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:**

**Horticultural Value:** Showy yellow flowers.

**Compatibility:**

**Form/Color:** Grows to 16", flowers yellow in May-July,  
fruits in August-October.

**Other:**



**Helianthus decapetalus**

**Thin-leaved sunflower**

**Habitat:** Open woods, rich, moist soil.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds eaten by birds and small mammals.

**Soil Moisture:** Dry or moist soil.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow flowers in fall.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes

**Compatibility:** Clonal from rhizomes.

**Form/Color:** Perennial, grows to 5', rough textured, yellow rays in August-October.

**Other:**

**Helianthus divaricatus**

**Woodland sunflower**

**Habitat:** Dry, thin woods.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds eaten by birds and small mammals, attractive to butterfly species.

**Soil Moisture:** Dry to medium moisture conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow flowers.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Green roof

**Compatibility:** Clonal from

rhizomes.

**Form/Color:** Perennial, grows to 5', waxy-pale stem, yellow rays in August-October.

**Other:**

**Helianthus giganteus**

**Giant sunflower**

**Habitat:** Wet woods, rich thickets, marshes, wooded swamps.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:**

**Soil Moisture:** Moist to wet soil conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow flowers throughout fall.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Inundation, Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Perennial, grows to 9', usually hairy, flowers yellow in July-October.

**Other:**

**Heliopsis helianthoides†**

**Smooth oxeye**

**Habitat:** Dry, open woods, dry banks.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** FACU

**Urban Tolerance:** Performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Dry to moderately moist soil conditions; tolerates drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow flowers.

**Salt Tolerance:** Tolerance: Intolerant

**Stormwater** ROW Rain garden, Stormwater greenstreet, Retention

pond, Rain  
garden,  
Slopes

**Compatibility:**

**Form/Color:** 3-5' tall, branching occasionally and becoming rather bushy in open situations. Opposite dark green leaves have a rough texture. July -September.

**Other:** Used for increased diversity and aesthetics in restoration of open woodlands, edges. Also known as false sunflower.

**Hibiscus moscheutos**

**Habitat:** Open marshes, undisturbed wet ditches, pond edges, tolerates brackish water.

**Wetland Indicator:** OBL

**Exposure:** Part Shade

**Soil Moisture:** Low drought tolerance; moist to wet soil conditions; high water usage.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

**Form/Color:** Perennial, slow grower to 3-7', flowers pink to white in July-September.

**Crimson-eyed rosemallow**

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Performs well in the right of way.

**Ecosystem Services:** Host to some butterfly species, attractive to hummingbirds.

**Horticultural Value:** Very showy pink to white flowers.

**Compatibility:** Often in small colonies.

**Other:**

**Hieracium paniculatum**

**Habitat:** Stabilized sand dunes, plateaus, sand prairies, sand upland savannah, openings in sandy or rocky woodlands.

**Wetland Indicator:** NC

**Exposure:** Part Shade

**Soil Moisture:** **Tolerance:**

**Soil pH:**

**Salt Tolerance:**

**Stormwater**

**Narrowleaf hawkweed**

**Coefficient of Conservatism:** 6

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Nectar and/or pollen attracts bees and other insects such as aphids.

Mesic or dry soil conditions. research to determine Unsuitable

Insufficient

Eaten by ruffed grouse, wild turkey, cottontail rabbits and white-tailed deer.

**Horticulture** Yellow flowers.  
**I Value:**

**Compatibility:**

**Form/Color:** Perennial, grows from 1-4', yellow flowers with narrow and 5-toothed petals from Jul-Sept.

**Other:**

**Hieracium venosum**

**Habitat:** Open, rocky, dry woods.

**Wetland Indicator:** NC

**Exposure:** Shade

**Soil Moisture:** Dry soil conditions.

**Soil pH:** Acidic

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Unsuitable

**Form/Color:** Perennial, grows to 3', reddish-purple midrib and veins, flowers yellow in May-July.

**Rattlesnakeweed**

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:**

**Horticultural Value:** Yellow flowers, attractive foliage.

**Compatibility:**

**Other:**

**Hydrophyllum virginianum**

**Habitat:** Moist to wet, open woods, stream banks.

**Wetland Indicator:** FAC

**Exposure:** Shade

**Soil Moisture:** Moist soil conditions.

**Soil pH:** Neutral

**Salt Tolerance:** Tolerance:

**Stormwater**

**Virginia waterleaf**

**Coefficient of Conservatism:**

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:**

**Horticultural Value:** Pale violet to white flowers.

Insufficient research to determine Retention pond, Rain garden, Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Perennial, grows to 30", usually low, sprawling, flowers pale violet to white in clusters in May-June.

**Other:**



**Hypericum hypericoides**

**St. Andrew's cross**

**Habitat:** Dry woods, pine barrens; sand hills; ridges; floodplains,

**Coefficient of Conservatism:**

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Dry to moist soil conditions.

**Soil pH:** Neutral

**Horticultural Value:** Yellow flowers.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** 1-3'; perennial; yellow flowers bloom June-September.

**Other:**

**Impatiens capensis**

**Jewelweed**

**Habitat:** Swamp forests, shady or open marsh, stream edges, moist woods.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds eaten by birds and mice, flowers attractive to hummingbirds.

**Soil Moisture:** Moist to wet. Not drought tolerant.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Showy orange flowers.

**Salt Tolerance:** Stormwater Tolerance:

Intolerant

Retention  
pond, Rain  
garden,  
Inundation,  
Slopes

**Compatibility:** Often forms  
dense monocultures.

**Form/Color:** Annual, grows to 5', stem succulent,  
flowers orange in June-September.

**Other:**

**Impatiens pallidaf**

**Yellow jewelweed**

**Habitat:** Wet woods and meadows, often on mountainsides in wet, shady, limestone or neutral sites.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Nectar attracts the Ruby-Throated Hummingbird and bumblebees.

**Soil Moisture:** Moist or wet soil conditions.

Eaten by caterpillars of moths, gamebirds, the White-Footed Mouse, and White-Tailed Deer.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Large yellow flowers.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation, Slopes

**Compatibility:**

**Form/Color:** Annual, grows to 3-6', pale yellow tubular flowers occasionally splotched with reddish brown from Jun-Oct.

**Other:**

**Ionactis linariifolius**

**Flaxleaf whitetop aster**

**Habitat:** Dry clearings, rocky banks.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:**

**Soil Moisture:** Dry to moist soil conditions.

**Soil pH:** Acidic

**Horticultural Value:** Blue and purple flowers.

**Salt Tolerance:** Tolerance:

Insufficient research to determine Green roof

**Stormwater**

**Compatibility:**

**Form/Color:** Perennial, herbaceous; white, yellow, blue and purple flowers bloom August-October.

**Other:**

**Iris versicolor**

**Habitat:** Undisturbed marshes, pond edges, swamp forest gaps, freshwater and brackish tidal marshes.

**Wetland Indicator:** OBL

**Exposure:** Shade

**Soil Moisture:** Tolerant of flooding or saturated soil.

**Soil pH:** Acidic

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention Pond, Rain garden, Inundation

**Form/Color:** Perennial, slow grower to 32", often forms large clumps, leaves usually purple at base, flowers blue-violet in May-July.

**Harlequin blueflag**

**Coefficient of Conservatism:** 4

**Urban Tolerance:** Performs well in the right of way.

**Ecosystem Services:** Flowers attractive to hummingbirds, insects, and birds.

**Horticultural Value:** Showy blue-violet flowers.

**Compatibility:** Can form colonies.

**Other:**

**Krigia virginica**

**Habitat:** Dry to mesic, sandy soil.

**Wetland Indicator:** UPL

**Exposure:** Full Sun

**Soil Moisture:** Dry, well-drained soil.

**Soil pH:** Acidic

**Salt Tolerance:** Tolerance:

**Stormwater**

**Virginia dwarf dandelion**

**Coefficient of Conservatism:** 3

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:**

**Horticultural Value:** Yellow flowers, similar in appearance to dandelions.

Insufficient research to determine Green roof

**Compatibility:**

**Form/Color:** Annual, slender, grows to 12", basal rosette forming leaves, flowers yellow in May-July.

**Other:** Leaves and flowering stems contain a white latex.

**Lathyrus japonicus**

**Beach pea**

**Habitat:** Dunes, sandy to stony beaches, steep beach ridges or other such shores.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACU

**Urban Tolerance:** Threatened by non-native plants and vehicles, and possibly threatened by trail maintenance and foot traffic.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Dry to moist soil conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Pink or purple flowers.

**Salt Tolerance:** High tolerance

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Has symbiotic relationship with certain soil bacteria, these bacteria form nodules on the roots and fix atmospheric nitrogen.

**Form/Color:** Perennial, grows to 2', pink or purple flower in May-Aug.

**Other:** Stabilizes sand with deep expansive root system.

**Lechea maritima**

**Beach pinweed**

**Habitat:** Dunes, beaches; sandy soils.

**Coefficient of Conservatism:** 9

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:**

**Soil Moisture:** Dry, well-drained soil. Drought tolerant.

**Soil pH:** Acidic

**Horticultural Value:** Red flowers.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Red flowers bloom June-July.

**Other:**



**Lechea mucronata**

**Hairy pinweed**

**Habitat:** Open, dry woods, fields, sandy or gravelly soil.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Dry, well-drained soil.

**Soil pH:**

**Horticultural Value:** Small reddish flowers throughout fall, reddish brown stems throughout winter.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Perennial, grows to 32", one or few flowering stems, brownish-purple, flowers reddish in July-October.

**Other:**

**Lespedeza capitata**

**Roundhead lespedeza**

**Habitat:** Open fields, sandy soil, tolerates sterile soil.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds eaten by birds, plants eaten by deer.

**Soil Moisture:** Dry, well-drained soil conditions.

**Soil pH:** Acidic

**Horticultural Value:** Dull white flowers with purple at the bases.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Perennial, single stem, grows to 5',  
flowers dull white with purple spot at base.

**Other:** Nitrogen fixer.

**Lespedeza hirta**

**Habitat:** Dry open rocky or sandy soil, open woods, fields.

**Wetland Indicator:** NC

**Exposure:** Part Shade

**Soil Moisture:** Sandy, dry soil conditions; low moisture usage.

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Green roof

**Form/Color:** Perennial, grows to 5', flowers pea-flower-shaped, yellowish-white with purple base in July-October.

**Hairy bush clover**

**Coefficient of Conservatism:** 6

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Seeds eaten by birds, plants eaten by deer, host to some butterfly species.

**Horticultural Value:** Pea-flower-shaped flowers in yellowish-white with purple base.

**Compatibility:**

**Other:** Nitrogen fixer.

**Lilium superbum**

**Habitat:** Moist to wet forests.

**Wetland Indicator:** FACW

**Exposure:** Shade

**Soil Moisture:** Low drought tolerance; moist, loamy, sandy soil; medium moisture usage.

**Soil pH:** Acidic

**Salt Tolerance:** **Stormwater Tolerance:**

**Turk's cap lily**

**Coefficient of Conservatism:** 6

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attractive to hummingbirds, bulbs may be eaten by voles and muskrats.

**Horticultural Value:** Orange flowers, petals curled back.

Low tolerance

Retention  
pond, Rain  
garden,  
Inundation,  
Slopes

**Compatibility:** Sometimes  
forms colonies.

**Form/Color:** Perennial, grows to 8', flowers orange in  
July-August.

**Other:**

**Limonium carolinianum**

**Sea lavender**

**Habitat:** Salt marshes.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Moist clay, loamy, sandy soil; high moisture use.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Pale purple flowers.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Inundation, Slopes

**Compatibility:**

**Form/Color:** Grows to 1'; herbaceous perennial; branching cluster of small, pale, purple flower bloom June-August.

**Other:**

**Lobelia cardinalis**

**Cardinalflower**

**Habitat:** Swamp forests and marshes.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** OBL

**Urban Tolerance:** Performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Flowers attractive to hummingbirds, host to some butterfly species.

**Soil Moisture:** Tolerant of flooding.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Showy scarlet flowers.

**Salt Tolerance:** Tolerant

Intolerant

**Stormwater**

Retention pond, Rain garden, Inundation, Slopes

**Compatibility:**

**Form/Color:** Perennial, single stem, slow grower to 20-60", flowers scarlet in July-September.

**Other:**

**Lobelia siphilitica**

**Great blue lobelia**

**Habitat:** Open marshes, swamp forests.

**Wetland Indicator:** FACW

**Exposure:** Shade

**Soil Moisture:** Low drought tolerance; moist to wet clay, loamy, sandy soil conditions.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation, Slopes

**Form/Color:** Perennial, single stem, grows to 20-60", flowers blue in August-September.

**Coefficient of Conservatism:** 5

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:**

**Horticultural Value:** Showy blue flowers in late summer.

**Compatibility:**

**Other:** Spreads easily from seed.

**Ludwigia alternifolia**

**Seedbox**

**Habitat:** Open marshes, moist to wet forest edges.

**Wetland Indicator:** OBL

**Exposure:** Part Shade

**Soil Moisture:** Wet to moist soil.

**Soil pH:** Acidic

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Coefficient of Conservatism:** 6

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:**

**Horticultural Value:** Yellow flowers.

**Compatibility:**

**Form/Color:** Perennial, grows to 4', flowers yellow in July-August.

**Other:**



## **Lycopus americanus**

**Habitat:** Open or part-shaded wet soil, ditches, swamp forests, pond edges, wet roadsides.

**Wetland Indicator:** OBL

**Exposure:** Part Shade

**Soil Moisture:** Intolerant of drought, tolerant of flooding.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Form/Color:** Perennial, single stem, grows to 35", flowers white in June-September.

## **American water horehound**

**Coefficient of Conservatism:** 4

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:**

**Horticultural Value:** White flowers.

**Compatibility:** Tolerant of competition. Clonal from rhizomes.

**Other:**

## **Lycopus virginicus**

**Habitat:** Shores of rivers or lakes, swamps, wetland margins

**Wetland Indicator:** OBL

**Exposure:** Shade

**Soil Moisture:** Moist or wet soil conditions.

**Soil pH:** Acidic

**Salt Tolerance:** **Stormwater Tolerance:**

## **Virginia water horehound**

**Coefficient of Conservatism:** 4

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attractive to bees, wasps, and flies.

**Horticultural Value:** White flowers.

Insufficient research to determine

Retention  
pond, Rain  
garden,  
Inundation,  
Slopes

**Compatibility:**

**Form/Color:** Perennial, grows to 2', white flowers in Jul-  
Sep.

**Other:**

**Lysimachia ciliata**

**Fringed loosestrife**

**Habitat:** Moist to well-drained soils; swamps, partial shade in undisturbed woods; floodplains.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Attracts butterflies and other insects.

**Soil Moisture:** Drought tolerant.

**Soil pH:** Neutral

**Horticultural Value:** Yellow flowers June to July.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention ponds, Rain garden, Inundation, Slopes

**Compatibility:** Can form colonies.

**Form/Color:** 24"-30"; narrowly egg-shaped stem leaves; five-petaled yellow flowers bloom June-July; round fruit capsule; fast grower.

**Other:** Used for increasing diversity and aesthetics of wetland restoration and mitigation; used for erosion control.

**Lysimachia quadrifolia**

**Whorled yellow loosestrife**

**Habitat:** Open woods, gaps, edges.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts butterflies and insects.

**Soil Moisture:** Suited best for dry uplands.

**Soil pH:** Acidic

**Horticultural Value:** Yellow flowers June to August.

**Salt Tolerance:** **Tolerance:**

Insufficient research to determine Green roof

**Stormwater**

**Compatibility:**

**Form/Color:** 3'; yellow flowers bloom June-August; fruit August-October.

**Other:**

Used for increasing diversity and restoration of aesthetics of open woodlands, gaps, and edges.

**Maianthemum canadense**

**Canada mayflower**

**Habitat:** Moist, beech, oak, or conifer woods.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Provides valuable cover.

**Soil Moisture:** Moist to wet; prefers humus-rich soil.

**Soil pH:** Acidic

**Horticultural Value:** Red fruit, delicate white flowers.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Frequently forms colonies.

**Form/Color:** Grows to 8"; white flowers develop May-June, flowering stalks usually only have two leaves, fleshy red fruit ripen from June to July.

**Other:** A common understory plant, frequently found with Solomon's seal, false Solomon's seal, sessile-leaved bellwort, wild sarsparilla.

**Maianthemum racemosum**

**False Solomon's seal**

**Habitat:** Frequent in New York City woodlands; mixed deciduous forests.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Dispersed by small mammals and birds.

**Soil Moisture:** Drought tolerant.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White flowers, berries.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Unsuitable

colonies.

**Compatibility:** Can form

**Form/Color:** Grows to 32"; single stem, white flowers  
bloom May-June; fleshy, speckled red fruit  
September-October.

**Other:**

Used for increased diversity and  
aesthetics in restoration of moist  
forest understories.

**Maianthemum stellatum**

**Habitat:** Moist, sandy, gravelly, open forests, floodplains, margins of seasonal or temporary streams and flooded areas,

**Wetland Indicator:** FAC k dune forests.

**Exposure:** Part Shade

**Soil Moisture:** Dry to moist soil conditions.

**Soil pH:** Acidic

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreets, Slopes

**Form/Color:** Grows to 2'; single stem, white 1 cm wide flowers bloom May to July; green with blackish stripes, three-lobed fruit ripens to red June-September.

**Starry false lily of the valley**

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:**

**Horticultural Value:** White flowers May-July, berries.

**Compatibility:**

**Other:** Used in restoration and mitigation of wetland in sandy soil, coastal woodlands. Slow to moderate grower.

**Mimulus ringens**

**Habitat:** Swamp forests, shady stream banks, wet meadows.

**Wetland Indicator:** OBL

**Exposure:** Part Shade

**Soil Moisture:** Medium to wet moisture conditions.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** **Stormwater Tolerance:**

**Allegheny monkeyflower**

**Coefficient of Conservatism:** 6

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attracts butterflies.

**Horticultural Value:** Attractive foliage and pink- purple flowers July to August.

Low tolerance

Retention  
pond, Rain  
garden,  
Inundation,  
Slopes

**Compatibility:**

**Form/Color:** Grows to 3'; pink-purple flowers bloom  
July-August; fruit August-September;

**Other:**

Common name refers to  
resemblance of the flower to a  
monkey's face when it is squeezed  
by the fingers.



**Mitchella repens**

**Partridgeberry**

**Habitat:** Rich, moist to dry woods.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Eaten by birds and small mammals.

**Soil Moisture:** Dry to moist soil conditions.

**Soil pH:** Acidic

**Horticultural Value:** White flowers June-July,

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Can form colonies.

**Form/Color:** Low-growing groundcover; 8"; white flowers bloom June-July; fleshy red fruit develop August-October.

**Other:** Used for increasing diversity and aesthetics in restoration of moist forest understories.

**Monarda fistulosa**

**Wild bergamot**

**Habitat:** Upland, open woods.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts hummingbirds, bees, and butterflies.

**Soil Moisture:** Intolerant of drought; high moisture usage.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Lilac or pink flowers.

**Salt Tolerance:** **Stormwater Tolerance:**

Low tolerance Green roof

**Compatibility**

: Can form colonies.

**Form/Color:** Grows to 4'; lilac or pink flowers bloom July-September; fruit develops August-October.

**Other:**

**Nuphar lutea**

**Yellow pond lily**

**Habitat:** Ponds, lakes, bayous, bogs, streams and springs.

**Coefficient of Conservatism:**

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Attracts birds and insects.

**Soil Moisture:** Wet soil conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow flower.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention pond, Inundation

**Compatibility:**

**Form/Color:** Perennial, aquatic, can grow in water 16' deep, single, yellow, fleshy flower with lobed stigma in Mar-Oct.

**Other:**

**Nuttallanthus canadensis**

**Blue toadflax**

**Habitat:** Open, sterile, sandy; maritime grassland or shrubland, forests, sandy fields; dry or poor soils.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** NC

**Urban Tolerance:** Tolerant of concrete debris. Found in disturbed areas.

**Exposure:** Full Sun

**Ecosystem Services:** Provides low amount of cover for large mammals.

**Soil Moisture:** Prefers dry to moist conditions; tolerant of drought.

**Soil pH:** Acidic

**Horticultural Value:** Pale blue flowers.

**Salt Tolerance:**

**Stormwater Tolerance:** Low tolerance

Green roof

**Compatibility:**

**Form/Color:** 2'; pale blue flowers bloom April-May; fruits develops June-September.

**Other:** Used for increased diversity and aesthetics in restoration of open sand barren and coastal grassland habitat; helps with erosion control.

**Nymphaea odorata**

**Habitat:** Ponds, lakes, slow streams, and ditches.

**Wetland Indicator:** OBL

**Exposure:** Full Sun

**Soil Moisture:** Wet soil conditions.

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention pond, Inundation

**Form/Color:** Perennial, aquatic, can grow in water 8' deep, single white flower with golden yellow stamens in Mar-Oct.

**American white waterlily**

**Coefficient of Conservatism:** 3

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attracts bees, flies, beetles, and birds. Eaten by waterfowl and mammals.

**Horticultural Value:** Flagrant, white flower.

**Compatibility:**

**Other:**

**Oenothera biennis**

**Habitat:** Common in open, disturbed areas, vacant lots, fill, and roadsides.

**Wetland Indicator:** FACU

**Exposure:** Full Sun

**Soil Moisture:** Medium drought tolerance; medium moisture usage.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** **Stormwater Tolerance:**

**Common evening primrose**

**Coefficient of Conservatism:** 1

**Urban Tolerance:** Performs well in the right of way.

**Ecosystem Services:** Seeds eaten by birds.

**Horticultural Value:** Yellow flowers.

Tolerant

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Upland

**Compatibility:** Can become  
weedy.

**Form/Color:** Yellow flower bloom in late spring to early  
fall; fast grower.

**Other:** Short lifespan.

## **Oenothera fruticosa**

**Habitat:** Dry open woods, meadows, disturbed sites.

**Wetland Indicator:** FACU

**Exposure:** Shade

**Soil Moisture:** Course, fine, medium textured soils; high moisture usage; low drought tolerance.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Slopes, Upland

**Form/Color:** Grows to 1'-3'; slender, hairy stems; alternating elliptic leaves; showy, bright yellow four-petaled flowers; four-sided, club-shaped fruit pods.

## **Narrowleaf evening primrose**

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attracts birds, hummingbirds, and bees.

**Horticultural Value:** Yellow flowers.

**Compatibility:**

**Other:** Moderate lifespan.

## **Oenothera perennis**

**Habitat:** Moist or wet soil in undisturbed, open areas, meadows.

**Wetland Indicator:** FAC

**Exposure:** Part Shade

**Soil Moisture:** Moist to average sandy or gravelly soil.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** **Stormwater Tolerance:**

## **Little evening primrose**

**Coefficient of Conservatism:** 2

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attractive to hummingbirds.

**Horticultural Value:** Yellow flowers.

Moderately tolerant

Retention  
pond, Rain  
garden,  
Slopes

**Compatibility:**

**Form/Color:** Perennial, stems to 2', unbranched,  
narrow leaves, flowers yellow in June-  
August.

**Other:**



**Opuntia humifusa**

**Habitat:** Dry sand, back dunes, cliff faces and rocky sites.

**Wetland Indicator:** NC

**Exposure:** Part Shade

**Soil Moisture:** Drought tolerant; grows well on varied moisture conditions; well drained soil.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof

**Form/Color:** Grows to 1'; evergreen, prickly; showy, yellow flowers bloom in June-July; reddish, fleshy fruit ripe October-November.

**Eastern prickly pear**

**Coefficient of Conservatism:** 9

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Used for protection and shelter by birds, snakes, and lizards. Flower very attractive to bees.

**Horticultural Value:** Yellow flowers.

**Compatibility:** Can form colonies.

**Other:** Also known as Devil's tongue

**Osmorhiza claytonii**

**Clayton's sweetroot**

**Habitat:** Rich, moist mixed hardwood forests; urban parks.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Grows well on drained gravelly or sandy loams; poorly drained clay loams.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White flowers.

**Salt Tolerance:**

:

**Stormwater Tolerance:** Intolerant

Unsuitable

**Compatibility:**

**Form/Color:** Grows to 2'; white flowers bloom May-June; fruit ripe June-August.

**Other:**

**Osmorhiza longistylis**

**Long-styled sweet cicely**

**Habitat:** Moist woods, floodplain forests.

**Wetland Indicator:** FACU

**Exposure:** Shade

**Soil Moisture:** Drought tolerant; prefers rich loamy soil.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Unsuitable

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attracts butterflies.

**Horticultural Value:** White flowers.

**Compatibility:**

**Form/Color:** Compound umbrella-shaped with 3-6 rays; small white flowers, styles longer than petals, bloom May-June; blackish, bristly fruit ripe June-August.

**Other:** Used for increasing diversity and aesthetics in restoration of moist, mixed deciduous woodland understories.

**Packera aurea**

**Golden ragwort**

**Habitat:** Moist woods, mucky seepage areas

**Wetland Indicator:** FACW

**Exposure:** Shade

**Soil Moisture:** Prefers soil with consistent moisture

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:**

**Stormwater Tolerance:**

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Can tolerate concrete debris

**Ecosystem Services:** Nectar and pollen source for bees, provides wildlife cover.

**Horticultural Value:** Daisy like flowers, can form groundcover

Insufficient research to determine

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Retention  
Pond, Rain  
garden,  
Inundation

**Compatibility:**

**Form/Color:** Grows to 3', yellow showy flowers, from  
May-July, semi-evergreen basal rosette of  
foliage

**Other:**

Calciphile- often found in  
calcareous soil, can form colonies.

**Packera obovata**

**Habitat:** Upland woodlands and slopes, open rocky glades, road banks.

**Wetland Indicator:** FACU

**Exposure:** Shade

**Soil Moisture:** Prefers moist to dry-mesic conditions

**Soil pH:** Alkaline

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention Pond, Rain garden, Slopes, Upland

**Form/Color:** Grows 6-28". Flowers yellow from Apr-Jun. Oval leaves, semi-evergreen basal rosette of foliage

**Round-leaved ragwort**

**Coefficient of Conservatism:** 8

**Urban Tolerance:** Insufficient research to determine

**Ecosystem Services:** Attracts butterflies and bees

**Horticultural Value:** Daisy like flowers, can form groundcover

**Compatibility:**

**Other:** Spreads by rhizomes forming colonial patches.

**Peltandra virginica**

**Green arrow arum**

**Habitat:** Fresh to slightly brackish tidal and nontidal marshes and pond edges.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** OBL

**Urban Tolerance:** Tolerant of concrete debris.

**Exposure:** Shade

**Ecosystem Services:** Provides cover for invertebrates and small fish.

**Soil Moisture:** Tolerant of flooding 100% of growing season.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Green-white flowers.

**Salt Tolerance:** **Stormwater Tolerance:**

Moderately tolerant

Retention  
pond, Rain  
garden,  
Inundation

**Compatibility:** Can form  
colonies.

**Form/Color:** Grows to 30"; green-white flowers bloom  
June-July; fruit ripe August; slow grower.

**Other:** Used for erosion control, vegetation,  
diversity, and aesthetics for the  
margins of ponds and lakes; used  
for wetland mitigation.

**Penstemon digitalis**

**Habitat:** Part shade, edges and meadows, second growth.

**Wetland Indicator:** FAC

**Exposure:** Shade

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Upland

**Form/Color:** Moderate grower to 5', single stem, waxy-whitish or purplish, flowers white or pale purple in May-July.

**Foxglove beardtongue**

**Coefficient of Conservatism:**

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, low tolerance of soil compaction.

**Ecosystem Services:** Attracts birds and butterflies.

**Horticultural Value:** White or pale purplish flowers.

**Compatibility:**

**Other:**

**Penstemon hirsutus†**

**Hairy beardtongue**

**Habitat:** Dry sandy or rocky fields, open woods.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic

**Horticultural Value:** White and purplish flowers.

**Salt Tolerance:** Tolerance:

Moderately tolerant Green roof

**Stormwater**

**Compatibility:**

**Form/Color:** Grows to 32", single stem, flowers white and purplish in May-June.

**Other:**



**Penthorum sedoides**

**Ditch stonecrop**

**Habitat:** Marshes, wet edges in low, sparse vegetation; undisturbed, open areas.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Medium drought tolerance; medium moisture usage; fine textured soils.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Interesting white flowers.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

**Compatibility:** Can form colonies.

**Form/Color:** Grows to 2': whitish flowers bloom July-September; fruit ripe August-October.

**Other:** Used for shoreline stabilization and increased diversity and aesthetics in wetland restoration, pond edges.

**Persicaria arifolia**

**Halberd-leaved tearthumb**

**Habitat:** Open marshes and pond edges.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds eaten by birds and small mammals.

**Soil Moisture:** Wet to moist soils.

**Soil pH:**

**Horticultural Value:** Pink, white, green flowers.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation

**Compatibility:**

**Form/Color:** Single stem with hooked prickles; arrow-shaped leaves; pink, white, or green flowers bloom August-September; shiny brown seeds.

**Other:**

**Persicaria hydropiperoides**

**Swamp smartweed**

**Habitat:** Open, wet soil, pond edges; freshwater tidal and nontidal marshes.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Moderate wildlife value.

**Soil Moisture:** Intolerant of drought; medium moisture usage; fine and medium textured soils.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Pink to white flowers.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation

**Compatibility:** Can form colonies.

**Form/Color:** Grows to 6'; reclining stems; tops of leaves fringed with long bristles; pink to white flowers bloom July-November; slow grower.

**Other:** Used as a minor species for increasing diversity and aesthetics in marsh and swamp habitat restoration; wetland mitigation.

**Persicaria pensylvanica**

**Pennsylvania smartweed**

**Habitat:** Wet prairies, prairie swales, swamps, low area near ponds or rivers, edges of marshes, degraded seasonal wetlands,

**Coefficient of Conservatism:** 2

**Wetland Indicator:** FACW

**Urban Tolerance:** Can be found in low areas along railroads, roadside ditches, vacant lots, fence rows and waste areas.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts bees, wasps, flies, butterflies, moths, and weevils. Seeds are eaten

**Soil Moisture:** Moist soil conditions.

by birds and small rodents. Turtles also feed on this plant.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Clusters of bright pink flowers.

**Salt Tolerance:** Stormwater Tolerance:

Low tolerance

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Retention  
pond, Rain  
garden,  
Inundation

**Compatibility:**

**Form/Color:** Annual, grows from 2-4', stems are reddish brown and have swollen nodes, small pink or rose flowers on a short spike in Mar-May, seeds are black.

**Other:**

**Persicaria sagittata**

**Arrow-leaved tearthumb**

**Habitat:** Freshwater tidal and nontidal marshes.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Low wildlife value as food for waterbirds.

**Soil Moisture:** Course, fine, medium textured soils; low drought tolerance.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Pink to green flowers.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation

**Compatibility:**

**Form/Color:** Grows to 6'; reclining stems; pink to green flowers bloom and fruits August-November; fast grower.

**Other:** Secondary species erosion control on open soil of newly restored wetlands and wetland mitigation.

**Persicaria virginiana**

**Jumpseed**

**Habitat:** Woods, floodplain forests, common in disturbed woodlands and urban forests.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Greenish white flowers.

**Salt Tolerance:** Tolerance:  
Insufficient research to determine

**Stormwater** ROW Rain garden, Stormwater greenstreet, Slopes,

Upland

**Compatibility:** Can form colonies.

**Form/Color:** 6'; single stem, greenish white flowers bloom July-October; produces fruit August-November.

**Other:** Used for erosion control and soil cover in degraded forest understory.

**Phlox subulata ssp. subulata**

**Moss phlox**

**Habitat:** Gravelly, sandy soil, rocky ledges.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, no tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Purple and pink showy flowers.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Green roof

**Compatibility:** Quickly overgrown by taller vegetation.

**Form/Color:** Ground cover, semi-evergreen, rapid grower to 8", flowers purple to pink in May-July.

**Other:**

**Phryma leptostachya**

**American lopseed**

**Habitat:** Moist woods and thickets.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerant of compacted soils. Found on trail edges.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts some small bees.

**Soil Moisture:** Moist soil conditions.

**Soil pH:** Acidic

**Horticultural Value:** White or pinkish-lavender flowers.

**Salt Tolerance:** Tolerance:

Insufficient research to determine Unsuitable

**Stormwater**

**Compatibility:**

**Form/Color:** Perennial, grows to 1.5-3', white or pinkish-lavender flowers in Jul-Sep.

**Other:**



**Physostegia virginiana**

**Obedient plant**

**Habitat:** Moist soil, riverbanks.

**Coefficient of Conservatism:** 9

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Moist, humus rich soil conditions.

**Soil pH:** Acidic

**Horticultural Value:** Pale purple-pink flowers.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Perennial, grows to 5', flowers pale purple-pink in July-September.

**Other:**

**Pityopsis falcata**

**Sickle-leaved golden aster**

**Habitat:** Dry, sandy soil near the coast, pine barrens.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:**

**Soil Moisture:** Dry, sandy, well-drained soil. Not flood tolerant.

**Soil pH:** Acidic

**Horticultural Value:** Yellow flowers.

**Salt Tolerance:** Tolerance:

Tolerant Green roof

**Stormwater**

**Compatibi**

**Form/Color:** 8"-15"; single stem, yellow flowers bloom July-September; leaves and stem white-wooly;

**lity:**

**Other:**

Used in restoration of coastal back dunes and grasslands. Has a restricted range, though common in region.

**Plantago aristata**

**Largebracted plantain**

**Habitat:** Roadsides, dry soil.

**Coefficient of Conservatism:**

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Eaten by large mammals and terrestrial birds.

**Soil Moisture:** Moderate drought tolerance.

**Soil pH:**

**Horticultural Value:**

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Grows to 6"-12"; white, green, brown flowers bloom May-November.

**Other:**

**Pluchea odorata**

**Saltmarsh fleabane**

**Habitat:** Saline to brackish marshes.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** OBL

**Urban Tolerance:** Tolerant of pollution.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Moist soil conditions.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Clusters of pink-lavender flowers.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Inundation

**Compatibility:**

**Form/Color:** Annual, perennial, grows to 2' or more,  
flat-topped clusters of pink-lavender  
flower heads in Jun-Oct.

**Other:**

**Podophyllum peltatum**

**Mayapple**

**Habitat:** Moist, undisturbed woods.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Fruit eaten by box turtles, birds, and small mammals.

**Soil Moisture:** Medium moisture; well-drained soil.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White flowers.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes

**Compatibility:** Frequently forms colonies.

**Form/Color:** Grows to 20"; erect stems; large umbrella-shaped leaves; white flowers with yellow center blooms in May; yellow fruit ripe in July-August.

**Other:** Sometimes affected by bright orange rust fungus.

**Polygonatum biflorum**

**Smooth Solomon's seal**

**Habitat:** Rich, dry to moist woods; thickets; calcareous hammocks.

**Coefficient of Conservatism:**

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Roots eaten by mammals; fruit attracts butterflies and birds.

**Soil Moisture:** Medium moisture; moist, acid soils.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White flowers, fruit.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Unsuitable

**Compatibility:**

**Form/Color:** Arching stem grows to 12"; bright yellow green foliage; pale green to white flowers bloom April-June.

**Other:**

**Polygonatum pubescens**

**Hairy Solomon's seal**

**Habitat:** Dry to moist woods.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Attracts birds and butterflies.

**Soil Moisture:** Moist soil; intolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Flowers, fruit.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Can form colonies.

**Form/Color:** Single stem, to 15", has minute hairs on underside of leaves; green fruit; blooms April-June

**Other:** Poisonous berries.

**Polygonella articulata**

**Coastal jointweed**

**Habitat:** Dry, sandy cliffs; acidic soil.

**Coefficient of Conservatism:**

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:**

**Soil Moisture:** Drought tolerant.

**Soil pH:** Acidic

**Horticultural Value:** White to pink flowers.

**Salt Tolerance:** **Tolerance:**

Insufficient research to determine Green roof

**Stormwater**

**Compatibility:**

**Form/Color:** Grows to 4"-20" ; erect tall forb, thin stems; white to pink flowers bloom July-October.

**Other:**



## **Pontederia cordata**

**Habitat:** Shallow water; tolerates brief tidal submersion; pond edges; freshwater to slightly brackish tidal marshes.

**Wetland Indicator:** OBL

**Exposure:** Part Shade

**Soil Moisture:** Tolerant of flooding or saturated soil 100% of growing season.

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation

**Form/Color:** 3'; spike, showy blue flowers bloom July-September; moderate grower.

## **Pickerelweed**

**Coefficient of Conservatism:** 4

**Urban Tolerance:** Tolerant of alkaline fill and concrete debris.

**Ecosystem Services:** High wildlife value as cover for fish and invertebrates; cools water by providing shade.

**Horticultural Value:** Blue flowers.

**Compatibility:** Can form colonies.

**Other:** Used for erosion control, diversity, aesthetics for restoration of pond and lake edges, marshes; wetland mitigation.

## **Potentilla canadensis**

**Habitat:** Dry to moist soils in woods and fields.

**Wetland Indicator:** NC

**Exposure:** Part Shade

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:** Tolerance:

**Stormwater**

## **Dwarf cinquefoil**

**Coefficient of Conservatism:** 2

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Minor food source for small and large mammals and terrestrial birds, host of grizzled skipper.

**Horticultural Value:** Yellow flowers.

**Compatibility:** Insufficient research to determine Green roof

**Compatibility:**

**Form/Color:** Grows to 1.5'; yellow flowers bloom April-June.

**Other:**

**Potentilla simplex**

**Habitat:** Dry woods, fields, meadows; open areas, lawns, edges, low vegetation.

**Wetland Indicator:** FACU

**Exposure:** Part Shade

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Green roof, Retention pond, Rain garden, Upland

**Form/Color:** Yellow flowers bloom April-June; produces fruit in July; prostrate stems.

**Common cinquefoil**

**Coefficient of Conservatism:** 0

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attracts bees.

**Horticultural Value:** Yellow flowers.

**Compatibility:**

**Other:** Used for erosion control plantings and soil cover in degraded, open woodlands, roadsides, and low meadows.

**Prenanthes trifoliata**

**Habitat:** Dry to moist woods, gaps, edges, sandy soil.

**Wetland Indicator:** NC

**Exposure:** Part Shade

**Soil Moisture:** Dry to moist, sandy soil conditions.

**Soil pH:** Acidic

**Salt Tolerance:** **Tolerance:**

**Stormwater**

**Gall-of-the-Earth**

**Coefficient of Conservatism:**

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:**

**Horticultural Value:** Whitish flowers.

Insufficient research to determine Unsuitable

**Compatibility:**

**Form/Color:** Grows to 7'; whitish flowers bloom August-October.

**Other:** Used to increase diversity and aesthetics in restoration of dry woodlands on sandy soils.

**Pseudognaphalium obtusifolium**

**Rabbit-tobacco**

**Habitat:** Pine woods and dry open areas.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** NC

**Urban Tolerance:** Tolerant of dry, poor soil.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts butterflies and other insects.

**Soil Moisture:** Dry, well-drained soil.

**Soil pH:** Acidic

**Horticultural Value:** Yellow flowers.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Single stem, whitish, yellow, round flowers bloom August-November.

**Other:**

**Pycnanthemum incanum**

**Hoary mountain mint**

**Habitat:** Thickets; pastures.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White flowers.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Green roof

**Compatibility:** Can form

colonies.

**Form/Color:** Grows to 2' - 3'; Dense flowerheads have small white-pink spotted flowers and a frosty white bloom that covers leaves and stems around and just below the heads, July - September.

**Other:** Used for erosion control.

**Pycnanthemum tenuifolium**

**Narrowleaf mountain mint**

**Habitat:** Moist to dry soil, fields, bogs.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts birds and butterflies.

**Soil Moisture:** Dry to moist soil conditions; medium water usage.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White flowers.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Green roof

**Compatibility:** Can form colonies.

**Form/Color:** Grows to 30"; leafy, short axillary branches; white flowers with purple spots bloom June-September.

**Other:**

**Pycnanthemum virginianum**

**Virginia mountain mint**

**Habitat:** Open areas, upland woods, fields.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Moist soil.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White flowers.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Retention  
pond, Rain  
garden,  
Slopes,  
Upland

**Compatibility:** Can form  
colonies.

**Form/Color:** Grows to 1'to 3'; Flowers in numerous ,  
roundish heads, leaves lance-shaped,  
stalkless and rounded at the base, July-  
September.

**Other:**



**Pyrola americana**

**American wintergreen**

**Habitat:** Moist to dry undisturbed woods.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:**

**Soil Moisture:** Moist, organic soil.

**Soil pH:** Acidic

**Horticultural Value:** White bell shaped flowers.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Perennial, evergreen, grows to 1', flowers white in June-August, shiny, leathery and almost round leaves.

**Other:**

**Ranunculus arborvitus**

**Littleleaf buttercup**

**Habitat:** Wet woods, shores; moist to wet herb layers of open forests, stream banks.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Moist to wet soil.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow flowers.

**Salt Tolerance:** Stormwater Tolerance

:

Intolerant

Unsuitable

**Compatibility:**

**Form/Color:** Grows to 20"; small, yellow flowers bloom April-June; fruit ripe June-September.

**Other:**

Minor species for restoring wet woodlands, open areas and increasing diversity.

**Rudbeckia hirta**

**Black-eyed Susan**

**Habitat:** Open areas, roadsides.

**Coefficient of Conservatism:**

**Wetland Indicator:** FACU

**Urban Tolerance:** Performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Eaten by mammals and terrestrial birds.

**Soil Moisture:** Medium drought tolerance, fine and medium textured soils.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow, orange flowers

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Green roof, ROW Rain garden, Stormwater greenstreet, Upland

**Compatibility:**

**Form/Color:** Grows to 15-36"; yellow, orange ray flowers sometimes with a dark base, blooms June-October; rapid grower.

**Other:** Used in wildflower mixes for restoration projects.

**Rudbeckia laciniata**

**Cutleaf coneflower**

**Habitat:** Stream banks, moist places, rich low ground.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** FACW

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, low tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow flowers in summer and fall.

**Salt Tolerance:** Tolerance:

Intolerant

**Stormwater**

Retention pond, Rain garden, Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Perennial, grow to 1.5-10', hairless stems, waxy-pale plant, flowers yellow in July-September.

**Other:**

**Rudbeckia triloba v. triloba†**

**Browneyed Susan**

**Habitat:** Moist open woods, thickets.

**Coefficient of Conservatism:** 1

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Showy yellow to orange flowers in summer and fall.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Upland

**Compatibility:**

**Form/Color:** Short-lived perennial or biennial, grows to 1.5-5', flowers yellow to orange in June-October.

**Other:**

**Rumex verticillatus†**

**Swamp dock**

**Habitat:** Pond edges, swamps.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Intolerant of drought.

**Soil pH:**

**Horticultural Value:**

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation

**Compatibility:** Can form colonies.

**Form/Color:** Grows to 4'; perennial, ascending branches; green flowers; 3-winged flower fruit June-September.

**Other:**

**Sagittaria latifolia**

**Habitat:** Ditches, marshes, pools along stream and lake edges.

**Wetland Indicator:** OBL

**Exposure:** Full Sun

**Soil Moisture:** Intolerant of drought conditions; high moisture usage.

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation

**Form/Color:** Basal leaves; leaf blades are arrowhead-shaped; white three-petaled flowers bloom summer through fall.

**Coefficient of Conservatism:** 3

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attracts birds.

**Horticultural Value:** White flowers.

**Compatibility:** Can form colonies.

**Other:**

**Broadleaf arrowhead**

**Salicornia depressa**

**Habitat:** Salty marshes.

**Wetland Indicator:** OBL

**Exposure:** Full Sun

**Soil Moisture:** Medium moisture usage.

**Soil pH:** Alkaline; Neutral

**Salt Tolerance:** Tolerant

**Stormwater**

**Coefficient of Conservatism:** 8

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:**

**Horticultural Value:**

Tolerant

ROW Rain garden, Stormwater greenstreet, Inundation

**Virginia glasswort**

**Compatibility:** Can form mats.

**Form/Color:** Herbaceous perennial, emergent, erect, succulent stem, to 12", green turning red in the fall.

**Other:** Minor species for salt marsh restoration



**Sanguinaria canadensis**

**Bloodroot**

**Habitat:** Interiors of undisturbed forests, moisted woods, sometimes floodplains or slopes of streams.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Attracts birds and butterflies.

**Soil Moisture:** Drought tolerant; medium moisture usage.

**Soil pH:** Neutral

**Horticultural Value:** Showy white flowers, bloom time only a few days, scallop shaped leaves.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Grows to 15", white flowers with 8-12 petals and yellow stamens bloom March-April.

**Other:**

**Sanicula canadensis**

**Canada sanicle**

**Habitat:** Dry open woods.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:**

**Soil Moisture:** Moist soil conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Greenish yellow flowers, often overlooked due to their small size.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Unsuitable

**Compatibility:**

**Form/Color:** 75 cm; greenish yellow flowers bloom  
May-July; hooked, bristly fruit.

**Other:**

**Saururus cernuus**

**Lizard's tail**

**Habitat:** Still water, wet lowlands, stream and lake edges.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Attracts birds.

**Soil Moisture:** Moist to wet soil conditions.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:**

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Grows to 4'; hairy, erect stem; spike of small whitish flowers bloom June-August.

**Other:**

**Silene stellata**

**Starry campion**

**Habitat:** Open woods.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Moist, rich soils.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Brilliant white flowers.

**Salt Tolerance:** Tolerance:

Insufficient research to determine Unsuitbale

**Stormwater**

colonies.

**Compatibility:** Can form

**Form/Color:** Grows to 2'-3'; perennial, multi-stemmed, white flowers bloom July-August; fringed petals.

**Other:**

Used for increased diversity and aesthetics in restoration of open woodlands.

**Sisyrinchium angustifolium**

**Narrow-leaved blue-eyed grass**

**Habitat:** Moist, open soil, open woods, fields.

**Coefficient of Conservatism:** 1

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Browsed by large mammals and terrestrial birds.

**Soil Moisture:** Low tolerance of drought; medium moisture usage.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Radially symmetrical, pale-blue flowers.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes, Upland

**Compatibility:**

**Form/Color:** Perennial, grows to 6-20", flowers pale-blue in June-July.

**Other:**

**Solidago bicolor**

**White goldenrod**

**Habitat:** Dry, open, oak, woods on sterile, rocky soil.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts bees.

**Soil Moisture:** Dry soil conditions.

**Soil pH:** Acidic

**Horticultural Value:** White flowers.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Green roof

**Compatibility:**

**Form/Color:** 1-5 stems to 3'; white flowers bloom August-October.

**Other:** Used for increased diversity and aesthetics in restoration of open, dry woodlands, butterfly gardens.

## **Solidago caesia**

**Habitat:** Rich, open, deciduous woods; frequent in NYC understories.

**Wetland Indicator:** FACU

**Exposure:** Part Shade

**Soil Moisture:** Fine and medium textured soils; low drought tolerance.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Unsuitable

**Form/Color:** 3': yellow flowers bloom August-October; moderate grower.

## **Wreath goldenrod**

**Coefficient of Conservatism:** 6

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attracts butterflies.

**Horticultural Value:** Showy, yellow flowers.

**Compatibility:**

**Other:** Used for increased diversity and aesthetics in restoration of moist forest understories; used in butterfly gardens; short lifespan.

## **Solidago canadensis**

**Habitat:** Open areas and old fields.

**Wetland Indicator:** FACU

**Exposure:** Full Sun

**Soil Moisture:** Fine, coarse, and medium textured soils; medium drought tolerance.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** **Stormwater Tolerance:**

## **Canada goldenrod**

**Coefficient of Conservatism:** 0

**Urban Tolerance:** Tolerant of fill and concrete.

**Ecosystem Services:** Eaten by small and large mammals and terrestrial birds.

**Horticultural Value:** Showy, yellow flowers.

Low tolerance

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Retention  
pond, Rain  
garden,  
Slopes

**Compatibility:** Can compete with  
Mugwort invasion  
in nutrient  
rich, open  
fill soils,  
considered  
aggressive.

**Form/Color:** Perennial, multi-stemmed to 6'; yellow  
flowers bloom August-October; fast  
grower.

**Other:** Used for erosion control on open  
slope, degraded open areas,  
meadows with concrete, roadsides.



**Solidago juncea**

**Early goldenrod**

**Habitat:** Dry fields and roadsides.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** NC

**Urban Tolerance:** Tolerant of concrete and fill soil.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts birds and butterflies.

**Soil Moisture:** Dry to moist, sandy soils.

**Soil pH:** Acidic

**Horticultural Value:** Showy, yellow flowers.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Upland

**Compatibility:**

**Form/Color:** Perennial, frequently multistemmed to 4'; showy, yellow flowers bloom July-August.

**Other:** Used for increased diversity and aesthetics in vegetation of open slopes, degraded open areas, roadsides, meadows with concrete.

**Solidago nemoralis**

**Gray goldenrod**

**Habitat:** Open, dry, sandy soil, old fields, thin woods, edges.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** NC

**Urban Tolerance:** Tolerant of fill soils.

**Exposure:** Part Shade

**Ecosystem Services:** Eaten by small and large mammals and terrestrial birds.

**Soil Moisture:** Coarse and medium textured soils; medium drought tolerance.

**Soil pH:** Neutral

**Horticultural Value:** Showy, yellow flowers.

**Salt Tolerance:** Tolerance:

Low tolerance Green roof

**Stormwater**

**Compatibility**

:

**Form/Color:** Perennial, frequently multistemmed to 3'; showy, yellow flowers bloom August-September.

**Other:** Used for restoration of coastal grasslands and meadows on dry, sandy, sterile soils.

## **Solidago odora**

**Habitat:** Dry, sandy soil in open woods, fields, edges.

**Wetland Indicator:** NC

**Exposure:** Part Shade

**Soil Moisture:** Dry and sandy soil.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Green roof

**Form/Color:** Perennial, frequently multistemmed to 5'; showy, yellow flowers bloom July-October.

## **Sweet goldenrod**

**Coefficient of Conservatism:** 6

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Eaten by small and large mammals and terrestrial birds; attracts honey bees.

**Horticultural Value:** Showy, yellow flowers.

**Compatibility:**

**Other:** Used for increased diversity and aesthetics in restoration of thin meadows, open woodlands on dry, sandy, sterile soils.

## **Solidago rugosa**

**Habitat:** Moist to dry open areas.

**Wetland Indicator:** FAC

**Exposure:** Part Shade

**Soil Moisture:** Medium moisture usage; wet, well-drained soil conditions.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** **Stormwater Tolerance:**

## **Wrinkleleaf goldenrod**

**Coefficient of Conservatism:** 1

**Urban Tolerance:** Tolerant of fill soils and concrete, Performs well in the right of way.

**Ecosystem Services:** Attracts birds.

**Horticultural Value:** Showy, yellow flowers.

Intolerant

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Retention  
pond, Rain  
garden,  
Slopes

**Compatibility:** Can form  
colonies.

**Form/Color:** Perennial, frequently multistemmed to 4':  
showy, yellow flowers bloom August-  
November; fast grower.

**Other:** Prevents invasion from mugwort in  
nutrient rich, moist fill soils.

**Solidago sempervirens**

**Seaside goldenrod**

**Habitat:** Low dunes, brackish wet areas, salt marsh edges.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerant of concrete, performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts butterflies, bees, and small mammals.

**Soil Moisture:** Coarse and medium textured soils; medium drought tolerance.

**Horticultural Value:** Showy, yellow flowers.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** High tolerance

**Compatibility:**

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Slopes, Upland

**Form/Color:** Perennial, frequently multistemmed to 5'; thick leathery leaves, showy yellow flowers bloom September-November; produces fruit September-November.

**Other:** Used for increasing diversity when restoring high salt marsh habitats, back dune swales, and low fore-dunes.

**Solidago speciosa†**

**Showy goldenrod**

**Habitat:** Meadows, woodland edges, dry, rocky fields.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** NC

**Urban Tolerance:** Tolerates poor, dry soil.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Dry to medium soil conditions.

**Horticultural Value:** Showy, yellow flowers.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Insufficient research to

determine

**Compatibility:**

**Form/Color:** Perennial, frequently multistemmed to 5'; showy, yellow flowers bloom August-October.

**Other:** Used for increased diversity and aesthetics in vegetation of open slopes, meadows, roadside.

**Symphotrichum cordifolium**

**Blue wood aster**

**Habitat:** Open woods, clearings.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Coarse and fine textured soils; medium drought tolerance; low moisture usage.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Purple flowers.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Grows to 5'; purple flowers bloom in summer; moderate grower.

**Other:** Short lifespan.

**Symphotrichum ericoides**

**White heath aster**

**Habitat:** Dry, open areas; sandy soil in New York City coastal habitats and successional scrub.

**Coefficient of Conservatism:** 1

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerant of concrete debris.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Moist to dry soil.

**Soil pH:** Acidic

**Horticultural Value:** White flowers.

**Salt Tolerance:** **Stormwater Tolerance:**

Tolerant

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Slopes,  
Upland

**Compatibility:**

**Form/Color:** Grows to 3': white flowers bloom August-October.

**Other:**

Used for vegetation in restoration of open areas, meadows, warm season grasslands, coastal black dune habitats. Used in butterfly



## *Symphotrichum laeve*

## Smooth blue aster

**Habitat:** Dry, open woods, sandy soil.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerant of concrete debris and other urban conditions.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Moist to dry soil.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Showy, blue flowers.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Upland

**Compatibility:**

**Form/Color:** Grows to 3'; waxy dark green leaves; showy blue flowers bloom August-October.

**Other:** Used for open, sandy soil, in restoration of meadows, warm season grasslands, coastal back-dune successional habitats. Used in

## *Symphotrichum novae-angliae*

## New England aster

**Habitat:** Moist meadows, swamps, pond edges.

**Coefficient of Conservatism:** 1

**Wetland Indicator:** FACW

**Urban Tolerance:** Performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Tolerant of flooding 25% of growing season; tolerant of moderate drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Showy, blue-purple flowers.

**Salt Tolerance:** Moderately tolerant

garden, Slopes

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain

**Compatibility:**

**Form/Color:** Grows to 6': showy, blue-purple flowers bloom August-October; produces fruit October-November; slow grower.

**Other:** Used for open wetland restoration and mitigation; used in butterfly gardens.

**Symphotrichum novi-belgii**

**New York aster**

**Habitat:** Moist to wet open areas.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Medium moisture conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Showy, blue flowers.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

**Compatibility:**

**Form/Color:** Grows to 4': showy, blue flowers bloom August-October.

**Other:** Used for increased diversity and aesthetics in restoration of moist to dry open areas, meadows, warm-season grasslands.

**Symphotrichum pilosum**

**Hairy white oldfield aster**

**Habitat:** Dry to moist open habitats, slopes, meadows, butterfly gardens.

**Coefficient of Conservatism:** 0

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerant of concrete debris and other urban conditions.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Moist to dry, sandy soil.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White flowers.

**Salt Tolerance:** Tolerance:

Low tolerance

**Stormwater**

ROW Rain garden, Stormwater greenstreet, Upland

**Compatibility:**

**Form/Color:** Perennial, frequently multistemmed, 5':  
white flowers bloom August-November.

**Other:**

**Symplocarpus foetidus**

**Skunk cabbage**

**Habitat:** Swamp forests, freshwater tidal and nontidal marshes, shady steeps, stream banks.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Low wildlife value.

**Soil Moisture:** Tolerant of saturated soil 100% of growing season.

**Soil pH:** Acidic

**Horticultural Value:** Purple flowers.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Inundation

**Compatibility:** Can form colonies.

**Form/Color:** Grows to 2'; purple green floral bract February-March; blackish, green, fleshy fruit August-September.

**Other:** Used for increasing diversity and aesthetics in restoration of swamp forests herb layer; wetland mitigation.

**Tephrosia virginiana**

**Goat's rue**

**Habitat:** Sandy or rocky soil of of back-dune grasslands, open pine or oak barrens.

**Coefficient of Conservatism:** 9

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Eaten by small and large mammals and terrestrial birds.

**Soil Moisture:** Dry, sandy soil conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Pale yellow and pink flowers.

**Salt Tolerance:** **Stormwater Tolerance:**

Low tolerance Green roof

**Compatibility**

:

**Form/Color:** Alternate compound leaves to 28"; pale yellow and pink flowers bloom June-July; produces fruit August- October.

**Other:** Parts of plant considered toxic. Used for increased diversity and aesthetics in restoration or open woodlands or barrens on dry sandy

## *Teucrium canadense*

**Habitat:** Prairie, plains, edges of bottomland forests, meadows, edges of marshes, pastures, savannahs.

**Wetland Indicator:** FACW

**Exposure:** Part Shade

**Soil Moisture:** Moist soil conditions.

**Soil pH:** Acidic

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Slopes, Upland

**Form/Color:** Perennial, grows to approximately 3', spike-like cluster of lavender-pink flowers from May-Agu.

## American germander

**Coefficient of Conservatism:** 9

**Urban Tolerance:** Can be found in more developed areas, such as abandoned fields, partially vacant lots, poorly drained

**Ecosystem Services:** Attractive to butterflies.

**Horticultural Value:** Clusters of lavender-pink flowers.

**Compatibility:**

**Other:**

## *Thalictrum dioicum*

**Habitat:** Rich mesic woodlands, open woods, wooded clay slopes, shaded areas near cliffs, and rocky ravines.

**Wetland Indicator:** FACU

**Exposure:** Part Shade

**Soil Moisture:** Moist soil conditions.

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:** **Stormwater Tolerance:**

## Early meadow rue

**Coefficient of Conservatism:** 4

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Feed caterpillars of moths.

**Horticultural Value:** Male flowers have bright yellow stamens.

Low tolerance Unsuitable

**Compatibility**

:

**Form/Color:** Perennial, grows to 2.5', dioecious, petal-less flowers with hanging yellow stamens in Apr-May.

**Other:** Susceptible to white-tailed deer predation.



## **Thalictrum pubescens**

## **Tall meadow rue**

**Habitat:** Wet woods, meadows, marshes, stream banks.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Attracts butterflies and bees.

**Soil Moisture:** Wet or moist soil; well-drained soil.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Pale green flowers.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes

**Compatibility:**

**Form/Color:** Grows to 9'; stalkless stem leaves; pale green flowers bloom June-August; small rounded head of achenes.

**Other:** Short lifespan.

## **Thalictrum thalictroides**

## **Rue anemone**

**Habitat:** Dry to moist woods.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Medium, well-drained soil; tolerant of drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** This tiny spring perennial reaches only 8 inches tall. Delicate five-petaled white

**Salt Tolerance:** Tolerance:

Tolerant Slopes, Upland

**Stormwater**

Rain garden,

flowers are held above  
small leaves that  
resemble meadow-rue  
leaves.

**Compatibility:**

**Form/Color:** 8"; white flowers bloom April-May;  
produces fruit May-June.

**Other:**

Minor species for increased  
diversity and aesthetics in  
restoration of moist woodland  
habitats.

**Tradescantia virginiana**

**Spiderwort**

**Habitat:** Open woods, edges, fill.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** UPL

**Urban Tolerance:** Tolerant of fill soils.

**Exposure:** Shade

**Ecosystem Services:** Attracts butterflies and bees.

**Soil Moisture:** Fine and medium textured soils.

**Soil pH:** Neutral

**Horticultural Value:** Blue flowers.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Inundation, Slopes, Upland

**Compatibility:**

**Form/Color:** Grows to 18"; 3-petaled blue flowers on erect stem bloom in small clusters May-June.

**Other:** Short lifespan, fast grower.

**Triadenum virginicum**

**Virginia marsh St. Johnswort**

**Habitat:** Wet, open areas, pond edges, clean, undisturbed marshes.

**Coefficient of Conservatism:**

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Tolerates some flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Pink flowers.

**Salt Tolerance:** **Stormwater Tolerance:**

Low tolerance

Retention  
pond, Rain  
garden,  
Inundation,  
Slopes

**Compatibility:** Can form  
colonies.

**Form/Color:** Grows to 2'; pinkish, 5-petaled pinkish  
flowers.

**Other:** Used for increased diversity and  
aesthetics, erosion control, in  
wetland restoration and mitigations.

**Trichostema dichotomum**

**Forked blue curls**

**Habitat:** Open, dry, soil, old fields, open woods, open dry, disturbed soil.

**Coefficient of Conservatism:**

**Wetland Indicator:** UPL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Valuable to native bees.

**Soil Moisture:** Dry, sandy soil conditions.

**Soil pH:** Acidic

**Horticultural Value:** Blue flowers.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Grows to 6-24"; blue irregularly 5-lobed flowers bloom August-September.

**Other:** Used for increased diversity and aesthetics in restoration of dry grasslands or coastal meadows.

**Typha angustifolia**

**Narrowleaf cattail**

**Habitat:** Swamps, pond margins, freshwater and brackish tidal marshes, open saturated soil.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Moderate wildlife value; rhizomes eaten by muskrats; red-wing blackbirds use for nesting.

**Soil Moisture:** Coarse, fine, and medium textured soils; low drought tolerance.

**Soil pH:** Acidic

**Horticultural Value:** Brown flowers and seed heads.

**Salt Tolerance:** **Stormwater Tolerance:**

Moderately tolerant

Retention  
pond, Rain  
garden,  
Inundation

**Compatibility:** Frequently  
forms colonies.

**Form/Color:** Tall grasslike form, wide leaves, to 10';  
brown flowers bloom May-June; produces  
fruit July-August; fast grower.

**Other:** Sometimes used in restorations and  
mitigations; used for controlling  
erosion in wetland soils in brackish  
or alkaline soils; long lifespan.

## *Typha latifolia*

## Broadleaf cattail

|                              |   |                                     |   |
|------------------------------|---|-------------------------------------|---|
| <b>Habitat:</b>              | Clean water, marshes, roadside ditches.   | <b>Coefficient of Conservatism:</b> | 1   |
| <b>Wetland Indicator:</b>    | OBL   | <b>Urban Tolerance:</b>             | Insufficient information to determine tolerance.  |
| <b>Exposure:</b>             | Full Sun  | <b>Ecosystem Services:</b>          | Seeds eaten by waterfowl; rhizomes eaten by muskrats.   |
| <b>Soil Moisture:</b>        | Coarse, fine, and medium textured soils; intolerant of drought; high moisture usage.                                      |                                     |   |
| <b>Soil pH:</b>              | Acidic; Neutral; Alkaline   | <b>Horticultural Value:</b>         | Yellowish flowers.  |
| <b>Salt Tolerance:</b>       | Low tolerance   |                                     |   |
| <b>Stormwater Tolerance:</b> | Retention pond, Rain garden, Inundation   | <b>Compatibility:</b>               | Frequently forms colonies.  |
| <b>Form/Color:</b>           | Tall grasslike form, broad leaves, to 10'; male yellowish flowers, dark brown female flowers bloom May-July; fast grower. | <b>Other:</b>                       | Used for erosion control, bank stabilization, in freshwater wetlands, restorations of pond margins, marshes, and wetland mitigations. |

## *Uvularia sessilifolia*

## Sessileleaf bellwort

|                              |                                     |                                     |  |
|------------------------------|-------------------------------------|-------------------------------------|--|
| <b>Habitat:</b>              | Undisturbed moist forest interiors. | <b>Coefficient of Conservatism:</b> | 4  |
| <b>Wetland Indicator:</b>    | FACU                                | <b>Urban Tolerance:</b>             | Insufficient information to determine tolerance. |
| <b>Exposure:</b>             | Part Shade                          | <b>Ecosystem Services:</b>          |  |
| <b>Soil Moisture:</b>        | Prefers moist conditions.           |                                     |  |
| <b>Soil pH:</b>              | Alkaline; Neutral                   | <b>Horticultural Value:</b>         | Pale yellow flowers, attractive fruit.           |
| <b>Salt Tolerance:</b>       | Low tolerance                       |                                     |  |
| <b>Stormwater Tolerance:</b> | Retention pond, Rain garden, Slopes | <b>Compatibility:</b>               | Can form colonies.                               |

**Form/Color:** Grows to 4-12"; pale yellow flowers with 6 petals, dangle from under the stem, bloom April-mid-July; 3-sided fruit produced in summer.

**Other:** Used for increased diversity and aesthetics in restoration of moist forest understories.



## Verbena hastata

## Swamp verbena

**Habitat:** Open areas, part shade, marshes, pond edges.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACW

**Urban Tolerance:** Performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds eaten by birds; plants eaten by rabbits.

**Soil Moisture:** Prefers moist conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Blue flowers.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Slopes

**Compatibility:**

**Form/Color:** Grows to 4', perennial; blue tubular flowers bloom July-September.

**Other:**

## Verbena urticifolia

## White vervain

**Habitat:** Wetland edges; partially shaded open edges in good soil.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds eaten by songbirds; plant eaten by rabbits.

**Soil Moisture:** Moist, well-drained soils.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White flowers.

**Salt Tolerance:** Stormwater

**Tolerance:**

Low

tolerance     **Compatibility**  
                  :

Unsuitable

**Form/Color:** Grows to 4'; erect hairy single stem; small tubular white flowers bloom June-August; small dry fruit.     **Other:**

**Vernonia noveboracensis**

**New York ironweed**

**Habitat:** Open marshes, wet edges.

**Wetland Indicator:** FACW

**Exposure:** Full Sun

**Soil Moisture:** Moderate drought tolerance; medium moisture usage.

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

**Form/Color:** Grows to 3-6'; purple flowers August-October; dry achene with dark brownish plume fruit; moderate grower.

**Coefficient of Conservatism:** 3

**Urban Tolerance:** Performs well in the right of way.

**Ecosystem Services:** Attracts butterflies and insects.

**Horticultural Value:** Purple flowers.

**Compatibility:**

**Other:** Short lifespan.

**Viola cucullata**

**Blue marsh violet**

**Habitat:** Swamps, bogs.

**Wetland Indicator:** OBL

**Exposure:** Shade

**Soil Moisture:** Moist, well-drained soils.

**Soil pH:** Acidic

**Salt Tolerance:** Tolerance:

**Stormwater**

**Coefficient of Conservatism:** 6

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attracts birds.

**Horticultural Value:** Pale violet flowers.

Insufficient research to determine

Retention pond, Rain garden, Inundation, Slopes

**Compatibility:** Can form

colonies.

**Form/Color:** To 8". Pale violet flowers with dark blue-veined center bloom April-July; egg-shaped fruit, dry capsule with black seeds April-July.

**Other:**

**Viola labradorica†**

**Labrador violet**

**Habitat:** Woods and grassy places.

**Wetland Indicator:** FAC

**Exposure:** Shade

**Soil Moisture:** Well-drained soil; moist soil conditions.

**Soil pH:** Acidic

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Green roof

**Form/Color:** Evergreen, perennial; grows 1-3"; violet to lavender flowers bloom in May.

**Coefficient of Conservatism:** 4

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attracts butterflies and birds.

**Horticultural Value:** Lavendar, purple flowers.

**Compatibility:**

**Other:**

**Viola pubescens**

**Downy yellow forest violet**

**Habitat:** Rich woods and floodplain forests.

**Wetland Indicator:** FACU

**Exposure:** Shade

**Soil Moisture:** Medium textured soils; medium drought tolerance.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** **Stormwater Tolerance:**

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attracts butterflies.

**Horticultural Value:** Showy, yellow flowers.

**Intolerant**

Retention  
pond, Rain  
garden,  
Slopes,  
Upland

**Compatibility:**

**Form/Color:** Grows to 18"; showy, yellow flowers  
bloom April-May; produces fruit July-  
August.

**Other:**

Used for increased diversity and  
aesthetics in restoration of forest  
understories; short lifespan.

## *Viola sororia*

## Common blue violet

**Habitat:** Open woods, shady lawns.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of disturbance. Tolerates calcium deicers.

**Exposure:** Shade

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Low drought tolerance; high moisture usage; fine and medium textured soils.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Violet flowers.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Slopes

**Compatibility:**

**Form/Color:** Grows to 6"; showy, violet flowers bloom April-May; produces fruit June-July.

**Other:** Used for shady edges.

## *Xanthium strumarium*

## Rough cocklebur

**Habitat:** Open riparian woodlands, intermittent streambeds, beach habitats, cultivated fields, vacant lots, sandpits, and dry

**Coefficient of Conservatism:** 1

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of concrete debris, poor dry soil.

**Exposure:** Full Sun

**Ecosystem Services:**

**Soil Moisture:**

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:**

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Annual, greenish male and female flower heads in Aug-Oct, brown fruit covered in hooked prickles.

**Other:** Inspiration for George deMastral, in 1948, for the invention of Velcro.



**Zizia aurea**

**Golden alexanders**

**Habitat:** Rich, moist meadows, wet, open woods, rich soil.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Host to some butterfly species.

**Soil Moisture:** Moist soils, not drought tolerant.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Showy yellow flowers in spring and summer.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes

**Compatibility:**

**Form/Color:** Grows to 32", shiny compound leaves with 3-5 leaflets, flowers yellow in April-June, fruits in August-October.

**Other:**

## Graminoids

Grasses, sedges, and rushes provide abundant food sources to animal, bird, and insect species. They offer year-round structure to a landscape design and are adapted to a wide variety of light, soil, and hydrologic conditions. According to the *State of New York City's Plants*, the grasses (Poaceae) and sedges (Cyperaceae) represent two of the three most species rich families in our flora with 200 or more species each.



Clockwise from top left: *Carex debilis* (White-edged sedge), *Schizachyrium scoparium* (Little bluestem), *Panicum amarum* var *amarum* and *Cenchrus tribuloides* (Dune panic grass and Dune sandspur), and *Carex comosa* (Bristly sedge)

**Agrostis hyemalis**

**Winter bentgrass**

**Habitat:** Dry or moist soil in woods and fields, bogs, meadows, roadsides.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Dry or moist soil conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Mature purple flowers.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes

**Compatibility:**

**Form/Color:** Perennial, grows to 2.5', tufted with mature purple flowers in Mar-Jun.

**Other:**

**Agrostis perennans**

**Autumn bentgrass**

**Habitat:** Disturbed woods, open areas, lawns, trail edges.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACU

**Urban Tolerance:** High tolerance of soil compaction

**Exposure:** Part Shade

**Ecosystem Services:** Slightly palatable for browse animals, moderately palatable for graze animals.

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Pale green to bronze-tinged inflorescence. Fine-textured form.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes, Upland

**Form/Color:** Perennial, grows to 3' tall, tufted with autumn basal shoots, inflorescence flowers and fruits August-September.

**Compatibility:** Moderate grower, moderate rate of vegetative spread.

**Other:** Susceptible to infection by some endophytic fungi.

**Agrostis scabra**

**Habitat:** Sandy soils, cliffs, ledges, forest edges, forests, meadows and fields, shores or rivers or lakes.

**Wetland Indicator:** FAC

**Exposure:** Part Shade

**Soil Moisture:** Dry to moist soil conditions.

**Soil pH:** Alkaline; Neutral

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Green roof, Retention pond, Rain garden, Slopes, Upland

**Form/Color:** Perennial, grows to .5-3', yellow flower clutsres in Apr-May.

**Coefficient of Conservatism:** 3

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Occasionally eaten by ungluates and small mammals, upland gambirds, and waterfowl. Can also provide cover for hese species. Attractive to butterfly larvae.

**Horticultural Value:** Purple flower clusters.

**Compatibility:** Responds to burning with increased growth and spread.

**Other:** Fibrous root system effective in preventing soil erosion.

**Rough bentgrass**

**Ammophila breviligulata**

**Habitat:** Beach foredunes, needs a moving substrate.

**Wetland Indicator:** UPL

**Exposure:** Full Sun

**Soil Moisture:** Moderately tolerant of drought.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Tolerance :  
:

**Stormwater**

**Coefficient of Conservatism:** 8

**Urban Tolerance:** Adapted to coarse and medium textured soils, low tolerance of soil compaction.

**Ecosystem Services:** Moderately palatable by browse animals.

**Horticultural Value:** Tolerant Unsuitable

**American beachgrass**

**Compatibi**

**Form/Color:** Rapid grower to 3', blooms and fruits in July-September. Thick wiry-green basal foliage with upright yellow flowering stalks.

**lity:** Rapid grower, moderate rate of vegetative spread.

**Other:** Used extensively in dune stabilization.

**Andropogon gerardii**

**Big bluestem**

**Habitat:** Open areas.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACU

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Host to some butterflies.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Neutral

**Horticultural Value:** Blue-green stem, with a turkey foot shaped inflorescence. Purple-white

**Salt Tolerance:** Moderately tolerant

flowers.

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Slopes, Upland

**Compatibility:** Slow rate of vegetative spread. May become weedy.

**Form/Color:** Perennial, 3-9' tall, tufted, stems waxy blue-green and purple in bloom, densely flowered purple in July-September.

**Other:**

**Andropogon glomeratus**

**Bushy bluestem**

**Habitat:** Low roadsides, moist pinelands, brackish and freshwater marsh borders, sloughs, and wet ditches.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Can be used as forage by livestock, deer and rabbits, seeds eaten by

**Soil Moisture:** Moist and wet soil conditions.

birds, and attracts butterflies.

**Soil pH:** Acidic

**Horticultural Value:** White flowers and showy plumes turn a rust color during late fall and early

**Salt Tolerance:** Tolerance:

Intolerant garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

**Stormwater**

ROW Rain

winter which account for color  
year round.

**Compatibili  
ty:**

**Form/Color:** Perennial, low growing white flowers,  
found from late summer to fall, grows to  
6'. Has thick, massive, reddish brown  
terminal inflorescence composed of  
paired silky racemes and its flattened blue

**Other:**



**Andropogon virginicus**

**Habitat:** Sandy, gravelly soil, open areas, uplands to seasonally dry wetland edges.

**Wetland Indicator:** FACU

**Exposure:** Full Sun

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Slopes, Upland

**Form/Color:** Perennial, 20-60" tall, in clumps, pale, waxy green in bloom, pale yellow-tan in winter, awned, blooms and fruits in August-October.

**Coefficient of Conservatism:** 4

**Urban Tolerance:** Adapted to medium and fine soils, no tolerance of soil compaction.

**Ecosystem Services:** Wildlife value moderate, host to some butterflies.

**Horticultural Value:** Green and straw yellow stalk with white fluffy seeds along the stalk.

**Compatibility:** Allelopathic to competitors.

**Other:** Early pioneer on poor soil, often infected by endophytic fungi.

**Broom sedge bluestem**

**Anthoxanthum nitens ssp. nitens**

**Habitat:** Upper edges of salt marshes, moist meadows, swales; coarse and medium textured soils; poorly drained to dry soils.

**Wetland Indicator:** FACW

**Exposure:** Part Shade

**Soil Moisture:** Moist to wet soil conditions.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** **Stormwater Tolerance:**

**Coefficient of Conservatism:** 8

**Urban Tolerance:** Resistant of soil compaction; used in bioswales.

**Ecosystem Services:** Attracts birds.

**Horticultural Value:** Rhizomatous grass with bronze-colored spiklets. Sweet-smelling perennial with

Moderately tolerant

**Sweetgrass**

slender green leaves.

ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Compatibility:** Clonal from rhizomes.

**Form/Color:** Perennial, grows to 60 cm, purplish-brown or bronze flowers in Apr-Jul; small seedheads of broad, bronze-colored spikelets

**Other:** Used as incense; moderate lifespan.

**Aristida dichotoma**

**Churchmouse threawn**

**Habitat:** Dry, sterile soil, fill.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:**

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:** Acidic

**Horticultural Value:** Gray-green to reddish stalks turning a straw-like color.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Annual, 8-16" tall, tufted, pale green to reddish, spikelets, blooms and fruits in August-October.

**Other:**

**Aristida purpurascens**

**Arrowfeather threawn**

**Habitat:** Dry, sparsely vegetated soils, prairies, glades.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** UPL

**Urban Tolerance:** Should tolerate concrete debris.

**Exposure:** Full Sun

**Ecosystem Services:**

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Purplish plants.

**Salt Tolerance:** Tolerance:

Low tolerance Green roof

**Stormwater**

**Compatibility**

:

**Form/Color:** Perennial, 1-3' tall, tufted, spikelets, purplish, blooms and fruits in August-October.

**Other:** May be mechanically injurious to livestock.

**Aristida tuberculosa**

**Seaside threawn**

**Habitat:** Dry, sterile, soil in open areas, sandy fill, dunes.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Sensitive of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Seeds eaten by few birds and small mammals, plants eaten by rabbits.

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:** Acidic

**Horticultural Value:** Distinctive open inflorescence with long twisted awns.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Annual, 32" tall, spikelets, inflorescence open, blooms and fruits in August-October.

**Other:**

**Avenella flexuosa**

**Wavy hairgrass**

**Habitat:** Dry, open woods, fields.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACU

**Urban Tolerance:** Adapted to coarse and medium soils, no tolerance of soil compaction.

**Exposure:** Shade

**Ecosystem Services:**

**Soil Moisture:** Moderate tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Thin wiry basal leaves with long arching flowering stems. Graceful inflorescence

**Salt Tolerance:** Stormwater Tolerance:

Low tolerance

Green roof,  
Retention  
pond, Rain  
garden,  
Upland

turning a nice  
straw color.

**Compatibility:** Moderate  
grower, no vegetative  
spread.

**Form/Color:** Perennial, slow grower to 3', tufted, wiry,  
blooms and fruits in June-August.

**Other:**

## **Bolboschoenus robustus**

**Habitat:** High salt marsh; near brackish water; fine and medium textured soil.

**Wetland Indicator:** OBL

**Exposure:** Full Sun

**Soil Moisture:** Low drought tolerance; high moisture usage.

**Soil pH:** Alkaline; Neutral

**Salt Tolerance:** High tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Inundation

**Form/Color:** Rhizomatous; blooms and produces fruit July-October; alternating green leaves; dry, papery flowers covered by brown, finely hairy scale on 1" long cylindrical spikes.

**Coefficient of Conservatism:** 9

**Urban Tolerance:** Tolerant of concrete debris.

**Ecosystem Services:** Roots eaten by muskrats; seeds eaten by songbirds and waterfowl.

**Horticultural Value:** Large cluster of long spikelets sessile to a green blade.

**Compatibility:** Can form colonies.

**Other:** Long lifespan. One of the few native sedges to tolerate brackish conditions.

## **Seacoast bulrush**

## **Calamagrostis canadensis**

**Habitat:** Meadows, open woods, wet thickets or swamps, marshes, bogs, ditches, and margins of streams and lakes.

**Wetland Indicator:** OBL

**Exposure:** Part Shade

**Soil Moisture:** Moist to saturated soils, but not soils inundated by water.

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:** **Stormwater Tolerance:**

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Provides forage for mammals as well as food and habitat for small mammals, waterfowl, and birds.

**Horticultural Value:**

Tolerant

## **Canada bluejoint grass**

ROW Rain  
garden,  
Stormwater  
green  
street,  
Retention  
pond, Rain  
garden,  
Inundation

**Compatibility:** Clonal offsets  
develop from the  
rhizomes,  
occasionally  
forms colonies  
at favorable  
sites.

**Form/Color:** Perennial, grows from 60-180 cm, pink-  
green seeds in Jun-Aug.

**Other:**



**Carex annectens**

**Yellowfruit sedge**

**Habitat:** Open, dry to moist soils.

**Coefficient of Conservatism:** 1

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Tolerant of flooding, intolerant of drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Greenish-yellow blooms with the inflorescence held above the stems.  
Grass-like leaves in dense clumps.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Slopes, Upland

**Compatibility:**

**Form/Color:** Grows 1-3' in dense tussocks, flowers greenish-yellow in May-June.

**Other:**

**Carex appalachica**

**Appalachian sedge**

**Habitat:** Moist, open forest understories.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** NC

**Urban Tolerance:** Easy to grow, tolerant of several soil types.

**Exposure:** Part Shade

**Ecosystem Services:** Host to some butterflies.

**Soil Moisture:** Tolerant of drought and moist soil.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Fine textured clumps with graceful arching fruiting stems.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** To 32", slender, tufted, blooms and fruits in June-July.

**Other:**

## Carex atlantica

## Prickly bog sedge

**Habitat:** Open swamps.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACW

**Urban Tolerance:** Adapted to medium and fine soils, high tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Host to some butterflies.

**Soil Moisture:** Intolerant of drought.

**Soil pH:** Acidic

**Horticultural Value:** Fine green flowering stems and foliage, grows in tussocks.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation

**Compatibility:** Moderate grower, moderate rate of vegetative spread.

**Form/Color:** To 32", tufted, blooms and fruits in June-August.

**Other:**

## Carex blanda

## Eastern woodland sedge

**Habitat:** Moist to dry, often disturbed, woods, shady lawn edges.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FAC

**Urban Tolerance:** Adapted to medium and fine soils, high tolerance of soil compaction.

**Exposure:** Shade

**Ecosystem Services:** Wildlife value low.

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Whitish flowers, waxy-green foliage and seed heads.

**Salt Tolerance:** Stormwater Tolerance:

Moderately tolerant

Retention  
pond, Rain  
garden,  
Slopes,  
Upland

**Compatibility:** Slow grower, no  
vegetative spread.

**Form/Color:** Semievergreen, 8"-2' tall, tufted, waxy  
green, flowers whitish, blooms and fruits  
in May-June.

**Other:**

**Carex communis**

**Fibrousroot sedge**

**Habitat:** Mixed deciduous woods, upland oak forests.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to ants.

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Ground cover, attractive tussocks.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Perennial, 8-20" tall, forms tussocks, purplish at base.

**Other:** Good substitution for Carex pensylvanica.

**Carex comosa**

**Bristly sedge**

**Habitat:** Marshes, wet meadows, pond edges.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** OBL

**Urban Tolerance:** Adapted to medium and fine soils, high tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value high, host to some butterflies.

**Soil Moisture:** Tolerant of flooding.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Long drooping thick yellow seed heads.

**Salt Tolerance:** **Stormwater Tolerance:**

Moderately tolerant

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Retention  
pond, Rain  
garden,  
Inundation,  
Slopes

**Compatibility:** Slow grower,  
moderate rate of  
vegetative  
spread.

**Form/Color:** Slow grower to 3', tufted, blooms and  
fruits in June-September.

**Other:**

## Carex crinita

## Common fringed sedge

|                              |  |                                     |   |
|------------------------------|--|-------------------------------------|---|
| <b>Habitat:</b>              | Open swamp forests, marshes.   | <b>Coefficient of Conservatism:</b> | 3   |
| <b>Wetland Indicator:</b>    | OBL  | <b>Urban Tolerance:</b>             | Adapted to medium and fine soils, high tolerance of soil compaction.          |
| <b>Exposure:</b>             | Part Shade   | <b>Ecosystem Services:</b>          | Moderately palatable by some animals.   |
| <b>Soil Moisture:</b>        | Low tolerance to drought.  |                                     |   |
| <b>Soil pH:</b>              | Acidic; Neutral  | <b>Horticultural Value:</b>         | Staggered drooping seed heads turning from yellow to brown, grows in bunches. |
| <b>Salt Tolerance:</b>       | Moderately tolerant  |                                     |   |
| <b>Stormwater Tolerance:</b> | ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation | <b>Compatibility:</b>               | Moderate grower, no vegetative spread.  |
| <b>Form/Color:</b>           | To 4', tufted, blooms and fruits in May-August.                                  | <b>Other:</b>                       |   |

## Carex debilis

## White edge sedge

|                           |                                  |                                     |  |
|---------------------------|----------------------------------|-------------------------------------|--|
| <b>Habitat:</b>           | Swamp forest edges, moist woods. | <b>Coefficient of Conservatism:</b> | 6  |
| <b>Wetland Indicator:</b> | FACW                             | <b>Urban Tolerance:</b>             | Adapted to coarse and medium soils, high tolerance of soil compaction. |
| <b>Exposure:</b>          | Shade                            | <b>Ecosystem Services:</b>          | Host to some butterflies.  |
| <b>Soil Moisture:</b>     | Intolerant of drought.           |                                     |  |
| <b>Soil pH:</b>           | Acidic                           | <b>Horticultural Value:</b>         | Fine textured drooping seed heads, grows in bunches.                   |
| <b>Salt Tolerance:</b>    | <b>Tolerance:</b>                |                                     | Low tolerance  |
| <b>Stormwater</b>         |                                  |                                     | Retention pond, Rain garden, Slopes                                    |

**Compatibility:** Moderate grower, no

vegetative

spread.

**Form/Color:** Perennial, to 3', tufted, looks similar to grass, blooms and fruits in May-June.

**Other:**



**Carex emmonsii**

**Emmon's sedge**

**Habitat:** Dry, open woods.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** UPL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:**

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:** Acidic

**Horticultural Value:** Open inflorescence with long twisted awns, attractive tufted form.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Slopes, Upland

**Compatibility:**

**Form/Color:** Perennial, to 18", densely tufted, forms small, circular mats, winter-green, green center stripe, dark purple margins on flowers, blooms and fruits in April-May.

**Other:**

**Carex folliculata**

**Northern long sedge**

**Habitat:** Wet woods, wet meadow, moist upland sites.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:**

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic

**Horticultural Value:** Attractive tufts

**Salt Tolerance:** Tolerant

Intolerant

**Stormwater**

ROW Rain garden, Stormwater greenstreet, Retention

pond, Rain  
garden,  
Inundation,  
Slopes

**Compatibility:**

**Form/Color:** Perennial, clumped, 1-3' tall, tufted,  
blooms and fruits in June-August.

**Other:**

## Carex intumescens

## Bladder sedge

**Habitat:** Open swamp forests, wet meadows, floodplain forests.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACW

**Urban Tolerance:** Adapted to medium and fine soils, high tolerance of soil compaction.

**Exposure:** Shade

**Ecosystem Services:** Host to some butterflies.

**Soil Moisture:** Intolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Large star-like seeds heads sessile to the flowering stem, grows in bunches.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Slopes

**Compatibility:** Moderate grower, no vegetative spread.

**Form/Color:** To 32", tufted, blooms and fruits in May-August.

**Other:**

## Carex lupulina

## Hop sedge

**Habitat:** Wet meadows, pond edges.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** OBL

**Urban Tolerance:** Adapted to medium and fine soils, moderate tolerance of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Seeds eaten by birds and small mammals, plant eaten by some mammals.

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Neutral

**Horticultural Value:** Large clustered seed head in an oval-like form are distinctive.

**Salt Tolerance:** Tolerance:

Moderately tolerant

**Stormwater**

ROW Rain garden, Stormwater greenstreet, Retention

pond, Rain  
garden,  
Inundation

**Compatibility:** Moderate grower,  
no vegetative  
spread.

**Form/Color:** Perennial, to 8-51", solitary stems or small  
clumps, blooms and fruits in June-  
October. **Other:**

**Carex lurida**

**Shallow sedge**

**Habitat:** Wet, open soil of marshes, wet meadows.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** OBL

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Host to some butterflies.

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Green flowers and foliage, yellow fruit clustered in a long oval-like form.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Compatibility:** Moderate grower, no vegetative spread.

**Form/Color:** To 3', tufted, blooms and fruits in June-October.

**Other:**

**Carex pensylvanica**

**Pennsylvania sedge**

**Habitat:** Upland oak, mixed deciduous woods, dry, sandy soil.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds eaten by birds and small mammals, plant eaten by some mammals.

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:** Acidic

**Horticultural Value:** Attractive small tufts.

**Salt Tolerance:** **Stormwater Tolerance:**

Tolerant

Green roof,  
ROW Rain  
garden,  
Stormwater  
greenstreet,  
Upland

**Compatibility:** Clonal from  
rhizomes or stolons.

**Form/Color:** Semievergreen, 20" tall, tufts leafy and  
reddish, forms patchy ground cover,  
blooms in March-May.

**Other:**

**Carex plantaginea†**

**Plantainleaf sedge**

**Habitat:** Moist, shaded, hardwooded forests; mesic hardwood.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Deer and rabbits eat culms.

**Soil Moisture:** Drought tolerant; average to moist soil conditions.

**Soil pH:** Neutral

**Horticultural Value:** Tufted, green leaves with purple sheaths. Wide leaves are distinctive.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Rain garden, Slopes

**Compatibility:**

**Form/Color:** Tufted form; 1'-2'; green leaves with purple sheaths; flowers early spring to early summer.

**Other:**

**Carex platyphylla**

**Broadleaf sedge**

**Habitat:** Rich, mixed deciduous woods.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Host plant for butterflies

**Soil Moisture:** Moist to average; well drained.

**Soil pH:** Alkaline

**Horticultural Value:** Very wide tufted leaves are distinctive.

**Salt Tolerance:** Stormwater Tolerance:

Tolerant

Rain  
garden,  
Slopes

**Compatibility:**

**Form/Color:** Grows to 16"; stems tufted; waxy pale green basal wide leaves; blooms and fruits May-June.

**Other:** Minor species for increased diversity and aesthetics in restoration of woodland understories.



**Carex radiata**

**Eastern star sedge**

**Habitat:** Moist woods, open forest understories.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Host to some butterflies.

**Soil Moisture:** Low tolerance of drought.

**Soil pH:** Neutral

**Horticultural Value:** Tufted, slender leaves.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Rain garden, Slopes

**Compatibility:**

**Form/Color:** Perennial, densely tufted, to 32" tall, very slender, blooms and fruits in June-July.

**Other:**

**Carex rosea**

**Common upland star sedge**

**Habitat:** Moist woods, usually near wetland edges.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Host to some butterflies.

**Soil Moisture:** Low tolerance of drought.

**Soil pH:** Neutral

**Horticultural Value:** Tufted slender leaves.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Retention  
Pond, Rain  
garden,  
Slopes,  
Upland

**Compatibility:**

**Form/Color:** Perennial, densely tufted, 32" tall,  
inflorescence of small clusters, blooms  
and fruits in June-July.

**Other:**

## Carex scoparia

**Habitat:** Moist to temporary shallow water of marshes, open swamp forests, wet meadows.

**Wetland Indicator:** FACW

**Exposure:** Part Shade

**Soil Moisture:** Intolerant to drought.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention Pond, Rain garden, Inundation, Slopes, Upland

**Form/Color:** To 3', tufted, blooms and fruits in May-August. Green foliage with nodding or arching inflorescence on flowering stems.

## Pointed broom sedge

**Coefficient of Conservatism:** 1

**Urban Tolerance:** Adapted to medium and fine soils, high tolerance of soil compaction.

**Ecosystem Services:** Wildlife value low, mildly palatable to larger animals.

**Horticultural Value:** Attractive foliage and flowering stems.

**Compatibility:** Moderate grower, no vegetative spread.

**Other:**

## Carex stipata

**Habitat:** Wet meadows, swamps.

**Wetland Indicator:** OBL

**Exposure:** Part Shade

**Soil Moisture:** Tolerant of drought and brief flooding.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** **Stormwater Tolerance:**

## Awlfruit sedge

**Coefficient of Conservatism:** 5

**Urban Tolerance:** Should tolerate concrete debris.

**Ecosystem Services:** Moderately palatable to browse animals.

**Horticultural Value:** Upright flowering fleshy stems with spike-like inflorescence at the apex,

Moderately tolerant

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Retention  
Pond, Rain  
garden,  
Inundation,  
Slopes

grows in clumps.

**Compatibility:** Slow grower, slow  
rate of vegetative  
spread.

**Form/Color:** Slow grower to 3', tufted, blooms and  
fruits in May-August.

**Other:**

## Carex stricta

## Tussock sedge

**Habitat:** Shallow, calm, undisturbed swamps, freshwater tidal areas, margins of woodland ponds.

**Wetland Indicator:** OBL

**Exposure:** Part Shade

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention Pond, Rain garden, Inundation

**Form/Color:** Moderate grower to 3', densely tufted, forms permanent, low tussocks, blooms and fruits in May-August.

**Coefficient of Conservatism:** 4

**Urban Tolerance:** Adaptable, moderate tolerance of soil compaction, performs well in the right of way.

**Ecosystem Services:** Wildlife value high, host to some butterflies.

**Horticultural Value:** Large tussock forming sedge with clustered brown seed heads at the ends of the flowering stems.

**Compatibility:** Moderate grower, no vegetative spread.

**Other:**

## Carex swanii

## Swan's sedge

**Habitat:** Upland forest understory, disturbed woods.

**Wetland Indicator:** FACU

**Exposure:** Shade

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:**

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Tolerates disturbed habitats.

**Ecosystem Services:** Host to some butterflies.

**Horticultural Value:** Tufted form.

**Compatibility:**

**Form/Color:** Perennial, tufted, to 3' tall, reddish at base, densely flowered, pale grayish-green.

**Other:**

**Carex virescens**

**Ribbed sedge**

**Habitat:** Dry woods, thickets.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Host to some butterflies.

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:**

**Horticultural Value:**

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes, Upland

**Compatibility:**

**Form/Color:** To 40", tufted, pale green plant, blooms and fruits in May-July.

**Other:**

**Carex vulpinoidea**

**Fox sedge**

**Habitat:** Moist to wet meadows, marshes.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** OBL

**Urban Tolerance:** Should tolerate concrete debris.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value high, host to some butterflies.

**Soil Moisture:** Tolerant of flooding.

**Soil pH:** Alkaline; Neutral

**Horticultural Value:** Green flowers and foliage, yellow to brown seed heads on flowering stems

**Salt Tolerance:** Moderately tolerant

shorter than the leaves.

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Compatibility:** Moderate grower, no vegetative spread.

**Form/Color:** Slow grower to 3', tufted, blooms and fruits June-August.

**Other:**



**Cenchrus longispinus**

**Common sandbur**

**Habitat:** Open, sandy soil, fill, usually coastal.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** UPL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:**

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:** Acidic

**Horticultural Value:** Tufted form.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Green roof

**Compatibility:** Can become weedy.

**Form/Color:** Annual, to 32", tufted, blooms and fruits in July-October, spiny inflorescence.

**Other:** Common in dry waste sites. Spiny burs are extremely sharp and barbed and can be a nuisance.

**Cinna arundinacea**

**Stout woodreed**

**Habitat:** Moist woods, swamp forests.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACW

**Urban Tolerance:** Should tolerate concrete debris, tolerant of disturbed conditions.

**Exposure:** Shade

**Ecosystem Services:** Highly palatable to deer and grazing animals.

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Turns a nice straw color and has a feathery texture.

**Salt Tolerance:** Moderately tolerant

garden, Inundation, Slopes

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain

**Compatibility:** Moderate grower,

no vegetative

spread.

**Form/Color:** Tall woodland grass with nodding inflorescence. To 5', stems few together, blooms and fruits in August-October.

**Other:**

One of very few tall woodland grasses to bloom in the summer.

## Cyperus diandrus

**Habitat:** Wet to moist soil, shores.

**Wetland Indicator:** OBL

**Exposure:** Full Sun

**Soil Moisture:** Low tolerance to drought.

**Soil pH:**

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Form/Color:** Annual, to 8", blooms and fruits in June-October.

**Coefficient of Conservatism:** 6

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Wildlife value high, host to some butterflies.

**Horticultural Value:** Scales of this sedge become pigmented with a beautiful red-purple color as they mature.

**Compatibility:** May become weedy.

**Other:**

## Umbrella flatsedge

## Cyperus grayi

**Habitat:** Dry, sandy soil or fill, open areas, beaches.

**Wetland Indicator:** NC

**Exposure:** Full Sun

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:** Acidic

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof, Stormwater greenstreet, Upland

**Coefficient of Conservatism:** 8

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:**

**Horticultural Value:**

**Compatibility:**

## Gray's flatsedge

**Form/Color:** To 16", blooms and fruits in July-October.

**Other:**

Grows in dry sterile soil where many other plants can't.

**Danthonia compressa**

**Flattened oatgrass**

**Habitat:** Moist to dry open woods.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, no tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value low.

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Low growing grass with long flowering stem.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Green roof

**Compatibility:** Moderate grower, no vegetative spread.

**Form/Color:** To 8", flowering stems to 32", leaves short, fine, densely tufted, blooms and fruits in June-August.

**Other:** Often infected by an endophytic fungus.

**Danthonia spicata**

**Poverty oatgrass**

**Habitat:** Dry, sterile soil of open woods and edges, tolerant of a wide range of habitats.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** NC

**Urban Tolerance:** Fairly tolerant of disturbance.

**Exposure:** Full Sun

**Ecosystem Services:** Insects feed on foliage.

**Soil Moisture:** Moderately drought tolerant.

**Soil pH:** Acidic

**Horticultural Value:** Inflorescence is spike-like and turns a straw-like color.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Green roof

**Compatibility:** Does not tolerate

taller ground

cover competition.

**Form/Color:** Perennial, tufted, inflorescence to 2', leaves to 5", blooms and fruits in May-September. Low growing grass with long flowering stem.

**Other:**

Seeds can remain dormant for a number of decades.

**Deschampsia cespitosa**

**Tufted hairgrass**

**Habitat:** Wet soil, shores, cool banks.

**Coefficient of Conservatism:**

**Wetland Indicator:** FACW

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, high tolerance of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Host to some butterflies.

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Tall erect stems with leaves in a basal tuft. Panicle inflorescence is loosely branched and somewhat nodding.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes, Upland

**Compatibility:** Moderate grower, no vegetative spread.

**Form/Color:** To 3.5', densely tufted, blooms and fruits in June-August, wiry, short, flowers purplish.

**Other:**

**Dichanthelium clandestinum**

**Deertongue**

**Habitat:** Moist, often sandy ground, floodplains and thickets on stream banks; borders, and clearings; marshy ground, ditches.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACW

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, low tolerance of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Highly palatable to browse animals.

**Soil Moisture:** High tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Green to yellow with small hairs along stem and inflorescence. Terminal

**Salt Tolerance:** Tolerance:

Low tolerance

**Stormwater**

ROW Rain garden, Stormwater greenstreet, Retention

Pond, Rain  
garden,  
Slopes

flowering panicle  
in early summer.

**Compatibility:** Slow grower, no  
vegetative spread.

**Form/Color:** Slow grower to 2', grows in bunches,  
green foliage up to 1" wide, brown seeds,  
active in spring and summer.

**Other:**



**Dichanthelium latifolium**

**Broadleaf rosette grass**

**Habitat:** Forests and thickets.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Adapted to coarse and medium soils, no tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Moderately palatable to browse animals.

**Soil Moisture:** Moderate tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Broad-leaved grass growing in rosettes. Terminal flowering panicle with delicate flowers and seeds.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Green roof

**Compatibility:** Rapid grower, can spread by rhizomes.

**Form/Color:** Rapid grower to 3', grows in bunches, active in Summer, blooms in Spring.

**Other:**

**Digitaria cognata**

**Fall witchgrass**

**Habitat:** Dry, rocky or sandy soil.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Grazed by domestic livestock, deer, and antelope. Seeds eaten by upland game birds. Attracts butterflies and is an essential larval host for most branded skippers and most of the

**Soil Moisture:**

**Soil pH:**

**Horticultural Value:**

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Perennial, grows to 1-2', seedhead has open purplish panicles, blooms in May-Oct.

**Other:**

**Distichlis spicata**

**Saltgrass**

**Habitat:** High salt marsh.

**Coefficient of Conservatism:** 9

**Wetland Indicator:** FACW

**Urban Tolerance:** Adapted to medium and fine soils, high tolerance of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value low.

**Soil Moisture:** Tolerant of saltwater to 50 ppt, tolerant of spring tide flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Low- growing, high marsh grass. A companion plant to Spartina patens.

**Salt Tolerance:** Tolerant

Thick flowering heads turning a straw like color.

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Often codominant with Spartina patens. Can form colonies.

**Form/Color:** Moderate grower to 16", plant usually reclining, gray-green, tan in autumn, blooms and fruits in August-October.

**Other:** One of very few grasses to tolerate salt marshes.

**Dulichium arundinaceum**

**Three-way sedge**

**Habitat:** Open freshwater marshes, tidal areas, pond edges.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** OBL

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value moderate, host to some butterflies.

**Soil Moisture:** Permanently saturated soil or flooding to 1 ft. Not drought tolerant.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Architectural upright form, colonial habit. Green to yellow foliage with radiating

**Salt Tolerance:** **Stormwater Tolerance:**

Intolerant

Retention  
pond, Rain  
garden,  
Inundation

leaves all  
along the  
stem.

**Compatibility:** Moderate  
grower, slow rate of  
vegetative  
spread.

**Form/Color:** To 3', blooms and fruits in July-October,  
leaves in three ranks.

**Other:**

**Elymus canadensis**

**Canada wild rye**

**Habitat:** Dry to moist rocky, sandy soil.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** FACU

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, low tolerance of soil compaction.

**Exposure:** Shade

**Ecosystem Services:** Moderately palatable to browse animals.

**Soil Moisture:** Moderate tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Long arching or drooping inflorescence made up of bristly spikelets with curving awns. Can grow up to 4 ft high with long pointed leaves along the stem.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Rapid grower, no vegetative spread.

**Form/Color:** Perennial, tufted, 5' tall, waxy pale-gray-green, spikelets in pairs at each node, blooms and fruits in July-October.

**Other:**

**Elymus hystrix**

**Eastern bottlebrush grass**

**Habitat:** Upland open woods, gaps.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerant of air pollution.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to birds.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Neutral

**Horticultural Value:** Showy inflorescence that resemble bottle brushes.

**Salt Tolerance:** **Stormwater Tolerance:**

Insufficient research to determine Unsuitable

**Compatibility:**

**Form/Color:** To 5', little branched with blades up to 12" long. Blooms and fruits in June-August.

**Other:** Often infected by endophytic fungi.

**Elymus riparius**

**Eastern riverbank wild rye**

**Habitat:** Moist woods, stream banks.

**Wetland Indicator:** FACW

**Exposure:** Part Shade

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes

**Form/Color:** To 3', tufted, blooms and fruits in July-September.

**Coefficient of Conservatism:** 6

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.

**Ecosystem Services:**

**Horticultural Value:** Drooping inflorescence made up of bristly spikelets with shorter awns than *E. canadensis*.

**Compatibility:** Moderate growth rate, no vegetative spread.

**Other:**

**Elymus virginicus**

**Virginia wild rye**

**Habitat:** Open, moist woods.

**Wetland Indicator:** FACW

**Exposure:** Part Shade

**Soil Moisture:** Moderate tolerance to drought.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Coefficient of Conservatism:** 6

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.

**Ecosystem Services:** Highly palatable to browse animals.

**Horticultural Value:** Upright growing habit and inflorescence made up of thick bristly spikelets.

**Compatibility:** Moderate growth rate, no vegetative spread.

**Form/Color:** To 4', culms unbranched and leaves up to 12" long. Blooms and fruits in June-August.

**Other:**



**Eragrostis spectabilis**

**Purple lovegrass**

**Habitat:** Tolerates dry, sandy soil or fill.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** UPL

**Urban Tolerance:** Adapted to coarse and medium soils, no tolerance of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Moderately palatable to browse animals.

**Soil Moisture:** High tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Low growing, showy purple inflorescence in fall. Green thin leaves can have a reddish tinge.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Green roof

**Compatibility:** Moderate grower, moderate rate of vegetative spread.

**Form/Color:** To 2', stems usually in low tufts, blooms and fruits in August-September, inflorescence purple.

**Other:**

**Glyceria canadensis**

**Rattlesnake manna grass**

**Habitat:** Marshes, open, wet woods.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** OBL

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value moderate, eaten by muskrat and deer.

**Soil Moisture:** Tolerant of flooding to 50% of growing season.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Graceful drooping inflorescence with spikelets laterally compressed in an

**Salt Tolerance:** Tolerance: Intolerant

**Stormwater**

ROW Rain garden, Stormwater greenstreet, Retention

pond, Rain  
garden,  
Slopes

oval shape.

**Compatibility:** Intolerant of  
competition. Can form  
colonies.

**Form/Color:** Moderate grower to 3', stems solitary or  
few together, blooms and fruits in June-  
August.

**Other:**

## *Glyceria obtusa*

## Coastal mannagrass

**Habitat:** Swamps, wet woods.

**Coefficient of Conservatism:** 10

**Wetland Indicator:** OBL

**Urban Tolerance:** Adapted to medium and fine soils, high tolerance of soil compaction.

**Exposure:** Shade

**Ecosystem Services:** Moderately palatable to browse animals.

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Distinctive upright form with dense ovoid inflorescence.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

**Compatibility:** Rapid grower, moderate rate of vegetative spread.

**Form/Color:** To 3', blooms and fruits in July-September, inflorescence dense.

**Other:**

## *Glyceria striata*

## Fowl mannagrass

**Habitat:** Swamp forests, shrub swamps.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** OBL

**Urban Tolerance:** Adapted to medium and fine soils, high tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value moderate.

**Soil Moisture:** Tolerant of flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Early flowering grass with a wide open, delicate drooping inflorescence.

**Salt Tolerance:** Intolerant

**Stormwater**

Retention pond, Rain garden, Slopes

**Compatibility:** Moderate grower,

slow rate of

vegetative spread.

**Form/Color:** Slow to moderate grower to 4', tufted,  
blooms and fruits in June-September.

**Other:**

**Juncus canadensis**

**Canadian rush**

**Habitat:** Swamps, marshes, wet shores.

**Wetland Indicator:** OBL

**Exposure:** Full Sun

**Soil Moisture:** Intolerant of drought.

**Soil pH:** Acidic

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Form/Color:** To 3', tufted, leaves erect, terete and septate, blooms and fruits in July-October.

**Coefficient of Conservatism:** 8

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, high tolerance of soil compaction.

**Ecosystem Services:** Host to some butterflies.

**Horticultural Value:** Spreading inflorescence with stout, rigid stems. Numerous small flowers with a reddish to chesnut brown tinge.

**Compatibility:** Rapid grower, no vegetative spread.

**Other:** Although called Canada rush, species barely enters southeastern Canada, being more widespread in the eastern United States.

**Juncus effusus**

**Common rush**

**Habitat:** Wet meadows, freshwater tidal and nontidal marshes, ditches, pond edges.

**Wetland Indicator:** OBL

**Exposure:** Part Shade

**Soil Moisture:** Tolerant of flooding.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

**Coefficient of Conservatism:** 2

**Urban Tolerance:** Adapted to variety of soils, moderate tolerance of soil compaction, performs well in the right of way.

**Ecosystem Services:** Wildlife value high, host to some butterflies.

**Horticultural Value:** Upright clump-forming rush with bright green hollow leaves. Compact inflorescence mid-way up the stem.

**Compatibility:** Moderate grower, no vegetative spread.

**Form/Color:** Semievergreen, slow grower to 3', tufted, spreading, blooms and fruits in July-September.

**Other:** Tough, reliable plant, resistant to goose depredations once established.

## Juncus gerardii

## Black grass

|                              |  |                                     |  |
|------------------------------|--|-------------------------------------|--|
| <b>Habitat:</b>              | High salt marsh.   | <b>Coefficient of Conservatism:</b> | 9  |
| <b>Wetland Indicator:</b>    | OBL  | <b>Urban Tolerance:</b>             | Insufficient information to determine tolerance. |
| <b>Exposure:</b>             | Full Sun   | <b>Ecosystem Services:</b>          | Provides nesting habitat, attracts waterfowl.    |
| <b>Soil Moisture:</b>        | Tolerates some flooding.   | <b>Horticultural Value:</b>         | Tufted form.                                     |
| <b>Soil pH:</b>              |  | <b>Compatibility:</b>               | Can form colonies.                               |
| <b>Salt Tolerance:</b>       | Tolerant   | <b>Other:</b>                       |  |
| <b>Stormwater Tolerance:</b> | ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation |                                     |  |
| <b>Form/Color:</b>           | To 16", tufted, blooms and fruits in June-September, inflorescence is dark.      |                                     |  |

## Juncus greenei

## Greene's rush

|                              |   |                                     |  |
|------------------------------|---|-------------------------------------|--|
| <b>Habitat:</b>              | Open pine barrens, lake shores, dunes, often associated with disturbance. | <b>Coefficient of Conservatism:</b> | 4  |
| <b>Wetland Indicator:</b>    | FAC   | <b>Urban Tolerance:</b>             | Insufficient information to determine tolerance. |
| <b>Exposure:</b>             | Full Sun  | <b>Ecosystem Services:</b>          |  |
| <b>Soil Moisture:</b>        | Moderate drought tolerance, prefers dry well drained soils.               | <b>Horticultural Value:</b>         | Erect, densely tufted form.                      |
| <b>Soil pH:</b>              |   | <b>Compatibility:</b>               | Can spread by rhizomes.                          |
| <b>Salt Tolerance:</b>       | Moderately tolerant   |                                     |  |
| <b>Stormwater Tolerance:</b> | Retention pond, Rain garden, Upland                                       |                                     |  |

**Form/Color:** To 32", erect, stem dark green and terete;  
tufted; brownish compact inflorescence  
blooms and fruits in June-September.

**Other:**



**Juncus tenuis**

**Path rush**

**Habitat:** Disturbed sites, dry to moist woods.

**Coefficient of Conservatism:** 0

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of trampling, compacted soil, and fill.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value moderate.

**Soil Moisture:** Tolerant of drought, moderately tolerant of flooding.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Low-growing, colonial rush with green foliage and an inflorescence turning brown.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Slopes, Upland

**Compatibility:** Slow grower, no vegetative spread.

**Form/Color:** Slow grower to 28", tufted, blooms and fruit in July-September.

**Other:**

**Leersia oryzoides**

**Rice cutgrass**

**Habitat:** Freshwater nontidal marshes, wet ditches, open swamp forests.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** OBL

**Urban Tolerance:** Tolerant of concrete debris.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Tolerant of flooding, drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Forming dense colonies, this upright grass is yellow-green in color. The

**Salt Tolerance:** Tolerance:

Intolerant

**Stormwater**

Retention ponds, Rain garden, Inundation, Slopes

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le is open and  
drooping with  
seed heads  
covered in  
minute

bristles.

**Compatibility:** Aggressively forms colonies, may crowd out less aggressive plants.

**Form/Color:** Moderate grower to 5', sprawling, rough leaves, saw toothed, blooms and fruits in June-October.

**Other:**

**Leersia virginica**

**White grass**

**Habitat:** Wet woods, along trails, disturbed sites.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerant of concrete debris.

**Exposure:** Shade

**Ecosystem Services:** Host to some butterflies.

**Soil Moisture:** Intolerant of drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Grass with soft-textured foliage and a slender inflorescence with few spikelets.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention ponds, Rain garden, Slopes

**Compatibility:** Moderate grower, moderate rate of vegetative spread.

**Form/Color:** To 5', sprawling, blooms and fruit in July-October.

**Other:** Can be differentiated from the similar looking invasive Japanese stiltgrass by short retrorse hairs at each node along the culm.

**Luzula multiflora**

**Common woodrush**

**Habitat:** Dry to moist mixed deciduous or oak woods, trail edges

**Coefficient of Conservatism:** 5

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Dry to moist soils

**Soil pH:** Acidic

**Horticultural Value:** Tufted form.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention ponds, Rain garden, Slopes, Upland

**Compatibility:**

**Form/Color:** To 16', tufted, leaves often purplish, blooms and fruits in April-June.

**Other:**

**Panicum virgatum**

**Switchgrass**

**Habitat:** Back dunes, dry to wet meadows, successional shrub lands, grasslands, upper edges of salt marsh.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of sterile, acid, sandy soil, low nutrient fill, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value high.

**Soil Moisture:** Tolerant of flooding, drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Attractive clumps. Large open panicles turning from green to a straw-like color.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

**Compatibility:** Does not compete well with mugwort or other aggressive weeds in high-nutrient soils.

**Form/Color:** Tall upright clump forming grass. Slow grower to 6', tufted, blooms and fruits in July-September.

**Other:**

**Rhynchospora alba**

**White beaksedge**

**Habitat:** Sphagnum bogs, sandy or acid peaty soil.

**Coefficient of Conservatism:** 10

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Host to some butterflies.

**Soil Moisture:** Intolerant of drought, tolerant of flooding.

**Soil pH:** Acidic

**Horticultural Value:**

**Salt Tolerance:** Tolerance:

Insufficient research to determine

**Stormwater**

Retention pond, Rain garden, Inundation

**Compatibility:**

**Form/Color:** To 28", tufted, blooms and fruits in July-September.

**Other:**

**Rhynchospora capitellata**

**Brownish beaksedge**

**Habitat:** Wet open ground, bogs, wet sand, needs acid soil.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Host to some butterflies.

**Soil Moisture:** Intolerant of drought, tolerant of flooding.

**Soil pH:** Acidic

**Horticultural Value:**

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation, Slopes

**Compatibility:**

**Form/Color:** To 32", tufted, leaves flat and narrow; several flowers along stem bloom and fruit in July-October.

**Other:**

**Schizachyrium littorale**

**Coastal little bluestem**

**Habitat:** Frontal back dunes, secondary dunes.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Provides cover for ground birds and small mammals.

**Soil Moisture:** Tolerant of drought, minimally tolerant of flooding.

**Soil pH:** Neutral

**Horticultural Value:** Blue-green leaves atop a spreading clump form. Turning a rust color with

**Salt Tolerance:** Tolerance:

Tolerant ROW Rain garden, Stormwater greenstreet, Upland

**Stormwater**

Green roof,

white fluffy seeds in the fall.

**Compati-  
bility:**

**Form/Color:** To 1-2', bunch grass, warm season grass  
grows in late spring throughout summer.

**Other:**



## Schizachyrium scoparium

## Little bluestem

**Habitat:** Old fields, open areas, back dunes, dry, acid soils.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACU

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, no tolerance of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Highly palatable to graze animals, moderately palatable to browse animals.

**Soil Moisture:** High tolerance to drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Bluish purple foliage with an upright columnar form, turning a straw-like gold in winter with white fluffy seeds.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Green roof, ROW Rain garden, Stormwater greenstreet, Upland

**Compatibility:** Moderate grower, no vegetative spread.

**Form/Color:** To 4', densely tufted, flowers bluish purple, becomes dark orange-gold over winter, blooms and fruits in September-October.

**Other:** Used for restoring grasslands and dry, open habitats, sandy soil.

## Schoenoplectus pungens

## Common threesquare

**Habitat:** Wet sandy, gravelly, peaty shores; pond, lake, river marshy streams; fresh to brackish water; inland marshes.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** OBL

**Urban Tolerance:** Used in bioretention cells, raingardens, vegetated swales.

**Exposure:** Full Sun

**Ecosystem Services:** Waterfowl and small mammals.

**Soil Moisture:** Found in wetlands. Low drought tolerance.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Rhizomatous bulrush with trigonous blue-green stems. Spiklets sessile to

**Salt Tolerance:** **Stormwater Tolerance:**

Tolerant

ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

the stem and radiating, turning a dark brown.

**Compatibility:** Can form colonies.

**Form/Color:** Erect triangular stem; spikelet of sharp brown scales; blooms brown June-September; produces brown achene fruit.

**Other:**

## *Schoenoplectus tabernaemontani*

## Softstem bulrush

**Habitat:** Salt marshes and flats, river or stream floodplains, edges of wetlands.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Seeds eaten by waterfowl.

**Soil Moisture:** Intolerant of drought; high moisture usage.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Tall bulrush reaching up to 9 feet tall. Smooth rounded green-blue stems

**Salt Tolerance:** Low tolerance

have a terminal spreading inflorescence that turns reddish- brown.

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation

**Compatibility:**

**Form/Color:** Rhizomatous; to 9'; red flower blooms in late Spring.

**Other:** Found throughout North America. Stems have relatively large air cavities, which make it compress easily when squeezed.

## *Scirpus atrovirens*

## Green bulrush

**Habitat:** Wet meadows, swamps, wet thickets.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** OBL

**Urban Tolerance:** Tolerant of disturbance.

**Exposure:** Part Shade

**Ecosystem Services:** Host to some butterflies, seeds eaten by waterfowl, roots eaten by muskrats

**Soil Moisture:** Low drought tolerance; medium moisture usage.

and geese, provides cover for nesting birds.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Dark green stems can reach up to 4.5 ft high. The terminal inflorescence holds

**Salt Tolerance:** Tolerance:

Intolerant pond, Rain garden, Slopes

**Stormwater**

Retention

brown dense spiklets that radiate in all different directions.

**Compatibility:**

**Form/Color:** Moderate grower to 4', tufted, blooms and fruits in July-August.

**Other:** Also known as green bulrush or black bulrush.

## Scirpus cyperinus

## Woolgrass

**Habitat:** Freshwater tidal and nontidal marshes, wet fill, swamps.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** OBL

**Urban Tolerance:** Probably tolerant of concrete debris.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value high, seeds eaten by waterfowl, muskrats, host to some butterflies.

**Soil Moisture:** Tolerant of flooding, tolerates saturated soil 25% of growing season.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Tall grass-like upright form reaching 4-5 ft high. The dense terminal inflorescence

**Salt Tolerance:** Low tolerance

has a wooly-like appearance when in seed, turning a nice light brown.

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

**Compatibility:** Can form colonies.

**Form/Color:** Moderate grower to 5', tufted, blooms and fruits in August-October, flowers greenish, becoming wooly brown.

**Other:**

## Sorghastrum nutans

## Indiangrass

**Habitat:** Grasslands, meadows, fields, shores of rivers or lakes, wetland margins

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerant of urban conditions, performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Provides cover for pheasants, mourning doves, and songbirds.

**Soil Moisture:** Medium tolerance of drought; medium moisture usage.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Inflorescence changing from purple-yellow bloom to a bronze like narrow

**Salt Tolerance:** **Stormwater Tolerance:**

Moderately tolerant

seed head.

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Upland

**Compatibility:** Can form  
colonies.

**Form/Color:** Tall rhizomatous perennial from 3-7 ft tall.  
Bunch; yellow flower color in late spring;  
moderate grower.

**Other:** Long lifespan, often used in tall  
grass prairie restorations.

**Sparganium eurycarpum**

**Giant bur-reed**

**Habitat:** Edges of open ponds in shallow water.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Provides moderate amount of food for small mammals and minor amount of food for waterbirds.

**Soil Moisture:** Intolerant of drought; high moisture usage.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Erect sword-like green leaves on this semi-aquatic plant. The flowering stem

**Salt Tolerance:** Intolerant

holds globe-like green-white flowers that turn into a densely globular seed

**Stormwater Tolerance:** Retention pond, Swale, Inundation

**Compatibility:** Can form colonies.

**Form/Color:** Grows to 5'; flowering stem in a zig-zag pattern, green flower and green foliage; moderate grower.

**Other:** Moderate lifespan.

**Spartina alterniflora**

**Smooth cordgrass**

**Habitat:** Low salt marsh.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** OBL

**Urban Tolerance:** Tolerant of alkaline fill, concrete debris.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value moderate, eaten by Canada geese, muskrats.

**Soil Moisture:** Tolerant of ocean water to 35 ppt salt, intolerant of drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** It will spread extensively by rhizomes and produces a spike-like inflorescence

**Salt Tolerance:** Tolerance:

High tolerance Unsuitable

**Stormwater**

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en yellow in the fall.

**Compatibility:** Can form colonies.

**Form/Color:** Tall low marsh grass that can grow from 2 to 4.5', stems disintegrate in winter, blooms and fruits in July-September.

**Other:** Roots used for stabilizing shore areas and decreasing destruction cause by storm tides and wave action; moderate lifespan.



**Spartina cynosuroides**

**Big cordgrass**

**Habitat:** Brackish high tidal marsh, freshwater marshes.

**Coefficient of Conservatism:** 9

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value low, eaten by Canada geese, muskrat, cover for waterfowl, wading birds, shorebirds.

**Soil Moisture:** Tolerant of brackish water to 10 ppt salt, Intolerant of drough.

**Horticultural Value:** The infloresence is large, spreading and flowers in the late summer. The seed head has 20-40 long spikes.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** High tolerance

**Compatibility:** Can form colonies.

**Stormwater Tolerance:** Unsuitable

**Form/Color:** Moderate grower to 9', blooms and fruits in August-October, yellow flower blooms in spring.

**Other:** Long lifespan.

**Spartina patens**

**Saltmeadow cordgrass**

**Habitat:** Saline marshes and sandy meadows near the coast, forests, grassland.

**Coefficient of Conservatism:**

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts birds.

**Soil Moisture:** Wet soil conditions.

**Horticultural Value:** Clusters of tiny yellow flowers.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:**

**Stormwater Tolerance:** High tolerance

Unsuitable

**Compatibility:**

**Form/Color:** Perennial, grows from 1-4', highly modified clusters of tiny yellow flowers in Apr-May.

**Other:** Often used for beach front stability.

## *Spartina pectinata*

## Prairie cordgrass

**Habitat:** Brackish to freshwater shores, marshes.

**Coefficient of Conservatism:**

**Wetland Indicator:** FACW

**Urban Tolerance:** Should be tolerant of concrete debris.

**Exposure:** Full Sun

**Ecosystem Services:** Low nutrition value; provides cover for game, songbirds, and small mammals.

**Soil Moisture:** Low drought tolerance; high moisture usage; poor drainage.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** The colorful inflorescence is large and spreading in a distinctive comb-like form.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation, Slopes

**Compatibility:**

**Form/Color:** To 7', blooms and fruits in July-September, has a distinctive comb-like inflorescence, rapid grower.

**Other:** Long lifespan.

## *Tridens flavus*

## Purpletop

**Habitat:** Roadsides, fields, dry, open woods.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** UPL

**Urban Tolerance:** Tolerant of low-nutrient soils. Used for bioretention.

**Exposure:** Part Shade

**Ecosystem Services:** Host to some butterflies.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic

**Horticultural Value:** Purple panicles bloom in a pyramidal form and droop when they are in seed.

**Salt Tolerance:** Tolerance:  
Intolerant

**Stormwater**

Retention pond, Rain garden, Slopes, Upland

**Compatibility:** Can form colonies.

**Form/Color:** This tall erect grass can reach 3-6.5 ft tall. Tufted, blooms and fruits in August-October, inflorescence dark purple.

**Other:** Used for bioretention.

## Shrubs

Shrubs are small to medium sized, multi-stemmed woody plants. These plant species are generally less than twenty feet tall. They can provide various ornamental characteristics, shelter and food sources for wildlife and add spatial definition to the landscape. Careful selection can ensure a long season of ornamental interest and abundant food and nectar sources for wildlife.



Top: *Baccharis halimifolia* (Eastern baccharis) Left: *Rhus typhina* (Staghorn sumac)

**Alnus serrulata**

**Smooth alder**

**Habitat:** Swamp, spring, pond or lake edges, meadow, forest.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** OBL

**Urban Tolerance:** Tolerant of soil compaction and poor soil.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value high, host to some butterfly larvae, seeds eaten by some

**Soil Moisture:** Tolerant of flooding and drought.

songbirds, twigs and leaves eaten by rabbits and deer.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Flowers, catkins, conelike fruit.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention Pond, Inundation

**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, forms thickets, fast to 20', 12-20' wide, flowers red to purple catkins in March-April, fruit dry, cone-like in August-October.

**Other:** Nitrogen fixer, susceptible to borers, tent caterpillars, and other insects, weakened plants susceptible to canker and other fungi.

**Arctostaphylos uva-ursi**

**Bearberry**

**Habitat:** Forest, dune, bald, barrens.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** UPL

**Urban Tolerance:** Sensitive of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife and birds eat fruits.

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic

**Horticultural Value:** Small pink flowers, glossy green leaves turn reddish brown in winter, bright red

**Salt Tolerance:**

**Stormwater Tolerance:**

Tolerant

fruits, great  
ground cover.

Green roof,  
Stormwater  
greenstreet,  
Upland

**Compatibility:**

**Form/Color:** Evergreen, low-growing, groundcover,  
pink flowers in spring, red fruits, slow  
grower to 6-12" tall, 2-4' wide or more.

**Other:**

**Aronia arbutifolia**

**Red chokeberry**

**Habitat:** Swamps, wet woods, salt marsh edges, back dune swales.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerant of soil compaction, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value moderate, fruit eaten by birds, twigs eaten by deer and

**Soil Moisture:** Tolerant of flooding, moderately tolerant of drought.

rabbits, seeds eaten by mice, host to some butterfly larvae. Host of rare precious underwing (Cataoola

**Soil pH:** Acidic

**Horticultural Value:** Delicate white flowers in spring, red fall colors, glossy red fruits.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Compatibility:** Can form suckering colony.

**Form/Color:** Deciduous, upright, multi-stemmed shrub, white flowers in spring, bright red to reddish-purple in fall, red fruits, to 6-10' tall, 3-5' wide.

**Other:** Susceptible to Japanese beetles and leaf spots. Fruit persists in winter.

**Aronia melanocarpa**

**Black chokeberry**

**Habitat:** Swamps, wet woods.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of soil compaction, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value moderate, host to some butterfly larvae, birds eat fruit,

**Soil Moisture:** Tolerant of flooding and drought.

pollinated by native bees and European honeybees.

**Soil pH:** Acidic

**Horticultural Value:** White showy flowers in spring, fleshy black fruit in summer and fall.

**Salt Tolerance:** **Stormwater Tolerance:**

Tolerant



ROW Rain  
garden,  
Stormwater  
greenstreet,  
Retention  
pond, Rain  
garden,  
Inundation,  
Slopes

**Compatibility:** Slow colonization  
rate.

**Form/Color:** Deciduous, slow grower to 6' tall, flowers  
white in April-May, black fruit in July-  
October.

**Other:** Not attacked by many insects,  
infected by quince rust, powdery  
mildew, leaf spot fungi.

## **Aronia prunifolia**

**Habitat:** Swamps, wet woods.

**Wetland Indicator:** FACW

**Exposure:** Full Sun; Part Shade

**Soil Moisture:** Tolerant of flooding, moderately tolerant of drought.

**Soil pH:** Acidic

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes

**Form/Color:** Deciduous, can form colonies, to 12' tall, fall red foliage, flowers white in April-May, dark purple fruit in August-September.

## **Purple chokeberry**

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Tolerant of soil compaction.

**Ecosystem Services:** Wildlife value moderate, host to some butterfly larvae.

**Horticultural Value:** White showy flowers in spring, fleshy dark purple fruit in late summer and fall, red fall foliage.

**Compatibility:**

**Other:** Probably hybrid between *P. pyrifolia* and *P. melanocarpa*.

## **Baccharis halimifolia**

**Habitat:** Coastal, salt marsh edges, usually upland of *Iva*. spp.

**Wetland Indicator:** FACW

**Exposure:** Full Sun

**Soil Moisture:** Tolerant of flooding, drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:** **Stormwater Tolerance:**

## **Eastern baccharis**

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Tolerant of soil compaction, concrete debris.

**Ecosystem Services:** Cover for wildlife, nectar for bees, butterflies, moths, insects, birds eat seeds.

**Horticultural Value:** Deep green to gray-green leaves, cottony fruits.

Tolerant

ROW Rain  
garden,  
Retention  
pond,  
Stormwater  
greenstreet,  
Inundation,  
Slopes

**Compatibility:**

**Form/Color:** Semievergreen, rounded shrub, upright  
branches, cottony fruits in fall, fast grower  
to 5-12' tall, 5-12' wide.

**Other:** Mostly pest free.

**Ceanothus americanus**

**New Jersey tea**

**Habitat:** Open, dry, oak woods.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Intolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Host to some butterfly larvae.

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic

**Horticultural Value:** White flowers in summer.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, slow to moderate grower to 3' tall, , flowers white in June-July, fruit dry in August-October.

**Other:** Nitrogen fixer. Exceptionally deep roots make it well adapted to persist after fires.

**Cephalanthus occidentalis**

**Buttonbush**

**Habitat:** Freshwater tidal and nontidal marshes, pond edges, shallow standing water.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** OBL

**Urban Tolerance:** Tolerant of soil compaction, concrete debris, performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Seeds eaten by ducks and other birds, twigs eaten by deer and rabbits.

**Soil Moisture:** Tolerant of flooding. Intolerant of drought.

**Soil pH:** Alkaline; Neutral

**Horticultural Value:** Flowers in white, ball-shaped clusters.

**Salt Tolerance:** **Stormwater Tolerance:**

Low tolerance

ROW Rain  
garden,  
Retention  
pond,  
Stormwater  
greenstreet,  
Inundation,  
Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, grows to 12' tall, flowers white in July-August, fruit dry in September-January.

**Other:**

Dispersed by water, dies in closed canopy swamp forest.

**Chimaphila maculata**

**Striped prince's pine**

**Habitat:** Rich, dry woods, sandy soils.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Intolerant of soil compaction and disturbance.

**Exposure:** Part Shade

**Ecosystem Services:** Edible leaves, good ground cover.

**Soil Moisture:** Requires consistently moist soil. Intolerant of drought.

**Soil pH:** Acidic

**Horticultural Value:** Fragrant white-pinkish flowers in small clusters at top of stem.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Evergreen, grows to 1' tall by 1'8" wide, usually smaller, flowers white-pinkish in June-August, waxy, whorled.

**Other:** Also known as striped wintergreen or striped Prince's pine.

**Clethra alnifolia**

**Sweet pepperbush**

**Habitat:** Moist to wet woods.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of soil compaction, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value low, host to some butterfly larvae, twigs eaten by rabbits and deer.

**Soil Moisture:** Tolerant of flooding. Intolerant of drought.

**Soil pH:** Acidic

**Horticultural Value:** White flowers in summer, fragrant.

**Salt Tolerance:** **Stormwater Tolerance:**

Tolerant

ROW Rain  
garden,  
Retention  
pond,  
Stormwater  
greenstreet,  
Inundation,  
Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, grows to 8' tall, flowers white  
in July-August, fruit dry September-  
October.

**Other:** Tolerates shade but better in gaps  
and edges.

**Comptonia peregrina**

**Sweetfern**

**Habitat:** Grassland, meadows, fields, open woodlands.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** NC

**Urban Tolerance:** Intolerant of soil compaction, tolerant of poor soils, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value low.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic

**Horticultural Value:** Lustrous leaves, resemble fern frond, fragrant.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof

**Compatibility:** Suckers can form colonies.

**Form/Color:** Deciduous, dense, rounded shrub, slow grower to 2-4' tall, 4-8' wide, flowers catkins in May-June.

**Other:** Can be difficult to establish, nitrogen fixer. Sexes on separate plants.

**Cornus alternifolia**

**Alternatleaf dogwood**

**Habitat:** Rich woods, stream and pond banks, prefers moist soil.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Moderately tolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value very high, fruit eaten by birds.

**Soil Moisture:** Moderately tolerant of flooding, intolerant of drought.

**Soil pH:** Neutral

**Horticultural Value:** Small cluster of off-white flowers, dark blue fruits, fragrant.

**Salt Tolerance:** Stormwater Tolerance:

Intolerant



Retention  
pond,  
Slopes

**Compatibility:**

**Form/Color:** Small, deciduous, stratified branching, to 15-25' tall, 20-30' wide, white/yellow and green foliage, off-white flowers in May-June, dark blue fruits in July-September.

**Other:** Susceptible to dogwood borer and cottony scales.

## Cornus amomum

## Silky dogwood

**Habitat:** Open freshwater tidal and nontidal marshes, pond edges, flood plain forests, wet habitats.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerant of concrete debris, moderate disturbance, performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value very high, host to some butterfly larvae, fruit eaten by birds,

**Soil Moisture:** Tolerant of flooding, moderately tolerant of drought.

raccoons, skunks, leaves and twigs eaten by deer and rabbits.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Flowers in white, showy clusters in summer, fleshy blue-white fruit in late

**Salt Tolerance:** Intolerant

summer and fall.

**Stormwater Tolerance:** ROW Rain garden, Retention pond, Stormwater greenstreet, Rain garden, Inundation, Slopes

**Compatibility:** Branch tips rooting.

**Form/Color:** Deciduous, sprawling, grows to 9' tall, flowers white in May-July, blue-white fruit in August-September.

**Other:** Most common Cornus species in NYC, can be infected by leaf spot in cool, wet summers, wounded plants may be infected by cankers.

## Cornus racemosa

## Gray dogwood

**Habitat:** Moist soil.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** FAC

**Urban Tolerance:** Should tolerate concrete debris, alkaline fill, soil compaction; performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value very high, fruit eaten by many bird species.

**Soil Moisture:** Moderately tolerant of flooding, drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** White, showy, flower clusters in summer, fleshy white fruit with red

**Salt Tolerance:** Intolerant

pedicels.

**Stormwater Tolerance:** ROW Rain garden, Retention pond, Stormwater greenstreet, Rain garden, Inundation, Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, moderate grower to 15', flowers white in May-July, white fruit with red stems in July-September.

**Other:** Roots fairly well from cuttings. Also known as Red-Panicked Dogwood.

## Cornus sericea

|                              |  |
|------------------------------|--|
| <b>Habitat:</b>              | Pond and marsh edges.  |
| <b>Wetland Indicator:</b>    | FACW   |
| <b>Exposure:</b>             | Part Shade   |
| <b>Soil Moisture:</b>        | Tolerant of swampy conditions, wet soils.  |
| <b>Soil pH:</b>              | Acidic; Neutral; Alkaline  |
| <b>Salt Tolerance:</b>       | Tolerant   |
| <b>Stormwater Tolerance:</b> | ROW Rain garden, Retention pond, Stormwater greenstreet, Rain garden, Inundation, Slopes |
| <b>Form/Color:</b>           | Deciduous, grows to 8', flowers white in May-August, white fruit in August-October.      |

## Redosier dogwood

|                                     |  |
|-------------------------------------|--|
| <b>Coefficient of Conservatism:</b> | 6  |
| <b>Urban Tolerance:</b>             | Tolerant of concrete debris, performs well in the right of way.  |
| <b>Ecosystem Services:</b>          | Fruit eaten by birds, raccoons, skunks, twigs and leaves eaten by rabbits and deer, host to some butterfly larvae. |
| <b>Horticultural Value:</b>         | Flowers white in showy clusters, fleshy white fruit in late summer and fall. Red stems add winter interest.        |
| <b>Compatibility:</b>               | Branch tips rooting.   |
| <b>Other:</b>                       | Does not reproduce well in New York City, roots well from cuttings.  |

## Corylus americana

|                           |   |
|---------------------------|---|
| <b>Habitat:</b>           | Moist woods, thickets.                                  |
| <b>Wetland Indicator:</b> | FACU  |
| <b>Exposure:</b>          | Part Shade  |
| <b>Soil Moisture:</b>     | Moderately tolerant of drought, intolerant of flooding. |
| <b>Soil pH:</b>           | Acidic; Neutral   |
| <b>Salt Tolerance:</b>    | Tolerance<br>:  |
| <b>Stormwater</b>         |   |

## American hazelnut

|                                     |   |
|-------------------------------------|---|
| <b>Coefficient of Conservatism:</b> | 6   |
| <b>Urban Tolerance:</b>             | Moderately tolerant of soil compaction.                   |
| <b>Ecosystem Services:</b>          | Wildlife value moderate, nuts eaten by birds and mammals. |
| <b>Horticultural Value:</b>         | Yellow catkins in spring, fruit in September.             |
|                                     | Intolerant Unsuitable                                     |

**Compatibi**

**lity:**

**Form/Color:** Deciduous, moderate to fast grower to 9', flowers yellow catkins in March-April, fruit in September.

**Other:**

**Dasiphora fruticosa**

**Shrubby cinquefoil**

**Habitat:** Open areas, wet to moist soil.

**Coefficient of Conservatism:** 9

**Wetland Indicator:** FACW

**Urban Tolerance:** Should tolerate concrete debris, tolerant of poor soils, performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts butterflies.

**Soil Moisture:** Tolerant of flooding, drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Bluish-green leaves, bright yellow, white, pink, or red flowers.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Slopes, Upland

**Compatibility:**

**Form/Color:** Deciduous, rounded shrub, yellow flowers from June until frost, slow grower to 2-4' tall, 2-4' wide.

**Other:** Very few pests.

**Diervilla lonicera**

**Northern bush honeysuckle**

**Habitat:** Dry woods, rocky soil.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** NC

**Urban Tolerance:** Tolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value low, flowers attractive to hummingbirds.

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow to red flowers in summer.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Stormwater greenstreet, Upland

**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, short-lived, fast grower to 3',  
flowers yellow to red in June-July, fruit dry  
in August-October.

**Other:**

**Epigaea repens**

**Trailing arbutus**

**Habitat:** Sandy to peaty woods or clearings.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Intolerant of soil compaction, roots easily injured, human disturbance causes leaf browning and rot.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value low, attracts butterflies.

**Soil Moisture:** Intolerant of flooding, drought.

**Soil pH:** Acidic

**Horticultural Value:** Aromatic, leathery leaves, trumpet-shaped white-pale pink flowers.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Evergreen, creeping mat, grows to 4-6", flowers white or pink in March-May, white fruit, dioecious.

**Other:** Exploitably vulnerable in New York state, does not tolerate disturbance.

**Eubotrys racemosa**

**Swamp doghobble**

**Habitat:** Swamp forests, margins of woodland ponds, vernal pools, moist to wet oak woodlands understory.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value low, eaten by deer.

**Soil Moisture:** Wet soil conditions; medium moisture usage.

**Soil pH:** Acidic

**Horticultural Value:** Small, white flowers in summer.

**Salt Tolerance:** **Stormwater Tolerance:**

Intolerant



Retention  
pond, Rain  
garden,  
Slopes

**Compatibility:** clonal from root  
sprouts.

**Form/Color:** Deciduous, grows to 12', flowers white in  
May-June, fruit dry September-October.

**Other:**

**Gaultheria procumbens**

**Eastern teaberry**

**Habitat:** Bog, swamp, barrens, dune, forest, old field.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value low, limited use by large and small mammals, and birds.

**Soil Moisture:** Tolerant of flooding, drought.

**Soil pH:** Acidic

**Horticultural Value:** White flowers, red fruit.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Can slowly form colonies.

**Form/Color:** Slow grower to 6", stoloniferous with creeping horizontal rhizomes, forms a mat, dark green foliage, flowers white to pinkish in spring, red fruit.

**Other:** Difficult to transplant.

**Gaylussacia baccata**

**Black huckleberry**

**Habitat:** Dry, sandy, or rocky oak woods, pine barrens.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value high, fruit eaten by birds and mammals, host to some butterfly larvae.

**Soil Moisture:** Moderately tolerant of drought.

**Soil pH:** Acidic

**Horticultural Value:** White flowers, fleshy black fruit.

**Salt Tolerance:**

**Stormwater Tolerance:**

Low

tolerance

**Compatibility**

: Can form colonies.

Green roof

**Form/Color:** Deciduous, very slow grower to 3', flowers white-pinkish in May-June, black fruit in August-September.

**Other:**

**Gaylussacia frondosa**

**Blue huckleberry**

**Habitat:** Moist to dry open oak or pine woods.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FAC

**Urban Tolerance:** Adapted to coarse soils, intolerant of anaerobic conditions.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value high, fruit eaten by birds and mammals, host to some

**Soil Moisture:** Sandy, wet soil conditions.

butterfly larvae, pollinated by bumble bees and smaller bees.

**Soil pH:** Acidic

**Horticultural Value:** White flowers, fleshy blue fruit.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Upland

**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, very slow grower to 6', flowers white in May-June, blue fruit in August-September.

**Other:**

**Hamamelis virginiana**

**Witchhazel**

**Habitat:** Moist, rich, open woods.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction, performs well in the right of way.

**Exposure:** Shade

**Ecosystem Services:** Seeds eaten by wild turkeys, squirrels, twigs eaten by deer and

**Soil Moisture:** Intolerant of flooding, drought.

rabbits; leaves fed on by several insects.

**Soil pH:** Acidic

**Horticultural Value:** Lemon yellow fall foliage, yellow flowers in fall and interesting fruits that release

**Salt Tolerance:** Tolerance:

Low tolerance greenstreet, Slopes

**Stormwater**

Stormwater

seeds explosively.

**Compatibility:**

**Form/Color:** Deciduous, slow grower to 25', flowers yellow in September-November, fruit dry in autumn of the following year.

**Other:** Susceptible to leaf spot and blight.

**Hudsonia ericoides**

**Habitat:** Sandy soil of pine barrens, acid, rocky outcrops.

**Wetland Indicator:** NC

**Exposure:** Full Sun

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof

**Form/Color:** Evergreen, mound or mat-forming to 1' or less, flowers yellow in May-June, fruit dry July-August.

**Pine barren goldenheather**

**Coefficient of Conservatism:**

**Urban Tolerance:** Insufficient information to determine tolerance.

**Ecosystem Services:** Attractive to bees, butterflies, and birds.

**Horticultural Value:** Yellow showy flowers.

**Compatibility:** Cannot compete with weedy vegetation in good quality soil.

**Other:**

**Hudsonia tomentosa**

**False heather**

**Habitat:** Coastal, open sandy soil, back dunes.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** NC

**Urban Tolerance:** Tolerant of coarse soil, intolerant of anaerobic soils.

**Exposure:** Full Sun

**Ecosystem Services:** Attractive to bees, butterflies, and birds.

**Soil Moisture:** Tolerant of moderate drought, sandy, moist soil conditions; low moisture usage.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow flowers.

**Salt Tolerance:** Stormwat

**er Tolerance:**

Tolerant

Green roof **Compatibility:**

**Form/Color:** Evergreen, shrubby, less than 1', flowers yellow in May-June, fruit in June-August. **Other:**

**Ilex glabra**

**Inkberry**

**Habitat:** Margins of bogs, swamps of coastal plain and pine barrens, Atlantic white cedar swamps.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerant of soil compaction, performs well in the right of way.

**Exposure:** Shade

**Ecosystem Services:** Wildlife value high, fruit eaten by birds, winter cover for small birds,

**Soil Moisture:** Tolerant of flooding, intolerant of drought.

seeds eaten by small mammals, twigs eaten by deer.

**Soil pH:** Acidic

**Horticultural Value:** Small, white flowers in summer, black fleshy fruit in the fall.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Inundation, Slopes, Upland

**Compatibility:** Eventually clonal.

**Form/Color:** Evergreen, slow grower to 6', flowers white in June-July, black fruit in September-November, dioecious.

**Other:**

**Ilex verticillata**

**Winterberry**

**Habitat:** Freshwater tidal marshes, shrub swamps, swamp forest, flood plain forests.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerates soil compaction, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value high, fruit eaten by birds throughout winter, also eaten by

**Soil Moisture:** Tolerant of flooding, moderately tolerant of drought.

small mammals.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Small white flowers in summer, red fleshy fruit in fall, persisting into the

**Salt Tolerance:** **Stormwater Tolerance:**

Low tolerance



winter.

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Retention  
pond,  
Inundation

**Compatibility:** Males often  
form colonies.

**Form/Color:** Deciduous, slow grower to 15', flowers  
white in June-July, red fruit in September-  
October, dioecious.

**Other:**

**Iva frutescens**

**Marsh elder**

**Habitat:** Coastal, high salt marsh, salt marsh edges.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerant of concrete debris.

**Exposure:** Full Sun

**Ecosystem Services:** Attractive to song birds. Habitat for generalist wetland birds. Secondary

**Soil Moisture:** Tolerant of flooding, drought.

nesting habitat for Saltmarsh Sparrows.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Greenish flowers and fruits.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Inundation

**Compatibility:**

**Form/Color:** Grows to 9', usually dies back in winter, flowers greenish in August-October.

**Other:**

**Juniperus communis var. depressa**

**Common juniper**

**Habitat:** Sterile, dry, open rocky soil.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerates concrete debris.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value very high, evergreen cover and food for small birds, fruit eaten by birds.

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Berry-like cone of blue-black fruit. Evergreen foliage.

**Salt Tolerance:** **Stormwater Tolerance:**

Moderately tolerant Green roof

**Compatibility**

**Form/Color:** Evergreen, columnar, slow grower to 6', no true flowers, fruit berry-like blue-black cone in October.

: Does not tolerate competition from weedy vegetation.

**Other:** It has the most extensive worldwide native range of any conifer. Sexes on separate plants.

**Kalmia angustifolia**

**Sheep laurel**

**Habitat:** Dry to moist, acid, sterile sandy soil, oak or pine woods, barrens, bog edges.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value low.

**Soil Moisture:** Tolerant of flooding, drought.

**Soil pH:** Acidic

**Horticultural Value:** Pink showy flowers in early summer.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Slopes, Upland

**Compatibility:** Gradually forms colonies.

**Form/Color:** Evergreen, slow grower to 3', flowers pink in May-June, fruit dry in August-October.

**Other:** Adapted to fire, attacked by very few insects, leaves infected by several fungi.

**Kalmia latifolia**

**Mountain laurel**

**Habitat:** Sandy or rocky, oak or pine woods, north-facing slopes, oak forests, pine barrens.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction.

**Exposure:** Shade

**Ecosystem Services:** Wildlife value low.

**Soil Moisture:** Moderately tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic

**Horticultural Value:** White showy flowers in early summer.

**Salt Tolerance:** Stormwater Tolerance:

Moderately tolerant Unsuitable

**Compatibility:**

**Form/Color:** Evergreen, slow grower to 9', flowers white in May-July, fruit dry in August-October.

**Other:** Foliage toxic but eaten by deer.

**Lindera benzoin**

**Spicebush**

**Habitat:** Swamp forests, understory of moist forests.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACW

**Urban Tolerance:** Somewhat tolerant of urban pollution, performs well in the right of way.

**Exposure:** Shade

**Ecosystem Services:** Wildlife value very high, oily fruit good for migrating birds, host to

**Soil Moisture:** Moderately tolerant flooding, intolerant of drought.

some butterfly larvae, such as the Spicebush Swallowtail.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Aromatic leaves, small yellow flowers in early spring before leafing out, red

**Salt Tolerance:** Moderately tolerant

fleshy fruit in fall, fall foliage clear yellow.

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Inundation, Slopes, Upland

**Compatibility:**

**Form/Color:** Deciduous, slow grower to 15', flowers yellow in March-April, red fruit September-October, yellow fall foliage, dioecious.

**Other:** A common plant in New York City, does not grow well in heavy clay soils.

**Lyonia ligustrina**

**Maleberry**

**Habitat:** Swamps, moist to wet open woods, pond edges.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerates soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value low.

**Soil Moisture:** Tolerant of flooding, drought.

**Soil pH:** Acidic

**Horticultural Value:** Small white flowers in summer.

**Salt Tolerance:** **Stormwater Tolerance:**

Tolerant

Retention  
pond, Rain  
garden,  
Slopes

**Compatibility:**

**Form/Color:** Deciduous, moderate grower to 12',  
flowers white in May-July, fruit dry  
September-October.

**Other:**

**Lyonia mariana**

**Piedmont staggerbush**

**Habitat:** Moist sandy soil, open oak or pine woods, needs acid soil.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FAC

**Urban Tolerance:** Performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to bees.

**Soil Moisture:** Moist to wet soil conditions.

**Soil pH:** Acidic

**Horticultural Value:** White flowers in early summer. Interesting seed heads.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Grows to 6', flowers white in May-June, fruit dry in September-October into winter.

**Other:**

**Morella pensylvanica**

**Northern bayberry**

**Habitat:** Coastal regions.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of infertile soils.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts birds. Primary winter food of yellow-rumped warbler.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Deep green leaves, blue-gray fruits, fragrant.

**Salt Tolerance:** **Stormwater Tolerance:**

Tolerant



ROW Rain  
garden,  
Stormwater  
greenstreet,  
Inundation,  
Slopes,  
Upland

**Compatibility:** Tends to sucker  
and form colonies.

**Form/Color:** Deciduous, irregular shrub, upright  
branches, blue-gray fruits in late summer  
through winter, fast grower to 5-12' tall, 5-  
8' wide.

**Other:** Nitrogen fixer.

**Physocarpus opulifolius†**

**Ninebark**

**Habitat:** Open shores, swamp margins, streamsides, wet shrublands, sandy or rocky moist soil.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACW

**Urban Tolerance:** Should tolerate concrete debris, tolerant of soil compaction, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value moderate.

**Soil Moisture:** Tolerant of flooding, drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Deep plum or pink foliage, reddish-orange bark.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Retention Pond, Rain garden, Slopes, Upland

**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, vase-shaped, multi-stemmed shrub, flowers plum or pink in early June, moderate to fast grower to 5-10' tall, 6-10' wide.

**Other:** Not deer resistant.

**Prunus maritima**

**Beach plum**

**Habitat:** Dunes; sandy soil.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** NC

**Urban Tolerance:** Tolerant of coarse, medium soils, moderately tolerant of anaerobic soils, performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Attracts bees, fruit is edible.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Pink flowers, plum colored fruit.

**Salt Tolerance:** Tolerance:

Tolerant

**Stormwater**

Stormwater greenstreet, Upland

**Compatibility:** Tends to sucker

and form colonies.

**Form/Color:** Deciduous, irregular shrub, upright branches, flowers pink in spring, plum colored fruits in August, fast grower to 4-15' tall, 4-15' wide.

**Other:** Pest problems include brown rot, plum curculio, tent caterpillar, and black knot.

**Quercus ilicifolia**

**Bear oak**

**Habitat:** Dry rocky or sandy, sterile acid soil in oak and pine barrens, coastal scrub, dry, sandy sterile soil.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value very high, acorns eaten by birds and mammals.

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Blooms in May.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Deciduous, moderate grower to 15', blooms May, acorns ripen September of the following year.

**Other:**

**Quercus prinoides**

**Dwarf chinquapin oak**

**Habitat:** Dry rocky rich soils, slopes, oak barrens.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACU

**Urban Tolerance:** Should tolerate concrete debris, intolerant of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value very high.

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Blooms in May.

**Salt Tolerance:** **Stormwater Tolerance:**

Intolerant

Stormwater  
greenstreet,  
Upland

**Compatibility:**

**Form/Color:** Deciduous, slow grower to 9', blooms in  
May, acorns ripen September-October of  
the following year.

**Other:**

**Rhododendron maximum**

**Great laurel**

**Habitat:** Wet to moist woods, Atlantic white cedar bogs, cool, moist, high shade.

**Coefficient of Conservatism:** 9

**Wetland Indicator:** FAC

**Urban Tolerance:** Intolerant of soil compaction, disturbance.

**Exposure:** Shade

**Ecosystem Services:** Wildlife value low, winter cover for birds.

**Soil Moisture:** Tolerant flooding, intolerant of drought.

**Soil pH:** Acidic

**Horticultural Value:** White showy flowers in summer.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Gradually forms colonies.

**Form/Color:** Evergreen, grows to 30', flowers white in June-July, fruit dry September-November.

**Other:** Damaged by various fungi and insects.

**Rhododendron periclymenoides**

**Pinxterbloom azalea**

**Habitat:** Moist oak woods, acid soil.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of soil compaction.

**Exposure:** Shade

**Ecosystem Services:** Wildlife value low.

**Soil Moisture:** Tolerant of flooding, moderately tolerant of drought.

**Soil pH:** Acidic

**Horticultural Value:** Pink showy flowers in spring.

**Salt Tolerance:** Stormwat

**er Tolerance:**

Intolerant

Unsuitable

**Compatibility:**  
Gradually  
forms  
colonies.

**Form/Color:** Deciduous, slow grower to 6', flowers pink  
in April-May, fruit dry in September.

**Other:**

**Rhododendron viscosum**

**Swamp azalea**

**Habitat:** Open swamp forests, bogs.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value low.

**Soil Moisture:** Moderately tolerant of drought.

**Soil pH:** Acidic

**Horticultural Value:** White, showy, fragrant flowers in summer.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation, Slopes

**Compatibility:** Slow colonization rate.

**Form/Color:** Deciduous, moderate grower to 6', flowers white in June-July, fruit dry September-October.

**Other:**

**Rhus aromatica**

**Fragrant sumac**

**Habitat:** Wooded edges in acid soil.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** UPL

**Urban Tolerance:** Performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts butterflies and bees.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Neutral

**Horticultural Value:** Fragrant trifoliolate leaves, fiery red autumn color, yellow catkin-like flowers,

**Salt Tolerance:** Tolerance:

Tolerant

**Stormwater**

ROW Rain garden, Stormwater greenstreet, Slopes,



Upland

small red fruits.

**Compatibility:** Spreads by root suckers.

**Form/Color:** Deciduous, low-growing, spreading plant, to 2' tall, 6-8' wide, soft red fruit in late summer into winter, often dioecious.

**Other:**

## **Rhus copallinum**

**Habitat:** Open, sandy, sterile soil, fill, back dune shrublands.

**Wetland Indicator:** UPL

**Exposure:** Full Sun

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Stormwater greenstreet, Upland

**Form/Color:** Deciduous, fast grower to 25', fall foliage red, flowers greenish in July-September, red fruit clusters in August-October through winter.

## **Winged sumac**

**Coefficient of Conservatism:**

**Urban Tolerance:** Intolerant of soil compaction. Found along roadsides and coastal areas.

**Ecosystem Services:** Wildlife value high, fruit eaten by birds.

**Horticultural Value:** Fall foliage bright red, flowers greenish, showy pink fruit clusters, winged leaves.

**Compatibility:** Tolerates weedy vegetation. Can form colonies.

**Other:** Common in New York City. Sexes on separate plants.

## **Rhus glabra**

**Habitat:** Open areas, rich soils, fill, soils.

**Wetland Indicator:** NC

**Exposure:** Full Sun

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** **Stormwater Tolerance:**

## **Smooth sumac**

**Coefficient of Conservatism:** 3

**Urban Tolerance:** Intolerant of soil compaction. Found along roadsides and coastal areas.

**Ecosystem Services:** Fruit eaten by some birds.

**Horticultural Value:** Fall foliage orange-red, flowers greenish, red fruit clusters.

**Salt Tolerance:** Tolerant

Stormwater  
greenstreet,  
Upland

**Compatibility:** Tolerates  
weedy  
vegetatio  
n. Can  
form  
colonies.

**Form/Color:** Deciduous, grows to 15', red-orange fall  
foliage, flowers greenish in June-July, red  
fruit clusters in July-October.

**Other:** Sexes on separate plants.

**Rhus typhina**

**Staghorn sumac**

**Habitat:** Open, rocky areas, edges, fill.

**Wetland Indicator:** NC

**Exposure:** Full Sun

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Unsuitable

**Form/Color:** Deciduous, coarse, low spreading branches, moderate grower to 15-25' tall, 15-30' wide, flowers greenish in June-July, red fruit clusters in July-September.

**Coefficient of Conservatism:** 1

**Urban Tolerance:** Intolerant of soil compaction. Found along roadsides and coastal areas.

**Ecosystem Services:** Fruits eaten by gamebirds, songbirds, large and small mammals.

**Horticultural Value:** Some cultivars have golden foliage, fiery autumn color, bright crimson upright fruits.

**Compatibility:** Tolerates weedy vegetation. Can form colonies.

**Other:** Sexes on separate plants.

**Rosa carolina**

**Carolina rose**

**Habitat:** Dry, open areas, old fields, sandy or rocky soil.

**Wetland Indicator:** FACU

**Exposure:** Full Sun

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:** **Stormwater Tolerance:**

**Coefficient of Conservatism:** 2

**Urban Tolerance:** Should tolerate concrete debris, some tolerance of soil compaction, performs well in the right of way.

**Ecosystem Services:** Wildlife value moderate, fruit eaten by birds and mammals.

**Horticultural Value:** Pink showy flowers in June, fleshy red fruit.

Tolerant

Stormwater  
greenstreet,  
Upland

**Compatibility:** Can form  
colonies.

**Form/Color:** Deciduous, multistemmed, prickly, fast  
grower to 3', flowers pink in June, red fruit.

**Other:**

**Rosa palustris**

**Swamp rose**

**Habitat:** Freshwater tidal and nontidal marshes, pond edges.

**Coefficient of Conservatism:** 9

**Wetland Indicator:** OBL

**Urban Tolerance:** Performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value high, fruit eaten by birds.

**Soil Moisture:** Tolerant of flooding.

**Soil pH:** Acidic

**Horticultural Value:** Pink showy flowers, red fleshy fruit.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

**Compatibility:** Aggressively forms colonies.

**Form/Color:** Deciduous, multistemmed, prickly stems, grows to 6', flowers pink in June-July, red fruit in September-October.

**Other:**

**Rosa virginiana**

**Virginia rose**

**Habitat:** Open areas, moist to dry soil, especially sandy areas, back dune scrub.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FAC

**Urban Tolerance:** Performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Eaten by birds.

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Pink flowers with yellow centers, red rose hips.

**Salt Tolerance:** **Stormwater Tolerance:**

Tolerant

ROW Rain  
garden,  
Retention  
pond,  
Stormwater  
greenstreet,  
Rain  
garden,  
Inundation,  
Slopes

**Compatibility:** Will sucker and  
spread quickly.

**Form/Color:** Deciduous, multi-stemmed, dense shrub,  
flowers pink with yellow centers in  
summer, red rose hips throughout winter,  
to 4-6' tall, 4-6' wide.

**Other:** Very disease resistant.

**Rubus allegheniensis**

**Common blackberry**

**Habitat:** Wide tolerance in soils and moisture, grows in fill soils.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACU

**Urban Tolerance:** Moderately tolerant of soil compaction, tolerates poor soil.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value very high, fruit eaten by birds and mammals.

**Soil Moisture:** Moderately tolerant of flooding, drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White flowers in summer, black fruit in summer and early fall.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Green roof

**Compatibility:** Can form colonies.

**Form/Color:** Stout, curved, sharp prickles, fast grower stems to 6', flowers white in May-July, black fruit in August-September.

**Other:** Roots well from cuttings.

**Rubus flagellaris**

**Northern dewberry**

**Habitat:** Open soil, fill, weedy sites.

**Coefficient of Conservatism:** 1

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerant of concrete debris.

**Exposure:** Full Sun

**Ecosystem Services:** Fruit and seeds eaten by birds and small mammals.

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Trailing vine or groundcover. Flowers white in summer, black fleshy fruit in

**Salt Tolerance:** Stormwater

**Tolerance:**



Tolerant

Green roof

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**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, grows to about 1', stems arching, prickles stout, sharp, flowers white in June-July, black fruit in July-August.

**Other:**

**Rubus hispidus**

**Swamp dewberry**

**Habitat:** Moist thickets, open woods, clearings.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACW

**Urban Tolerance:** Adapted to coarse, medium and fine soils, low tolerance of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Food for songbirds, game birds, and mammals.

**Soil Moisture:** Moderately tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Trailing delicate vine or ground cover. White flowers, red to black fruit.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Slopes, Upland

**Compatibility:** Can form colonies.

**Form/Color:** Moderate grower to 2', flowers white, gray-green foliage, black fruit.

**Other:**

**Rubus idaeus**

**Red raspberry**

**Habitat:** Swamps, bogs, recently disturbed sites.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Food and cover for birds, mammals.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White-greenish flowers.

**Salt Tolerance:** Tolerance :  
:

Intolerant Unsuitable

**Stormwater**

**Compatibi**

**lity:**

**Form/Color:** Deciduous, moderate grower, stems to 2', slender-based prickles, flowers white-greenish, red fruit.

**Other:**

**Rubus occidentalis**

**Black raspberry**

**Habitat:** Open areas, edges, part shade, open woodlands, rich acid soil.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** NC

**Urban Tolerance:** Moderately tolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value very high, fruit eaten by birds and mammals.

**Soil Moisture:** Tolerant of drought, moderately tolerant of flooding.

**Soil pH:** Acidic

**Horticultural Value:** Bluish-purple stems providing good winter color, white flowers in early summer, black fruit in summer.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, fast grower to 4', prickly, bluish stems, flowers white in May-June, black fruit in June-July.

**Other:** Grows poorly in full shade

**Rubus odoratus**

**Purpleflowering raspberry**

**Habitat:** Moist part shade, rocky woodland edges.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Moderately tolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value very high, fruit eaten by birds and mammals.

**Soil Moisture:** Moderately tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic

**Horticultural Value:** Purple showy flowers, red fleshy fruit.

**Salt Tolerance:** Stormwater Tolerance:

Low tolerance

Insufficient  
research to  
determine

**Compatibility:** Can form  
colonies.

**Form/Color:** Deciduous, fast grower to 6', unarmed,  
flowers purple in July-August, red fruit in  
August-September.

**Other:**

**Rubus pensilvanicus**

**Pennsylvania blackberry**

**Habitat:** Thickets, woodland edges, successional habitats.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerant of concrete debris.

**Exposure:** Part Shade

**Ecosystem Services:** Fruit eaten by birds and mammals.

**Soil Moisture:** Moderately tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Canes can be reddish in color, white flowers, black fleshy fruit.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Insufficient research to determine

**Compatibility:**

**Form/Color:** Purple canes to 10' long, stout prickles, flowers white in May-June, black fruit in July-August.

**Other:**

**Salix discolor**

**Pussy willow**

**Habitat:** Marshy, low ground; stream banks; ditches

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACW

**Urban Tolerance:** Insufficient information to determine tolerance

**Exposure:** Part Shade

**Ecosystem Services:** Early pollen source for native bees; Larval host for native butterflies

**Soil Moisture:** Thrives in moist soils, but can tolerate some drying conditions

**Soil pH:** Neutral

**Horticultural Value:** Early silver and yellow color

**Salt Tolerance:** **Stormwater Tolerance:**

Moderately tolerant

Stormwater  
greenstreet,  
Retention  
pond, Rain  
garden,  
Inundation,  
Slopes

**Compatibility:** Fast-growing and  
will sucker.

**Form/Color:** Grows 6-15' tall, 4-12 spread; Yellow  
flowers in March and April

**Other:**

**Salix humilis†**

**Dwarf prairie willow**

**Habitat:** Dry, exposed, sandy barrens, open woodlands, roadsides.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Full Sun

**Ecosystem Services:** Host to some butterfly larvae.

**Soil Moisture:** Tolerant of drought.

**Soil pH:** Neutral

**Horticultural Value:** Attractive catkins.

**Salt Tolerance:** Insufficient research to determine

**Stormwater Tolerance:** Unsuitable

**Compatibility:** Can form colonies.

**Form/Color:** Grows to 3', flowers in catkins March-April, fruit in May.

**Other:** Sexes on separate plants.

**Sambucus nigra ssp. canadensis**

**Common elderberry**

**Habitat:** Freshwater tidal and nontidal marshes, wet edges, shrub swamps.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** NC

**Urban Tolerance:** Tolerant of soil compaction, probably tolerant of concrete debris.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value very high, fruit eaten by birds, mammals.

**Soil Moisture:** Tolerant of flooding, drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** White, showy, clusters of flowers, black fleshy fruit.

**Salt Tolerance:**



**Stormwater Tolerance:** Low tolerance

ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes, Upland

**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, fast grower to 12', flowers white in June-July, black fruit in July-September, forms thickets.

**Other:** Will not bloom or fruit in dense shade.

**Spiraea alba var. latifolia**

**Meadowsweet**

**Habitat:** Moist wet open uplands, rocky slopes, meadows.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerant of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value moderate, host to some butterfly larvae.

**Soil Moisture:** Tolerant of flooding, drought.

**Soil pH:** Neutral

**Horticultural Value:** White, showy, clusters of flowers.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention Pond, Rain garden, Inundation, Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, fast grower to 6', flowers white in June-August, fruit dry September-October.

**Other:** Roots fairly well from cuttings, attacked by the Spiraea aphid, Spiraea leaf roller moth, and the Spiraea scale.

**Spiraea tomentosa**

**Steeplebush**

**Habitat:** Open swamps, wet meadows, rocky, acid, sterile soil.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerant of soil compaction, performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Wildlife value moderate, host to some butterfly larvae.

**Soil Moisture:** Tolerant of flooding, drought.

**Soil pH:** Acidic

**Horticultural Value:** Pink, showy, clusters of flowers.

**Salt Tolerance:** **Stormwater Tolerance:**

Low tolerance

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Slopes

**Compatibility:** Clonal from  
root sprouts.

**Form/Color:** Deciduous, fast grower to 5', flowers pink  
in July-September, fruit dry in September-  
October.

**Other:** Roots fairly well from cuttings,  
affected by same insects and fungi  
of *Spiraea alba*.

**Staphylea trifolia**

**American bladdernut**

**Habitat:** Forest understories, edges in moist, often rocky soil.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Wildlife value low.

**Soil Moisture:** Moderately tolerant of drought, flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Striped bark. Yellow, balloon-like hanging fruit.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Slopes

**Compatibility:**

**Form/Color:** Deciduous, moderate grower to 15', striped bark, flowers white in May, fruit dry in September-October.

**Other:**

**Taxus canadensis**

**Canada yew**

**Habitat:** Rocky or sandy upland forest understories.

**Coefficient of Conservatism:** 9

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction.

**Exposure:** Shade

**Ecosystem Services:** Wildlife value moderate, cover for birds.

**Soil Moisture:** Intolerant of flooding, drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Fleshy red fruit, evergreen needles.

**Salt Tolerance:** Stormwater

**Tolerance:**

Tolerant

Unsuitable

**Compatibility:**

**Form/Color:** Evergreen, slow grower to 6', no flowers, red fruit, dioecious.

**Other:**

## Vaccinium angustifolium

|                              |  |
|------------------------------|--|
| <b>Habitat:</b>              | Sandy or rocky soil, open oak woods, needs acid soil.                                    |
| <b>Wetland Indicator:</b>    | FACU   |
| <b>Exposure:</b>             | Shade  |
| <b>Soil Moisture:</b>        | Tolerant of drought, intolerant of flooding.   |
| <b>Soil pH:</b>              | Acidic   |
| <b>Salt Tolerance:</b>       | Tolerant   |
| <b>Stormwater Tolerance:</b> | Green roof   |
| <b>Form/Color:</b>           | Deciduous, slow grower to 2', flowers white in May-June, blue fruit in August-September. |

## Lowbush blueberry

|                                     |  |
|-------------------------------------|--|
| <b>Coefficient of Conservatism:</b> | 6  |
| <b>Urban Tolerance:</b>             | Intolerant of soil compaction, performs well in the right of way.              |
| <b>Ecosystem Services:</b>          | Fruit eaten by birds and mammals, twigs eaten by many birds and mammals.       |
| <b>Horticultural Value:</b>         | Low-growing shrub. White flowers in summer, blue fleshy fruits in late summer. |
| <b>Compatibility:</b>               | Eventually forms colonies.   |
| <b>Other:</b>                       | Susceptible to blueberry witches'-broom rust.                                  |

## Vaccinium corymbosum

|                           |   |
|---------------------------|---|
| <b>Habitat:</b>           | Swamps edges, moist upland forests, shrub swamps.     |
| <b>Wetland Indicator:</b> | FACW  |
| <b>Exposure:</b>          | Part Shade  |
| <b>Soil Moisture:</b>     | Tolerant of flooding, moderately tolerant of drought. |
| <b>Soil pH:</b>           | Acidic  |
| <b>Salt Tolerance:</b>    |   |

## Highbush blueberry

|                                     |  |
|-------------------------------------|--|
| <b>Coefficient of Conservatism:</b> | 6  |
| <b>Urban Tolerance:</b>             | Tolerant of soil compaction.   |
| <b>Ecosystem Services:</b>          | Wildlife value very high, host to some butterfly larvae, fruit eaten by birds and mammals. |
| <b>Horticultural Value:</b>         | Red fall foliage, fleshy blue fruit in July-August, white, small flowers in May-           |
| <b>Stormwater Tolerance:</b>        |  |

Moderately  
tolerant

June.

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Retention  
Pond, Rain  
garden,  
Inundation,  
Slopes  
Upland

**Compatibility:**

**Form/Color:** Deciduous, slow grower to 9', flowers  
white in May-June, blue fruit in July-  
August, red foliage in fall.

**Other:**

Grown commercially for fruit,  
susceptible to canker and dieback  
disease.

**Vaccinium macrocarpon**

**American cranberry**

**Habitat:** Coastal areas, cool bogs, swamps.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** OBL

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Attracts birds.

**Soil Moisture:** Wet to moist soil conditions.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White to pink tube-shaped flowers.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation

**Compatibility:** Difficult to transplant.

**Form/Color:** Perennial, grows up to 3', white to pink tube-shaped flowers in nodding clusters in May-Jul, red fruits in Aug-Oct.

**Other:** The source of all commercially cultivated cranberries.

**Vaccinium pallidum**

**Blue Ridge blueberry**

**Habitat:** Open, oak woods, sandy, acid soil, prefers deep humus.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value very high, fruit eaten by birds and mammals.

**Soil Moisture:** Moist to droughty soil conditions; medium moisture usage.

**Soil pH:** Acidic

**Horticultural Value:** Low-growing shrub. White flowers in summer, blue fleshy fruits in late

**Salt Tolerance:** **Stormwater Tolerance:**

Low tolerance Green roof



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**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, slow grower to 3', flowers white in May-July, blue fruit in August-September.

**Other:**

**Vaccinium stamineum**

**Deerberry**

**Habitat:** Dry to moist open oak woods, pine barrens.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Moderately tolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value high, fruit eaten by birds, host to some butterfly larvae, like the red-spotted purple butterfly.

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Horticultural Value:** Flowers greenish-white in summer, fleshy yellowish to blue fruit in late summer/early fall.

**Soil pH:** Acidic

**Salt Tolerance:** Tolerant

**Compatibility:** Eventually forms colonies.

**Stormwater Tolerance:** Green roof

**Form/Color:** Deciduous, slow grower to 5', flowers greenish-white in May-June, yellowish to blue fruit in July-September.

**Other:**

**Viburnum acerifolium**

**Mapleleaf viburnum**

**Habitat:** Understory of moist to moderately dry forests, with oak, beech, hickory, maple, prefers deep humus.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** UPL

**Urban Tolerance:** Moderately tolerant of soil compaction.

**Exposure:** Shade

**Ecosystem Services:** Wildlife value high, fruit eaten by overwintering birds, host to some butterfly larvae.

**Soil Moisture:** Moderately tolerant of drought, intolerant of flooding.

**Horticultural Value:** Fall foliage pinkish-purple, white flowers in showy clusters, black fleshy fruit.

**Soil pH:** Acidic

**Salt Tolerance:**

:

**Stormwater Tolerance:** Intolerant

Unsuitable

**Compatibility:** Eventually forms colonies.

**Form/Color:** Deciduous, to 7', usually 3-4', pinkish-purple fall foliage, flowers white in May-June, black fruit in August-September.

**Other:**

## *Viburnum dentatum*

## Arrowwood

**Habitat:** Swamps, freshwater tidal and nontidal marshes, pond edges, swamp forest gaps moist to wet soil.

**Coefficient of Conservatism:**

**Wetland Indicator:** FAC

**Urban Tolerance:** Moderately tolerant of soil compaction, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value high, fruit eaten by mammals and birds, host to some butterfly larvae.

**Soil Moisture:** Tolerant of flooding, drought.

**Soil pH:** Acidic

**Horticultural Value:** White, showy, clusters of flowers in summer, fleshy dark blue fruit in late summer and fall.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Slopes

**Compatibility:** Can form colonies.

**Form/Color:** Deciduous, multistemmed, moderate grower to 10', flowers white in June-July, dark blue fruit in August-October.

**Other:** Common in New York City. Attacked by *Viburnum* leaf beetle.

## *Viburnum lentago*

## Nannyberry

**Habitat:** Open woods, edges, rich, moist soil.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FAC

**Urban Tolerance:** Intolerant of soil compaction, should tolerate concrete debris.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value high, host to some butterfly larvae, fruit eaten by birds.

**Soil Moisture:** Tolerant of drought, tolerant of flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** White, fragrant, showy clusters of flowers, black fleshy fruit.

**Salt Tolerance:** Tolerance:  
Intolerant

**Stormwater**

ROW Rain garden, Stormwater greenstreet, Retention

pond, Rain  
garden,  
Slopes

**Compatibility:**

**Form/Color:** Deciduous, forms thickets, fast grower to 30', often a small tree, flowers white in May-June, black fruit in August-October.

**Other:** Roots fairly well from cuttings.

**Viburnum prunifolium**

**Black haw**

**Habitat:** Open woods, open habitats, edges.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACU

**Urban Tolerance:** Should tolerate concrete debris, intolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Wildlife value high, host to some butterfly larvae, fruit eaten by birds and mammals.

**Soil Moisture:** Tolerates drought, intolerant of flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** White, showy, clusters of flowers.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes, Upland

**Compatibility:**

**Form/Color:** Deciduous, to 15', small tree, flowers white in April-May, black fruit in September-October.

**Other:** Very slow grower.

## Trees

Trees, single-stemmed woody plants with a mature height generally over twenty feet, are dominant landscape elements. They perform several functions in a park or residential setting, such as providing shade, habitat for wildlife species, and regulating the climate. Because plants do not adhere to the definitions we place on them, some species grow with a more shrub-like habit (i.e. multi stemmed) but at a height more like trees (i.e. over twenty feet). As a result, some species are often considered

both a tree and a shrub.

Consideration should be given to the mature size of a species, as well the ornamental qualities of fruit, form, bark, floral display, and fall color.



From top right counter clockwise: *Liriodendron tulipifera* (Tulip poplar), *Quercus rubra* (Red oak), *Juniperus virginiana* (Eastern red cedar)

**Abies balsamea**

**Balsam fir**

**Habitat:** Swamp, bog, mesic north and east slope aspects, moist steep rocky land, areas of cool air drainage.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FAC

**Urban Tolerance:** Intolerant of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** High wildlife value for songbirds, small mammals, hoofed browsers.

**Soil Moisture:** Tolerant of flooding; very poor to well drainage; wet to moist moisture levels.

**Soil pH:** Acidic

**Horticultural Value:** Evergreen foliage.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Conical evergreen; 50'-75'; 20'-35' wide spread; autumn and winter; red purple and yellow cone; purple brown cone mid July-mid October.

**Other:** Medium lifespan.

**Acer negundo**

**Boxelder**

**Habitat:** Forest, lowland wet, river channel, lake edge, floodplain depressions, wet ravines, roadsides.

**Coefficient of Conservatism:** 1

**Wetland Indicator:** FAC

**Urban Tolerance:** Resistant of soil compaction and demolition debris, pollution tolerant, intolerant of shade.

**Exposure:** Full Sun

**Ecosystem Services:** Seeds, buds, flowers eaten by songbirds, waterbirds, small and large mammals.

**Soil Moisture:** Tolerant of drought, flooding, saturated soil 75% of growing season.

**Soil pH:** Neutral

**Horticultural Value:** Odd pinnate compound leaves with larger yellow samaras.



**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention Pond, Inundation, Slopes

**Compatibility:**

**Form/Color:** Woody wetland tree, grows from 35' to 50', 35' to 50' spread, yellow green to lime green in mid April, green to tan brown fruit in July-September, fast grower.

**Other:** Host of the Asian longhorn beetle and Boxelder bug, may be poisonous to livestock; light and soft wood; short lifespan.

**Acer rubrum**

**Red maple**

**Habitat:** Moist woods to swampy forests.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerates soil compaction, pollution, ozone and sulfur dioxide, performs well in the right of way.

**Exposure:** Full Sun; Part Shade

**Ecosystem Services:** Seeds, buds, flowers, and twigs eaten by birds and mammals.

**Soil Moisture:** Tolerant of flooding, saturated soil 25% growing season

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Early spring red flowers before leafing out, red leaves in fall.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Inundation, Slopes

**Compatibility:**

**Form/Color:** 75' to 100', 50'-75' wide spread; ovoid to globular form; winter red, knobby flower buds; flowers in March; fruit May-June, medium to fast grower.

**Other:** A host of the Asian longhorn beetle, attacked by various fungi; used as street tree, and in parks, natural areas

**Acer saccharinum**

**Silver maple**

**Habitat:** Forest, savanna, low open areas, floodplains, streamside, low lakeshore and swamp.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerates soil compaction, sensitive to ozone.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds, buds, flowers, and twigs eaten by birds and mammals.

**Soil Moisture:** Tolerant of flooding, saturated soil 25% growing season

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Green bell-shaped flowers.

**Salt Tolerance:** Tolerance:

Moderately tolerant

**Stormwater**

ROW Rain garden, Stormwater greenstreet, Retention

pond,  
Inundation

**Compatibility:**

**Form/Color:** Irregular and globular form; 75' to 100', 75' to 100' wide spread; red to orange twigs; winter reddish, brownish flowerbuds; dull green flowers February to March; fruit April- May.

**Other:** Fast grower, 130 year lifespan, host of the Asian longhorn beetle; used in restoration of swamp forests, flood plains, wetland mitigation.

**Acer saccharum**

**Sugar maple**

**Habitat:** Forest, mesic ravines, coves, north and east facing slopes, floodplains.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Does not tolerate soil compaction, performs well in the right of way.

**Exposure:** Shade

**Ecosystem Services:** Seeds, buds, flowers eaten by upland songbirds, small mammals.

**Soil Moisture:** Intolerant of flooding; grows well in limestone soils

**Horticultural Value:** Range of yellow to orange to red fall color.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Intolerant

**Compatibility:**

**Stormwater Tolerance:** Unsuitable

**Form/Color:** Oval to rounded form; 75' to 100', 35' to 50' wide spread; pale yellow green bell-shaped flowers April- early May; green to tan brown samara fruit in September.

**Other:** Slow grower, to 150 years; susceptible to Verticillium wilt; host to sugar maple borer, Asian longhorn beetle; foliage susceptible to gypsy

**Amelanchier arborea**

**Common serviceberry**

**Habitat:** Upland woods, rich limestone soil; rocky soils on open slopes, wood edges, and stream banks.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerates concrete debris, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Fruit eaten by birds and mammals; host to larvae of some butterfly species.

**Soil Moisture:** Grows best in medium well-drained acidic soils

**Horticultural Value:** Red-orange fall color, fragrant white flowers April-May.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:**

**Stormwater Tolerance:**

Intolerant

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Inundation,  
Slopes

**Compatibility:**

**Form/Color:** Rounded crown; 12' to 30'; dark green foliage; white flowers April-May; red-purple fleshy fruit June.

**Other:**

Edible fruit; used for forest restoration.

**Amelanchier canadensis**

**Canadian serviceberry**

**Habitat:** Shrub swamp, moist, sterile sandy soil of back dune thickets

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Intolerant of soil compaction, sensitive to ozone, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Fruit eaten by birds and mammals; host to larvae of some butterfly species.

**Soil Moisture:** Moist to dry soil; intolerant of drought; saturated soil 25% growing season.

**Soil pH:** Acidic

**Horticultural Value:** Red-orange fall color, white flowers April-May.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

**Compatibility:**

**Form/Color:** Low shrubby and multi-stemmed; 25'; white flowers April-May; purple fleshy fruit June-July; moderate growth rate.

**Other:** Used for back dune woodland, shrub swamps, moist woodland, and swamp forest.

**Amelanchier laevis†**

**Allegany serviceberry**

**Habitat:** Mesic coves, north and east slope aspects, cool rich woods.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** NC

**Urban Tolerance:** Sensitive of soil compaction, sensitive to ozone, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** High wildlife value for songbirds, small mammals, and humans.

**Soil Moisture:** Well to moderately well drainage; very intolerant of flooding.

**Soil pH:** Acidic

**Horticultural Value:** Orange, red fall color.

**Salt Tolerance:** Tolerance:

Low tolerance

**Stormwater**

ROW Rain garden, Stormwater greenstreet, Retention

pond, Rain  
garden,  
Inundation

**Compatibility:**

**Form/Color:** Globular or obovoid; to 25' tall; 25'-35'  
wide spread; red to maroon green in  
spring, blue green in summer, orange to  
dull red in fall; deciduous early May to mid  
October.

**Other:** Medium lifespan.

**Betula alleghaniensis**

**Yellow birch**

**Habitat:** Northern forest with well drained, fertile loam soils.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of urban conditions.

**Exposure:** Full Sun

**Ecosystem Services:** Seeds, sap, and bark eaten by birds and mammals.

**Soil Moisture:** Intolerant of flooding; moist well drained, fertile loam soils.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow fall color.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Retention pond, Inundation

**Compatibility:**

**Form/Color:** Grows to 80'; blooms April-May; yellowish silvery bark; fruits August-October, catkins egg-shaped and upright.

**Other:** Minor element in forest restorations north of New York City.

**Betula lenta**

**Black birch**

**Habitat:** Moist to dry, well-drained, upland, acid forest soil.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Sensitive to soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds eaten by birds.

**Soil Moisture:** Moderately tolerant of drought

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow fall color.

**Salt Tolerance:**

**Stormwater Tolerance:**



Moderately

tolerant

**Compatibility:**

Unsuitable

**Form/Color:** Grows to 70'; blooms April-May; pale yellow color in fall; young bark marked by thin horizontal lenticels, older bark often cracked.

**Other:** Also known as sweet birch and cherry birch. Broken twigs give off wintergreen odor.

**Betula populifolia**

**Gray birch**

**Habitat:** Wetland edges; lowland wet, upland dry; swamp edges; low lake edges; dry steep rocky land.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of soil compaction, prefers acidic soils

**Exposure:** Full Sun

**Ecosystem Services:** Seeds and fruit eaten by birds and mammals; leaves eaten by various moth species.

**Soil Moisture:** Tolerates flooding, saturated soil 75% growing season.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Yellow fall color; smooth white bark.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof, ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Slopes, Upland

**Compatibility:**

**Form/Color:** 30'; white bark at maturity with black horizontal lines and chevron-shaped markings; light green to yellow green catkins in April; medium green to tan brown strobiles September-December.

**Other:** Used for vegetation restoration on open, bare mineral soil; park tree; common lifespan 15 to 30 years, fast grower.

**Carpinus caroliniana**

**American hornbeam**

**Habitat:** Lowland or upland wet mesic; understory in moist, undisturbed woods; swamp forest edges; closed canopy woodlands.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FAC

**Urban Tolerance:** Sensitive to soil compaction. Performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Low wildlife value for songbirds and water fowl.

**Soil Moisture:** Sensitive to drought and flooding, poor to excessive drainage.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Green to yellow, hanging fruit. Good fall color. Trunk has a distinctive muscular

**Salt Tolerance:** Intolerant  
**Stormwater Tolerance:**

Intolerant  
ROW Rain garden, Stormwater

greenstreet,  
Retention  
pond, Rain  
garden,  
Inundation

**Compatibility:**

appearance.

**Form/Color:** Obovoid to globular form; 35'-50' ; 35'-50'  
wide spread; red/reddish green catkin late  
April to early May; orange to red drooping  
3-winged samara clusters mid June to  
October.

**Other:**

Medium lifespan, mature at about  
150 years; susceptible to fire, slow  
grower. Also known as blue beech,  
musclewood and ironwood.

## *Carya cordiformis*

**Habitat:** Lowland wet mesic, upland mesic and mesic dry; flood plain; moist or dry slopes and uplands.

**Wetland Indicator:** FAC

**Exposure:** Part Shade

**Soil Moisture:** Moderate tolerance of drought and flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Unsuitable

**Form/Color:** Globular form; 75'-100'; 75'-100' wide spread; yellow green catkins bloom May; round yellow green to brown nut late August to mid October.

## Bitternut hickory

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Tolerant of concrete debris.

**Ecosystem Services:** Moderate value.

**Horticultural Value:** Globular form, yellow-green catkins.

**Compatibility:**

**Other:** Medium to long lifespan, shortest lived 200 years; increases diversity and aesthetics in upland forest; park tree, street tree, slow grower.

## *Carya glabra*

**Habitat:** Upland dry, steep rocky land, sandy hills, upland ridges and ravines, warm south facing slopes.

**Wetland Indicator:** FACU

**Exposure:** Part Shade

**Soil Moisture:** Tolerant of drought, intolerant of flooding.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:**

## Pignut hickory

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Intolerant of soil compaction.

**Ecosystem Services:** Intermediate value to songbirds and small mammals.

**Horticultural Value:** Obovoid, yellow-green catkins.

**Stormwater Tolerance:**

Intolerant

Unsuitable

**Compatibility:**

**Form/Color:** Irregular obovoid; 75'-100'; 35'-50' wide; yellow green catkins mid May, pear shaped yellow green nut in early September to late October.

**Other:** Long lifespan, can live to 300 years, slow grower.

## Carya ovata

**Habitat:** Upland moist to dry undisturbed forests; upland mesic dry; dry south and west facing slopes.

**Wetland Indicator:** FACU

**Exposure:** Part Shade

**Soil Moisture:** Moderately poor to well drained soil; intolerant of flooding.

**Soil pH:** Acidic

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Inundation

**Form/Color:** Irregular ovoid and obovoid; 75'-100'; 35'-50 wide spread; yellow green catkins in mid May; globular brown nut in early September to mid October.

## Shagbark hickory

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Intermediate tolerance of soil compaction.

**Ecosystem Services:** Nuts, flowers, bark eaten by birds and mammals.

**Horticultural Value:** Shreddy bark when older, yellow-green catkins, yellow fall color.

**Compatibility:**

**Other:** Long lifespan, 300 years; susceptible to fire damage.

## Carya tomentosa

**Habitat:** Upland moist to dry forests.

**Wetland Indicator:** NC

**Exposure:** Full Sun

**Soil Moisture:** Intolerant of flooding.

**Soil pH:** Acidic

**Salt Tolerance:** **Stormwater Tolerance:**

## Mockernut hickory

**Coefficient of Conservatism:** 7

**Urban Tolerance:** Intolerant of soil compaction.

**Ecosystem Services:** Nuts, flowers, bark eaten by birds and mammals.

**Horticultural Value:** Irregular obovoid, yellow-green catkins.

Low tolerance Unsuitable

**Compatibility**

:

**Form/Color:** Irregular-obovoid; 75'-100'; 35'-50' wide spread; yellow green catkins in mid May; globular brown nut in early September to mid October; slow grower.

**Other:** Long lifespan; susceptible to fire; park and street tree; increases diversity and aesthetics in upland forest.

## **Celtis occidentalis**

## **Common hackberry**

**Habitat:** Lowland wet-mesic, upland dry mesic, drainage basins, mature floodplains, wooded slopes, windbreaks.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of concrete debris; intolerant of soil compaction, performs well in the right of way. Tolerant of pollution.

**Exposure:** Part Shade

**Ecosystem Services:** Fruit eaten by humans, songbirds, and small mammals. Host to

**Soil Moisture:** Moderately tolerant of flooding and saturated soil 25% growing season.

numerous butterflies and moths including the hackberry emperor and American snout.

**Soil pH:** Alkaline; Neutral

**Horticultural Value:** Pale yellow color in fall.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Slopes, Upland

**Compatibility:**

**Form/Color:** Globular form; 75'-100' tall', 75'-100' wide spread; light blue green in summer; pale yellow in autumn; purple brown berry September to February.

**Other:** Medium to long lifespan; frequently infected by witches' broom, powdery mildew, leaf spots, moderately fast growers.

## **Cornus florida**

## **Flowering dogwood**

**Habitat:** Wooded slopes, ravines, bluffs.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Seeds, fruit, and twigs eaten by migratory birds and deer.

**Soil Moisture:** Moist well-drained soil; intolerant of flooding.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White flowers early April-June. Clusters of showy red fruit and red-purple fall

**Salt Tolerance:** Tolerance :  
:

Intolerant

**Stormwater**

Unsuitable **Compatibility:**



leaf color.

**Form/Color:** Globular form; 35'-50'; 35'-50' wide spread; light green or yellow green in spring, bright green in summer, scarlet red in fall; yellow flowers April- early May; red berry clusters early September-mid

**Other:** Medium lifespan, mature at about 150 years; park tree; secondary species used in diversifying and restoring forest understories.

## *Crataegus crus-galli*

## Cockspur hawthorn

**Habitat:** Dry and rocky places; on slopes of low hills in rich soils; floodplains; borders of woods.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of compacted soil and various soil pH levels, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Intermediate wildlife value; fruit eaten by songbirds, upland ground birds, large and small mammals.

**Soil Moisture:** Tolerant of flooding.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Orange to red fall color, attractive fruit.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Upland

**Compatibility:**

**Form/Color:** Grows to 20'-35'; 20'-35' wide spread; globular; bright green in spring, dark green in summer, bright orange to red foliage in fall; white flowers bloom in May; orange to red fruit from August to January.

**Other:** Susceptible to fire blight, powdery mildew, scab; host to aphids, borers, lace bugs; short lifespan, moderate grower.

## *Fagus grandifolia*

## American beech

**Habitat:** Floodplain knolls, elevated terrace, mesic ravines, cool air drainage areas, north and east slope aspects.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction.

**Exposure:** Shade

**Ecosystem Services:** Nuts eaten by wildlife.

**Soil Moisture:** Intolerant of flooding, well to moderately well drainage.

**Soil pH:** Acidic

**Horticultural Value:** Silver bark.

**Salt Tolerance:** **Stormwater Tolerance:**

Low tolerance Unsuitable

**Compatibility**

: Known to sucker vigorously.

**Form/Color:** Conical/ovoid; 75'-100';50'-75' wide spread; blue green in summer, yellow to brown in fall; yellow green hanging globe flower clusters in April-May, tan nut September-mid November.

**Other:** Slow to medium grower; sometimes infected by beechbark disease; bark susceptible to frost and fire damage and fungi attack.

**Ilex opaca**

**American holly**

**Habitat:** Coastal; sterile, sandy soils, back-dune forests.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of concrete debris. Performs well in the right of way.

**Exposure:** Shade

**Ecosystem Services:** Fruit eaten by birds, wintercover for birds.

**Soil Moisture:** Moderately tolerant of drought; prefers well-drained moist soil.

**Horticultural Value:** Small white flowers in May-June. Evergreen leaves with red fruit  
  
persistant throughout the winter.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Tolerant

**Compatibility:**

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Slopes

**Form/Color:** Evergreen, green shiny, pointed leaves; 40'; small white flowers May - June, red fruit October- November into winter.

**Other:** Used for in back dune holly forests and scrub. Attacked by leafminer and tortricid moth leaf rollers.

**Juglans nigra**

**Black walnut**

**Habitat:** Alluvial floodplain, stream banks, upland in open or abandoned fields.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** FACU

**Urban Tolerance:** Moderately tolerant of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Low wildlife value. Edible for humans and small mammals.

**Soil Moisture:** Moderately tolerant of flooding; grows on deep well-drained soil.

**Horticultural Value:** Golden yellow color in fall. Large green-yellow fruit.

**Soil pH:** Acidic; Neutral; Alkaline

**Salt Tolerance:** Stormwater Tolerance:

Moderately tolerant Unsuitable

Allelopathic.

**Compatibility:**

**Form/Color:** Irregular form; 75'-100'; 75'-100' wide spread; golden yellow in fall; yellow green catkins May-June; yellow green nut turns black from August to late September.

**Other:**

## *Juniperus virginiana*

## Eastern red cedar

**Habitat:** Dry hillsides, semi-barren land, calcareous cliffs, steep rocky land, abandoned farmland, occasionally in

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction; tolerant of concrete debris, performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Cones eaten by birds and mammals, winter cover for birds.

**Soil Moisture:** Moderately poor to excessive drainage; moist conditions; tolerates drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Red purple and yellow flowers through late May.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof, ROW Rain garden, Stormwater greenstreet, Upland

**Compatibility:**

**Form/Color:** Evergreen; conical; blue green in spring, dark olive green in summer and fall; red purple and yellow flowers through late May, gray/blue green cone of berries July-late March.

**Other:** Long lifespan, slow grower, grows in old fields and back dune coastal woodlands; used for vegetation of sandy dredge spoil.

## *Larix laricina*

## Eastern larch

**Habitat:** Swamp, lake margins, stream borders, seep borders; found in fine heavy clay to coarse wet sand.

**Coefficient of Conservatism:**

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerant of soil compaction, sensitive to ozone, performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Intermediate wildlife value for small mammals and songbirds.

**Soil Moisture:** Moderately poor to very poor drainage; very intolerant of flooding.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Golden yellow fall color.

**Salt Tolerance:** Tolerant

Tolerant

**Stormwater**

Retention pond, Rain garden, Inundation

**Compatibility:**

**Form/Color:** Conical; 50'-75'; 35'-50' wide spread; golden yellow in fall; deciduous, bright purplish red cone flower early through mid May; oval light tan brown cone.

**Other:** Used for swamp forest reforestation and wetland mitigation; medium lifespan, fast grower.

**Liquidambar styraciflua**

**Sweetgum**

**Habitat:** Alluvial floodplain, stream edges, moist forests, swamp forests.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of soil compaction, performs well in the right of way, minimal tolerance of pollution.

**Exposure:** Full Sun

**Ecosystem Services:** Low wildlife value.

**Soil Moisture:** Well to poor drainage, tolerant of flooding and poorly drained soil.

**Soil pH:** Acidic

**Horticultural Value:** Scarlet red color in fall. Globe-like hanging fruit with spines that may persist into the winter.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation, Slopes, Upland

**Compatibility:**

**Form/Color:** Conical to ovoid; 75'-100'; 50'-75' wide spread; scarlet red to purple in fall; deciduous in late April to late October.

**Other:** Slow to medium grower; long lifespan, used for wetland mitigation; street and park tree.

**Liriodendron tulipifera**

**Tulip poplar**

**Habitat:** Sheltered coves, lower slopes and hills, stream valleys.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Low wildlife value for small mammals and songbirds.

**Soil Moisture:** Well to moderately well drainage, moist to average moisture; intolerant of flooding.

**Soil pH:** Acidic

**Horticultural Value:** Very showy large yellow flowers and tulip shaped leaves. Tall straight trunk.

**Salt Tolerance:** Stormwater Tolerance:

Low tolerance Unsuitable



**Compatibility**

:

**Form/Color:** Columnar form; 75'-100'; 35'-50' wide spread; lemon yellow in summer; yellow green with orange splotched flowers in early to mid June; medium lifespan.

**Other:** Used for reforestation of sites with good quality moist soil, very fast grower.

**Nyssa sylvatica**

**Black tupelo**

**Habitat:** Low ridges or second bottoms, alluvial flats, dry upper and middle flats.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FAC

**Urban Tolerance:** Performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Intermediate wildlife value for songbirds and small mammals.

**Soil Moisture:** Intolerant of flooding.

**Soil pH:** Acidic

**Horticultural Value:** Scarlet red to purple leaf color in fall. Purple fruit. Horizontal branching pattern.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Rain garden, Inundation

**Compatibility:**

**Form/Color:** Broad conical form; 50'-75'; 35'-50' wide spread; scarlet red in fall; greenish white small flower clusters May- early June; blue berry clusters Sept through mid October.

**Other:** Used for swamp reforestation, floodplains, and wetland mitigation.

**Ostrya virginiana**

**Hop hornbeam**

**Habitat:** Moist to dry upland slopes, coves and ravines, rocky stream edges, moist to dry forest understory.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction; tolerant of concrete debris, performs well in the right of way.

**Exposure:** Shade

**Ecosystem Services:** Low wildlife value for songbirds and small mammals.

**Soil Moisture:** Intolerant of flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Green to yellow hanging fruit. Fine peeling bark. Pale golden yellow leaf

**Salt Tolerance:** **Stormwater Tolerance:**

Moderately tolerant  
ROW Rain garden, Stormwater

greenstreet,  
Retention  
pond, Rain  
garden,  
Slopes,  
Upland

**Compatibility:**

color in fall.

**Form/Color:** Conical form; 35'-50'; 20'-35' wide spread; maroon green in spring, yellow green in summer, pale golden yellow in fall; red brown catkins early through mid May; tan brown samara late June-late October.

**Other:**

Slow grower.

**Picea rubens**

**Red spruce**

**Habitat:** Moist, rocky woods, hillsides, uplands.

**Coefficient of Conservatism:**

**Wetland Indicator:** FACU

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Low provider of food for small mammals and terrestrial birds;

**Soil Moisture:** Medium drought tolerance; medium moisture usage.

provides moderate cover for small mammals; provides high cover for terrestrial birds.

**Soil pH:** Acidic

**Horticultural Value:** Yellow flowers bloom mid Spring, evergreen foliage.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Evergreen; oval shape; 50'-70'; medium green color in spring; remains green in fall; light brown, ovoid cone; yellow flower.

**Other:** Long lifespan, medium grower.

**Pinus resinosa**

**Red pine**

**Habitat:** Dry sandy or rocky soil; low ridges adjacent to lakes, ridgetops, outwash plains.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACU

**Urban Tolerance:** Sensitive to soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Very high wildlife value for songbirds, upland ground birds, small mammals, hooved browsers.

**Soil Moisture:** Intolerant of flooding; prefers moist conditions but tolerates dry conditions.

**Soil pH:** Acidic

**Horticultural Value:** Reddish-brown, scaly bark, evergreen foliage.

**Salt Tolerance:** **Stormwater Tolerance:**

Low tolerance Unsuitable

**Compatibility**

:

**Form/Color:** Evergreen; conical to ovoid; 75'-100'; 50'-75' wide; bright green to dark green foliage by midsummer; reddish purple cone mid May- early June; tan brown to silvery gray cone from mid August- late

**Other:** Long lifespan, medium grower.

**Pinus rigida**

**Pitch pine**

**Habitat:** Sterile sandy soil; shallow soil on steep rocky land, ridges, south or west facing slopes, windbreak.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction, sensitive to ozone.

**Exposure:** Full Sun

**Ecosystem Services:** Very high wildlife value for songbirds, upland birds, and small birds.

**Soil Moisture:** Tolerates drought; intolerant of flooding and saturated soil for more than 25%

**Soil pH:** Acidic

**Horticultural Value:** Irregular globular form, persisting cones, evergreen foliage.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Evergreen; irregular and globular form; 50'-75'tall; 50'-75' wide spread; dark yellow green; red purple cone in May.

**Other:** Able to tolerate fire. Used for restoring rocky or pine barren habitats, short lifespan, fast grower.

**Pinus strobus**

**Eastern white pine**

**Habitat:** North-facing slopes, sheltered coves, rocky stream edges, steep rocky land.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction, sensitive to ozone.

**Exposure:** Part Shade

**Ecosystem Services:** Very high wildlife value for songbirds, upland birds, and small birds.

**Soil Moisture:** Moderately poor to well drainage.

**Soil pH:** Acidic

**Horticultural Value:** Conical form, evergreen foliage.

**Salt Tolerance:**

**Stormwater Tolerance:**

Intolerant

Retention  
pond,  
Slopes,  
Upland

**Compatibility:**

**Form/Color:** Evergreen; conical to ovoid; 75'-100'; 50'-75'; light green spring and bright green summer, fall, and winter; medium grower.

**Other:**

Typical roosting place for owls; long lifespan.

**Platanus occidentalis**

**American sycamore**

**Habitat:** Flood plains, moist fill soil.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerant of concrete debris and soil compaction, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Low wildlife value.

**Soil Moisture:** Tolerant of flooding or saturated soil 25% of growing season.

**Horticultural Value:** Brown and chalky white, bark. Hanging globe-like fruit persisting into winter.

**Soil pH:** Alkaline; Neutral

**Salt Tolerance:** Intolerant

**Compatibility:**

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Inundation

**Form/Color:** Distinctive mottled brown bark flakes off in puzzle like pieces exposing yellow and white patches underneath; blooms April-May; fast grower.

**Other:** Used for floodplain forest restoration, rivers, streambanks, wetland mitigation. Fast grower.

**Populus deltoides**

**Eastern cottonwood**

**Habitat:** Moist fill soils; disturbed sites on bare soil, old fields.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of soil compaction and disturbed soil.

**Exposure:** Full Sun

**Ecosystem Services:** Buds, catkins, eaten by birds; twigs and leaves eaten by rabbits and deer.

**Soil Moisture:** Tolerant of flooding.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** White bark, early flower, reddish catkins.

**Salt Tolerance:** Tolerance:

Tolerant

**Stormwater**

ROW Rain garden, Stormwater greenstreet, Retention



pond,  
Slopes,  
Upland

**Compatibility:** Fluffy white seeds  
considered a  
nuisance.

**Form/Color:** Reaches 150'; reddish catkins bloom  
March- April; produces egg-shaped fruit  
May-June.

**Other:** Susceptible to fire damage;  
attacked by many insects and fungi;  
short lifespan, fast grower.

**Populus grandidentata**

**Bigtooth aspen**

**Habitat:** Lower slopes with northeast aspects or high terraces, mesic shoulder of upland ridges.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** High wildlife value for songbirds, upland groundbirds, and small mammals.

**Soil Moisture:** Moderately well to excessively drained; wet to moist soils; intolerant of flooding.

**Horticultural Value:** Early flower, golden yellow leaves in fall, white bark.

**Soil pH:** Acidic

**Salt Tolerance:** Moderately tolerant

**Compatibility:** Frequently forms colonies.

**Stormwater Tolerance:** Retention pond, Rain garden, Upland

**Form/Color:** Columnar; 50'-75' tall; 20'-35' wide spread; golden yellow in fall; silvery gray catkin in late April; yellow green capsules May-mid June.

**Other:**

**Populus tremuloides**

**Quaking aspen**

**Habitat:** Seeps; slopes with cool air drainage; rocky streams; north- and east-facing slopes; disturbed sites.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction, sensitive to ozone.

**Exposure:** Full Sun

**Ecosystem Services:** High wildlife value for songbirds, upland groundbirds, small mammals, and hoofed browsers.

**Soil Moisture:** Moderately well to excessively drainage; moderately tolerant of drought.

**Horticultural Value:** Early flower, yellow color in fall, white bark.

**Soil pH:** Acidic

**Salt Tolerance:** **Stormwater Tolerance:**

Moderately tolerant

Green roof,  
Retention  
pond, Rain  
garden,  
Inundation,  
Slopes,  
Upland

**Compatibility:** Frequently forms colonies.

**Form/Color:** Columnar; 35'-50'; 20'-35' wide spread; light green spring, bright green in summer, bright yellow in fall; silvery gray catkins March - April; yellow green conical capsuls May.

**Other:** Short lifespan, fast grower; Susceptible to canker, leaf spot, shoot blight, poplar borer, poplar fall, scale, and red humped

**Prunus americana†**

**American plum**

**Habitat:** Upland pastures, margins of woods, fencerows, steep rocky hillsides, streambanks, open oak woods.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** UPL

**Urban Tolerance:** Sensitive to soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Very low wildlife value.

**Soil Moisture:** Very intolerant of flooding; moderately well to excessive drainage; tolerates

**Soil pH:** Neutral

**Horticultural Value:** Pale golden yellow fall color.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes, Upland

**Compatibility:**

**Form/Color:** Globular; 20'-35'; 20'-35' wide spread; pale golden yellow in fall; deciduous late May- late September; white flat-topped clusters of flowers early through mid May; large fleshy plum-like red to purplish berry.

**Other:** Short lifespan.

**Prunus serotina**

**Black cherry**

**Habitat:** Rocky hillside, fence rows; borders of wooded areas, abandoned fields, alluvial bottomlands; found on sandy, acid back

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACU ete debris.

**Urban Tolerance:** Intolerant of soil compaction. Common tree found throughout urban areas.

**Exposure:** Full Sun

**Ecosystem Services:** Very high wildlife value for songbirds and small mammals.

**Soil Moisture:** Well to moderately well drainage; very intolerant of flooding, very tolerant of

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** White flowers in spring, long raceme of purple fruit in summer.

**Salt Tolerance:** **Stormwater Tolerance:**

Tolerant

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Upland

**Compatibility:**

**Form/Color:** Columnar to ovoid; 35'-50' wide spread; maroon green in spring; dark green in summer; yellow to orange in fall; white flowers May- early June. Bark resembles burnt cornflakes.

**Other:**

Common early succssional species of open areas, eroded, open slopes, burns, wildlife corridors.

**Prunus virginiana**

**Chokecherry**

**Habitat:** Open-wooded slopes, wood edges, open woods, open fields, fencerows.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction, performs well in the right of way and in well-drained fill soils.

**Exposure:** Part Shade

**Ecosystem Services:** Very high wildlife value for songbirds, small mammals, and large mammals.

**Soil Moisture:** Moderately well to well drainage; prefers moist to dry moisture conditions.

**Soil pH:** Neutral

**Horticultural Value:** Long raceme of red fruit in summer.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof, ROW Rain garden, Stormwater greenstreet, Retention pond, Slopes, Upland

**Compatibility:**

**Form/Color:** Obovoid; 35;-50'; 20'-35' wide spread; golden yellow to orange in fall; white fragrant flower in early May; red fleshy fruit edible in August to October.

**Other:** Used for vegetation of open areas, slope stabilization, wildlife corridors.

**Quercus alba**

**White oak**

**Habitat:** Moist, warm south and west facing slopes, upland flats, rocky hillsides.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACU

**Urban Tolerance:** Very intolerant of soil compaction, sensitive to ozone, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Very high wildlife value for songbirds, upland ground birds, small mammals, hoofed browsers.

**Soil Moisture:** Intolerant of flooding.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Burgundy fall color.

**Salt Tolerance:** Tolerant

**Stormwater**

Retention pond, Upland

**Compatibility:**

**Form/Color:** Globular; 75'-100'; 75'-100' wide spread; bright red to silvery gray in spring, medium green to blue green in summer, burgundy in fall; yellow green catkins late May; acorns September- early October.

**Other:** Long lifespan.

**Quercus bicolor**

**Swamp white oak**

**Habitat:** Maturing or older swamp forests; edges of swamp forests and Phragmites marsh.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** FACW

**Urban Tolerance:** Resistant to soil compaction, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Very high wildlife value for waterbirds, upland birds, songbirds, small mammals, hoofed browsers.

**Soil Moisture:** Tolerant of flooding; wet to moist moisture levels.

**Horticultural Value:** Yellow green catkins early through mid May.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Moderately tolerant

**Compatibility:**

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Retention pond, Slopes, Upland

**Form/Color:** Ovoid; 75'-100'; 50'-75' wide spread; purlish green in spring, dark green in summer; golden yellow brown in fall.

**Other:** Oak anthracose outbreaks can kill tree; medium lifespan, medium to fast grower.

**Quercus coccinea**

**Scarlet oak**

**Habitat:** Steep rocky land, ridgetops, warm upper and middle slopes, south and west slope aspects.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** NC

**Urban Tolerance:** Sensitive to soil compaction, performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Very high wildlife value for songbirds, upland ground birds, small mammals, and hoofed browsers.

**Soil Moisture:** Very intolerant of flooding; well to excessive drainage; average to dry.

**Horticultural Value:** Scarlet red color in fall.

**Soil pH:** Acidic

**Salt Tolerance:** **Stormwater Tolerance:**

Low tolerance Unsuitable



**Compatibility**

:

**Form/Color:** Globular form; 50'-75' tall; 50'-75' wide spread; green in spring, bright green in summer, scarlet red in fall.

**Other:** Long lifespan 200-300 years, medium to fast grower.

**Quercus marilandica**

**Blackjack oak**

**Habitat:** Rocky sandy ridgetops, edges of woods, sand terrace.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Intolerant of soil compaction, performs well in the right of way.

**Exposure:** Full Sun

**Ecosystem Services:** Very high wildlife value for upland ground birds, songbirds, hoofed browsers, and small mammals.

**Soil Moisture:** Intolerant of flooding; tolerant of dry droughty soils.

**Horticultural Value:** Red leaf color in fall.

**Soil pH:** Acidic

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Ovoid; 35'-50' tall; 35'-50' wide spread; bright red to yellow green in spring; yellow green in summer; red in fall; yellow green or pale orange red catkins mid May-early June; ripe acorns Sept.

**Other:** Long lifespan 200-300 years.

**Quercus montana**

**Chestnut oak**

**Habitat:** Dry, rocky, sandy soil; rocky slopes; upland forests.

**Coefficient of Conservatism:** 8

**Wetland Indicator:** NC

**Urban Tolerance:** Intolerant of soil compaction, performs well in the right of way.

**Exposure:** Part Shade

**Ecosystem Services:** Very high wildlife value; acorns eaten by birds and small mammals.

**Soil Moisture:** Intolerant of flooding; drought tolerant.

**Horticultural Value:** Massively ridged gray-brown bark.

**Soil pH:** Acidic

**Salt Tolerance:**

:

**Stormwater Tolerance:** Tolerant

Unsuitable

**Compatibility:**

**Form/Color:** 70'; bark is dark, deeply ridged, and distinctive; blooms in May; ripe acorns September-November.

**Other:** Used for forest restoration in old fields and parks; host to some butterfly larvae species; long lifespan; slow grower.

## Quercus palustris

## Pin oak

|                              |   |
|------------------------------|---|
| <b>Habitat:</b>              | Swamp and floodplains forests, second bottoms, alluvial flats, rich mesophytic forest.                              |
| <b>Wetland Indicator:</b>    | FACW  |
| <b>Exposure:</b>             | Full Sun  |
| <b>Soil Moisture:</b>        | Tolerant of flooding and saturated soil up to 25% of growing season.  |
| <b>Soil pH:</b>              | Acidic  |
| <b>Salt Tolerance:</b>       | Tolerant  |
| <b>Stormwater Tolerance:</b> | ROW Rain garden, Stormwater greenstreet, Retention pond, Inundation   |
| <b>Form/Color:</b>           | Conical; 50'-75' tall; 50'-75' wide spread; maroon green in spring; dark green in summer; deep scarlet red in fall. |

|                                     |  |
|-------------------------------------|--|
| <b>Coefficient of Conservatism:</b> | 7  |
| <b>Urban Tolerance:</b>             | Sensitive to soil compaction, tolerant of sulfur dioxide, performs well in the right of way.                                       |
| <b>Ecosystem Services:</b>          | Very high wildlife value for songbirds, waterbirds, upland groundbirds, small mammals, and hoofed browsers.                        |
| <b>Horticultural Value:</b>         | Scarlet red color in fall.   |
| <b>Compatibility:</b>               |  |
| <b>Other:</b>                       | Used for in swamp forest reforestation, flood plains, wetland mitigation, street tree; medium lifespan 125-175 years, fast grower. |

## Quercus rubra

## Northern red oak

|                              |  |
|------------------------------|--|
| <b>Habitat:</b>              | Common in New York City forests; Appalachian oak-hickory forest; rich mesophytic forest. |
| <b>Wetland Indicator:</b>    | FACU   |
| <b>Exposure:</b>             | Part Shade   |
| <b>Soil Moisture:</b>        | Deep, moist, well-drained soils; intolerant of flooding.                                 |
| <b>Soil pH:</b>              | Acidic   |
| <b>Salt Tolerance:</b>       | Tolerant   |
| <b>Stormwater Tolerance:</b> | ROW Rain garden, Stormwater greenstreet, Upland  |

|                                     |  |
|-------------------------------------|--|
| <b>Coefficient of Conservatism:</b> | 7  |
| <b>Urban Tolerance:</b>             | Tolerant of soil compaction, tolerant of pollution, performs well in the right of way. |
| <b>Ecosystem Services:</b>          | High wildlife value; acorns eaten by birds and small mammals.                          |
| <b>Horticultural Value:</b>         | Yellowish to red fall color.   |
| <b>Compatibility:</b>               |  |

**Form/Color:** 50'-75'; 75'-100' wide spread; distinctive bark with shallow furrows often compared to ski trails; blooms in May; ripe acorns September-October.

**Other:** Used for restoring upland deciduous forests; park tree; street tree; long lifespan; slow grower.

## Quercus stellata

## Post oak

**Habitat:** Sandy ridges, dry rocky hillsides, southern slopes.

**Coefficient of Conservatism:** 9

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Very high wildlife value; acorns eaten by birds and small mammals, host to larvae of some butterfly species.

**Soil Moisture:** Intolerant of flooding; tolerant of drought.

**Soil pH:** Acidic

**Horticultural Value:** Dark red color in spring, golden yellow brown in fall.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Slopes, Upland

**Compatibility:**

**Form/Color:** Globular form; 35'-50'; 35'-50' wide spread; dark red in spring, deep dark green in summer, yellow green catkins May-early June; acorns ripe September-early October.

**Other:** Long lifespan of 200-300 years; slow grower. Used to reforest woodlands in sandy soils of coastal, back dune oak barrens, or rocky

## Quercus velutina

## Black oak

**Habitat:** Clay and gravelly ridges, sand dunes, middle and upper slope forests with low nutrient soils.

**Coefficient of Conservatism:** 7

**Wetland Indicator:** NC

**Urban Tolerance:** Intolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Very high wildlife value for upland ground birds, songbirds, hoofed browsers, and small mammals.

**Soil Moisture:** Very intolerant of flooding; moderately well to excessive drainage; tolerant of

**Soil pH:** Acidic

**Horticultural Value:** Crimson red in spring, yellow to golden brown in fall.

**Salt Tolerance:** **Stormwater Tolerance:**

Tolerant

ROW Rain  
garden,  
Stormwater  
greenstreet,  
Upland

**Compatibility:**

**Form/Color:** Ovoid and commonly globular; 75'-100';  
75'-100' wide spread; bright crimson red  
in spring; yellow green catkins mid  
through late May; light red brown acorn  
ripen September.

**Other:**

Used for reforestation of upland  
forest.

## Salix eriocephala

## Missouri river willow

**Habitat:** Open, wet soil, pond edges, ditches.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FACW

**Urban Tolerance:** Tolerant of soil compaction.

**Exposure:** Shade

**Ecosystem Services:** Low wildlife value.

**Soil Moisture:** Low tolerance for drought conditions; high moisture use.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Dark gray, scaly bark.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Inundation, Slopes

**Compatibility:**

**Form/Color:** Grows to 12'; catkins April-May; fruit May-June; fast grower.

**Other:** Used for wetland reforestation and mitigation in open habitats, pond edges, stream banks, and flood plains.

## Salix nigra

## Black willow

**Habitat:** River margins, low lying lakeshore, swamps, swales, gullies.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** OBL

**Urban Tolerance:** Tolerant of fill soils, concrete debris, and soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** High wildlife value for songbirds, waterfowl, and small mammals.

**Soil Moisture:** Very poor to moderately poor drainage; wet to moist; very tolerant of flooding.

**Soil pH:** Neutral

**Horticultural Value:** Yellow green fall color.

**Salt Tolerance:** Intolerant

**Stormwater**

Retention pond, Rain garden, Inundation



**Compatibility:**

**Form/Color:** Columnar form; 35'-35'; 20'-35' wide spread; yellow green in fall; yellow green catkins mid March- early April; green yellow strobiles late April-mid May.

**Other:** Very fast grower, used for restoring flood plain and riverbank restoration; wetland mitigation.

## **Sassafras albidum**

## **Sassafras**

**Habitat:** Found in frequently burned open areas; open woods, abandoned fields, dry ridges and upper slopes.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Low wildlife for songbirds, host for some butterfly larvae.

**Soil Moisture:** Very intolerant of flooding; well to excessive drainage.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Varying colors of yellow, orange, red, and purple in fall, foliage = 3 kinds of leaves.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes, Upland

**Compatibility:** Frequently forms colonies.

**Form/Color:** Conical and irregular form; 35'-50'; 35'-50' wide spread; yellows, oranges, reds, and purples in fall, small clusters of bright yellow and sweet fragrant flowers late April-early May.

**Other:** Short lifespan 50-75 years.

## **Thuja occidentalis**

## **Arborvitae**

**Habitat:** Swampy areas, bogs, margins of lakes, mesic coves, open rocky hillsides, open rocky pastureland.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACW

**Urban Tolerance:** Intolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Low wildlife value for songbirds, waterfowl, and small mammals;

**Soil Moisture:** Tolerant of flooding; poor to well drainage; wet to dry moisture levels.

browsed by small mammals and white-tailed deer.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Dark green foliage turns yellow-green to brown in winter.

**Salt Tolerance:** **Stormwater Tolerance:**

Moderately tolerant

Retention  
pond, Rain  
garden,  
Slopes,  
Upland

**Compatibility:**

**Form/Color:** Conical; 50'-75'; 35'-50' wide spread;  
small red brown cone early through late  
May; tan brown to silvery gray egg-  
shaped cone early August- February.

**Other:** Long lifespan, fast to medium  
grower.

**Tilia americana**

**American linden**

**Habitat:** Mesic ravines, coves, north and east slope aspects, floodplain knobs, areas of cool air drainage

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerant of concrete; intolerant of soil compaction, performs well in the right of way, minimal tolerance of pollution.

**Exposure:** Part Shade

**Ecosystem Services:** Very low wildlife value.

**Soil Moisture:** Intolerant of flooding; moderate to well drainage; average moisture levels.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Golden yellow leaves in fall.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Unsuitable

**Compatibility:**

**Form/Color:** Ovoid;75'-100';50'-75' wide spread; golden yellow in fall; clusters of pale yellow flowers late June-early July; tan brown samara September-October; medium grower.

**Other:** Susceptible to Verticillium wilt, powdery mildew, leaf blight, canker.

**Tsuga canadensis**

**Eastern hemlock**

**Habitat:** Protected coves, mesic ravines, moist cool valleys, north and east slope aspects, benches, hollows under cliffs.

**Coefficient of Conservatism:** 0

**Wetland Indicator:** FACU

**Urban Tolerance:** Intolerant of soil compaction, sensitive to ozone.

**Exposure:** Full Sun

**Ecosystem Services:** Intermediate wildlife value for songbirds, small mammals, and

**Soil Moisture:** Very intolerant of flooding; well to poor drainage; wet to average moisture levels.

hoofed browsers; good winter cover for wildlife.

**Soil pH:** Acidic

**Horticultural Value:** Dark green foliage year round.

**Salt Tolerance:** Stormwater

**Tolerance:**

Intolerant

Unsuitable

**Compatibility:**

**Form/Color:** Broadly conical; 75'-100'; 35'-50' wide spread; coniferous evergreen; light yellow male cone and pale green female cone late May- early June; tan brown cone September - January.

**Other:** Very susceptible to drought and heat; susceptible to woolly adelgid; long lifespan; medium to slow grower.

**Ulmus americana**

**American elm**

**Habitat:** Alluvial flats; mesic ravines, moist forest slopes.

**Coefficient of Conservatism:** 1

**Wetland Indicator:** FACW

**Urban Tolerance:** Intermediate tolerance of soil compaction.

**Exposure:** Full Sun

**Ecosystem Services:** Intermediate wildlife value for waterfowl, songbirds, upland ground birds, small mammals.

**Soil Moisture:** Intermediate tolerance of flooding; moderate to well drainage; moist to dry.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Golden yellow fall color.

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** ROW Rain garden, Stormwater greenstreet, Inundation, Slopes

**Compatibility:**

**Form/Color:** Globular; 75'-100'; 75'-100' wide spread; golden yellow in fall; small clusters of red brown flowers early-mid April; tan brown samara May.

**Other:** Susceptible to diseases: Dutch elm disease, cankers, Verticillium wilt; frequently susceptible to gypsy moth, bark beetles, elm borer, etc.

## Vines

Vines, either woody or herbaceous, can climb vertical structures, provide erosion control on slopes, or create a groundcover. Consider the surface or area you want a vine to colonize when planting (i.e. they can provide shade or help capture stormwater over impervious surfaces). Most native vine species are companion plants and are not considered aggressive; they do not strangle other plants in the landscape.



Top: *Parthenocissus quinquefolia* (Virginia creeper)  
Right: *Dioscorea villosa* (Wild yam)



**Apios americana**

**Groundnut**

**Habitat:** Marshes, moist woods, edges.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** FACW

**Urban Tolerance:** Adapted to coarse, medium, and fine soils, high tolerance of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to butterflies. Seeds eaten by some birds.

**Soil Moisture:** Low drought tolerance.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Brownish purple-pink flowers.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Rain garden, Slopes, Upland

**Compatibility:** Can be aggressive and difficult to control in well-manicured environment.

**Form/Color:** Herbaceous, twining vine, flowers brownish purple-pink in July-September, fruit dry in September-October.

**Other:** Nitrogen fixer can help improve sterile soil.

**Clematis virginiana**

**Virgin's bower**

**Habitat:** Low woods. Climbs trellises, fences, rock walls, and other structures.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of concrete debris and soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** Minor element for increased diversity.

**Soil Moisture:** Moist to wet soil. Tolerant of drought and flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Small white fragrant flowers.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Retention pond, Slopes, Upland

**Compatibility:**



**Form/Color:** Deciduous, twining, flowering vine, 12-20' high, fast grower, white flowers in July-August, fruit dry September-October.

**Other:** Leaves may be irritating. Needs limestone (calcareous) soil.

**Dioscorea villosa**

**Wild yam**

**Habitat:** Open thickets, woods, wetland edges, roadsides.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Part Shade

**Ecosystem Services:**

**Soil Moisture:** Moist soils, low tolerance to drought.

**Soil pH:** Acidic

**Horticultural Value:** Small green flowers. Persistent winged fruits. Flowers vanilla scented.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Retention pond, Slopes, Upland

**Compatibility:**

**Form/Color:** Herbaceous, slender, twining vine to 15', thin reddish-brown stems, broad heart shaped leaves with deep veins, flowers small, green in June-July.

**Other:** Related to the tropical Yam found in grocery stores, but does not produce edible tubers.

**Lonicera dioica**

**Limber honeysuckle**

**Habitat:** Moist, rocky woods.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerant of concrete debris. Moderately tolerant of soil compaction.

**Exposure:** Shade

**Ecosystem Services:** Moderate wildlife value. Attractive to hummingbirds.

**Soil Moisture:** Tolerant of drought. Moderately tolerant of flooding.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Bright yellow flowers and red, fleshy fruit.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Green roof

**Compatibility:**

**Form/Color:** Shrub or woody climber to 9', moderate to fast grower, flowers bright yellow May-June, red fleshy fruit July-September.

**Other:** Needs limestone (calcareous) soil.

**Lonicera sempervirens**

**Habitat:** Open woods edges, woodlands. Support by trellis, arbor, or fence.

**Wetland Indicator:** FACU

**Exposure:** Part Shade

**Soil Moisture:** Grows best in moist soil. Tolerant of drought. Intolerant of flooding.

**Soil pH:** Acidic; Neutral

**Salt Tolerance:** Moderately tolerant

**Stormwater Tolerance:** Green roof

**Form/Color:** Deciduous, flowering, twining vine, 10-20' in height at maturity, bright flowers in yellow, pink, red, and orange in May throughout summer, red fleshy fruit in August-October.

**Trumpet honeysuckle**

**Coefficient of Conservatism:** 5

**Urban Tolerance:** Moderately tolerant of soil compaction.

**Ecosystem Services:** Attractive to hummingbirds. Fruit eaten by songbirds. Moderate wildlife value.

**Horticultural Value:** Bright flowers in yellow, pink, red, and orange, leaves have silver undersides, red fleshy fruit.

**Compatibility:**

**Other:**

**Menispermum canadense**

**Moon seed**

**Habitat:** Moist rich woods, edges, open uplands.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of soil compaction.

**Exposure:** Part Shade

**Ecosystem Services:** High wildlife value.

**Soil Moisture:** Tolerant of flooding. Moderately tolerant of drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Whitish flowers. Blue-black fleshy fruit.

**Salt Tolerance:** **Stormwater Tolerance:**

Moderately tolerant

Retention  
pond, Rain  
garden,  
Slopes

**Compatibility:** Can form  
colonies.  
Sprawls over  
other  
vegetation.

**Form/Color:** Woody climber or ground cover to 12',  
very fast grower, flowers whitish in June-  
July, fleshy blue-black fruit in September.

**Other:** Poisonous fruit. Needs or tolerates  
acidic soils.

**Mikania scandens**

**Climbing hempvine**

**Habitat:** Wet soil, swamps, stream margins, marshes.

**Coefficient of Conservatism:** 6

**Wetland Indicator:** OBL

**Urban Tolerance:** Adapted to medium and fine soils, moderate tolerance of soil compaction.

**Exposure:** Shade

**Ecosystem Services:** Minor species for increased diversity. Attractive to honeybees, bumblebees, and other native bees

**Soil Moisture:** Low tolerance to drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Purple flowers.

**Salt Tolerance:** Low tolerance

**Stormwater Tolerance:** Retention pond, Slopes

**Compatibility:** Can be aggressive in high nutrient soils. Climbs over shrubs.

**Form/Color:** Herbaceous, twining vine, stems to 17' long, dull purple flowers in July-October.

**Other:**

**Parthenocissus quinquefolia**

**Virginia creeper**

**Habitat:** Woods, edges, back dunes scrub.

**Coefficient of Conservatism:** 4

**Wetland Indicator:** FACU

**Urban Tolerance:** Tolerant of soil compaction, pollution. Commonly found along roadsides and fences.

**Exposure:** Shade

**Ecosystem Services:** High wildlife value, fruit eaten by songbirds and mammals, foliage eaten by rabbits.

**Soil Moisture:** Tolerant of flooding and drought.

**Soil pH:** Acidic; Neutral

**Horticultural Value:** Good fall color. Dull yellowish flowers. Blue-black fruit with red stems.

**Salt Tolerance:** Tolerance:

Tolerant

**Stormwater**

Green roof, Upland

**Compatibility:**

Can form colonies.

**Form/Color:** Woody climber to 35', ground cover, tiny, dull yellow flowers in June-July, blue-black fleshy fruit with red stems in September-October.

**Other:** Used for slope stabilization. Vegetation of fills. Needs or tolerates acidic soils.

**Smilax herbacea**

**Carrion flower**

**Habitat:** Moist rich woods, flood plains.

**Coefficient of Conservatism:** 5

**Wetland Indicator:** FAC

**Urban Tolerance:** Insufficient information to determine tolerance.

**Exposure:** Shade

**Ecosystem Services:** Fruit eaten by birds and mammals, stems eaten by rabbits and deer.

**Soil Moisture:** Moist soil conditions.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Yellowish flowers, blue fleshy fruit.

**Salt Tolerance:** Intolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes

**Compatibility:**

**Form/Color:** Herbaceous, unarmed climber to 7', yellowish flowers in May-June, blue fleshy fruit July-September.

**Other:**

**Strophostyles helvola**

**Trailing wild bean**

**Habitat:** Dry to moist sandy soil, often on cinders, open woods, old fields.

**Coefficient of Conservatism:** 2

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of poor, dry soil. Can be found along railroads and coastal areas.

**Exposure:** Part Shade

**Ecosystem Services:** Attractive to butterflies.

**Soil Moisture:** Sandy soil. Moderately tolerant of drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Delicate pink-purple flowers become greenish.

**Salt Tolerance:** Tolerance:

Tolerant Green roof

**Stormwater**



**Compatibi**

**lity:** Can be aggressive.

**Form/Color:** Annual, herbaceous, twining vine to 3', flowers pink-purple, becoming greenish in July-September, fruit dry in August-October.

**Other:** Nitrogen fixer can help improve sterile soil.

## Vitis aestivalis

## Summer grape

|                              |  |                                     |  |
|------------------------------|--|-------------------------------------|--|
| <b>Habitat:</b>              | Moist woods, edges, thickets, and streambanks.   | <b>Coefficient of Conservatism:</b> | 4  |
| <b>Wetland Indicator:</b>    | FACU   | <b>Urban Tolerance:</b>             | Insufficient information to determine tolerance.   |
| <b>Exposure:</b>             | Part Shade   | <b>Ecosystem Services:</b>          | Fruit eaten by birds and mammals, secondary species for wildlife food and shelter along roadsides and edges. |
| <b>Soil Moisture:</b>        | Tolerant of drought.   | <b>Horticultural Value:</b>         | Greenish flowers. Small, dark purple fruit.  |
| <b>Soil pH:</b>              | Acidic; Neutral  | <b>Compatibility:</b>               |  |
| <b>Salt Tolerance:</b>       | Intolerant   | <b>Other:</b>                       | Revegetation of fill, can be used for sites.   |
| <b>Stormwater Tolerance:</b> | Green roof   |                                     |  |
| <b>Form/Color:</b>           | Woody, high climber, flowers greenish in June-July, small dark purple fleshy fruit in September-October. |                                     |  |

## Vitis labrusca

## Fox grape

|                           |  |                                     |  |
|---------------------------|--|-------------------------------------|--|
| <b>Habitat:</b>           | Edges, thickets, woods, moist soil.                                    | <b>Coefficient of Conservatism:</b> | 6  |
| <b>Wetland Indicator:</b> | FACU   | <b>Urban Tolerance:</b>             | Tolerant of soil compaction.   |
| <b>Exposure:</b>          | Shade  | <b>Ecosystem Services:</b>          | Very high wildlife value, fruit eaten by birds and mammals, secondary species for wildlife food and shelter along roadsides and edges. |
| <b>Soil Moisture:</b>     | Tolerant of flooding. Moderately tolerant of drought when established. | <b>Horticultural Value:</b>         | Greenish flowers. Fleshy dark purple fruit.  |
| <b>Soil pH:</b>           | Acidic; Neutral  | <b>Stormwater Tolerance:</b>        | Tolerant   |
| <b>Salt Tolerance:</b>    |  |                                     |  |

Retention  
pond, Rain  
garden,  
Slopes

**Compatibility:**

**Form/Color:** Woody, high climber to 35', very fast grower, greenish flowers in June-July, fleshy dark purple fruit September-October.

**Other:** Will not bloom or fruit in shade.

**Vitis riparia**

**River grape**

**Habitat:** Moist to wet rich soil of edges, stream margins, and flood plains.

**Coefficient of Conservatism:** 3

**Wetland Indicator:** FAC

**Urban Tolerance:** Tolerant of soil compaction and concrete debris.

**Exposure:** Shade

**Ecosystem Services:** Eaten by birds and mammals, provides moderate shelter.

**Soil Moisture:** Tolerant of flooding and drought.

**Soil pH:** Acidic; Neutral; Alkaline

**Horticultural Value:** Greenish flowers. Dark fleshy fruit.

**Salt Tolerance:** Tolerant

**Stormwater Tolerance:** Retention pond, Rain garden, Slopes

**Compatibility:**

**Form/Color:** Woody, high climber to 35', very fast grower, greenish flowers in June, black fleshy fruit in August-September.

**Other:** Needs limestone (calcareous) soil.

# Glossary

|              |  |
|--------------|--|
| Acidic       | Pertaining to habitat or substances having a pH less than 7  |
| Alkaline     | Pertaining to habitat or substances having a pH greater than 7   |
| Allelopathic | Related to the release by a plant of chemicals which suppress the growth of nearby competing plants                              |
| Anaerobic    | An environment without oxygen; commonly occurring in water saturated soils   |
| Annual       | A plant which has a life cycle completed in a single year or growing season  |
| Aromatic     | Having a noticeable and pleasant smell; fragrant   |
| Biennial     | A plant which has a life cycle completed in two years, where blooming occurs in the second year                                  |
| Biodiversity | The existence of many different kinds of plants and animals in an environment  |
| Canopy       | The highest layer of branches in a forest or on a tree. A protective covering  |
| Canopy Cover | The proportion of land area covered by tree crowns, as viewed from the air   |
| Catkin       | A dense spike or raceme bearing many small flowers or fruits   |
| Colonial     | Of or relating to a colony; owning or made up of colonies  |
| Columnar     | Having the shape of a column   |
| Conical      | Having the shape of a cone   |
| Coniferous   | A plant which bears its seeds in cones   |
| Culm         | The stem of a grass or a sedge   |
| Deciduous    | Having a life cycle in which foliage is shed and regrown annually  |
| Dioecious    | Individual plants are of a single sex; Plants of both sexes must be present on the same site or nearby for reproduction to occur |
| Drought      | A period of below average rainfall, longer than a dry spell  |

|                     |   |
|---------------------|---|
| Ecosystem           | A system in which plants and animals interact with one another and their physical environment   |
| Ecosystems Services | The benefits that people obtain from an ecosystem; there are four types: provisioning, regulating, cultural, and supporting           |
| Ephemeral           | A plant which completes its life cycle in a short period of time, often just a few weeks  |
| Evergreen           | Remaining green throughout the winter   |
| Fauna               | Animals, considered as a group  |
| Fern                | Flowerless, seedless plant that reproduces by spores  |
| Floodplain          | An area of low, flat land along a stream or river that may flood; An area of land built up from soil left by floods                   |
| Flora               | Plants, considered as a group   |
| Forb                | A herbaceous flowering plant other than a grass   |
| Forest              | A relatively large area of mature trees   |
| Forever Wild        | Highest quality natural areas owned by NYC Parks  |
| Fragmentation       | Breaking up of one patch of habitat into several smaller patches; Isolation of one habitat fragment from other areas of habitat       |
| Frond               | The leaf of a fern  |
| Globular            | Having the shape of a globe   |
| Graminoid           | Any of the grass-like plants, including grasses, sedges, and rushes   |
| Grassland           | Land covered with grasses and other soft plants but not with bushes and trees   |
| Groundwater         | Water within the earth especially that supplies wells and springs   |
| Hardwood            | The wood of a tree, such as an oak or maple, that is heavy and hard   |
| Herbaceous          | Flowering plants which do not have woody stems, and which die back to the ground, wholly or in part, at the end of the growing season |
| Hydrology           | A science dealing with the properties, distribution, and circulation of water on and below the earth's surface and in the atmosphere  |
| Indigenous          | Produced, living, or existing naturally in a particular region or environment   |
| Inflorescence       | The arrangement of flowers on a stem  |

|                    |  |
|--------------------|--|
| Invasive Species   | A non-native species whose introduction does or is likely to cause economic or environmental harm or harm to human health  |
| Landfill           | A system or area in which waste materials are buried under the ground  |
| Larvae             | The juvenile stage of many insect species, resembling a caterpillar  |
| Loam               | A type of soil that is good for growing plants. A mixture composed chiefly of moistened clay   |
| Maritime           | Located near or next to the sea  |
| Marsh              | An area of soft, wet land that has many grasses and other plants.  |
| Mineral Soil       | Soil derived from minerals or rocks and containing little humus or organic matter  |
| Non-native Species | A species introduced outside its natural past or present distribution  |
| Overstory          | The layer of foliage in a forest canopy; the trees contributing to an overstory  |
| Ovoid              | Having the shape of an oval  |
| Perennial          | A plant which has a life cycle which occurs over several years, and using the same rootstock to produce growth   |
| Permeability       | The quality or state of being permeable  |
| Plant Community    | A collection or association of plant species within a designated geographical unit, which forms a relatively uniform patch, distinguishable from neighboring patches of different vegetation types |
| Raceme             | An unbranched flower cluster in which individual flowers are distributed at intervals along a central stalk  |
| Rhizome            | A horizontal underground stem of some plants, which sends out roots and shoots from its nodes  |
| Rosette            | A cluster or leaves in crowded circles or spirals arising basally from a crown or apically from an axis with greatly shortened internodes  |
| Runoff             | Water from rain or snow that flows over the surface of the ground into streams   |
| Salt Tolerance     | The degree to which a plant can withstand moderate or high concentrations of salt  |
| Samara             | The winged fruit of trees such as ash, elm, and maple  |

|                   |   |
|-------------------|---|
| Sandy Loam        | A loam consisting of less than 7 percent clay, less than 50 percent silt, and between 43 and 50 percent sand  |
| Saturated Soil    | Soil in which all easily drained pores between soil particles are temporarily or permanently filled with water  |
| Savanna           | A grassland with occasional trees   |
| Shade Tolerance   | The ability of a plant to tolerate shade  |
| Shrubland         | Land on which shrubs are the dominant vegetation  |
| Softwood          | The wood of a tree that is soft and easy to cut   |
| Soil Compaction   | The process by which stress is applied to a soil causing densification as air is displaced from the pores between the soil grains                             |
| Species           | A group of animals or plants that are similar and can produce young animals or plants: a group of related animals or plants that is smaller than a genus      |
| Stamen            | The structure in a flower which produces pollen.  |
| Stipe             | The stalk of the front of a fern  |
| Stormwater        | Water that is not absorbed into soil and rapidly flows downstream, increasing the level of waterways  |
| Strobiles         | Scaly multiple fruits resulting from the ripening of an ament in certain plants, such as the hop or pine; a cone  |
| Succession        | Unidirectional change in the composition of an ecosystem as the available competing organisms and especially the plants respond to and modify the environment |
| Tidal             | Of, relating to, caused by, or having tides; periodically rising and falling or flowing and ebbing  |
| Understory        | An underlying layer of vegetation; the vegetative layer, between the forest canopy and the ground cover   |
| Upland            | Ground elevated above the lowlands along rivers or between hills  |
| Vegetative Spread | The propagation of plants by nonsexual processes or methods   |
| Well Drained      | Water is allowed to percolate through reasonably quickly and not pool   |
| Wetland           | An area of land that is covered often intermittently with shallow water or have soil saturated with moisture  |



Woodland

A circumscribed area of vegetation dominated by a more or less closed stand of short trees

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