



NYC Parks

# Native Species Planting Guide for New York City

2<sup>nd</sup> Edition

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Dear Parkies and Plant Lovers:

Cities are filled with people and New York City is getting ever more populated, with an estimated additional million residents expected in the next 20 years. No city of this size—a metropolis—can survive and prosper without robust green spaces helping to clean our air and water, cool temperatures, mitigate flooding and storm surges, and provide sanctuary from the pace of urban life.

New York City's 10,000 acres of natural areas—forests, wetlands, and grasslands—are our working lungs and resilient coastlines. The healthier these ecosystems, the healthier we are. Native plants and animals are the building blocks of biodiversity, which mark the health of ecosystems, and Local Law 11 has memorialized the preservation and increase of native plants to ensure that our wild spaces are as rich as possible.

New York City's unique biodiversity stems largely from the fact that we sit at the juncture of New England and the Mid-Atlantic, the Atlantic Ocean and the Hudson River, and two essential East Coast flyways. It is home to an incredible array of ecosystems that when thriving in their native homes create for complex biodiversity that benefits us all.

Parks' Natural Resources Group (NRG) is the oldest urban conservation division in the nation. Since 1984, NRG has been a pioneer in protecting natural areas and in 2008 it established the Forever Wild program as a way to preserve our most special natural habitats. The Greenbelt Native Plant Center has been growing native plants for use in ecological restoration projects for nearly two decades. In 2012, The Natural Areas Conservancy was started to advance Parks' conservation efforts. In compliance with Local Law 11, I present to you the 2<sup>nd</sup> Edition of the Native Species Planting Guide. This guide lists all the native plants of the City and their specific characteristics. If you are planting in a natural area as defined by this guide you must use the plants cataloged here. If you are planting outside these areas, please do your best to incorporate natives into your sustainable designs—but do not ever use any invasive species, a list of which is provided in this guide as well.

New York City, like our sister East Coast cities, faces the uncertainty of climate change. Superstorm Sandy made this real for all of us as it tore through neighborhoods, felling approximately 20,000 trees, and doing untold damage to both the built environment and our natural spaces. Intact and functioning ecosystems mitigate these threats. Local Law 11 ensures that we preserve our natural history for the sake of the future: healthy ecosystems will help us weather climate change by making us more resilient.

Happy planting!

Sincerely,

Mitchell J. Silver, FAICP

# The Value of Native Plants

## What is a 'Native' Plant? What is Biodiversity?

If one asks five different people “What is a native plant?”, one is likely to get five different answers. Defining “native” in geographic terms is complicated and not necessarily suited to protecting indigenous flora. Since the 1970s with the creation of the Federal Endangered Species Act, the United States has attempted to save native flora, with mixed success. The standard approach has been to use geographic or political boundaries to conserve native plants; for example: New York State Environmental Conservation Law Section 9-1503.

New York City's Local Laws 10 and 11 of 2013 represent an evolving approach to protect our native plants by focusing on biodiversity, rather than individual plant species, and reflects an increased understanding of plant conservation. A focus on biology is a better way to understand what is native and how best to protect native populations. Seen through this lens, the protection of native plants is linked with the protection and sustainability of ecosystems.

Biological diversity, or biodiversity, is the richness of species, both animal and plant, that occupy a given ecosystem. Taken out of the context of the ecosystem, biodiversity has little biological meaning. This is recognized both in the present law, and in the commonly accepted definition of native species from Federal Executive Order 13112: “.....‘**native species**’ shall mean, with respect to a particular ecosystem, a species that, other than as the result of introduction, historically occurred or currently occurs in that ecosystem.”

The more intact an ecosystem the more species richness there is, and the greater its resiliency - its ability to recover from the minor and major perturbations of weather, biological invasion, and other disturbances. As species and their assemblages are lost, the ecosystem begins to unravel, and the ability of the ecosystem to endure and recover from disturbance is lessened. Unmitigated, the systems collapse, and even if the ecosystems appear superficially unchanged, their functionality - their ability to deliver ecological services, whether carbon sequestration, food and shelter for wildlife, retention and cleaning of stormwater, or lowering of the heat island effect - is compromised.

Seeking to increase the biodiversity, and thus resiliency of an ecosystem, is the primary and most effective means of protecting native plants. Conversely, biodiversity cannot be increased by randomly planting additional species of plants or introducing new animals into the ecosystems. Ecosystems are groupings of species that have evolved over time, often millennia. As the eminent biologist E.O. Wilson states in his defense of biodiversity:

“...diversity, the property that makes resilience possible, is vulnerable to blows that are greater than natural perturbations. It can be eroded away fragment by fragment, and irreversibly so if the abnormal stress is unrelieved. This vulnerability stems from *life's composition as swarms of species of limited geographical distribution. Every habitat, from*

*Brazilian rain forest to Antarctic bay to thermal vent, harbors a unique combination of plants and animals. Each kind of plant and animal living there is linked in the food web to only a small part of the other species. Eliminate one species, and another increases in number to take its place. Eliminate a great many species, and the local ecosystem starts to decay visibly.” (Wilson, E.O., *The Diversity of Life*, 1985.) [Emphasis added]*

New York City Local laws 10 and 11 of 2013 serve the important purpose of requiring Parks to maximize its efforts to increase the biodiversity of functioning ecosystems in New York City. While planting native species outside of well-functioning ecosystems will not increase biodiversity it does not mean that those species cannot still provide habitat for bird, animal, and insect species as well as aesthetic value throughout the urban environment. Furthermore, it is the philosophy of Parks to enhance the proportion of native species throughout the built city when appropriate.

### Natural New York

Understanding the current state of biodiversity in New York City’s ecosystems requires an understanding of the historical natural forces that shaped these ecosystems and the effect that development of the built city has had on these ecosystems. With this knowledge we can formulate the best plans to save and increase species richness in our surviving ecosystems.

New York City is a coastal city, at the edge of a continent, and at temperate latitudes. These geographic and climatic conditions have been uninterrupted for thousands of years and have yielded a landscape of primarily forested ecosystems which give way at the continent’s edge to coastal grasslands and salt marshes.

The last glacial ice age ended between ten to twenty thousand years ago. Before the retreat, however, glaciers had wiped clean the slate of local vegetation and forced plant species to retreat southward where they survived until the climate warmed. As the glaciers retreated and the climate warmed, plant species expanded their range northwards again, re-assembling into the ecosystems of the present day. We know that some species were still rebounding into modern times, expanding their ranges in an inexorable, slow, and methodical process.

The withdrawal of the glaciers left its physical mark on the future city as well. Chief among these events was the creation of ridges - terminal end moraines which formed high ground through portions of Queens, Brooklyn, and Staten Island. These moraines have characteristic soils that support specific ecosystems, remnants of which still exist in these boroughs. Similarly, to the east of these moraines, large glacial outwash plains formed, consisting to various degrees of gravels or sands, which also came to shape the natural city.

Climate has also played a significant role in shaping local plant populations. Many southern species find their present day northern limit here in New York City. Similarly, some species with

northern distributions find their southern limit here as well. In New York City there are many examples of species at the edges of their range.

New York City is a city of islands: Queens and Brooklyn (being the western extent of Long Island), Staten Island, and Manhattan (being virtually an island, although technically a peninsula). Only the Bronx is contiguous with the continental United States. Islands have a significant effect on biodiversity or species richness, both through physical isolation and by virtue of the island's size.

All of these factors, and more, have come together over evolutionary time to create the present day ecosystems that constitute New York City. However, development has left virtually all of these ecosystems as isolated remnants, far smaller than their original size. Utilizing *The Ecological Communities of New York State* by Carol Reschke, Parks' Greenbelt Native Plant Center (GNPC) staff has identified 28 natural ecosystems still distinguishable within New York City's borders. Many are fragmented and compromised, and only recognizable to trained botanists, but many others are intact.

### Historical and Present Plant Surveys

New York City has always been a center of botanical exploration and expertise. Many of the 19<sup>th</sup> and 20<sup>th</sup> Century's leading botanists were either born or worked here and as a result we have detailed records of the species and overall numbers of species that once occurred here and good approximations of the present numbers. Many of these species were collected and preserved as dried specimens in herbaria at the New York Botanical Garden, Brooklyn Botanic Garden, and elsewhere. Based on these and other historic records we estimate that approximately 1,500 to 2,000 species likely occurred in the five boroughs of New York at the time of European colonization.

Since the early 1990s, the Brooklyn Botanic Garden, through its Metro Flora Project, has been systematically resurveying the flora of New York City and the surrounding region. Their work has revealed that there are approximately 750 species still present within our boundaries.

Utilizing historic and present day records it is possible to frame the question of what degree of biodiversity is still possible for the surviving ecosystems of our city. Does the current number represent a maximum or can we hope to manage our ecosystems better and possibly restore some of the lost species, thus increasing their biodiversity as the law instructs us to do?

### What is Biodiversity? How Biodiverse Can New York City Hope to Be?

As stated previously, biological diversity, or biodiversity, is the richness of species, both animal and plant, that occupy a given ecosystem. To know what is possible we need to be aware of the theoretical boundaries to species diversity that have been established by scientists. Much of the science that reveals the extent of local biodiversity comes from studying islands.



A few key principals of island biogeography are important to consider understanding the level of biodiversity possible for New York, our 'City of Islands'. The degree of biological diversity is limited by the size of an island -- the larger the island, the more species diversity is possible. All things being equal, and with some species always being lost and new species being recruited, a dynamic equilibrium is obtained in which the overall number of species is constant for a given island of a given size.

By the 1970s the world was awakening to the dramatic loss of habitat. These losses have turned vast tracts of ecosystems into small isolated islands of vegetation. It wasn't very long before the theories of island biogeography were seen to be of practical use in designing and setting aside bioreserves. Questions were being raised as to the optimal size for a reserve to sustainably maintain its biodiversity prior to fragmentation and isolation.

There are parallels to the bioreserve questions that are relevant to the management and sustainability of urban ecosystems. New York City ecosystems have become severely fragmented, reduced in size and biologically isolated by the development of the city. The number of species that can be contained in most of our parks is severely limited, and we cannot increase the number of species and hence the biodiversity of our ecosystems simply by cramming more species into New York City's parkland, even if those species once occurred there. Many of the ecosystems within the 5 boroughs, with good management, can move towards a new, lower dynamic equilibrium reflective of their present reduced size and isolation.

There are many critical factors promoting biodiversity that can be exploited through proper and well funded management of New York City's parkland, such as control of invasive plants and insect pests, eliminating or at least minimizing and mitigating further fragmentation of our ecosystems, protecting hydrologic regimes, and supporting healthy plant populations through sound management practices. Critical to this last point is the management of the genetic health of these remnant plant populations. Without the ability to exchange their genes between large numbers of individuals within their local population and to receive and transmit occasional novel genes with outside populations, evolution cannot proceed and much like a handful of surviving tigers managed in zoos, we will be confined to practicing sophisticated horticulture in elaborate "native" gardens, rather than land management of functioning natural ecosystems.

Parks can work in concert to manage the genetic health of New York City's remnant ecosystems by instituting a program to increase plant population size by planting additional individuals into the population. These plants must be carefully sourced to protect the genetics of the remnant population. In addition, Parks can seek to exchange and reintroduce genes from neighboring, now isolated populations. If population size can be optimized, genetic diversity increased, and ecosystem health reversed, it may be possible to reintroduce lost species to our ecosystems with a reasonable expectation that they will integrate, survive, and sustain themselves.

To paraphrase E.O. Wilson, every species is dynamically linked to a handful of other species. No species can be reintroduced without considering the complex interactions it has with other species.

## A Role for Our Native Species in the Built Environment

Planting native plants outside of New York City's natural ecosystems cannot contribute to the biodiversity of those ecosystems, and is therefore not required by this manual. Indeed, outside of the Forever Wild and natural areas identified in the next chapter, emphasis will be placed on increasing the proportion of native plants used in Park plantings. We can seek to restore or increase ecosystem health and attempt to restore and expand ecosystems on their edges, but there is no scientific proof that planting out into the built city will benefit adjoining ecosystems.

However, it does not mean that native species cannot serve an important role in infrastructure improvements. A good example is the current experiment between Columbia University and Parks to establish green roof plantings utilizing regionally native plant species. Two regional ecosystems, Hempstead Plains and Rocky Summit ecosystems, were chosen for this experiment because they closely mimicked the conditions encountered on rooftops -- hot, well drained, and drought-prone. The project is not seeking to create extensions of Hempstead Plains and Rocky Summit ecosystems onto the roofs of New York City; it is impossible to successfully transplant the totality of these ecosystems in all their biological complexity. Rather, the project sought to exploit existing knowledge of these species as they function in their natural ecosystems to create beauty and ecosystem services on rooftops.

Parks will continue to increase its use of native species in ornamental plantings designs and in right-of-way areas as appropriate. Native species have evolved to local environmental and edaphic conditions, and many have utilitarian and aesthetic qualities that can be of service to those responsible for designing and maintaining the public landscape as well as to individual property owners who seek to enhance their own backyards or street tree pits.

Parks is fortunate to have at its disposal a facility dedicated to the propagation and production of the flora of New York City's native ecosystems – Parks Greenbelt Native Plant Center. This facility exists primarily in support of efforts to conserve, manage and restore the City's ecosystems. Furthermore, it produces plants only from locally sourced, genetically rich plant populations, which contributes significantly to maintaining the genetic integrity of New York City's surviving ecosystems- a critical factor in maintaining biodiversity. Over the twenty years of its existence, GNPC has learned to grow roughly two thirds of the species still to be found in New York City's ecosystems.

The GNPC welcomes the opportunity to make these species both better known and more available to meet the challenges we collectively face to build a sustainable and resilient city. This guide will be an excellent tool in advancing these goals.

## Introduced and Naturalized Plant Species

Plant introductions have been conducted since the earliest period of Western colonization and Native American populations introduced edible and useful plants from other regions along their trade routes. However, these introductions were made into agricultural systems, or were introduced as garden ornamentals. While some introductions have reproduced aggressively



and can be considered invasive, many others have adapted to local conditions and have naturalized. Ecosystems are not static, but evolving and as mentioned earlier, ecosystems lose and gain species through evolutionary time. The issue for biodiversity and sustainability of ecosystems arises from the degree to which introductions disrupt functioning ecosystems. To again quote E. O. Wilson: “Eliminate one species, and another increases in number to take its place. Eliminate a great many species, and the local ecosystem starts to decay visibly.”

Naturalized species perform valuable functions as ornamentals, provide habitat, shelter, and food for some bird, animal, and insect species. They have, however, decreased the overall diversity of the ecosystems they have colonized by displacing other species. Although they provide some ecological services, they will not function to the same degree as the species they displaced in intact ecosystems that have evolved over evolutionary time. In addition, if they have displaced specialist species that, for instance could only be pollinated by a particular bee species, then that loss will have cascaded through the ecosystem, with the potential loss of many other plant and animal species.

In highly disturbed sites, even within remnant ecosystems, introduced plants may prove better adapted to soil and hydrological conditions and this very well may merit their use, even though this is contrary to the goal of increasing the use of native plants in the city. Intelligent and informed planting design recognizes a number of complex characteristics that can't be confined to a narrow discussion of native vs. non-native origins.

## Conclusion

Opportunities to increase biodiversity of New York City's existing ecosystems through planting practices will be carefully managed by New York City's land management professionals and landscape architects, and indeed we are now instructed to take concrete steps to do so. We can best meet this challenge by preserving the best of the remaining open space ecosystems that are as yet unprotected and through sound management and restoration of our surviving ecosystems.

Landscape architects and horticultural professionals exercise judgement in the specification of ornamental and native species to achieve a multitude of environmental and design goals. This guide, by presenting a selection of historically present native species, will further enhance the existing plant palette and serve to increase species diversity and the greater use of native species in various green spaces throughout the five boroughs.

“Biological diversity is the key to the maintenance of the world as we know it. Life in a local site struck down by a passing storm springs back quickly because enough diversity still exists. ....This is the assemblage of life that took a billion years to evolve. It has eaten the storms – folded them into its genes – and created the world that created us. It holds the world steady.” (Wilson, E.O., 1985)

# How to Use This Guide

This manual is an information resource written to provide support for increasing biodiversity in our natural ecosystems. The guide contains detailed information for the tolerances, preferences, and value of over 430 native species. This information, where available, is intended to provide assistance in choosing the right plants to increase biodiversity in ecosystems, and to further aid in design for projects in these ecosystems. In addition to commercial nurseries, GNPC has plant material and seeds for the species listed in this guide and can be used as a resource on public projects. GNPC has an extensive propagation and growing operation for local native species and can be an valuable source of native plant material. The guide is organized by plant type to facilitate selection from a range of plant habits, from grasses to trees. It also consists of a bibliography of plants and planting design guides appropriate for use in the mid-Atlantic region and links to other helpful resources: lists of restricted and potentially invasive plants, guides to salt tolerances of a range of plants, a guide to plants best used for stormwater capture sites, and a list of plants appropriate for native landscape restoration, primarily in Forever Wild sites and natural areas identified within Parks' system. These lists provide suggestions for planting, and represent a near complete list of desirable or approved species. Specific site characteristics, the input of professionals, and other factors, will, as appropriate, dictate planting decisions. This information will be updated regularly, but it cannot substitute for the creative, innovative, careful, and conscious choices made by New York City's landscape architects, horticulturists, foresters, and other professionals.

Informed planting design involves a complex analysis and inventory of soils, hydrological conditions, light, and exposure. The consideration of existing plants on site may provide information on plant communities of native - and well adapted non-native - species best suited to a particular site. Many areas within the parks system, however, are extremely disturbed or degraded environments, and replication of native communities may not be the most effective means of establishing vegetative cover. Soils may be composed of highly alkaline building rubble, lack organic matter, or require remediation for various toxic substances before the establishment of new plantings. Most manufactured topsoils are neutral or alkaline pH and if they are introduced, this will also inform planting decisions. This guide provides information on especially urban-tolerant species that may be capable of thriving even in the toughest planting sites.

New Yorkers choosing plants for urban spaces are encouraged to learn about the way ecological communities establish and grow, so that designed plantings will have resiliency and ecological value, providing a full range of benefits to humans and other wildlife species. The ideal design intent is for every green space to support a sustainable, robust plant assemblage that gives value to the community.

## Forever Wild and Natural Areas

Dozens of sites within our park system, totaling thousands of acres, have been identified as the most ecologically valuable lands within the five boroughs, and as priority areas for protection and conservation. These Forever Wild preserves, in combination with additional natural areas, are displayed in the tables and maps below. When designing a project in one of these preserves, the use of native plants is required. Planting outside these areas may include a broader palette of native, adapted, or non-invasive ornamental species. Specific boundaries of the preserves can be found on the individual park maps located at <http://www.nycgovparks.org/greening/nature-preserves/sites>. The intent of this guide is to promote the use of native plant material as appropriate to increase biodiversity in New York City's wild ecosystems.

## Edges and Landscaped Areas

When working on edges of ecosystems, introduced species can have ecological value in addition to improving aesthetics or restoring historical plant palettes. As appropriate, non-native, non-invasive plants may be used, taking care that they do not spread into the nearby ecosystem. Historic and cultural landscapes listed on, or potentially eligible for, the National Register of Historic Places and designated as local landmarks by the City of New York Landmarks Commission may call for appropriate ornamental or historically present non-native species. At these sites, planting choices shall conform to the United States Secretary of the Interior's Standards for Historic Preservation. Many of these sites contain remnant or re-created cultivated and domestic landscapes with a variety of non-native species contributing considerably to their value as historic cultural resources. At these locations, landscape architects and natural resource professionals must determine appropriate boundaries and buffer zones between ecological preserves and historic landscapes. Where historic and cultural landscapes fall within Forever Wild sites or natural areas, they are excluded from the native species only planting mandate.

## Stormwater and Green Infrastructure Areas

Local Law 10 of 2013 strongly encourages the New York City to maximize stormwater retentive plantings. Included in this guide is a list of relevant plants to use in stormwater capture sites. These sites have unique conditions that can be challenging for some native plants. Parks has spent the last three years researching and field testing these plants. The native plants that have performed well in these conditions are identified in the plant descriptions, and in a separate chapter.

## Supporting Biodiversity

The stated purpose of the enacted native species law is to increase biodiversity within the five boroughs of New York City. Research tells us that planting native species in our intact

ecosystems – Forever Wild preserves and natural areas – will best support biodiversity. Though not required by the native biodiversity law, to the extent native plantings are used throughout New York City, they can improve overall habitat quality and resiliency. Curbside plantings and native plant gardens in landscaped areas can provide corridors for insects, birds, and other animals.

Increasing the use of native plants outside of intact ecosystems is an important value, and this guide aims to increase their prevalence in landscaped or non-natural settings. 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. Remnant nature in New York City is an irreplaceable element of our cultural heritage. Far from being merely of historic or archival interest, the increased use of native plants in appropriate settings creates a landscape vital to both contemporary and future New Yorkers.

## NYC Parks with Forever Wild and Natural Areas

\* These Parks Contain Portions that are Forever Wild Sites. Many of these parks also contain portions of historic designed landscapes. Please refer to the How to Use this Guide section of this manual for detailed information.

### **Bronx**

- 1 City Island Wetlands
- 2 Pelham Bay Park\*
- 3 Givans Creek Woods
- 4 Seton Falls Park\*
- 5 Pugsley Creek Park
- 6 Soundview Park
- 7 Bronx Park\*
- 8 Van Cortlandt Park\*
- 9 Riverdale Park\*
- 10 Raoul Wallenberg Forest\*
- 11 Spuyten Duyvil Shorefront Park
- 12 North Brother Island\*
- 13 South Brother Island\*

### **Manhattan**

- 14 Inwood Hill Park\*
- 15 Fort Washington Park
- 16 Fort Tryon Park
- 17 Sherman Creek Park
- 18 Riverside Park
- 19 Central Park\*
- 20 Mill Rock Park\*

### **Queens**

- 21 Powell's Cove Park
- 22 Kissena Park
- 23 Kissena Corridor Park
- 24 Flushing Meadows Corona Park\*
- 25 Forest Park\*
- 26 Highland Park\*
- 27 Spring Creek Preserve\*
- 28 Udall's Cove Preserve\*
- 29 Alley Pond Park\*
- 30 Douglaston Park
- 31 Cunningham Park\*
- 32 Grand Central Parkway\*
- 33 Idlewild Park\*
- 34 Brookville Park\*
- 35 Public Place\*
- 36 Hook Creek Wildlife Sanctuary\*
- 37 Jamaica Bay Park
- 38 Seagirt Avenue Wetlands
- 39 Rockaway Beach and Boardwalk\*
- 40 Dubos Point Preserve\*
- 41 Brant Point Wildlife Sanctuary
- 42 Vernam Barbadoes
- 43 Broad Channel Park

### **Brooklyn**

- 44 Fresh Creek Preserve\*
- 45 Canarsie Park
- 46 Paerdegat Basin Park Preserve \*
- 47 Four Sparrow Marsh\*
- 48 Marine Park\*
- 49 Prospect Park\*
- 50 Dreier-Offerman Park

### **Staten Island**

- 51 Shooters Island\*
- 52 Graniteville Swamp Park\*
- 53 Clove Lakes Park\*
- 54 Eibs Pond Preserve\*
- 55 Brady's Pond Park
- 56 Ocean Breeze Park\*
- 57 Last Chance Pond Park
- 58 JHS Playground
- 59 Cedar Grove
- 60 Reed's Basket Willow Swamp\*
- 61 Deere Park\*
- 62 Richmond Parkway\*
- 63 High Rock Park\*
- 64 Blood Root Valley\*
- 65 Willowbrook Park\*
- 66 La Tourette Park\*
- 67 Islington Pond Park\*
- 68 Evergreen Park Preserve\*
- 69 Fresh Kills Park\*
- 70 Sweet Bay Magnolia Preserve\*
- 71 Saw Mill Creek Marsh\*
- 72 Prall's Island\*
- 73 Mezzacappa Property/Neck Creek\*
- 74 Isle of Meadows
- 75 Arden Heights Woods Preserve\*
- 76 Crescent Beach
- 77 Blue Heron Park Preserve\*
- 78 Bunker Pond Park\*
- 79 Wolfe's Pond Park Preserve\*
- 80 Lemon Creek Preserve\*
- 81 Bloomingdale Park\*
- 82 Fairview Park\*
- 83 Long Pond Preserve\*
- 84 Hybrid Oaks Woods\*
- 85 Conference House Park\*

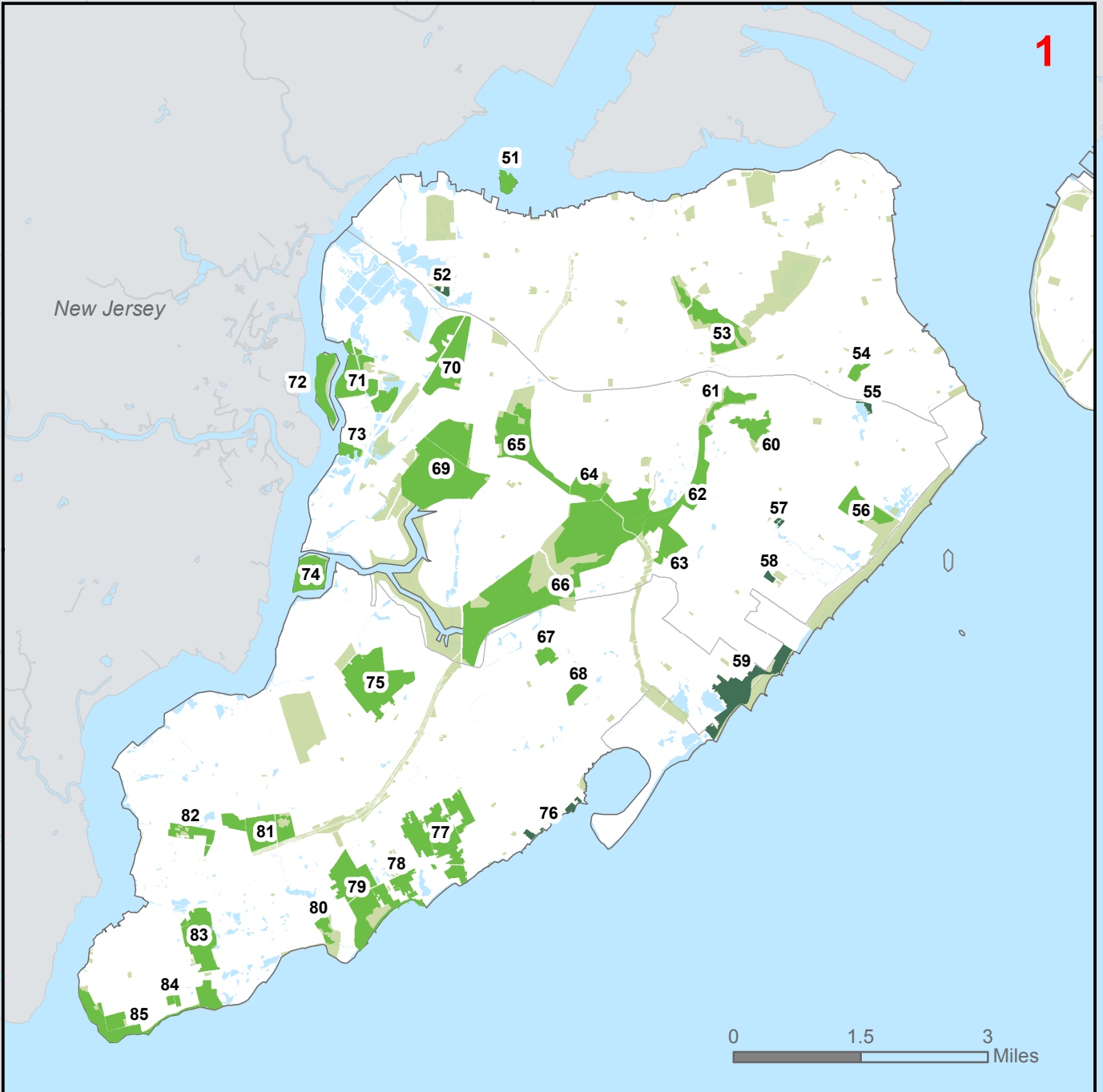
# New York City Forever Wild and Natural Areas

- NYC Parks Natural Areas
- NYC Parks Forever Wild
- NYC Parklands
- Community Board Districts

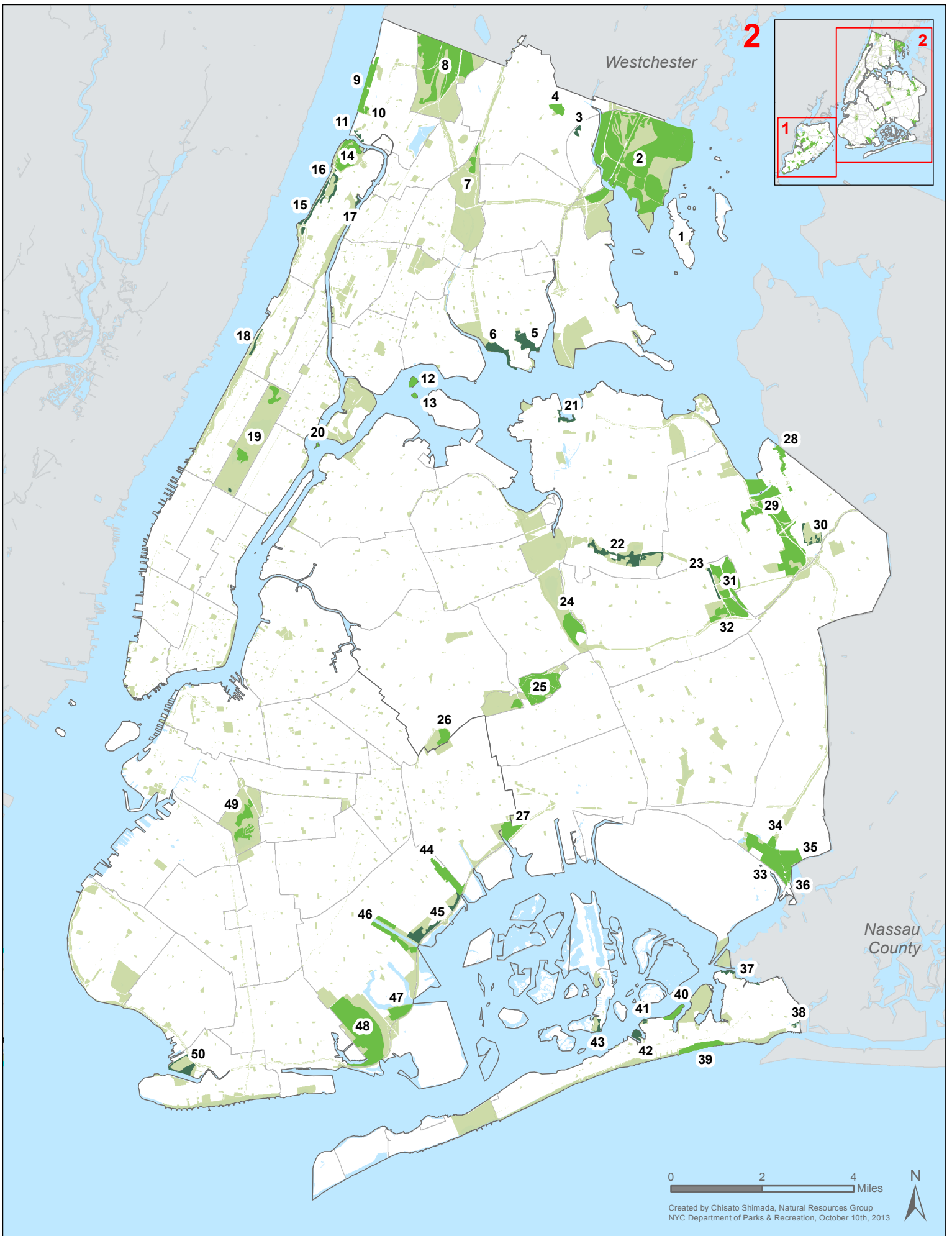
New Jersey

New Jersey

1



0 1.5 3 Miles



Westchester

Nassau  
County

0 2 4 Miles

Created by Chisato Shimada, Natural Resources Group  
NYC Department of Parks & Recreation, October 10th, 2013





# Invasive Plants in New York

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>1</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.

This Act also directs the agencies to develop both a permit process, and specific lists of species, which will be subject to varying degrees of regulation. Towards this end, protocols have been developed to determine the invasiveness of certain species, and the results of running a species through these protocols will determine how they are regulated.

For purposes of this guide, the City of New York expects to follow the species rankings as determined by the State. This list does not include all invasive or potentially invasive plant species, but does include those that are currently listed in the final regulations.

The plants on this list are effectively banned from planting on public land, and it is strongly suggested that gardeners and landscape professionals use alternative species.

The table in this chapter is excerpted from the list issued with the final adopted New York State regulations in September 2014. Cultivars of these species are regulated as the parent species until a separate cultivar assessment is performed.

## Invasive Species

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>2</sup>. Invasive plants harm the environment by displacing native flora, which in turn, impacts wildlife and other species dependant on the flora. They impact ecological stability and biodiversity by disrupting such processes as hydrology, nutrient cycling, natural succession, wildfire regime and soil erosion.

Invasive plants have damaged more than a thousand acres of Parks natural lands. Research suggests that a number of these invasive plants, particularly vines, will be beneficiaries of increased atmospheric carbon dioxide, which could make them an even larger problem. By

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<sup>1</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.

<sup>2</sup> ECL §9-1703 (10).

prohibiting the planting of invasive plants and promoting native biodiversity and functional ecosystems, the City's ecological resilience will be increased.

## New York State Regulation

Early attempts at regulation occurred in the neighboring states of Connecticut (2004) and Massachusetts (2006), and local laws were passed in Nassau and Suffolk counties (2007).

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

Species exceeding certain thresholds as determined by the ranking protocols are placed in one of two categories.

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.

Those species not listed in one of the above categories are considered unregulated.

## What Does This Mean for New York City?

This law is primarily intended to exclude listed plants from commerce, so they will no longer be available for purchase or planting. Ultimately, it will bar certain plants from use in public landscapes. Residents and agencies will no longer be able to specify these plants in capital project designs, plant them in ornamental beds on private or public property, grow them at greenhouses, or offer them for sale. A permit process will be created for disposal, control and research activities involving some of these species.

## NYS Invasive Plant List

### Floating & Submerged Aquatic

<b>Scientific Name</b>	<b>Common Name</b>	<b>NYS Designation</b>
<i>Egeria densa</i>	Brazilian Waterweed	Prohibited
<i>Cabomba caroliniana</i>	Carolina Fanwort	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> <i>X M. laxum</i>	Broadleaf Water-milfoil hybrid	Prohibited
<i>Myriophyllum spicatum</i>	Eurasian Water-milfoil	Prohibited
<i>Didymosphenia geminata</i>	Rock Snot (diatom)	Prohibited
<i>Trapa natans</i>	Water Chestnut	Prohibited
<i>Hydrilla verticillata</i>	Water Thyme	Prohibited
<i>Nymphoides peltata</i>	Yellow Floating Heart	Prohibited
<i>Potamogeton crispus</i>	Curly Pondweed	Prohibited

### Emergent Wetland & Littoral

<b>Scientific Name</b>	<b>Common Name</b>	<b>NYS Designation</b>
<i>Glyceria maxima</i>	Reed Manna Grass	Prohibited
<i>Iris pseudacorus</i>	Yellow Iris	Prohibited
<i>Lepidium latifolium</i>	Broad-leaf Pepper-grass	Prohibited
<i>Ludwigia grandiflora</i> spp. <i>hexapetala</i>	Uruguayan Primrose-willow	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 Reed Grass	Prohibited

## **Terrestrial – Herbaceous**

<b>Scientific Name</b>	<b>Common Name</b>	<b>NYS Designation</b>
<i>Achyranthes japonica</i>	Japanese 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 Carpgrass	Prohibited
<i>Brachypodium sylvaticum</i>	Slender False Brome	Prohibited
<i>Cardamine impatiens</i>	Narrowleaf Bittercress	Prohibited
<i>Centaurea stoebe ssp.</i>	Spotted Knapweed	Prohibited
<i>Cirsium arvense</i>	Canada Thistle	Prohibited
<i>Cynanchum louiseae</i>	Black Swallow-wort	Prohibited
<i>Cynanchum rossicum</i>	Pale Swallow-wort	Prohibited
<i>Dioscorea polystachya</i>	Chinese Yam	Prohibited
<i>Dipsacus laciniatus</i>	Cut-leaf Teasel	Prohibited
<i>Euonymus fortunei</i>	Winter Creeper	Regulated
<i>Euphorbia cyparissias</i>	Cypress Spurge	Prohibited
<i>Euphorbia esula</i>	Leafy Spurge	Prohibited
<i>Ficaria verna</i>	Lesser Celandine	Prohibited
<i>Heracleum mantegazzianum</i>	Giant Hogweed	Prohibited
<i>Humulus japonicus</i>	Japanese Hops	Prohibited
<i>Imperata cylindrica</i>	Cogon Grass	Prohibited
<i>Lespedeza cuneata</i>	Chinese Lespedeza	Prohibited
<i>Lysimachia vulgaris</i>	Garden Loosestrife	Prohibited
<i>Microstegium vimineum</i>	Japanese Stilt Grass	Prohibited
<i>Miscanthus sinensis</i>	Chinese Silver Grass	Regulated
<i>Oplismenus hirtellus</i>	Wavyleaf Basketgrass	Prohibited
<i>Reynoutria japonica</i>	Japanese Knotweed	Prohibited
<i>Reynoutria sachalinensis</i>	Giant Knotweed	Prohibited
<i>Reynoutria x bohemica</i>	Bohemian 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>	Oriental Bittersweet	Prohibited
<i>Clematis terniflora</i>	Japanese Virgin's-bower	Regulated
<i>Lonicera japonica</i>	Japanese 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>	Norway Maple	Regulated
<i>Acer pseudoplatanus</i>	Sycamore Maple	Prohibited
<i>Aralia elata</i>	Japanese Angelica Tree	Prohibited
<i>Berberis thunbergii</i>	Japanese Barberry	Prohibited
<i>Elaeagnus umbellata</i>	Autumn Olive	Prohibited
<i>Euonymus alatus</i>	Winged Euonymus	Regulated
<i>Frangula alnus</i>	European 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 aureosulcata</i>	Yellow Groove Bamboo	Prohibited
<i>Phyllostachys aurea</i>	Golden 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

There are a number of additional species that have demonstrated tendencies toward naturalizing, especially near natural areas. While use of these species is not likely to be regulated by State law, caution must be exercised when planting these near a Forever Wild or natural area. These species include, but are not limited to Wisteria (*Wisteria floribunda* and *W. sinensis*), Siberian elm (*Ulmus pumila*), Scholar tree (*Styphnolobium japonica*), European White Poplar (*Populus alba*), English oak (*Quercus robur*), Callery pear (*Pyrus calleryana*), Siebold Viburnum (*Viburnum sieboldii*), Periwinkle (*Vinca minor*), and Arrow bamboo (*Pseudosasa japonica*).

# Ecosystems of New York City

The mid-Atlantic region boasts a rich and diverse indigenous flora. Abundant rainfall, fairly evenly distributed, promotes vigorous plant growth, though seasonal drought occurs frequently. All new plantings will require attention to weeding and supplemental watering during drought, especially during the one-to-two-year establishment period, but informed plant selection can ensure adaptation to environmental conditions.

Plant communities can be described as areas where associated species thrive in conditions they are best suited for. It represents an ecosystem of interrelated plants, animals, water, and soil. The right plant for the right place occurs naturally in response to environmental conditions such as light exposure, soil conditions, salt and drought tolerance. New York City is a highly altered landscape, yet many native plants have maintained their community structure in natural areas and even reclaimed some of the built landscape. Habitats within New York City will vary greatly from borough to borough and cannot be easily compared to the ideal habitats outside of the urban context. Through centuries of adaptation, many tough, native plant species have co-evolved alongside the ever-increasing human population and the effects of pollution, compaction, urban rubble and fragmentation. The plant species listed within this manual make up the common plant communities that can still be found throughout the five boroughs. The native flora of New York City may not be what it used to be, but the species that still naturally exist in this urban center can be the plant palette from which we choose, for our restored and designed landscapes. It is imperative that we understand each plant species and the communities they can be found in; it is only then, when we can make educated decisions on how best to use these species in sustainable design.

Plants are grouped according to various associations found in the wild and these can direct appropriate plant combinations adapted to particular soil, light, and hydrologic conditions. Not all plants listed are commonly available from local nurseries, so availability should be confirmed prior to specification. As always, informed plant selection proceeds from familiarity with individual plants and their characteristics. Diversity and variety in planting can help encourage better establishment of successful vegetative cover and provide improved habitat and visual interest.

Close observation of established plant communities is often the best guide to planning successful plant associations. The lists provide suggestions, but not infallible guidelines. Consult recommended links and resources for additional information on appropriate plants for various designed and restored landscapes.



## A. Coastal Communities: Maritime and Wetland Communities

Coastal regions are characterized by dynamic landforms and processes because they are the juncture between the lands, oceans, and atmosphere. Features such as dunes and wetlands constantly undergo change due to driving processes such as storms, sediment supply, and sea-level change (Titus 2009). Urban coastal regions are even more significantly changed in the name of development and a high-density human population. The effects of hurricanes and other major storms combined with higher sea levels are putting New York City's low-lying coastlines at risk. Restoration of our coastal plant communities and an attempt to design with nature will determine the long-term success and protection of coastal property and economic investment.

### **MARITIME**

Maritime beach/dune communities are dominated by salt-tolerant grasses and herbs. The sand is relatively unstable at the ocean-fronting beach and only a few plant species can survive in these harsh conditions. 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. These conditions will naturally stunt trees and support the shrubland community that will 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. Diversity will decrease in areas that occur on coastal landfill sites where dredged sand was used as fill.

#### MARITIME BEACH/DUNE

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

#### Recommended Plants:

##### Graminoids

*Ammophila breviligulata*  
*Cenchrus longispinus*  
*Cenchrus tribuloides*  
*Cyperus grayi*  
*Eragrostis spectabilis*  
*Panicum virgatum*

Beach grass  
Common sandbur  
Dune sandbur  
Gray's flatsedge  
Purple lovegrass  
Switchgrass

##### Forbs

*Atriplex mucronata*  
*Cakile edentula*  
*Chamaesyce polygonifolia*  
*Krigia virginica*  
*Lechea maritima*  
*Polygonella articulata*

Sea-beach orach  
American searocket  
Seaside sandmat  
Virginia dwarfdandelion  
Beach pinweed  
Jointweed

*Solidago sempervirens*

Seaside goldenrod

Vines

*Parthenocissus quinquefolia*

Virginia creeper

*Strophostyles helvula*

Trailing wild bean

Shrubs

*Hudsonia tomentosa*

False heather

*Morella pensylvanica*

Northern bayberry

*Prunus maritima*

Beach plum

*Rosa carolina*

Pasture rose

Trees

*Acer negundo*

Boxelder

*Amelanchier canadensis*

Canadian serviceberry

*Betula populifolia*

Gray birch

*Ilex opaca*

American holly

*Juniperus virginiana*

Eastern red cedar

*Quercus velutina*

Black oak

*Populus tremuloides*

Quaking aspen

*Prunus serotina*

Black cherry

## MARITIME GRASSLAND

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

### Recommended Plants:

#### Graminoids

*Ammophila breviligulata*

*Andropogon virginicus*

*Aristida dichotoma*

*Aristida tuberculosa*

*Eragrostis spectabilis*

*Juncus greenei*

*Panicum virgatum*

*Schizachyrium littorale*

*Schizachyrium scoparium*

*Sorghastrum nutans*

Beach grass

Broom-sedge

Churchmouse threeawn

Seaside threeawn

Purple love grass

Greene's rush

Switchgrass

Coastal little bluestem

Little bluestem

Indiangrass

#### Forbs

*Asclepias syriaca*

*Asclepias tuberosa*

*Desmodium paniculatum*

*Eupatorium altissimum*

*Eupatorium hyssopifolium*

*Euthamia caroliniana*

*Euthamia graminifolia*

*Ioncatis linariifolius*

*Krigia virginica*

*Lespedeza capitata*

*Nuttallanthus canadensis*

*Oenothera biennis*

*Oenothera fruticosa*

*Opuntia humifusa*

*Plantago aristata*

*Potentilla canadensis*

*Pseudognaphalium obtusifolium*

*Rudbeckia hirta*

*Solidago canadensis*

*Solidago nemoralis*

*Solidago sempervirens*

*Symphotrichum ericoides*

*Symphotrichum novae-angliae*

*Trichostema dichotomum*

Common milkweed

Butterfly weed

Panicled tick-trefoil

Tall boneset

Hyssop-leaved boneset

Slender goldenrod

Lance-leaved goldenrod

Flaxleaf whitetop aster

Virginia dwarf dandelion

Round-headed bush-clover

Blue toadflax

Common evening primrose

Sundrops

Devil's tongue

Largebracted plantain

Dwarf cinquefoil

Rabbit-tobacco

Black-eyed Susan

Canada goldenrod

Gray goldenrod

Seaside goldenrod

White heath aster

New England aster

Forked blue curls

Shrubs

*Morella pensylvanica*

*Rhus copallinum*

*Rubus flagellaris*

Northern bayberry

Winged sumac

Dewberry

## MARITIME SHRUBLAND

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

### Recommended Plants:

#### Graminoids

*Ammophila breviligulata*  
*Andropogon virginicus*  
*Aristida dichotoma*  
*Aristida tuberculosa*  
*Carex pensylvanica*  
*Cyperus diandrus*  
*Cyperus echinatus*  
*Eragrostis spectabilis*  
*Juncus tenuis*  
*Panicum virgatum*  
*Schizocyrium scoparium*  
*Scirpus pungens*  
*Scirpus validus*  
*Sorghastrum nutans*  
*Tridens flavus*

Beach grass  
Broom-sedge  
Churchmouse threeawn  
Seaside threeawn  
Pennsylvania sedge  
Umbrella flatsedge  
Globe flatsedge  
Purple love grass  
Pathrush  
Switchgrass  
Little bluestem  
Common threesquare  
Soft-stem bulrush  
Indiangrass  
Purpletop Tridens

#### Forbs

*Agalinus purpurea*  
*Asclepias syriaca*  
*Asclepias tuberosa*  
*Desmodium paniculatum*  
*Eupatorium serotinum*  
*Euthamia graminifolia*  
*Helenium flexuosum*  
*Ionactis linariifolius*  
*Lespedeza capitata*  
*Maianthemum stellata*  
*Nuttallanthus canadensis*  
*Oenothera biennis*  
*Oenothera fruticosa*  
*Opuntia humifusa*  
*Plantago aristata*  
*Potentilla canadensis*  
*Rudbeckia hirta*  
*Solidago rugosa*  
*Solidago sempervirens*  
*Suaeda linearis*  
*Suaeda maritima*

Purple false foxglove  
Common milkweed  
Butterfly weed  
Panicked tick-trefoil  
Late Eupatorium  
Lance-leaved goldenrod  
Southern sneezeweed  
Flaxleaf whitetop aster  
Round-headed bush-clover  
Star-flowered Solomon's seal  
Blue toadflax  
Common evening primrose  
Sundrops  
Devil's tongue  
Largebracted plantain  
Dwarf cinquefoil  
Black-eyed Susan  
Wrinkleleaf goldenrod  
Seaside goldenrod  
Annual sea blite  
Sea blite

*Symphytotrichum ericoides*  
*Symphytotrichum novi-belgii*

White heath aster  
New York aster

### Vines

*Celastrus scandens*  
*Menispermum canadense*  
*Parthenocissus quinquefolia*  
*Strophostyles helvula*

American bittersweet  
Moon seed  
Virginia creeper  
Tailing wild bean

### Shrubs

*Clethra alnifolia*  
*Gaylussacia baccata*  
*Hudsonia tomentosa*  
*Morella pensylvanica*  
*Photinia melanocarpa*  
*Photinia pyrifolia*  
*Prunus maritima*  
*Rhus copallina*  
*Rhus glabra*  
*Rhus typhina*  
*Rosa carolina*  
*Rubus flagellaris*  
*Rubus pensilvanicus*  
*Sambucus canadensis*  
*Vaccinium corymbosum*  
*Viburnum dentatum*

Sweet pepperbush  
Black huckleberry  
False heather  
Northern bayberry  
Black chokeberry  
Red chokeberry  
Beach plum  
Winged sumac  
Smooth sumac  
Staghorn sumac  
Pasture rose  
Dewberry  
Pennsylvania blackberry  
Elderberry  
Highbush blueberry  
Arrow-wood

### Trees

*Acer rubrum*  
*Amelanchier canadensis*  
*Ilex opaca*  
*Juniperus virginiana*  
*Pinus rigida*  
*Prunus serotina*  
*Salix nigra*  
*Salix eriocephala*  
*Sassafras albidum*

Red maple  
Canadian serviceberry  
American holly  
Eastern red cedar  
Pitch pine  
Black cherry  
Black willow  
Stiff willow  
Sassafras

## WETLANDS

Tidal wetland habitats occur in low-lying areas along the coast where plants can tolerate periodic soil saturation. The twice-daily tides allow soil to drain and become aerated for a period of time. The low salt marsh community lies in a zone from mean sea level up to mean high tide tolerating the saline waters. The high salt marsh community lies in a zone from mean high tide up to the limit of spring tides tolerating brackish waters. Only about 4,000 acres of salt marsh still exist around New York City. By 1950, over 20,000 acres were destroyed after wetlands were filled with trash and construction debris (Luttenberg et al 1993).

### LOW SALT MARSH

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.

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

#### Recommended Plants:

##### Graminoids

*Spartina alternifolia*

Smooth 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 will only be flooded during spring tides or storm surges.

##### Graminoids

*Bolboschoenus robustus*

Salt marsh bulrush

*Distichlis spicata*

Salt grass

*Juncus gerardii*

Black grass

*Panicum virgatum*

Switchgrass

*Schoenoplectus pungens*

Common threesquare

*Spartina cynosuroides*

Big cordgrass

*Spartina patens*

Salt-meadow cordgrass

##### Forbs

*Hibiscus moscheutos*

Rose mallow

*Limonium carolinianum*

Sea lavender

*Salicornia depressa*

Virginia glasswort

*Solidago sempervirens*

Seaside goldenrod

*Suaeda linearis*

Tall sea blite

*Suaeda maritima*

Sea blite

*Symphyotrichum novi-belgii*

New York aster

*Symphyotrichum tenuifolium*

Salt marsh aster



Shrubs

*Baccharis halmifolia*

*Iva frutescens*

Groundsel bush

Marsh elder

## EMERGENT MARSH

A non-tidal, freshwater wetland occurs in low-lying areas along rivers and other fresh bodies of water that are subject to flooding, isolated depressions that collect surface water, as well as areas with high groundwater tables. Water levels fluctuate seasonally and usually drop in mid to late summer. A shallow emergent marsh occurs on mineral soils that are more well-drained than a deep emergent marsh with water depths from 6" to 3.3'. Shallow emergent marshes can be considered wet meadows, gradually sloping shores of ponds, lakes, and streams, and temporarily flooded drainage swales. A deep emergent marsh occurs on mineral soils or fine-grained organic soils (muck or well-decomposed peat) with water depths that may reach 6" to 6.6'. Only 2,000 acres of freshwater wetlands remain with the five boroughs from the expansive 224,000 acres that date back to the Industrial Revolution (Luttenberg et al 1993).

## SHALLOW EMERGENT MARSH

Examples Include: Seton Falls (BX), Prospect Park (BK), Central Park –Belvedere (MN), Flushing Meadows-Willow Lake (QU), Blue Heron (SI), High Rock (SI)

### Recommended Plants:

#### Ferns

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

#### Graminoids

<i>Andropogon virginicus</i>	Broom-sedge
<i>Carex annectens</i>	Yellow-fruit sedge
<i>Carex comosa</i>	Bottlebrush sedge
<i>Carex crinita</i>	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>	Soft rush
<i>Leersia oryzoides</i>	Rice cut-grass
<i>Rhynchospora capitellata</i>	Brownish beaksedge
<i>Schoenoplectus pungens</i>	Common threesquare
<i>Schoenoplectus tabernaemontani</i>	Soft stem bulrush
<i>Scirpus atrovirens</i>	Green bulrush
<i>Scirpus cyperinus</i>	Wool grass

*Sparganium eurycarpum*  
*Tripsacum dactyloides*

Giant bur-seed  
Eastern gamagrass

Forbs

*Alisma subcordatum*  
*Asclepias incarnata*  
*Chelone glabra*  
*Desmodium canadense*  
*Doellingeria umbellata*  
*Eupatorium perfoliatum*  
*Eutrochium maculatum*  
*Helenium autumnale*  
*Helianthis giganteus*  
*Hibiscus moscheutos*  
*Iris prismatica*  
*Iris versicolor*  
*Lobelia cardinalis*  
*Lobelia siphilitica*  
*Ludwigia alternifolia*  
*Peltandra virginica*  
*Polygonum arifolium*  
*Polygonum sagittatum*  
*Pontederia cordata*  
*Sagittaria latifolia*  
*Sisyrinchium angustifolium*  
*Symphyotrichum novae-angliae*  
*Symphyotrichum novi-belgii*  
*Tradescantia virginiana*  
*Verbena hastata*  
*Vernonia novaboracensis*  
*Viola cucullata*

Water plantain  
Swamp milkweed  
Turtlehead  
Showy tick-trefoil  
Flat top aster  
Boneset  
Spotted Joe-pye weed  
Common sneezeweed  
Tall sunflower  
Rose-mallow  
Slender blue iris  
Large blue flag  
Cardinal flower  
Great lobelia  
Seedbox  
Green arrow arum  
Halberd-leaved tearthumb  
Arrowleaf tearthumb  
Pickerelweed  
Broadleaf arrowhead  
Blue-eyed grass  
New England aster  
New York aster  
Spiderwort  
Swamp verbena  
New York ironweed  
Marsh blue violet

Shrubs

*Baccharis halmifolia*  
*Cephalanthus occidentalis*  
*Rosa palustris*

Groundsel bush  
Buttonbush  
Swamp rose

## DEEP EMERGENT MARSH

Examples Include: Van Cortlandt Lake (BX), Canarsie Beach Park (BK), Central Park-Belvedere (MN), Baisley Pond (QU), Wolfe's Pond (SI).

### Recommended Plants:

#### Graminoids

*Carex comosa*

*Schoenoplectus tabernaemontani*

*Spartina pectinata*

Bottlebrush sedge

Soft stem bulrush

Prairie cordgrass

#### Forbs

*Hibiscus moscheutos*

*Impatiens capensis*

*Lobelia cardinalis*

*Peltandra virginica*

*Pontederia cordata*

*Rumex verticillatus*

*Sagittaria latifolia*

*Typha angustifolia*

*Typha latifolia*

Rose-mallow

Jewelweed

Cardinal flower

Green arrow arum

Pickerelweed

Swamp dock

Broadleaf arrowhead

Narrowleaf cattail

Broadleaf cattail

#### Shrubs

*Alnus serrulata*

*Cephalanthus occidentalis*

*Cornus amomum*

*Viburnum dentatum*

Common alder

Buttonbush

Silky dogwood

Arrowwood

## B. Herbaceous Communities

Herbaceous communities are plant communities characterized by a tree canopy cover of less than 25%. Herbaceous plants make up the majority of the cover.

### SERPENTINE BARRENS

The plant communities of the serpentine barrens are a state and globally ranked 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 (NYNHP 2011). 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 obliterated by forest succession in the absence of wildfire and later, by conversion to urban uses (Kiviat and Johnson 2013).

Examples Include: Seaview Meadow (SI).

#### Recommended Plants:

##### Graminoids

*Aristida oligantha*

*Aristida purpurascens*

*Danthonia spicata*

*Dichanthelium clandestinum*

*Eragrostis spectabilis*

*Juncus tenuis*

*Panicum virgatum*

*Schizachyrium scoparium*

*Sorghastrum nutans*

Prarie threeawn

Arrowfeather threeawn

Poverty oatgrass

Deertongue

Purple lovegrass

Path rush

Switchgrass

Little bluestem

Indiangrass

##### Forbs

*Eupatorium serotinum*

*Lespedeza capitata*

*Potentilla simplex*

*Pycnanthemum tenuifolium*

*Solidago nemoralis*

*Symphyotrichum ericoides*

*Symphyotrichum laeve*

*Symphyotrichum pilosum*

Late eupatorium

Round-headed bush-clover

Common cinquefoil

Narrow-leaved mountain mint

Gray goldenrod

White heath aster

Smooth blue aster

Hairy white old field aster

##### Vines

*Parthenocissus quinquefolia*

Virginia creeper

##### Shrubs

*Rhus aromatica*

Fragrant sumac

*Rhus copallina*  
*Rubus flagellaris*

Winged sumac  
Dewberry

Trees

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

Gray birch  
Black oak  
Quaking aspen  
Black cherry  
Sassafras

## SUCCESSIONAL OLD FIELDS/URBAN LOT

Successional old fields/urban lots are home to some of the toughest native plants that New York City can claim. These plants can thrive in areas with low nutrient levels, low permeability, a minimal amount of organic matter, 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 find their way in the most severe landscapes, providing important ecosystem services. Many non-native species thrive in these communities as well. Native plants that can compete with these non-native species are key players in maintaining a balance in the constant battle of invasive plant control.

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

### Recommended Plants:

#### Graminoids

*Andropogon virginicus*

*Aristida oligantha*

*Carex blanda*

*Eragrostis spectabilis*

*Juncus tenuis*

*Tridens flavus*

*Panicum virgatum*

*Schizachyrium scoparium*

Broom-sedge

Prarie threeawn

Eastern woodland sedge

Purple lovegrass

Path rush

Purpletop tridens

Switchgrass

Little bluestem

#### Forbs

*Apocynum cannabinum*

*Asclepias syriaca*

*Bidens frondosa*

*Desmodium paniculatum*

*Eupatorium serotinum*

*Euthamia graminifolia*

*Krigia virginica*

*Oenothera biennis*

*Plantago aristata*

*Potentilla canadensis*

*Potentilla simplex*

*Solidago canadensis*

*Solidago juncea*

*Solidago nemoralis*

*Solidago rugosa*

*Solidago sempervirens*

*Symphyotrichum ericoides*

*Symphyotrichum laeve*

*Symphyotrichum pilosum*

Indian hemp

Common milkweed

Beggarticks

Panicled tick-trefoil

Late eupatorium

Lance-leaved goldenrod

Virginia dwarfdandelion

Common evening primrose

Largebracted plantain

Dwarf cinquefoil

Common cinquefoil

Canada goldenrod

Early goldenrod

Gray goldenrod

Wrinkleleaf goldenrod

Seaside goldenrod

White heath aster

Smooth blue aster

Hairy white oldfield aster

*Verbena urticifolia*

White vervain

Vines

*Parthenocissus quinquefolia*

Virginia creeper

*Strophostyles helvula*

Tailing wild bean

Shrubs

*Baccharis halmifolia*

Groundsel bush

*Rhus copallina*

Winged sumac

*Rhus glabra*

Smooth sumac

*Rhus typhina*

Staghorn sumac

*Rubus flagellaris*

Dewberry

*Rubus pensilvanicus*

Pennsylvania blackberry

Trees

*Acer negundo*

Boxelder

*Betula populifolia*

Gray birch

*Celtis occidentalis*

Common hackberry

*Juglans nigra*

Black walnut

*Juniperus virginiana*

Eastern red cedar

*Populus deltoides*

Cottonwood

*Populus grandidentata*

Bigtooth aspen

*Prunus serotina*

Black cherry

*Quercus palustris*

Pin oak



## OAK OPENING

These communities were originally characterized as openings that occurred as gaps within extensive oak-hickory forests. A grass-savanna community would flourish on these very well-drained sites, on 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 will continue to creep in from the surrounding tree and shrub lines, unless maintained to keep a meadow-like open character.

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

### Recommended Plants:

#### Ferns

<i>Dennstaedtia punctilobula</i>	Hay-scented fern
<i>Thelypteris novaboracensis</i>	New York fern

#### Graminoids

<i>Agrostis perennans</i>	Autumn bent-grass
<i>Andropogon gerardii</i>	Big bluestem
<i>Aristida oligantha</i>	Prarie threeawn
<i>Aristida purpurascens</i>	Arrowfeather threeawn
<i>Carex pensylvanica</i>	Pennsylvania sedge
<i>Dichanthelium clandestinum</i>	Deertongue
<i>Elymus hystix</i>	Bottlebrush grass
<i>Eragrostis spectabilis</i>	Purple lovegrass
<i>Panicum virgatum</i>	Switchgrass
<i>Schizachyrium scoparium</i>	Little bluestem
<i>Sorghastrum nutans</i>	Indiangrass
<i>Tridens flavus</i>	Purpletop tridens
<i>Tripsacum dactyloides</i>	Eastern gamagrass

#### Forbs

<i>Allium canadense</i>	Wild garlic
<i>Asclepias syriaca</i>	Common milkweed
<i>Asclepias tuberosa</i>	Butterfly weed
<i>Desmodium canadense</i>	Showy tick-trefoil
<i>Doellingeria umbellata</i>	Flat top aster
<i>Eupatorium hyssopifolium</i>	Hyssop-leaved boneset
<i>Eupatorium serotinum</i>	Late eupatorium
<i>Euthamia graminifolia</i>	Lance-leaved goldenrod
<i>Eutrochium purpureum</i>	Sweet Joe-pye weed
<i>Geranium maculatum</i>	Wild geranium
<i>Helianthus decapetalus</i>	Thin-leaved sunflower
<i>Helianthus divaricatus</i>	Woodland sunflower

*Iris prismatica*  
*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*

Slender blue iris  
Blue flag iris  
Round-headed bush-clover  
Wild bergamot  
Sundrops  
Common cinquefoil  
Narrow-leaved mountain mint  
Black-eyed Susan  
Starry campion  
Early goldenrod  
Gray goldenrod  
Sweet goldenrod  
Wrinkleleaf goldenrod  
Showy goldenrod  
Forked blue curls

### Shrubs

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

Grey dogwood  
Black huckleberry  
Northern bayberry  
Pinkster azalea  
Winged sumac  
Smooth sumac  
Staghorn sumac  
Virginia rose  
Dewberry  
Red raspberry  
Pennsylvania blackberry  
Meadowsweet  
Lowbush blueberry  
Early low blueberry  
Arrowwood

### Trees

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

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

## Upland Shrubland Communities

Upland shrublands are plant communities characterized by a shrub canopy of at least 50%.

### SHRUB SWAMP

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 a diverse flora and fauna.

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

### Recommended Plants:

#### Ferns

<i>Dryopteris cristata</i>	Crested woodfern
<i>Onoclea sensibilis</i>	Sensitive fern
<i>Osmunda cinnamomea</i>	Cinnamon fern
<i>Osmunda regalis</i>	Royal fern
<i>Thelypteris palustris</i>	Marsh fern
<i>Woodwardia areolata</i>	Netted chain fern

#### Graminoids

<i>Carex annectens</i>	Yellow-fruit sedge
<i>Carex atlantica</i>	Prickly bog sedge
<i>Carex comosa</i>	Bottlebrush sedge
<i>Carex crinita</i>	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>Dulichium arundinaceum</i>	Three-way sedge
<i>Juncus canadensis</i>	Canadian rush
<i>Juncus effuses</i>	Soft rush
<i>Leersia oryzoides</i>	Rice cut-grass
<i>Rhynchospora capitellata</i>	Brownish beaksedge
<i>Scirpus atrovirens</i>	Green bulrush

#### Forbs

<i>Asclepias incarnata</i>	Swamp milkweed
<i>Bidens frondosa</i>	Beggarticks
<i>Doellingeria umbellata</i>	Flat top aster
<i>Chelone glabra</i>	Turtlehead
<i>Decodon verticillatus</i>	Swamp loostrife

*Desmodium canadense*  
*Eupatorium perfoliatum*  
*Hibiscus moscheutos*  
*Impatiens capensis*  
*Iris prismatica*  
*Lobelia cardinalis*  
*Lobelia siphilitica*  
*Ludwigia alternifolia*  
*Lysimachia ciliata*  
*Peltandra virginica*  
*Polygonum arifolium*  
*Polygonum hydropiperoides*  
*Polygonum sagittatum*  
*Sisyrinchium angustifolium*  
*Symphotrichum novae-angliae*  
*Thalictrum pubescens*  
*Vernonia novaboracensis*  
*Viola cucullata*

#### Vines

*Clematis virginiana*  
*Mikania scandens*

#### Shrubs

*Cephalanthus occidentalis*  
*Clethra alnifolia*  
*Cornus amomum*  
*Cornus racemosa*  
*Eubotrys racemosa*  
*Ilex glabra*  
*Ilex verticillata*  
*Lindera benzoin*  
*Lyonia lingustrina*  
*Photinia floribunda*  
*Photinia pyrifolia*  
*Rhododendron viscosum*  
*Rosa palustris*  
*Sambucus canadensis*  
*Spiraea alba var. latifolia*  
*Spiraea tomentosa*  
*Vaccinium corymbosum*  
*Viburnum dentatum*

#### Trees

*Acer rubrum*

Showy tick-trefoil  
Boneset  
Rose-mallow  
Jewelweed  
Slender blue iris  
Cardinal flower  
Great lobelia  
Seedbox  
Fringed loosestrife  
Green arrow arum  
Halberd-leaved tearthumb  
Swamp smartweed  
Arrowleaf tearthumb  
Blue-eyed grass  
New England aster  
Tall meadow-rue  
New York ironweed  
Marsh blue violet

Virgin's bower  
Climbing hempweed

Buttonbush  
Sweet pepperbush  
Silky dogwood  
Grey dogwood  
Fetterbush  
Inkberry  
Winterberry  
Spicebush  
Male-berry  
Purple fruit chokeberry  
Red chokeberry  
Pinkster azalea  
Swamp rose  
Elderberry  
Meadowsweet  
Hardhack  
Highbush blueberry  
Arrowwood

Red maple

## SUCCESSIONAL SHRUBLAND

A shrubland that occurs on sites that have been cleared or otherwise disturbed. This plant community 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. Herbs, grasses, and ferns provide a great ground cover for a diverse fauna.

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

### Recommended Plants:

#### Ferns

*Dennstaedtia punctilobula*

Hay-scented fern

*Thelypteris novaboracensis*

New York fern

#### Graminoids

*Andropogon gerardii*

Big bluestem

*Andropogon virginicus*

Broom-sedge

*Aristida oligantha*

Prarie threeawn

*Carex scoparia*

Pointed broom sedge

*Dichantherium clandestinum*

Deertongue

*Juncus tenuis*

Path rush

*Panicum virgatum*

Switchgrass

*Rhynchospora capitellata*

Brownish beaksedge

*Schizachyrium scoparium*

Little bluestem

*Scirpus atrovirens*

Green bulrush

*Scirpus cyperinus*

Wool grass

*Sorghastrum nutans*

Indiangrass

#### Forbs

*Asclepias syriaca*

Common milkweed

*Asclepias tuberosa*

Butterfly weed

*Desmodium paniculatum*

Panicled tick-trefoil

*Eupatorium perfoliatum*

Boneset

*Eupatorium serotinum*

Late eupatorium

*Eutrochium maculatum*

Spotted Joe-pye weed

*Eutrochium purpureum*

Sweet Joe-Pye weed

*Krigia virginica*

Virginia dwarfdandelion

*Lespedeza capitata*

Round-headed bush-clover

*Monarda fistulosa*

Wild bergamot

*Monarda punctata*

Spotted beebalm

*Plantago aristata*

Largebracted plantain

*Potentilla simplex*

Common cinquefoil

*Pseudognaphalium obtusifolium*

Rabbit-tobacco

*Rudbeckia hirta*

Black-eyed Susan

*Solidago odora*

Sweet goldenrod

*Solidago nemoralis*  
*Solidago rugosa*  
*Solidago sempervirens*

Gray goldenrod  
Wrinkleleaf goldenrod  
Seaside goldenrod

#### Vines

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

Moon seed  
Virginia creeper  
Tailing wild bean  
Frost grape

#### Shrubs

*Cornus racemosa*  
*Gaylussacia baccata*  
*Photinia melanocarpa*  
*Rhus copallina*  
*Rhus glabra*  
*Rhus typhina*  
*Rosa carolina*  
*Rosa virginiana*  
*Rubus flagellaris*  
*Rubus idaeus*  
*Rubus pensilvanicus*  
*Sambucus canadensis*  
*Spiraea tomentosa*  
*Vaccinium angustifolium*  
*Vaccinium pallidum*  
*Viburnum dentatum*

Grey dogwood  
Black huckleberry  
Black chokeberry  
Winged sumac  
Smooth sumac  
Staghorn sumac  
Pasture rose  
Virginia rose  
Dewberry  
*Red raspberry*  
Pennsylvania blackberry  
Elderberry  
Hardhack  
Lowbush blueberry  
Early low 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  
Grey birch  
Eastern red cedar  
Cottonwood  
Bigtooth aspen  
Quaking aspen  
Black cherry

## C. Wetland Forest Communities

Wetland forests are plant communities which occur in poorly drained depressions on inorganic soils throughout the New York City area.

### FLOODPLAIN FOREST

This hardwood forest community occurs on mineral soils in low-lying areas near river floodplains. These areas are flooded regularly in the spring and intermittently on more upland areas. Small stream floodplain forests will be less disturbed than river floodplain forests where river currents flowing through these areas can scour the landscape.

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

#### Recommended Plants:

##### Ferns

*Athyrium felix-femina*

*Onoclea sensibilis*

*Osmunda cinnamomea*

*Osmunda claytoniana*

Lady fern

Sensitive fern

Cinnamon fern

Interrupted fern

##### Graminoids

*Carex crinita*

*Carex intumescens*

*Carex lupulina*

*Carex radiata*

*Carex rosea*

*Carex vulpinoidea*

*Cinna arundinacea*

*Danthonia compressa*

*Glyceria striata*

*Juncus tenuis*

*Juncus canadensis*

*Rhynchospora capitellata*

*Scirpus atrovirens*

Fringed sedge

Bladder sedge

Hop sedge

Eastern star sedge

Rosy sedge

Fox sedge

Stout woodreed

Flattened oatgrass

Fowl mannagrass

Path rush

Canadian rush

Brownish beaksedge

Green bulrush

##### Forbs

*Ageratina altissima*

*Allium canadense*

*Arisaema triphyllum*

*Bidens frondosa*

*Bohmeria cylindrica*

*Chelone glabra*

*Claytonia virginica*

*Collinsonia canadensis*

White snakeroot

Wild garlic

Jack-in-the-Pulpit

Beggarticks

False nettle

Turtlehead

Spring beauty

Horse balm

*Erythronium americanum*  
*Eupatorium perfoliatum*  
*Eutrochium maculatum*  
*Geranium maculatum*  
*Geum canadense*  
*Helianthus decapetalus*  
*Hydrophyllum virginianum*  
*Impatiens capensis*  
*Iris versicolor*  
*Lobelia cardinalis*  
*Lycopus americanus*  
*Lysimachia ciliata*  
*Osmorhiza longistyles*  
*Polygonum hydropiperoides*  
*Polygonum virginianum*  
*Thalictrum pubescens*  
*Symplocarpus foetidus*

Trout lily  
Boneset  
Spotted Joe-pye weed  
Wild geranium  
White avens  
Thin-leaved sunflower  
Virginia waterleaf  
Jewelweed  
Blue flag iris  
Cardinal flower  
Water horehound  
Fringed loosestrife  
Longstyle sweetroot  
Swamp smartweed  
Jumpseed  
Tall meadow-rue  
Skunk cabbage

Vines

*Clematis virginiana*  
*Smilax herbacea*  
*Vitis labrusca*  
*Vitis riparia*

Virgin's bower  
Carrion flower  
Fox grape  
River grape

Shrubs

*Cephalanthus occidentalis*  
*Clethra alnifolia*  
*Cornus amomum*  
*Cornus racemosa*  
*Eubotrys racemosa*  
*Ilex verticillata*  
*Lindera benzoin*  
*Photinia pyrifolia*  
*Rhododendron viscosum*  
*Rosa palustris*  
*Rubus occidentalis*  
*Sambucus canadensis*  
*Spiraea alba var. latifolia*  
*Spiraea tomentosa*  
*Vaccinium corymbosum*  
*Viburnum dentatum*

Buttonbush  
Sweet pepperbush  
Silky dogwood  
Grey dogwood  
Fetterbush  
Inkberry  
Spicebush  
Red chokeberry  
Swamp azalea  
Swamp rose  
Black raspberry  
Elderberry  
Meadowsweet  
Hardhack  
Highbush blueberry  
Arrowwood

Trees

*Acer negundo*  
*Acer rubrum*

Boxelder  
Red maple



*Betula nigra*  
*Carya cordiformis*  
*Carya ovata*  
*Carya tomentosa*  
*Celtis occidentalis*  
*Liquidambar styraciflua*  
*Nyssa sylvatica*  
*Platanus occidentalis*  
*Populus deltoides*  
*Quercus bicolor*  
*Quercus palustris*  
*Salix nigra*  
*Ulmus americana*

River birch  
Bitternut hickory  
Shagbark hickory  
Mockernut hickory  
Common hackberry  
Sweetgum  
Black tupelo  
American sycamore  
Eastern cottonwood  
Swamp white oak  
Pin oak  
Black willow  
American elm

## BOTTOMLAND FOREST

A deciduous forested wetland community occurs along rivers and streams. These river swamps are seasonally flooded and considered a broad floodplain forest with varying elevations and land forms. The changing soil elevations and hydrological conditions support diverse vegetation (USDA 2008).

Examples Include: Bucks Hollow (SI).

### Recommended Plants:

#### Ferns

*Athyrium felix-femina*

*Dennstaedtia punctilobula*

*Dryopteris carthusiana*

*Osmunda cinnamomea*

*Osmunda claytoniana*

Lady fern

Hay-scented fern

Spinulose woodfern

Cinnamon fern

Interrupted fern

#### Graminoids

*Carex blanda*

*Carex lupulina*

*Carex radiata*

*Carex rosea*

*Carex scoparia*

*Carex stipata*

*Carex swanii*

*Cinna arundinacea*

*Danthonia spicata*

*Glyceria obtusa*

*Juncus tenuis*

*Rhynchospora capitellata*

Eastern woodland sedge

Hop sedge

Eastern star sedge

Rosy sedge

Pointed broom sedge

Awlfruit sedge

Swan's sedge

Stout woodreed

Poverty oatgrass

*Coastal mannagrass*

Path rush

Brownish beaksedge

#### Forbs

*Ageratina altissima*

*Allium canadense*

*Bidens frondosa*

*Cryptotaenia canadensis*

*Decodon verticillatus*

*Eutrochium maculatum*

*Eupatorium perfoliatum*

*Eurybia divaricata*

*Geranium maculatum*

*Mitchella repens*

*Penthorum sedoides*

*Polygonum arifolium*

*Polygonum hydropiperoides*

White snakeroot

Wild garlic

Beggarticks

Canada honewort

Swamp loostrife

Spotted Joe-pye weed

Boneset

White wood aster

Wild geranium

Partridge berry

Ditch stonecrop

Halberd-leaved tearthumb

Swamp smartweed

*Polygonum sagittatum*  
*Ranunculus arborvitus*  
*Sanicula canadensis*  
*Solidago caesia*  
*Smilacina racemosa*  
*Symphotrichum cordifolium*  
*Symplocarpus foetidus*  
*Triadenum virginianum*  
*Thalictrum pubescens*  
*Viola cucullata*  
*Viola x primulifolia*  
*Viola sororia*

Arrowleaf tearthumb  
Small-flowered crow-foot  
Canada sanicle  
Wreath goldenrod  
False Solomon's seal  
Blue wood aster  
Skunk cabbage  
Virginia marsh St. Johnswort  
Tall meadow-rue  
Marsh blue violet  
Primrose-leaved violet  
Common violet

### Vines

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

Virginia creeper  
Fox grape  
River grape

### Shrubs

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

Striped prince's pine  
Sweet pepperbush  
Silky dogwood  
American hazel-nut  
Spicebush  
American wintergreen  
Black raspberry  
Pennsylvania blackberry  
Bristly dewberry  
Highbush blueberry  
Arrowwood

### Trees

*Acer rubrum*  
*Betula allegheniensis*  
*Betula lenta*  
*Carya ovata*  
*Carya tomentosa*  
*Diospyros virginiana*  
*Fagus grandifolia*  
*Juglans nigra*  
*Liquidambar styraciflua*  
*Liriodendron tulipifera*  
*Populus tremuloides*  
*Prunus serotina*  
*Quercus alba*

Red maple  
Yellow birch  
Black birch  
Shagbark hickory  
Mockernut hickory  
Persimmon  
American beech  
Black walnut  
Sweetgum  
Tulip poplar  
Quaking aspen  
Black cherry  
White oak

*Quercus bicolor*  
*Quercus coccinea*  
*Quercus rubra*  
*Ulmus americana*

Swamp white oak  
Scarlet oak  
Red oak  
American elm

## RED-MAPLE HARDWOOD SWAMP

This broadly-defined community has the red maple (*Acer rubrum*) as the dominant canopy tree or as a co-dominant species with other mixed hardwoods. A common community throughout the five boroughs, it occurs in poorly drained depressions, usually on inorganic soils (Edinger et al 2002). The landscapes can vary in elevation and the amount of time they are flooded throughout the year.

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

### Recommended Plants:

#### Ferns

<i>Athyrium felix-femina</i>	Lady fern
<i>Dryopteris carthusiana</i>	Spinulose woodfern
<i>Dryopteris cristata</i>	Crested woodfern
<i>Onoclea sensibilis</i>	Sensitive fern
<i>Osmunda cinnamomea</i>	Cinnamon fern
<i>Osmunda regalis</i>	Royal fern
<i>Woodwardia areolata</i>	Netted chain fern

#### Graminoids

<i>Carex crinita</i>	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>	Riverbank wild rye
<i>Elymus virginicus</i>	Virginia wild rye
<i>Glyceria canadensis</i>	Rattlesnake mannagrass
<i>Glyceria obtusa</i>	Coastal mannagrass
<i>Glyceria striata</i>	Fowl mannagrass
<i>Juncus effuses</i>	Soft rush
<i>Leersia virginica</i>	White grass
<i>Scirpus atorvirens</i>	Green bulrush

#### Forbs

<i>Arisaema triphyllum</i>	Jack-in-the-Pulpit
<i>Bohmeria cylindrica</i>	False nettle
<i>Claytonia virginica</i>	Spring beauty
<i>Chelone glabra</i>	Turtlehead
<i>Erythronium americanum</i>	Trout lily
<i>Eupatorium dubium</i>	Three-nerved Joe-pye weed
<i>Eupatorium perfoliatum</i>	Boneset

*Geum canadense*  
*Impatiens capensis*  
*Lilium superbum*  
*Lobelia cardinalis*  
*Lysimachia ciliata*  
*Mimulus ringens*  
*Saururus cernuus*  
*Symplocarpus foetidus*  
*Thalictrum pubescens*  
*Uvularia sessilifolia*

#### Vines

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

#### Shrubs

*Cephalanthus occidentalis*  
*Clethra alnifolia*  
*Eubotrys racemosa*  
*Ilex verticillata*  
*Lindera benzoin*  
*Lyonia lingustrina*  
*Photinia floribunda*  
*Photinia melanocarpa*  
*Photinia pyrifolia*  
*Rhododendron viscosum*  
*Vaccinium corymbosum*  
*Viburnum dentatum*

#### Trees

*Acer rubrum*  
*Amelanchier canadensis*  
*Betula nigra*  
*Diospyros virginiana*  
*Liquidambar styraciflua*  
*Magnolia virginiana*  
*Nyssa sylvatica*  
*Platanus occidentalis*  
*Quercus bicolor*  
*Quercus palustris*  
*Ulmus americana*

White avens  
Jewelweed  
Turk's cap lily  
Cardinal flower  
Fringed loosestrife  
Monkey flower  
Lizard's tail  
Skunk cabbage  
Tall meadow-rue  
*Sessileleaf bellwort*

Virgin's bower  
Fox grape  
River grape

Buttonbush  
Sweet pepperbush  
Fetterbush  
Inkberry  
Spicebush  
Male-berry  
Purple fruit chokeberry  
Black chokeberry  
Red chokeberry  
Swamp azalea  
Highbush blueberry  
Arrowwood

Red maple  
Canadian serviceberry  
River birch  
Persimmon  
Sweetgum  
Sweet-bay magnolia  
Black tupelo  
American sycamore  
Swamp white oak  
Pin oak  
American elm

## 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 south- or west-facing slopes in the coastal lowlands. The tree canopy cover is at least 60% with a moderate density of hickories mixed with a two or more species of oaks.

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

#### Recommended Plants:

##### Ferns

*Adiantum aleuticum*

*Asplenium platyneuron*

*Dennstaedtia punctilobula*

*Polypodium virginianum*

*Polystichum acrostichoides*

Maidenhair fern

Ebony Spleenwort

Hay-scented fern

Common polypody

Christmas fern

##### Graminoids

*Andropogon gerardii*

*Carex appalachica*

*Carex blanda*

*Carex communis*

*Carex pensylvanica*

*Carex swanii*

*Carex virescens*

*Danthonia compressa*

*Danthonia spicata*

*Deschampsia flexuosa*

*Dichanthelium latifolium*

*Elymus hystrix*

*Schizachyrium scoparium*

Big bluestem

Appalachian sedge

Eastern woodland sedge

Fibrousroot sedge

Pennsylvania sedge

Swan's sedge

Ribbed sedge

Flattened oatgrass

Poverty oatgrass

Common hairgrass

Broadleaf rosette grass

Bottlebrush grass

Little bluestem

##### Forbs

*Aquilegia canadensis*

*Arabis canadensis*

*Corydalis sempervirens*

*Eurybia divaricata*

*Fragaria virginiana*

Wild columbine

Sicklepod

Rock harlequin

White wood aster

Wild strawberry

*Helianthus divaricatus*  
*Ionactis linariifolius*  
*Lespedeza hirta*  
*Lysimachia quadrifolia*  
*Monarda fistulosa*  
*Ozmorhiza claytonii*  
*Pycnanthemum incanum*  
*Silene stellata*  
*Solidago bicolor*  
*Solidago caesia*  
*Symphotrichum cordifolium*  
*Thalictrum dioicum*  
*Verbena urticifolia*

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

### Trees

*Acer rubrum*  
*Acer saccharum*  
*Amelanchier arborea*  
*Betula lenta*  
*Betula populifolia*  
*Carya glabra*  
*Carya cordiformis*  
*Carya ovata*  
*Carya tomentosa*

Woodland sunflower  
Flaxleaf whitetop aster  
Hairy bush clover  
Whorled loostrike  
Wild bergamot  
Sweet cicely  
Hoary mountain mint  
Starry campion  
White goldenrod  
Wreath goldenrod  
Blue wood aster  
Early meadow-rue  
White vervain

Sweetfern  
Black huckleberry  
Tall huckleberry  
Witch hazel  
Mountain laurel  
Pinkster azalea  
Smooth sumac  
Staghorn sumac  
Virginia rose  
Common blackberry  
Dewberry  
Red raspberry  
Purple-flowered raspberry  
Lowbush blueberry  
Highbush blueberry  
Early low blueberry  
Deerberry  
Maple-leaved viburnum  
Black-haw

Red maple  
Sugar maple  
Common serviceberry  
Black birch  
Gray birch  
Pignut hickory  
Bitternut hickory  
Shagbark hickory  
Mockernut hickory



*Cornus florida*  
*Liriodendron tulipifera*  
*Ostrya virginiana*  
*Pinus strobus*  
*Prunus serotina*  
*Prunus virginiana*  
*Quercus alba*  
*Quercus coccinea*  
*Quercus ilicifolia*  
*Quercus marilandica*  
*Quercus prinus*  
*Quercus rubra*  
*Quercus velutina*  
*Tilia americana*

Flowering dogwood  
Tulip poplar  
Hop hornbeam  
Eastern white pine  
Black cherry  
Common chokecherry  
White oak  
Scarlet oak  
Bear oak  
Blackjack oak  
Chestnut oak  
Red oak  
Black oak  
American linden

## RICH MESOPHYTIC FOREST

This diverse mixed 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 occurring oak species.

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

### Recommended Plants:

#### Ferns

<i>Athyrium felix-femina</i>	Lady fern
<i>Deparia arcostichoides</i>	Silvery glade fern
<i>Dryopteris marginalis</i>	Marginal woodfern
<i>Onoclea sensibilis</i>	Sensitive fern
<i>Osmunda claytoniana</i>	Interrupted fern
<i>Polystichum acrostichoides</i>	Christmas fern
<i>Thelypteris novaboracensis</i>	New York fern

#### Graminoids

<i>Carex swanii</i>	Swan's sedge
<i>Carex radiata</i>	Eastern star sedge
<i>Carex rosea</i>	Rosy sedge
<i>Juncus tenuis</i>	Path rush
<i>Leersia virginica</i>	White grass
<i>Luzula multiflora</i>	Common wood-rush

#### Forbs

<i>Actaea pachypoda</i>	Doll's eyes
<i>Actaea racemosa</i>	Black cohosh
<i>Ageratina altissima</i>	White snakeroot
<i>Allium tricoccum</i>	Wild leek
<i>Anemone quinquefolia</i>	Wood anemone
<i>Aralia nudicaulis</i>	Wild sarsaparilla
<i>Aralia racemosa</i>	American spikenard
<i>Asarum canadense</i>	Wild ginger
<i>Caulophyllum thalictroides</i>	Blue cohosh
<i>Dicentra cucullaria</i>	Dutchman's breeches
<i>Eurochium purpureum</i>	Sweet Joe-pye weed
<i>Geranium maculatum</i>	Wild geranium
<i>Helianthus decapetalus</i>	Thin-leaved sunflower
<i>Impatiens capensis</i>	Jewelweed
<i>Maianthemum canadense</i>	Canada mayflower
<i>Mitchella repens</i>	Partridge berry
<i>Podophyllum peltatum</i>	Mayapple

*Polygonatum biflorum*  
*Polygonatum pubescens*  
*Polygonum virginianum*  
*Rubus odoratus*  
*Sanguinaria canadensis*  
*Smilacina racemosa*  
*Thalictrum pubescens*  
*Viola pubescens*  
*Viola sororia*

Smooth Solomon's seal  
Hairy Solomon's seal  
Jumpseed  
Purple-flowered raspberry  
Bloodroot  
False solomon's seal  
Tall meadow-rue  
Yellow forest violet  
Common violet

#### Vines

*Lonicera sempervirens*  
*Vitis aestivalis*

Trumpet honeysuckle  
Summer grape

#### Shrubs

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

American hazel-nut  
Strawberry bush  
Spicebush  
Witch hazel  
Pinkster azalea  
Bladder-nut  
Highbush blueberry  
Maple-leaved 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*

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  
Red oak  
Black oak

*Sassafras albidum*  
*Tilia americana*

Sassafras  
American linden

## SUCCESSIONAL MIXED HARDWOODS

Succession is a natural process that occurs on the landscape after a major disturbance such as farming, logging, fire or flood. 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. A successional mixed hardwood forest is dominated by pioneer tree species such as poplars, birches, maples, and cherries. These wind-dispersed, sun-loving species grow fast and will colonize a disturbed area. As the canopy closes, more shade tolerant species will move into the understory and tree seedlings of the climax forest, such as oak or hickory, may appear.

Examples Include: Seton Falls (BX), Prospect Park (BK), Central Park (MN), Kissena Park (QU), Heyerdale Hill (SI).

### Recommended Plants:

#### Ferns

<i>Dennstaedtia punctilobula</i>	Hay-scented fern
<i>Onoclea sensibilis</i>	Sensitive fern
<i>Osmunda cinnamomea</i>	Cinnamon fern

#### Graminoids

<i>Carex blanda</i>	Eastern woodland sedge
<i>Carex rosea</i>	Rosy sedge
<i>Cinna arundinacea</i>	Stout woodreed
<i>Dichanthelium clandestinum</i>	Deertongue
<i>Luzula multiflora</i>	Common wood-rush
<i>Panicum virgatum</i>	Switchgrass
<i>Schizachyrium scoparium</i>	Little bluesstem
<i>Sorghastrum nutans</i>	Indian grass

#### Forbs

<i>Ageratina altissima</i>	White snakeroot
<i>Cryptotaenia canadensis</i>	Canada honewort
<i>Desmodium paniculatum</i>	Panicled tick-trefoil
<i>Eurtrochium purpureum</i>	Sweet Joe-pye weed
<i>Helianthus decapetalus</i>	Thin-leaved sunflower
<i>Impatiens capensis</i>	Jewelweed
<i>Smilacina racemosa</i>	False Solomon's seal
<i>Penthorum sedodies</i>	Ditch stonecrop

#### Vines

<i>Lonicera sempervirens</i>	Trumpet honeysuckle
<i>Vitis aestivalis</i>	Summer grape
<i>Vitis vulpina</i>	Frost grape

## Shrubs

<i>Clethra alnifolia</i>	Sweet pepperbush
<i>Cornus amomum</i>	Silky dogwood
<i>Cornus racemosa</i>	Gray dogwood
<i>Gaylussacia baccata</i>	Black huckleberry
<i>Gaylussacia frondosa</i>	Tall huckleberry
<i>Hamamelis virginiana</i>	Witch hazel
<i>Lindera benzoin</i>	Spicebush
<i>Rhododendron periclymenoides</i>	Pinkster azalea
<i>Rhus glabra</i>	Smooth sumac
<i>Rhus typhina</i>	Staghorn sumac
<i>Rubus allegheniensis</i>	Common blackberry
<i>Rubus idaeus</i>	Red raspberry
<i>Rubus occidentalis</i>	Black raspberry
<i>Rubus pensilvanicus</i>	Pennsylvania blackberry
<i>Sambucus canadensis</i>	Elderberry
<i>Vaccinium angustifolium</i>	Lowbush blueberry
<i>Vaccinium pallidum</i>	Early low blueberry
<i>Viburnum acerifolium</i>	Maple-leaved blueberry
<i>Viburnum dentatum</i>	Arrowwood

## Trees

<i>Acer rubrum</i>	Red maple
<i>Acer saccharinum</i>	Silver maple
<i>Amelanchier arborea</i>	Common serviceberry
<i>Amelanchier canadensis</i>	Canadian serviceberry
<i>Betula lenta</i>	Black birch
<i>Betula populifolia</i>	Grey birch
<i>Celtis occidentalis</i>	Common hackberry
<i>Fagus grandifolia</i>	American beech
<i>Ilex opaca</i>	American holly
<i>Juniperus virginiana</i>	Eastern red cedar
<i>Liquidambar styraciflua</i>	Sweetgum
<i>Liriodendron tulipifera</i>	Tulip poplar
<i>Populus deltoides</i>	Cottonwood
<i>Populus grandidentata</i>	Bigtooth aspen
<i>Populus tremuloides</i>	Quaking aspen
<i>Prunus serotina</i>	Black cherry
<i>Sassafras albidum</i>	Sassafras

## 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 the black birch, beech or red maple. Moist, well-drained soils will 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-Hunter Island (BX), Prospect Park (BK), Inwood Hill (MN), Forest Park (QU), Bloomingdale (SI).

### Recommended Plants:

#### Ferns

*Athyrium felix-femina*

Lady fern

*Deparia acrostichoides*

Silvery glade fern

*Thelypteris novaboracensis*

New York fern

#### Graminoids

*Carex blanda*

Eastern woodland sedge

*Carex rosea*

Rosy sedge

*Carex swanii*

Swan's sedge

*Danthonia spicata*

Poverty oatgrass

*Dichanthelium clandestinum*

Deertongue

*Juncus tenuis*

Path rush

#### Forbs

*Actaea racemosa*

Black cohosh

*Anemone quinquefolia*

Wood anemone

*Aralia racemosa*

American spikenard

*Arisaema triphyllum*

Jack-in-the-Pulpit

*Eurybia divaricata*

White wood aster

*Geranium maculatum*

Wild geranium

*Helianthus decapetalus*

Thin-leaved sunflower

*Mainanthemum canadense*

Canada mayflower

*Mitchella repens*

Partridge berry

*Polygonatum biflorum*

Smooth Solomon's seal

*Polygonatum pubescens*

Hairy Solomon's seal

*Smilacina racemosa*

False Solomon's seal

*Symplocarpus foetidus*

Skunk cabbage

*Uvularia sessilifolia*

*Sessileleaf bellwort*

*Viola x primulifolia*

Primrose-leaved violet

*Viola sororia*

Common 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*

Witch hazel  
American wintergreen  
Black raspberry  
Pennsylvania blackberry  
Lowbush blueberry  
Early low blueberry  
Maple-leaved 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  
Red oak  
Black oak  
Sassafras



## CHESTNUT OAK FOREST

This hardwood forest that occurs on the coastal plain is situated on well-drained sites. The canopy 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 will consist 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).

### Recommended Plants:

#### Ferns

*Asplenium platyneuron*

Ebony Spleenwort

*Osmunda claytoniana*

Interrupted fern

*Thelypteris novaboracensis*

New York fern

#### Graminoids

*Carex pensylvanica*

Pennsylvania sedge

*Carex swanii*

Swan's sedge

#### Forbs

*Eurybia divaricata*

White wood aster

*Prenanthes trifoliata*

Gall-of-the-Earth

#### Shrubs

*Gaylussacia baccata*

Black huckleberry

*Hamamelis virginiana*

Witch hazel

*Kalmia latifolia*

Mountain laurel

*Morella pensylvanica*

Northern bayberry

*Rhododendron periclymenoides*

Pinkster azalea

*Vaccinium corymbosum*

Highbush blueberry

*Vaccinium pallidum*

Early low blueberry

*Vaccinium stamineum*

Deerberry

*Viburnum acerifolium*

Maple-leaved viburnum

#### Trees

*Liriodendron tulipifera*

Tulip poplar

*Prunus serotina*

Black cherry

*Quercus alba*

White oak

*Quercus prinus*

Chestnut oak

*Quercus rubra*

Red oak

*Quercus velutina*

Black oak

*Sassafras albidum*

Sassafras

## MARITIME OAK FOREST

This oak-dominated forest is in general proximity of a marine community such as a salt marsh or 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 will be thick with a dense shrub layer and vines.

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

### Recommended Plants:

#### Ferns

*Pteridium aquilinum*

Bracken fern

#### Graminoids

*Carex annectens*

Yellow-fruit sedge

*Carex albicans var. emonsii*

Emmons Sedge

*Chasmanthium laxum*

Slender woodoats

*Carex pensylvanica*

Pennsylvania sedge

*Danthonia compressa*

Flattened oatgrass

*Danthonia spicata*

Poverty oatgrass

*Deschampsia flexuosa*

Common hairgrass

#### Forbs

*Baptisia tinctoria*

Yellow wild indigo

*Helianthemum canadense*

Longbranch frostweed

*Hieracium venosum*

Rattlesnake weed

*Hypericum hypercoides*

St. Andrew's cross

*Lechea mucronata*

Pinweed

*Lespedeza capitata*

Round-headed bush-clover

*Lespedeza hirta*

Hairy bush clover

*Tephrosia virginiana*

Virginia tephrosia

*Trichostema dichotomum*

Forked blue curls

#### Vines

*Parthenocissus quinquefolia*

Virginia creeper

*Vitis vulpina*

Frost grape

#### Shrubs

*Arctostaphylos uva-ursi*

Bearberry

*Comptonia peregrina*

Sweetfern

*Epigaea repens*

Trailing arbutus

*Gaultheria procumbens*

Eastern teaberry

*Gaylussacia baccata*

Black huckleberry

*Gaylussacia frondosa*  
*Kalmia angustifolia*  
*Kalmia latifolia*  
*Ilex glabra*  
*Vaccinium angustifolium*  
*Vaccinium corymbosum*  
*Vaccinium pallidum*

Tall huckleberry  
Sheep laurel  
Mountain laurel  
Inkberry  
Lowbush blueberry  
Highbush blueberry  
Early low blueberry

Trees

*Acer rubrum*  
*Betula populifolia*  
*Diospyros virginiana*  
*Magnolia virginiana*  
*Nyssa sylvatica*  
*Pinus echinata*  
*Pinus rigida*  
*Pinus virginiana*  
*Quercus alba*  
*Quercus prinus*  
*Quercus velutina*  
*Sassafras albidum*

*Acer rubrum*  
Gray birch  
Persimmon  
Sweet-bay magnolia  
Black tupelo  
Shortleaf pine  
Pitch pine  
Virginia pine  
White oak  
Chestnut oak  
Black oak  
Sassafras

## SUCCESSIONAL MARITIME OAK FOREST

A maritime forest will naturally succeed a maritime shrubland if it is left undisturbed. A minimal amount of herbaceous material at ground-level will be able to survive. The dense shrub layer, with a closing canopy, will shade out many of the herbaceous species.

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

### Recommended Plants:

#### Ferns

*Pteridium aquilinum*

Bracken fern

#### Graminoids

*Andropogon gerardii*

Big bluestem

*Aristida dichotoma*

Churchmouse threeawn

*Aristida tuberculosa*

Seaside threeawn

*Agrostis perennans*

Autumn bent-grass

*Carex pensylvanica*

Pennsylvania sedge

*Eragrostis spectabilis*

Purple lovegrass

*Panicum virgatum*

Switchgrass

*Schizachyrium scoparium*

Little bluestem

#### Forbs

*Agalinus purpurea*

Purple false foxglove

*Baptisia tinctoria*

Yellow wild indigo

*Chrysopsis mariana*

Maryland goldenaster

*Eupatorium album*

White boneset

*Lespedeza capitata*

Round-headed bush-clover

*Nuttallanthus canadensis*

Blue toadflax

*Plantago aristata*

Largebracted plantain

*Solidago odora*

Sweet goldenrod

*Tephrosia virginiana*

Virginia tephrosia

*Trichostema dichotomum*

Forked blue curls

#### Vines

*Parthenocissus quinquefolia*

Virginia creeper

*Vitis vulpina*

Frost grape

#### Shrubs

*Arctostaphylos uva-ursi*

Bearberry

*Comptonia peregrina*

Sweetfern

*Hudsonia ericoides*

Heather

*Gaylussacia baccata*

Black huckleberry

*Gaylussacia frondosa*  
*Ilex glabra*  
*Lyonia mariana*  
*Rhus copallina*  
*Rubus hispidus*  
*Vaccinium angustifolium*  
*Vaccinium pallidum*

Tall huckleberry  
Inkberry  
Staggerbush  
Winged sumac  
Bristly dewberry  
Lowbush blueberry  
Early low blueberry

Trees

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

Red maple  
Bear oak  
Blackjack oak  
Dwarf chestnut oak  
Post oak  
Sassafras

## E. Urban Plant Communities

Urban plant communities are those that occur in developed, landscaped, or built up areas. They occur on a wide variety of soils, and are the most frequently encountered plant community for most people.

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 will reveal the compatibility of a particular species to a projects site conditions.

- **Urban Landscapes**

Urban landscapes can be some of the most challenging sites to work within. Many times this type of landscape becomes an excuse to use the same tried and true palette of plants because “nothing else will grow there”. In reality, many native pioneer species have found and will thrive in abandoned lots and rail lines, cracks in the concrete and roadsides.

- Many of the species found in the *Successional Communities - Old Fields and Urban Lots*, are the ideal species to consider for challenging sites. Designers should consider these species for many types of urban parks. For more natural areas, straight species are preferred, but there are many commercially available cultivars of these species for more manicured areas, to meet habitat and aesthetic goals. Many of these species are successful in phyto-remediation.
- 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 be a difficult site to work with. 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. Creating the proper framework for your desired climax habitats is the necessary first step for the long term sustainability of a healthy ecosystem.

- **Established Parks**

Many established parks have a dense tree canopy that can limit the amount of sun and nutrients that reach the forest floor. In projects where understory species are being expanded and green space increased, there are a range of opportunities to increase species diversity and habitat value. Knowing the habitat your project is situated within can help guide you to species that will be 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 *Chesnut Oak Forest* are well suited to 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, *Mixed Oak-Hickory Forest* species have adapted well to shallow soils, low water and exposure.

- **Green Infrastructure :**

Green Infrastructure sites place specific demands on the species used within them. A tolerance of large volumes of water is an obvious one, but this is coupled with periods of drought amplified by the well-draining sandy soil used in these installations. Sediment and road salt are found within the runoff directed towards these plants as well. When used in the right-of-way, there are often limitations placed on maximum heights, due to the need to maintain site lines. Overall, these specific criteria translate to a select group of plants that are well-suited to thrive in this environment. When the right plant is used, they can be quite successful.

- *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 will receive the most runoff. 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 saturated soils. Take note that green infrastructure site can also be dry during non-rainy seasons, and 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.
- **Cultural Communities:**

*Cultural communities* are either created or maintained by human activities. Many of our urban disturbed areas were once fill or dump sites that drastically changed the soil makeup, permeability, and the natural plant communities that once existed there. Reforestation and restoration claim a unique definition in a densely populated city and require plant species that must thrive in areas with low nutrient levels, low permeability, a minimal amount of organic matter, and high salinity levels resulting from urban fill and runoff.

  - **WETLANDS:** Many of New York City's shallow and deep emergent marshes have been invaded by Phragmites, the common reed grass, or purple loosestrife. Restoration in these high nutrient, fill/dump wetlands is a long-term process and requires multiple methods. A number of native plant species can be gradually introduced during the treatment process to help colonize newly disturbed land, remediate the soil, and compete with the aggressive invasives.

Recommended Plants:

Graminoids

<i>Carex atlantica</i>	Prickly bog sedge
<i>Carex crinita</i>	Fringed sedge
<i>Carex stricta</i>	Tussock sedge
<i>Juncus canadensis</i>	Canadian rush
<i>Juncus effusus</i>	Soft rush
<i>Panicum virgatum</i>	Switchgrass
<i>Scirpus cyperinus</i>	Wool grass
<i>Schoenoplectus tabernaemontani</i>	Soft stem bulrush
<i>Tripsacum dactyloides</i>	Eastern gamagrass

Forbs

<i>Decodon verticillatus</i>	Swamp loostrife
<i>Hibiscus moscheutos</i>	Rose-mallow
<i>Solidago rugosa</i>	Wrinkleleaf goldenrod

Vines

<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Vitis labrusca</i>	Fox grape
<i>Vitis riparia</i>	River grape

Shrubs

<i>Baccharis halmifolia</i>	Groundsel bush
<i>Cephalanthus occidentalis</i>	Buttonbush



*Iva frutescens*  
*Rubus pensilvanicus*  
*Sambucus canadensis*

Marsh elder  
Pennsylvania blackberry  
Elderberry

- *STREET TREES* have become part of the fabric of New York City. A tree-lined street improves the overall health of a neighborhood and helps to beautify a concrete landscape. The conditions that street trees grow in are harsh and although the design of tree pits are improving, there are critical characteristics that a species must have to survive. Trees on the roadside have to endure salt spray and drought conditions. The open surface area on the ground that is permeable to water is limited in a tree pit, but with the addition of planted herbs and grasses, soil and moisture will be retained in the pit. Even trees that have a larger surface area of lawn, in a median or a Greenstreet, will still benefit from being drought tolerant considering the runoff that occurs and the contained planting bed.

Examples Include: Numerous streets throughout the city.

Recommended Plants:

Graminoids

*Carex blanda*  
*Eragrostis spectabilis*  
*Juncus tenuis*  
*Panicum virgatum*  
*Schizachyrium scoparium*

Eastern woodland sedge  
Purple lovegrass  
Path rush  
Switchgrass  
Little bluestem

Forbs

*Ageratina altissima*  
*Asclepias syriaca*  
*Geum canadense*  
*Oenothera biennis*  
*Solidago sempervirens*  
*Symphotrichum pilosum*

White snakeroot  
Common milkweed  
White avens  
Common evening primrose  
Seaside goldenrod  
Hairy white oldfield aster

Shrubs

*Gaylussacia baccata*  
*Ilex glabra*  
*Morella pensylvanica*  
*Photinia pyrifolia*  
*Prunus maritima*  
*Rhus copallina*  
*Rhus glabra*  
*Rhus typhina*

Black huckleberry  
Inkberry  
Northern bayberry  
Red chokeberry  
Beach plum  
Winged sumac  
Smooth sumac  
Staghorn sumac

*Rosa carolina*  
*Rosa virginiana*  
*Sambucus canadensis*  
*Vaccinium angustifolium*  
*Viburnum dentatum*

Pasture rose  
Virginia rose  
Elderberry  
Lowbush blueberry  
Arrowwood

Trees

*Amelanchier arborea*  
*Betula populifolia*  
*Carpinus caroliniana*  
*Celtis occidentalis*  
*Nyssa sylvatica*  
*Populus deltoides*  
*Prunus serotina*  
*Quercus alba*  
*Quercus bicolor*  
*Quercus coccinea*  
*Quercus palustris*  
*Quercus phellos*  
*Quercus prinus*  
*Quercus rubra*  
*Quercus stellata*  
*Quercus velutina*

Common serviceberry  
Grey birch  
American hornbeam  
Common hackberry  
Black tupelo  
Cottonwood  
Black cherry  
White oak  
Swamp white oak  
Scarlet oak  
Pin oak  
Willow oak  
Chestnut oak  
Red oak  
Post oak  
Black oak

- *TREE LAWNS* can be considered high maintenance due to the amount of fertilizer, water and mowing required to keep them aesthetically pleasing. Incorporating perennial layers in a naturalized design will help cut costs and improve the habitat value of the landscape.

Examples Include: Numerous streets and parkways throughout the city.

Recommended Plants:

Ferns

<i>Dennstaedtia punctilobula</i>	Hay-scented fern
<i>Polystichum acrostichoides</i>	Christmas fern
<i>Pteridium aquilinum</i>	Bracken fern

Graminoids

<i>Andropogon virginicus</i>	Broom-sedge
<i>Carex blanda</i>	Eastern woodland sedge
<i>Carex pensylvanica</i>	Pennsylvania sedge
<i>Deschampsia flexuosa</i>	Common hairgrass
<i>Elymus canadensis</i>	Canada wild rye
<i>Elymus hystrix</i>	Bottlebrush 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>	Indian grass
<i>Spartina pectinata</i>	Prairie cordgrass
<i>Tridens flavus</i>	Purpletop

Forbs

<i>Ageratina altissima</i>	White snakeroot
<i>Asclepias incarnata</i>	Swamp milkweed
<i>Asclepias tuberosa</i>	Butterfly weed
<i>Baptisia tinctoria</i>	Yellow wild indigo
<i>Chrysopsis mariana</i>	Maryland goldenaster
<i>Euthamia caroliniana</i>	Slender goldentop
<i>Euthamia graminifolia</i>	Lance-leaved goldenrod
<i>Eutrochium purpureum</i>	Sweet Joe-pye weed
<i>Helianthus divaricatus</i>	Woodland sunflower
<i>Ionactis linariifolius</i>	Flaxleaf whitetop aster
<i>Lobelia siphilitica</i>	Great lobelia
<i>Monarda fistulosa</i>	Wild bergamot
<i>Oenothera biennis</i>	Common evening primrose
<i>Pityopsis falcata</i>	Atlantic golden aster
<i>Potentilla canadensis</i>	Dwarf cinquefoil
<i>Potentilla simplex</i>	Common cinquefoil

<i>Solidago canadensis</i>	Canada goldenrod
<i>Solidago nemoralis</i>	Gray goldenrod
<i>Solidago odora</i>	Sweet goldenrod
<i>Solidago rugosa</i>	Wrinkleleaf goldenrod
<i>Solidago sempervirens</i>	Seaside goldenrod
<i>Solidago speciosa</i>	Showy goldenrod
<i>Symphotrichum ericoides</i>	White heath aster

### Vines

<i>Clematis virginiana</i>	Virgin's bower
<i>Lonicera sempervirens</i>	Trumpet honeysuckle
<i>Parthenocissus quinquefolia</i>	Virginia creeper

### Shrubs

<i>Alnus serrulata</i>	Common alder
<i>Arctostaphylos uva-ursi</i>	Bearberry
<i>Comptonia peregrina</i>	Sweetfern
<i>Cornus racemosa</i>	Grey dogwood
<i>Corylus americana</i>	American hazel-nut
<i>Gaultheria procumbens</i>	Eastern teaberry
<i>Gaylussacia baccata</i>	Black huckleberry
<i>Ilex glabra</i>	Inkberry
<i>Kalmia angustifolia</i>	Sheep laurel
<i>Kalmia latifolia</i>	Mountain laurel
<i>Lyonia mariana</i>	Staggerbush
<i>Morella pensylvanica</i>	Northern bayberry
<i>Photinia pyrifolia</i>	Red chokeberry
<i>Prunus maritima</i>	Beach plum
<i>Quercus ilicifolia</i>	Bear oak
<i>Quercus prinoides</i>	Dwarf chestnut oak
<i>Rhus aromatica</i>	Fragrant sumac
<i>Rhus copallina</i>	Winged sumac
<i>Rhus glabra</i>	Smooth sumac
<i>Rhus typhina</i>	Staghorn sumac
<i>Rosa carolina</i>	Pasture rose
<i>Rosa virginiana</i>	Virginia rose
<i>Rubus allegheniensis</i>	Common blackberry
<i>Rubus occidentalis</i>	Black raspberry
<i>Sambucus canadensis</i>	Elderberry
<i>Spiraea alba var. latifolia</i>	Meadowssweet
<i>Spiraea tomentosa</i>	Hardhack
<i>Vaccinium angustifolium</i>	Lowbush blueberry
<i>Vaccinium pallidum</i>	Low early blueberry
<i>Viburnum dentatum</i>	Arrowwood
<i>Viburnum lentago</i>	Nanny-berry

## Trees

<i>Acer rubrum</i>	Red maple
<i>Acer saccharum</i>	Sugar maple
<i>Amelanchier arborea</i>	Common serviceberry
<i>Betula populifolia</i>	Grey birch
<i>Carpinus caroliniana</i>	American hornbeam
<i>Carya glabra</i>	Pignut hickory
<i>Carya ovata</i>	Shagbark hickory
<i>Carya tomentosa</i>	Mockernut hickory
<i>Celtis occidentalis</i>	Common hackberry
<i>Diospyros virginiana</i>	Persimmon
<i>Juniperus virginiana</i>	Eastern red cedar
<i>Liquidambar styraciflua</i>	Sweetgum
<i>Liriodendron tulipifera</i>	Tulip poplar
<i>Nyssa sylvatica</i>	Black tupelo
<i>Ostrya virginiana</i>	Hop hornbeam
<i>Pinus echinata</i>	Shortleaf pine
<i>Pinus rigida</i>	Pitch pine
<i>Pinus virginiana</i>	Virginia pine
<i>Platanus occidentalis</i>	American sycamore
<i>Populus deltoides</i>	Cottonwood
<i>Populus grandidentata</i>	Bigtooth aspen
<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 palustris</i>	Pin oak
<i>Quercus phellos</i>	Willow oak
<i>Quercus prinus</i>	Chestnut oak
<i>Quercus rubra</i>	Red oak
<i>Quercus velutina</i>	Black oak

# Plant Descriptions

Successful plant communities are usually composed of a combination of various woody and herbaceous species. Proportions of each species 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 bottomland forest. Effective planting strategies can be based on supplementing existing vegetation to replicate these communities, depending on careful analysis of soils, light conditions, and hydrologic resources. Carefully consider the mature sizes of specified plants to best determine the appropriate spacing.

Following are descriptions of the many native species suitable for planting in New York City. There are several variables listed for each species, based on the research completed and available at time of publication. Some plants are more well-studied than others, and as a result, for certain species, there may be information that is simply not known.

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

Wetland Indicator Status:

- OBL = >99% probability, plants always found in wet soil or standing water.
- FACW = 67-99% probability, plants usually found in wet to moist soil.
- FAC = 34-66% probability, plants occurring in both wetlands and moist upland soil.
- FACU = 1-33% probability, plants sometimes occur in wetlands and tolerate moist to dry soil.
- UPL = 0% probability, plants that almost never occur in wetlands and tolerate dry soil.
- NI=No Indicator.

Salt Tolerance Level

Explanation

Moderate salt tolerance

The plant can tolerate some salt, but does not necessarily do well in a coastal flood. If the plant is ever inundated with salt water, thoroughly rinse it with fresh water as soon as possible.

High salt tolerance

The plant lives in/very close to salt water and can tolerate being flooded with salt water either occasionally or all the time.

Soil pH

<3.0  
3.01 – 4.0  
4.01 – 5.5  
5.51 to 6.8  
6.81 – 7.2  
7.21 – 7.5  
7.51 – 8.5  
>8.5

Soil Category

Severely acidic  
Strongly acidic  
Moderately acidic  
Slightly acidic (optimum for many plants)  
Near neutral (optimum for many plants)  
Slightly alkaline (optimum for many plants)  
Moderately alkaline  
Strongly alkaline

Shade Tolerance Class

Very intolerant  
Intolerant  
Moderately tolerant  
Tolerant  
Very tolerant

Percentage of Full Sunlight Needed During Growing Season

>50%  
25 – 50%  
10 – 25%  
5 – 10%  
2 – 5%

Drought tolerance level

Low drought tolerance  
Moderate drought tolerance  
Drought tolerant

Explanation

The plant needs moist soil to thrive and/or survive.  
The plant generally needs moist soils, but can survive short periods without water.  
The plant does not need additional water once it is established.

Flood Tolerance

Very intolerant  
Intolerant  
Moderately tolerant  
Tolerant

Length of Flood Conditions during growing season

A few days.  
1 – 2 weeks.  
30 consecutive days.  
One full growing season.

## Urban Tolerance

Tolerant of concrete debris

The plant can grow in soil containing up to 30% concrete debris.

Tolerant of fill soils

This plant can tolerate man-made soils such as construction debris or dredge spoil.

Low anaerobic tolerance

This plant cannot tolerate low/no oxygen conditions such as compaction or flooding.

Performs well in the right of way

This plant tolerates stormwater, and is suitable for use in bioswales, greenstreets, and other urban stormwater applications.



## Trees:

Trees are the dominant landscape elements and perform a number of functions in a park setting. Give consideration to the mature size of species specified, as well the ornamental qualities of fruit, form, bark, floral display, and fall color.

## **Acer negundo**

## **Boxelder**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC+	<b>Soil:</b>	pH 6.5-7.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Resistant of soil compaction and demolition debris, pollution tolerant, intolerant of shade.
<b>Habitat:</b>	Forest, lowland wet, river channel, lake edge, floodplain depressions, wet ravines, roadsides.	<b>Ecosystem Services:</b>	Seeds, buds, flowers eaten by songbirds, waterbirds, small and large mammals.		
<b>Hydrology:</b>	Tolerant of drought, flooding, saturated soil 75% of growing season.				
<b>Ornamental Value:</b>	Odd pinnate compound leaves with larger yellow samaras.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>	Host of the Asian longhorn beetle and boxelder bug, may be poisonous to livestock; light and soft wood; short lifespan.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## **Acer rubrum**

## **Red Maple**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 4.5-7.0
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.	<b>Urban Tolerance:</b>	Tolerates soil compaction, pollution, ozone and sulfur dioxide, performs well in the right of way.
<b>Habitat:</b>	Moist woods to swampy forests.	<b>Ecosystem Services:</b>	Seeds, buds, flowers, and twigs eaten by birds and mammals.		
<b>Hydrology:</b>	Tolerant of flooding, saturated soil 25% growing season				
<b>Ornamental Value:</b>	Early spring red flowers before leafing out, red leaves in fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	A host of the Asian longhorn beetle, attacked by various fungi; used as street tree, and in parks, natural areas		
<b>Shade Tolerance:</b>	Tolerant of shade.				

## **Acer saccharinum**

## **Silver Maple**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.0-7.0
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerates soil compaction, sensitive to ozone.
<b>Habitat:</b>	Forest, savanna, low open areas, floodplains, streamside, low lakeshore and swamp.	<b>Ecosystem Services:</b>	Seeds, buds, flowers, and twigs eaten by birds and mammals.		
<b>Hydrology:</b>	Tolerant of flooding, saturated soil 25% growing season				
<b>Ornamental Value:</b>	Green bell-shaped flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>	Fast grower, 130 year lifespan, host of the Asian longhorn beetle; used in restoration of swamp forests, flood plains, wetland mitigation.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## **Acer saccharum**

## **Sugar Maple**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.5-7.3
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>	Potentially tolerant of stormwater.	<b>Urban Tolerance:</b>	Does not tolerate soil compaction, performs well in the right of way.
<b>Habitat:</b>	Forest, mesic ravines, coves, north and east facing slopes, floodplains.	<b>Ecosystem Services:</b>	Seeds, buds, flowers eaten by upland songbirds, small mammals.		
<b>Hydrology:</b>	Intolerant of flooding; grows well in limestone soils				
<b>Ornamental Value:</b>	Range of yellow to orange to red fall color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Slow grower, to 150 years; susceptible to Verticillium wilt; host to sugar maple borer, Asian longhorn beetle; foliage susceptible to gypsy moth.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Amelanchier arborea*

## Common Serviceberry

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU, FAC	<b>Soil:</b>	pH 5.5-7.5
<b>Form/Color</b>	Rounded crown; 12' to 30'; dark green foliage; white flowers April-May; red-purple fleshy fruit June.	<b>Stormwater Tolerance:</b>		<b>Stormwater Tolerance:</b>	Tolerant of stormwater.
<b>Habitat:</b>	Upland woods, rich limestone soil; rocky soils on open slopes, wood edges, and stream banks.	<b>Urban Tolerance:</b>		<b>Urban Tolerance:</b>	Tolerates concrete debris, performs well in the right of way.
<b>Hydrology:</b>	Grows best in medium well-drained acidic soils	<b>Ecosystem Services:</b>		<b>Ecosystem Services:</b>	Fruit eaten by birds and mammals; host to larvae of some butterfly species.
<b>Ornamental Value:</b>	Red-orange fall color, fragrant white flowers April-May.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		<b>Other:</b>	Edible fruit; used for forest restoration.
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Amelanchier canadensis*

## Canadian Serviceberry

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.0-6.5
<b>Form/Color</b>	Low shrubby and multi-stemmed; 25'; white flowers April-May; purple fleshy fruit June-July; moderate growth rate.	<b>Stormwater Tolerance:</b>		<b>Stormwater Tolerance:</b>	Tolerant of stormwater.
<b>Habitat:</b>	Shrub swamp, moist, sterile sandy soil of back dune thickets	<b>Urban Tolerance:</b>		<b>Urban Tolerance:</b>	Intolerant of soil compaction, sensitive to ozone, performs well in the right of way.
<b>Hydrology:</b>	Moist to dry soil; intolerant of drought; saturated soil 25% growing season.	<b>Ecosystem Services:</b>		<b>Ecosystem Services:</b>	Fruit eaten by birds and mammals; host to larvae of some butterfly species.
<b>Ornamental Value:</b>	Red-orange fall color, white flowers April-May.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		<b>Other:</b>	Used for back dune woodland, shrub swamps, moist woodland, and swamp forest.
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Amelanchier laevis**

**Alleghany Serviceberry**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	pH 6.1-6.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Mesic coves, north and east slope aspects, cool rich woods.	<b>Urban Tolerance:</b>			Sensitive of soil compaction, sensitive to ozone, performs well in the right of way.
<b>Hydrology:</b>	Well to moderately well drainage; very intolerant of flooding.	<b>Ecosystem Services:</b>			High wildlife value for songbirds, small mammals, and humans.
<b>Ornamental Value:</b>	Orange, red fall color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>			Medium lifespan.
<b>Shade Tolerance:</b>	Very tolerant of shade.				

**Betula alleghaniensis**

**Yellow Birch**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 4.6-6.9
<b>Form/Color</b>	Grows to 80'; blooms April-May; yellowish silvery bark; fruits August-October, catkins egg-shaped and upright.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Northern forest with well drained, fertile loam soils.	<b>Urban Tolerance:</b>			Tolerant of urban conditions.
<b>Hydrology:</b>	Intolerant of flooding; moist well drained, fertile loam soils.	<b>Ecosystem Services:</b>			Seeds, sap, and bark eaten by birds and mammals.
<b>Ornamental Value:</b>	Yellow fall color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>			Minor element in forest restorations north of New York City.
<b>Shade Tolerance:</b>	Intolerant of shade.				

## **Betula lenta**

## **Black Birch**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.0-6.8
<b>Form/Color</b>	Grows to 70'; blooms April-May; pale yellow color in fall; young bark marked by thin horizontal lenticels, older bark often cracked.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Sensitive to soil compaction.
<b>Habitat:</b>	Moist to dry, well-drained, upland, acid forest soil.	<b>Ecosystem Services:</b>	Seeds eaten by birds.		
<b>Hydrology:</b>	Moderately tolerant of drought				
<b>Ornamental Value:</b>	Yellow fall color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>	Also known as sweet birch and cherry birch. Broken twigs give off wintergreen odor.		
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## **Betula nigra**

## **River Birch**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.0-6.5
<b>Form/Color</b>	Columnar and globular form; 50'-75';30'-50' wide spread; clear yellow in fall; green to pale yellow, drooping catkins; green to tan-brown strobiles.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.	<b>Urban Tolerance:</b>	Resistant to soil compaction, prefers acidic soils, performs well in the right of way.
<b>Habitat:</b>	Floodplain depression, swampy bottomlands, low open sites along streambanks.	<b>Ecosystem Services:</b>	Seeds eaten by birds, waterfowl, and small mammals.		
<b>Hydrology:</b>	Tolerant of drought, flooding, saturated soil 25% of growing season.				
<b>Ornamental Value:</b>	Clear yellow fall color, white bark.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Short lifespan 50-75 years; weak-wooded, fast grower.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Betula populifolia*

## Gray Birch

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.0-7.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Wetland edges; lowland wet, upland dry; swamp edges; low lake edges; dry steep rocky land.	<b>Urban Tolerance:</b>			Tolerant of soil compaction, prefers acidic soils, performs well in the right of way.
<b>Hydrology:</b>	Tolerates flooding, saturated soil 75% growing season.	<b>Ecosystem Services:</b>			Seeds and fruit eaten by birds and mammals; leaves eaten by various moth species.
<b>Ornamental Value:</b>	Yellow fall color; smooth white bark.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Used for vegetation restoration on open, bare mineral soil; park tree; common lifespan 15 to 30 years, fast grower.
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Carpinus caroliniana*

## American Hornbeam

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 4.0-7.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Lowland or upland wet mesic; understory forest edges; closed canopy woodlands. in moist, undisturbed woods; swamp forest edges, closed canopy woodlands.	<b>Urban Tolerance:</b>			Sensitive to soil compaction. Performs well in the right of way.
<b>Hydrology:</b>	Sensitive to drought and flooding, poor to excessive drainage.	<b>Ecosystem Services:</b>			Low wildlife value for songbirds and water fowl.
<b>Ornamental Value:</b>	Green to yellow, hanging fruit. Good fall color. Trunk has a distinctive muscular appearance.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			Medium lifespan, mature at about 150 years; susceptible to fire, slow grower. Also known as blue beech, musclewood and ironwood.
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Carya cordiformis**

**Bitternut Hickory**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU+	<b>Soil:</b>	pH 5.5-8.5
<b>Form/Color</b>	Globular form; 75'-100'; 75'-100' wide spread; yellow green catkins bloom May; round yellow green to brown nut late August to mid October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Lowland wet mesic, upland mesic and mesic dry; flood plain; moist or dry slopes and uplands.	<b>Urban Tolerance:</b>		Tolerant of concrete debris.	
<b>Hydrology:</b>	Moderate tolerance of drought and flooding.	<b>Ecosystem Services:</b>		Moderate value.	
<b>Ornamental Value:</b>	Globular form, yellow-green catkins.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Medium to long lifespan, shortest lived 200 years; increases diversity and aesthetics in upland forest; park tree, street tree, slow grower.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Carya glabra**

**Pignut Hickory**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 6.1-7.5
<b>Form/Color</b>	Irregular obovoid; 75'-100'; 35'-50' wide; yellow green catkins mid May, pear shaped yellow green nut in early September to late October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Upland dry, steep rocky land, sandy hills, upland ridges and ravines, warm south facing slopes.	<b>Urban Tolerance:</b>		Intolerant of soil compaction.	
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.	<b>Ecosystem Services:</b>		Intermediate value to songbirds and small mammals.	
<b>Ornamental Value:</b>	Obovoid, yellow-green catkins.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Long lifespan, can live to 300 years, slow grower.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				



**Carya ovata**

**Shagbark Hickory**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 6.1-6.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Upland moist to dry undisturbed forests; upland mesic dry; dry south and west facing slopes.	<b>Urban Tolerance:</b>		Intermediate tolerance of soil compaction.	
<b>Hydrology:</b>	Moderately poor to well drained soil; intolerant of flooding.	<b>Ecosystem Services:</b>		Nuts, flowers, bark eaten by birds and mammals.	
<b>Ornamental Value:</b>	Shreddy bark when older, yellow-green catkins, yellow fall color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Long lifespan, 300 years; susceptible to fire damage.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Carya tomentosa**

**Mockernut Hickory**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 6.1-6.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Upland moist to dry forests.	<b>Urban Tolerance:</b>		Intolerant of soil compaction.	
<b>Hydrology:</b>	Intolerant of flooding.	<b>Ecosystem Services:</b>		Nuts, flowers, bark eaten by birds and mammals.	
<b>Ornamental Value:</b>	Irregular obovoid, yellow-green catkins.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Long lifespan; susceptible to fire; park and street tree; increases diversity and aesthetics in upland forest.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Celtis occidentalis**

**Common Hackberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 6.5-8.5
<b>Form/Color</b>	Globular form; 75'-100' tall', 75'-100' wide spread; light blue green in summer; pale yellow in autumn; purple brown berry September to February.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Lowland wet-mesic, upland dry mesic, drainage basins, mature floodplains, wooded slopes, windbreaks.	<b>Urban Tolerance:</b>			Tolerant of concrete debris; intolerant of soil compaction, performs well in the right of way. Tolerant of pollution.
<b>Hydrology:</b>	Moderately tolerant of flooding and saturated soil 25% growing season.	<b>Ecosystem Services:</b>			Fruit eaten by humans, songbirds, and small mammals. Host to numerous butterflies and moths including the hackberry emperor and American snout.
<b>Ornamental Value:</b>	Pale yellow color in fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Medium to long lifespan; frequently infected by witches' broom, powdery mildew, leaf spots, moderately fast growers.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Chamaecyparis thyoides**

**Atlantic White Cedar**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 3.0-5.5
<b>Form/Color</b>	Grows to 75'; evergreen tree; small bluish cones turn brown; moderate grower.	<b>Stormwater Tolerance:</b>			Potentially tolerant of stormwater.
<b>Habitat:</b>	Found growing on hummocks in acid bogs and acid muck soils.	<b>Urban Tolerance:</b>			Performs well in the right of way.
<b>Hydrology:</b>	Tolerant of flooding; saturated soil almost 100% of the growing season.	<b>Ecosystem Services:</b>			Moderate wildlife value.
<b>Ornamental Value:</b>	Attractive, feathery evergreen foliage.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Minor species for restoration of marshes edges; evergreen screen in full sun; good species for raingarden installations.
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Cornus florida*

## Flowering Dogwood

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 5.5-7.0
<b>Form/Color</b>	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 November.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Intolerant of soil compaction.
<b>Habitat:</b>	Wooded slopes, ravines, bluffs.	<b>Ecosystem Services:</b>	Seeds, fruit, and twigs eaten by migratory birds and deer.		
<b>Hydrology:</b>	Moist well-drained soil; intolerant of flooding.				
<b>Ornamental Value:</b>	White flowers early April-June. Clusters of showy red fruit and red-purple fall leaf color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Medium lifespan, mature at about 150 years; park tree; secondary species used in diversifying and restoring forest understories.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Crataegus crus-galli*

## Cockspur Hawthorn

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.5-7.2
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.	<b>Urban Tolerance:</b>	Tolerant of compacted soil and various soil pH levels, performs well in the right of way.
<b>Habitat:</b>	Dry and rocky places; on slopes of low hills in rich soils; floodplains; borders of woods.	<b>Ecosystem Services:</b>	Intermediate wildlife value; fruit eaten by songbirds, upland ground birds, large and small mammals.		
<b>Hydrology:</b>	Tolerant of flooding.				
<b>Ornamental Value:</b>	Orange to red fall color, attractive fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Susceptible to fire blight, powdery mildew, scab; host to aphids, borers, lace bugs; short lifespan, moderate grower.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Diospyros virginiana*

## Persimmon

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC-	<b>Soil:</b>	pH 6.0-6.5
<b>Form/Color</b>	Ovoid; 50'-75'; 35'-50'; green or yellow orange in fall; yellow flower through mid June; yellow orange globular berry September - late November.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Rocky fields, pastures, waste ground, rich alluvial bottomlands, hillside woods.	<b>Urban Tolerance:</b>	Moderately tolerant of soil compaction.		
<b>Hydrology:</b>	Moist to wet swamp edge soil; moderate tolerance of flooding.	<b>Ecosystem Services:</b>	Fruit eaten by humans, birds, and small mammals.		
<b>Ornamental Value:</b>	Yellow flowers through mid June, attractive fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Used for stabilizing slopes. Minor species for diversifying and restoring forest understories, slow grower.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Fagus grandifolia*

## American Beech

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.1-6.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Floodplain knolls, elevated terrace, mesic ravines, cool air drainage areas, north and east slope aspects.	<b>Urban Tolerance:</b>	Intolerant of soil compaction.		
<b>Hydrology:</b>	Intolerant of flooding, well to moderately well drainage.	<b>Ecosystem Services:</b>	Nuts eaten by wildlife.		
<b>Ornamental Value:</b>	Silver bark.	<b>Compatibility:</b>	Known to sucker vigorously.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Slow to medium grower; sometimes infected by beechbark disease; bark susceptible to frost and fire damage and fungi attack.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Fraxinus americana**

**White Ash**

**Native To:** New York City

**Wetland Indicator:** FACW-

**Soil:** pH 6.1-7.5

**Form/Color**

**Stormwater  
Tolerance:**

**Habitat:**

**Hydrology:**

**Ornamental  
Value:**

Due to the potential for infestation by Emerald Ash Borer (*Agrilus planipennis*), Parks does not recommend planting Fraxinus species at this time.

**Salt  
Tolerance:**

**Other:** Vulnerable to Emerald Ash Borer.

**Shade  
Tolerance:**

**Fraxinus pennsylvanica**

**Green Ash**

**Native To:** Regional

**Wetland Indicator:** FACW

**Soil:** pH 6.1-7.5

**Form/Color**

**Stormwater  
Tolerance:**

**Habitat:**

**Hydrology:**

**Ornamental  
Value:**

Due to the potential for infestation by Emerald Ash Borer (*Agrilus planipennis*), Parks does not recommend planting Fraxinus species at this time.

**Salt  
Tolerance:**

**Other:** Vulnerable to Emerald Ash Borer

**Shade  
Tolerance:**

## *Ilex opaca*

## American Holly

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU+	<b>Soil:</b>	pH. 4.0-7.5
<b>Form/Color</b>	Evergreen, green shiny, pointed leaves; 40'; small white flowers May - June, red fruit October- November into winter.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Coastal; sterile, sandy soils, back-dune forests.	<b>Urban Tolerance:</b>		Intolerant of concrete debris. Performs well in the right of way.	
<b>Hydrology:</b>	Moderately tolerant of drought; prefers well-drained moist soil.	<b>Ecosystem Services:</b>		Fruit eaten by birds, wintercover for birds.	
<b>Ornamental Value:</b>	Small white flowers in May-June. Evergreen leaves with red fruit persistent throughout the winter.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Used for in back dune holly forests and scrub. Attacked by leafminer and tortricid moth leaf rollers.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Juglans nigra*

## Black Walnut

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH.4.6-8.2
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Alluvial floodplain, stream banks, upland in open or abandoned fields.	<b>Urban Tolerance:</b>		Moderately tolerant of soil compaction.	
<b>Hydrology:</b>	Moderately tolerant of flooding; grows on deep well-drained soil.	<b>Ecosystem Services:</b>		Low wildlife value. Edible for humans and small mammals.	
<b>Ornamental Value:</b>	Golden yellow color in fall. Large green-yellow fruit.	<b>Compatibility:</b>		Allelopathic.	
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Juniperus virginiana*

## Eastern Red Cedar

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 6.1-8.0
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Dry hillsides, semi-barren land, calcareous cliffs, steep rocky land, abandoned farmland, occasionally in open alluvial woods.	<b>Urban Tolerance:</b>		Intolerant of soil compaction; tolerant of concrete debris, performs well in the right of way.	
<b>Hydrology:</b>	Moderately poor to excessive drainage; moist conditions; tolerates drought.	<b>Ecosystem Services:</b>		Cones eaten by birds and mammals, winter cover for birds.	
<b>Ornamental Value:</b>	Red purple and yellow flowers through late May.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Long lifespan, slow grower, grows in old fields and back dune coastal woodlands; used for vegetation of sandy dredge spoil.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Liquidambar styraciflua*

## American Sweetgum

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 6.1-6.5
<b>Form/Color</b>	Conical to ovoid; 75'-100'; 50'-75' wide spread; scarlet red to purple in fall; deciduous in late April to late October.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Alluvial floodplain, stream edges, moist forests, swamp forests.	<b>Urban Tolerance:</b>		Tolerant of soil compaction, performs well in the right of way, minimal tolerance of pollution.	
<b>Hydrology:</b>	Well to poor drainage, tolerant of flooding and poorly drained soil.	<b>Ecosystem Services:</b>		Low wildlife value.	
<b>Ornamental Value:</b>	Scarlet red color in fall. Globe-like hanging fruit with spines that may persist into the winter.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Slow to medium grower; long lifespan, used for wetland mitigation; street and park tree.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Liriodendron tulipifera**

**Tuliptree**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 6.0-6.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>			Potentially tolerant of stormwater.
<b>Habitat:</b>	Sheltered coves, lower slopes and hills, stream valleys.	<b>Urban Tolerance:</b>			Intolerant of soil compaction, performs well in the right of way.
<b>Hydrology:</b>	Well to moderately well drainage, moist to average moisture; intolerant of flooding.	<b>Ecosystem Services:</b>			Low wildlife value for small mammals and songbirds.
<b>Ornamental Value:</b>	Very showy large yellow flowers and tulip shaped leaves. Tall straight trunk.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			Used for reforestation of sites with good quality moist soil, very fast grower.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Magnolia virginiana**

**Sweet-bay Magnolia**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 5.0-6.0
<b>Form/Color</b>	White fragrant flowers May-July; red fleshy fruit August to October. Foliage whitish beneath.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Understories of coastal plain red maple swamp forests and Atlantic white cedar bogs.	<b>Urban Tolerance:</b>			Performs well in the right of way.
<b>Hydrology:</b>	Tolerant of flooding.	<b>Ecosystem Services:</b>			Fruit eaten by birds.
<b>Ornamental Value:</b>	White flowers May-July, red fruits.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Minor species for swamp forest reforestation and wetland mitigations.
<b>Shade Tolerance:</b>	Tolerant of shade.				



## *Nyssa sylvatica*

## Black Tupelo

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 6.1-6.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Low ridges or second bottoms, alluvial flats, dry upper and middle flats.	<b>Urban Tolerance:</b>			Performs well in the right of way.
<b>Hydrology:</b>	Intolerant of flooding.	<b>Ecosystem Services:</b>			Intermediate wildlife value for songbirds and small mammals.
<b>Ornamental Value:</b>	Scarlet red to purple leaf color in fall. Purple fruit. Horizontal branching pattern.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Used for swamp reforestation, floodplains, and wetland mitigation.
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Ostrya virginiana*

## Hop Hornbeam

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 4.2-8.0
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>			Potentially tolerant of stormwater.
<b>Habitat:</b>	Moist to dry upland slopes, coves and ravines, rocky stream edges, moist to dry forest understory.	<b>Urban Tolerance:</b>			Intolerant of soil compaction; tolerant of concrete debris, performs well in the right of way.
<b>Hydrology:</b>	Intolerant of flooding.	<b>Ecosystem Services:</b>			Low wildlife value for songbirds and small mammals.
<b>Ornamental Value:</b>	Green to yellow hanging fruit. Fine peeling bark. Pale golden yellow leaf color in fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			Slow grower.
<b>Shade Tolerance:</b>	Tolerant of shade.				

## **Picea rubens**

## **Red Spruce**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.5-5.0
<b>Form/Color</b>	Evergreen; oval shape; 50'-70'; medium green color in spring; remains green in fall; light brown, ovoid cone; yellow flower.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Moist, rocky woods, hillsides, uplands.	<b>Ecosystem Services:</b>	Low provider of food for small mammals and terrestrial birds; provides moderate cover for small mammals; provides high cover for terrestrial birds.	<b>Compatibility:</b>	
<b>Hydrology:</b>	Medium drought tolerance; medium moisture usage.	<b>Other:</b>	Long lifespan, medium grower.		
<b>Ornamental Value:</b>	Yellow flowers bloom mid Spring, evergreen foliage.				
<b>Salt Tolerance:</b>	Intolerant of salt.				
<b>Shade Tolerance:</b>	Tolerant of shade.				

## **Pinus echinata**

## **Shortleaf Pine**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.0-6.0
<b>Form/Color</b>	Evergreen; conical form; 80'-100'; produces red to brown 2 inch long egg-shaped cones; moderate grower.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of soil compaction.
<b>Habitat:</b>	Dry, sandy, or rocky soil; south-facing or west-facing slopes; old agricultural fields.	<b>Ecosystem Services:</b>	High-quality wildlife habitat.	<b>Compatibility:</b>	
<b>Hydrology:</b>	Deep, well-drained sandy soil. Drought tolerant once established.	<b>Other:</b>	Minor species in restoring forests in sandy soil of south Staten Island, Long Island, and New Jersey coastal plain.		
<b>Ornamental Value:</b>	Pale golden yellow color in fall, persisting cones, evergreen foliage.				
<b>Salt Tolerance:</b>	Intolerant of salt.				
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Pinus resinosa*

## Red Pine

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.5-6.5
<b>Form/Color</b>	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 October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Dry sandy or rocky soil; low ridges adjacent to lakes, ridgetops, outwash plains.	<b>Urban Tolerance:</b>	Sensitive to soil compaction.		
<b>Hydrology:</b>	Intolerant of flooding; prefers moist conditions but tolerates dry conditions.	<b>Ecosystem Services:</b>	Very high wildlife value for songbirds, upland ground birds, small mammals, hoofed browsers.		
<b>Ornamental Value:</b>	Reddish-brown, scaly bark, evergreen foliage.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>	Long lifespan, medium grower.		
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## *Pinus rigida*

## Pitch Pine

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.6-6.5
<b>Form/Color</b>	Evergreen; irregular and globular form; 50'-75'tall; 50'-75' wide spread; dark yellow green; red purple cone in May.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Sterile sandy soil; shallow soil on steep rocky land, ridges, south or west facing slopes, windbreak.	<b>Urban Tolerance:</b>	Intolerant of soil compaction, sensitive to ozone.		
<b>Hydrology:</b>	Tolerates drought; intolerant of flooding and saturated soil for more than 25%	<b>Ecosystem Services:</b>	Very high wildlife value for songbirds, upland birds, and small birds.		
<b>Ornamental Value:</b>	Irregular globular form, persisting cones, evergreen foliage.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Able to tolerate fire. Used for restoring rocky or pine barren habitats, short lifespan, fast grower.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## **Pinus strobus**

## **Eastern White Pine**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.0-6.5
<b>Form/Color</b>	Evergreen; conical to ovoid; 75'-100'; 50'-75'; light green spring and bright green summer, fall, and winter; medium grower.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Intolerant of soil compaction, sensitive to ozone.
<b>Habitat:</b>	North-facing slopes, sheltered coves, rocky stream edges, steep rocky land.	<b>Ecosystem Services:</b>	Very high wildlife value for songbirds, upland birds, and small birds.		
<b>Hydrology:</b>	Moderately poor to well drainage.				
<b>Ornamental Value:</b>	Conical form, evergreen foliage.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Typical roosting place for owls; long lifespan.		
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## **Pinus virginiana**

## **Virginia Pine**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.6-7.9
<b>Form/Color</b>	Evergreen; irregular form; reaches 30'. Cones egg-shaped and numerous remaining on the tree a long time.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of soil compaction, wounding, and fill.
<b>Habitat:</b>	Dry , sandy, or sterile soil.	<b>Ecosystem Services:</b>	High wildlife value for white-tailed deer and other small mammals.		
<b>Hydrology:</b>	Drought tolerant.				
<b>Ornamental Value:</b>	Irregular form, persisting cones, evergreen foliage.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Moderate lifespan, fast grower.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Platanus occidentalis*

## American Sycamore

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 6.5-8.5
<b>Form/Color</b>	Distinctive mottled brown bark flakes off in puzzle like pieces exposing yellow and white patches underneath; blooms April-May; fast grower.	<b>Stormwater Tolerance:</b>		<b>Stormwater Tolerance:</b>	Tolerant of stormwater.
<b>Habitat:</b>	Flood plains, moist fill soil.	<b>Urban Tolerance:</b>		<b>Urban Tolerance:</b>	Tolerant of concrete debris and soil compaction, performs well in the right of way.
<b>Hydrology:</b>	Tolerant of flooding or saturated soil 25% of growing season.	<b>Ecosystem Services:</b>		<b>Ecosystem Services:</b>	Low wildlife value.
<b>Ornamental Value:</b>	Brown and chalky white, bark. Hanging globe-like fruit persisting into winter.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		<b>Other:</b>	Used for floodplain forest restoration, rivers, streambanks, wetland mitigation. Fast grower.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## *Populus deltoides*

## Eastern Cottonwood

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.5-7.5
<b>Form/Color</b>	Reaches 150'; reddish catkins bloom March- April; produces egg-shaped fruit May-June.	<b>Stormwater Tolerance:</b>		<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Moist fill soils; disturbed sites on bare soil, old fields.	<b>Urban Tolerance:</b>		<b>Urban Tolerance:</b>	Tolerant of soil compaction and disturbed soil.
<b>Hydrology:</b>	Tolerant of flooding.	<b>Ecosystem Services:</b>		<b>Ecosystem Services:</b>	Buds, catkins, eaten by birds; twigs and leaves eaten by rabbits and deer.
<b>Ornamental Value:</b>	White bark, early flower, reddish catkins.	<b>Compatibility:</b>		<b>Compatibility:</b>	Fluffy white seeds considered a nuisance.
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		<b>Other:</b>	Susceptible to fire damage; attacked by many insects and fungi; short lifespan, fast grower.
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Populus grandidentata*

## Bigtooth Aspen

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 5.0-6.3
<b>Form/Color</b>	Columnar; 50'-75' tall; 20'-35' wide spread; golden yellow in fall; silvery gray catkin in late April; yellow green capsules May-mid June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Lower slopes with northeast aspects or high terraces, mesic shoulder of upland ridges.	<b>Urban Tolerance:</b>		Intolerant of soil compaction.	
<b>Hydrology:</b>	Moderately well to excessively drained; wet to moist soils; intolerant of flooding.	<b>Ecosystem Services:</b>		High wildlife value for songbirds, upland groundbirds, and small mammals.	
<b>Ornamental Value:</b>	Early flower, golden yellow leaves in fall, white bark.	<b>Compatibility:</b>		Frequently forms colonies.	
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Populus tremuloides*

## Quaking Aspen

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.8-6.5
<b>Form/Color</b>	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 capsules May.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Seeps; slopes with cool air drainage; rocky streams; north- and east-facing slopes; disturbed sites.	<b>Urban Tolerance:</b>		Intolerant of soil compaction, sensitive to ozone.	
<b>Hydrology:</b>	Moderately well to excessively drainage; moderately tolerant of drought.	<b>Ecosystem Services:</b>		High wildlife value for songbirds, upland groundbirds, small mammals, and hoofed browsers.	
<b>Ornamental Value:</b>	Early flower, yellow color in fall, white bark.	<b>Compatibility:</b>		Frequently forms colonies.	
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Short lifespan, fast grower; Susceptible to canker, leaf spot, shoot blight, poplar borer, poplar fall, scale, and red humped caterpillar.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Prunus americana*

## American Plum

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 6.6-7.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Upland pastures, margins of woods, fencerows, steep rocky hillsides, streambanks, open oak woods.	<b>Urban Tolerance:</b>		Sensitive to soil compaction.	
<b>Hydrology:</b>	Very intolerant of flooding; moderately well to excessive drainage; tolerates drought.	<b>Ecosystem Services:</b>		Very low wildlife value.	
<b>Ornamental Value:</b>	Pale golden yellow fall color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Short lifespan.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Prunus serotina*

## Black Cherry

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 6.0-8.0
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Rocky hillside, fence rows; borders of wooded areas, abandoned fields, alluvial bottomlands; found on sandy, acid back dunes soil and concrete debris.	<b>Urban Tolerance:</b>		Intolerant of soil compaction.	
<b>Hydrology:</b>	Well to moderately well drainage; very intolerant of flooding.	<b>Ecosystem Services:</b>		Very high wildlife value for songbirds and small mammals.	
<b>Ornamental Value:</b>	White flowers in spring, long raceme of purple fruit in summer.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Common early succssional species of open areas, eroded, open slopes, burns, wildlife corridors.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Prunus virginiana**

**Common Chokecherry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	pH 6.8-7.2
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>			Potentially tolerant of stormwater.
<b>Habitat:</b>	Open-wooded slopes, wood edges, open woods, open fields, fencerows.	<b>Urban Tolerance:</b>			Intolerant of soil compaction, performs well in the right of way and in well-drained fill soils.
<b>Hydrology:</b>	Moderately well to well drainage; prefers moist to dry moisture conditions.	<b>Ecosystem Services:</b>			Very high wildlife value for songbirds, small mammals, and large mammals.
<b>Ornamental Value:</b>	Long raceme of red fruit in summer.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Used for vegetation of open areas, slope stabilization, wildlife corridors.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Quercus alba**

**White Oak**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 6.1-7.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>			Potentially tolerant of stormwater.
<b>Habitat:</b>	Moist, warm south and west facing slopes, upland flats, rocky hillsides.	<b>Urban Tolerance:</b>			Very intolerant of soil compaction, sensitive to ozone, performs well in the right of way.
<b>Hydrology:</b>	Intolerant of flooding.	<b>Ecosystem Services:</b>			Very high wildlife value for songbirds, upland ground birds, small mammals, hoofed browsers.
<b>Ornamental Value:</b>	Burgundy fall color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Long lifespan.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				



## Quercus bicolor

## Swamp White Oak

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Ovoid; 75'-100'; 50'-75' wide spread; purlish green in spring, dark green in summer; golden yellow brown in fall.	<b>Stormwater Tolerance:</b>		<b>Stormwater Tolerance:</b>	Tolerant of stormwater.
<b>Habitat:</b>	Maturing or older swamp forests; edges of swamp forests and Phragmites marsh.	<b>Urban Tolerance:</b>		<b>Urban Tolerance:</b>	Resistant to soil compaction, performs well in the right of way.
<b>Hydrology:</b>	Tolerant of flooding; wet to moist moisture levels.	<b>Ecosystem Services:</b>		<b>Ecosystem Services:</b>	Very high wildlife value for waterbirds, upland birds, songbirds, small mammals, hoofed browsers.
<b>Ornamental Value:</b>	Yellow green catkins early through mid May.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		<b>Other:</b>	Oak anthracose outbreaks can kill tree; medium lifespan, medium to fast grower.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## Quercus coccinea

## Scarlet Oak

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.1-6.5
<b>Form/Color</b>	Globular form; 50'-75 tall';50'-75' wide spread; green in spring, bright green in summer, scarlet red in fall.	<b>Stormwater Tolerance:</b>		<b>Stormwater Tolerance:</b>	Potentially tolerant of stormwater.
<b>Habitat:</b>	Steep rocky land, ridgetops, warm upper and middle slopes, south and west slope aspects.	<b>Urban Tolerance:</b>		<b>Urban Tolerance:</b>	Sensitive to soil compaction, performs well in the right of way.
<b>Hydrology:</b>	Very intolerant of flooding; well to excessive drainage; average to dry.	<b>Ecosystem Services:</b>		<b>Ecosystem Services:</b>	Very high wildlife value for songbirds, upland ground birds, small mammals, and hoofed browsers.
<b>Ornamental Value:</b>	Scarlet red color in fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		<b>Other:</b>	Long lifespan 200-300 years, medium to fast grower.
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Quercus marilandica**

**Blackjack Oak**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.0-5.0
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Rocky sandy ridgetops, edges of woods, sand terrace.	<b>Urban Tolerance:</b>		Intolerant of soil compaction, performs well in the right of way.	
<b>Hydrology:</b>	Intolerant of flooding; tolerant of dry droughty soils.	<b>Ecosystem Services:</b>		Very high wildlife value for upland ground birds, songbirds, hoofed browsers, and small mammals.	
<b>Ornamental Value:</b>	Red leaf color in fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Long lifespan 200-300 years.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Quercus palustris**

**Pin Oak**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.5-6.5
<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>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Swamp and floodplains forests, second bottoms, alluvial flats, rich mesophytic forest.	<b>Urban Tolerance:</b>		Sensitive to soil compaction, tolerant of sulfur dioxide, performs well in the right of way.	
<b>Hydrology:</b>	Tolerant of flooding and saturated soil up to 25% of growing season.	<b>Ecosystem Services:</b>		Very high wildlife value for songbirds, waterbirds, upland groundbirds, small mammals, and hoofed browsers.	
<b>Ornamental Value:</b>	Scarlet red color in fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Used for in swamp forest reforestation, flood plains, wetland mitigation, street tree; medium lifespan 125-175 years, fast grower.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

## Quercus phellos

## Willow Oak

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC+	<b>Soil:</b>	pH 4.5-6.0
<b>Form/Color</b>	80'; blooms in May; thin un-lobed leaves are shiny above; seeds ripe in September-November; moderate grower.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Swamp forests.	<b>Urban Tolerance:</b>			Intolerant of soil compaction, tolerant of air pollution and wide range of soils, performs well in the right of way.
<b>Hydrology:</b>	Tolerant of flooding and saturated soil up to 25% of growing season.	<b>Ecosystem Services:</b>			Acorns eaten by small mammals.
<b>Ornamental Value:</b>	Conical to oblong, willow-like leaves. Yellow fall color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			Secondary species in restoring swamp forests and wetland mitigation.
<b>Shade Tolerance:</b>	Intolerant of shade.				

## Quercus prinus

## Chestnut Oak

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 3.5-6.5
<b>Form/Color</b>	70'; bark is dark, deeply ridged, and distinctive; blooms in May; ripe acorns September-November.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Dry, rocky, sandy soil; rocky slopes; upland forests.	<b>Urban Tolerance:</b>			Intolerant of soil compaction, performs well in the right of way.
<b>Hydrology:</b>	Intolerant of flooding; drought tolerant.	<b>Ecosystem Services:</b>			Very high wildlife value; acorns eaten by birds and small mammals.
<b>Ornamental Value:</b>	Massively ridged gray-brown bark.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Used for forest restoration in old fields and parks; host to some butterfly larvae species; long lifespan; slow grower.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Quercus rubra**

**Red Oak**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 4.5-6.5
<b>Form/Color</b>	50'-75'; 75'-100' wide spread; distinctive bark with shallow furrows often compared to ski trails; blooms in May; ripe acorns September-October.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Common in New York City forests; Appalachian oak-hickory forest; rich mesophytic forest.	<b>Urban Tolerance:</b>			Tolerant of soil compaction, tolerant of pollution, performs well in the right of way.
<b>Hydrology:</b>	Deep, moist, well-drained soils; intolerant of flooding.	<b>Ecosystem Services:</b>			High wildlife value; acorns eaten by birds and small mammals.
<b>Ornamental Value:</b>	Yellowish to red fall color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Used for restoring upland deciduous forests; park tree; street tree; long lifespan; slow grower.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Quercus stellata**

**Post Oak**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.6-6.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Sandy ridges, dry rocky hillsides, southern slopes.	<b>Urban Tolerance:</b>			Intolerant of soil compaction.
<b>Hydrology:</b>	Intolerant of flooding; tolerant of drought.	<b>Ecosystem Services:</b>			Very high wildlife value; acorns eaten by birds and small mammals, host to larvae of some butterfly species.
<b>Ornamental Value:</b>	Dark red color in spring, golden yellow brown in fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Long lifespan of 200-300 years; slow grower. Used to reforest woodlands in sandy soils of coastal, back dune oak barrens, or rocky uplands.
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Quercus veluntina**

**Black Oak**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-6.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Clay and gravelly ridges, sand dunes, middle and upper slope forests with low nutrient soils.	<b>Urban Tolerance:</b>			Intolerant of soil compaction.
<b>Hydrology:</b>	Very intolerant of flooding; moderately well to excessive drainage; tolerant of drought.	<b>Ecosystem Services:</b>			Very high wildlife value for upland ground birds, songbirds, hoofed browsers, and small mammals.
<b>Ornamental Value:</b>	Crimson red in spring, yellow to golden brown in fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Used for reforestation of upland forest.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Salix eriocephala**

**Stiff Willow**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.0-7.0
<b>Form/Color</b>	Grows to 12'; catkins April-May; fruit May-June; fast grower.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Open, wet soil, pond edges, ditches.	<b>Urban Tolerance:</b>			Tolerant of soil compaction.
<b>Hydrology:</b>	Low tolerance for drought conditions; high moisture use.	<b>Ecosystem Services:</b>			Low wildlife value.
<b>Ornamental Value:</b>	Dark gray, scaly bark.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			Used for wetland reforestation and mitigation in open habitats, pond edges, stream banks, and flood plains.
<b>Shade Tolerance:</b>	Tolerant of shade.				

## Salix nigra

## Black Willow

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 6.5-7.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of fill soils, concrete debris, and soil compaction.
<b>Habitat:</b>	River margins, low lying lakeshore, swamps, swales, gullies.	<b>Ecosystem Services:</b>	High wildlife value for songbirds, waterfowl, and small mammals.		
<b>Hydrology:</b>	Very poor to moderately poor drainage; wet to moist; very tolerant of flooding.				
<b>Ornamental Value:</b>	Yellow green fall color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Very fast grower, used for restoring flood plain and riverbank restoration; wetland mitigation.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## Sassafras albidum

## Sassafras

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 3.8-7.0
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Intolerant of soil compaction.
<b>Habitat:</b>	Found in frequently burned open areas; open woods, abandoned fields, dry ridges and upper slopes.	<b>Ecosystem Services:</b>	Low wildlife for songbirds, host for some butterfly larvae.		
<b>Hydrology:</b>	Very intolerant of flooding; well to excessive drainage.				
<b>Ornamental Value:</b>	Varying colors of yellow, orange, red, and purple in fall, foliage = 3 kinds of leaves.	<b>Compatibility:</b>	Frequently forms colonies.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Short lifespan 50-75 years.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Taxodium distichum*

## Bald Cypress

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 6.1-6.5
<b>Form/Color</b>	Conical; 75'-100'; 20'-35' wide spread; blue green in summer, maroon purple to chocolate brown in fall; drooping deep purple to brown cones.	<b>Stormwater Tolerance:</b>		Stormwater	Tolerant of stormwater.
<b>Habitat:</b>	Swamp, along rivers, oxbows, flat alluvial bottoms.	<b>Urban Tolerance:</b>		Urban	Intolerant of soil compaction, performs well in the right of way.
<b>Hydrology:</b>	Very flood tolerant; very poor to moderately well drainage.	<b>Ecosystem Services:</b>		Ecosystem Services	Very low wildlife value.
<b>Ornamental Value:</b>	Feather-like needles turn copper.	<b>Compatibility:</b>		Compatibility:	
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Other:	Long lifespan.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## *Thuja occidentalis*

## Eastern Arborvitae

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 6.0-8.0
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>		Stormwater	Insufficient information to determine tolerance.
<b>Habitat:</b>	Swampy areas, bogs, margins of lakes, mesic coves, open rocky hillsides, open rocky pastureland.	<b>Urban Tolerance:</b>		Urban	Intolerant of soil compaction.
<b>Hydrology:</b>	Tolerant of flooding; poor to well drainage; wet to dry moisture levels.	<b>Ecosystem Services:</b>		Ecosystem Services	Low wildlife value for songbirds, waterfowl, and small mammals; browsed by small mammals and white-tailed deer.
<b>Ornamental Value:</b>	Dark green foliage turns yellow-green to brown in winter.	<b>Compatibility:</b>		Compatibility:	
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Other:	Long lifespan, fast to medium grower.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## *Tilia americana*

## American Linden

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 6.5-7.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>			Potentially tolerant of stormwater.
<b>Habitat:</b>	Mesic ravines, coves, north and east slope aspects, floodplain knobs, areas of cool air drainage.	<b>Urban Tolerance:</b>			Tolerant of concrete; intolerant of soil compaction, performs well in the right of way, minimal tolerance of pollution.
<b>Hydrology:</b>	Intolerant of flooding; moderate to well drainage; average moisture levels.	<b>Ecosystem Services:</b>			Very low wildlife value.
<b>Ornamental Value:</b>	Golden yellow leaves in fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			Susceptible to Verticillium wilt, powdery mildew, leaf blight, canker.
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Tsuga canadensis*

## Hemlock

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.6-6.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Protected coves, mesic ravines, moist cool valleys, north and east slope aspects, benches, hollows under cliffs.	<b>Urban Tolerance:</b>			Intolerant of soil compaction, sensitive to ozone.
<b>Hydrology:</b>	Very intolerant of flooding; well to poor drainage; wet to average moisture levels.	<b>Ecosystem Services:</b>			Intermediate wildlife value for songbirds, small mammals, and hoofed browsers; good winter cover for wildlife.
<b>Ornamental Value:</b>	Dark green foliage year round.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			Very susceptible to drought and heat; susceptible to woolly adelgid; long lifespan; medium to slow grower.
<b>Shade Tolerance:</b>	Tolerant of shade.				



**Ulmus americana**

**American Elm**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW-	<b>Soil:</b>	pH 6.6-8.0
<b>Form/Color</b>	Globular; 75'-100'; 75'-100' wide spread; golden yellow in fall; small clusters of red brown flowers early-mid April; tan brown samara May.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Alluvial flats; mesic ravines, moist forest slopes.	<b>Urban Tolerance:</b>			Intermediate tolerance of soil compaction.
<b>Hydrology:</b>	Intermediate tolerance of flooding; moderate to well drainage; moist to dry.	<b>Ecosystem Services:</b>			Intermediate wildlife value for waterfowl, songbirds, upland ground birds, small mammals.
<b>Ornamental Value:</b>	Golden yellow fall color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>			Susceptible to diseases: Dutch elm disease, cankers, Verticillium wilt; frequently susceptible to gypsy moth, bark beetles, elm borer, etc.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## Shrubs

Shrubs 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.

**Alnus serrulata**

**Common Alder**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.5-7.5
<b>Form/Color</b>	Deciduous, forms thickets, fast to 20', 12-20' wide, flowers red to purple catkins in March-April, fruit dry, cone-like in August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Swamp, spring, pond or lake edges, meadow, forest.	<b>Urban Tolerance:</b>		Tolerant of soil compaction and poor soil.	
<b>Hydrology:</b>	Tolerant of flooding and drought.	<b>Ecosystem Services:</b>		Wildlife value high, host to some butterfly larvae, seeds eaten by some songbirds, twigs and leaves eaten by rabbits and deer.	
<b>Ornamental Value:</b>	Flowers, catkins, conelike fruit.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Nitrogen fixer, susceptible to borers, tent caterpillars, and other insects, weakened plants susceptible to canker and other fungi.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Arctostaphylos uva-ursi**

**Bearberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.5-6.0
<b>Form/Color</b>	Evergreen, low-growing, groundcover, pink flowers in spring, red fruits, slow grower to 6-12" tall, 2-4' wide or more.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Forest, dune, bald, barrens.	<b>Urban Tolerance:</b>		Sensitive of soil compaction.	
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.	<b>Ecosystem Services:</b>		Wildlife and birds eat fruits.	
<b>Ornamental Value:</b>	Small pink flowers, glossy green leaves turn reddish brown in winter, bright red fruits, great ground cover.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

## **Baccharis halimifolia**

## **Groundsel Bush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.5-8.5
<b>Form/Color</b>	Semievergreen, rounded shrub, upright branches, cottony fruits in fall, fast grower to 5-12' tall, 5-12' wide.	<b>Stormwater Tolerance:</b>	Potentially tolerant.	<b>Urban Tolerance:</b>	Tolerant of soil compaction, concrete debris.
<b>Habitat:</b>	Coastal, salt marsh edges, usually upland of Iva. spp.	<b>Ecosystem Services:</b>	Cover for wildlife, nectar for bees, butterflies, moths, insects, birds eat seeds.		
<b>Hydrology:</b>	Tolerant of flooding, drought.				
<b>Ornamental Value:</b>	Deep green to gray-green leaves, cottony fruits.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Mostly pest free.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## **Ceanothus americanus**

## **New Jersey Tea**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.5-6.0
<b>Form/Color</b>	Deciduous, slow to moderate grower to 3' tall, , flowers white in June-July, fruit dry in August-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Intolerant of soil compaction.
<b>Habitat:</b>	Open, dry, oak woods.	<b>Ecosystem Services:</b>	Host to some butterfly larvae.		
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.				
<b>Ornamental Value:</b>	White flowers in summer.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Nitrogen fixer. Exceptionally deep roots make it well adapted to persist after fires.		
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Cephalanthus occidentalis**

**Buttonbush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 6.0-8.5
<b>Form/Color</b>	Deciduous, grows to 12' tall, flowers white in July-August, fruit dry in September-January.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of soil compaction, concrete debris, performs well in the right of way.
<b>Habitat:</b>	Freshwater tidal and nontidal marshes, pond edges, shallow standing water.	<b>Ecosystem Services:</b>	Seeds eaten by ducks and other birds, twigs eaten by deer and rabbits.		
<b>Hydrology:</b>	Tolerant of flooding. Intolerant of drought.				
<b>Ornamental Value:</b>	Flowers in white, ball-shaped clusters.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>	Dispersed by water, dies in closed canopy swamp forest.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Chimaphila maculata**

**Spotted Wintergreen**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	pH 5.1-6.5
<b>Form/Color</b>	Evergreen, grows to 1' tall by 1'8" wide, usually smaller, flowers white-pinkish in June-August, waxy, whorled.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Intolerant of soil compaction and disturbance.
<b>Habitat:</b>	Rich, dry woods, sandy soils.	<b>Ecosystem Services:</b>	Edible leaves, good ground cover.		
<b>Hydrology:</b>	Requires consistently moist soil. Intolerant of drought.				
<b>Ornamental Value:</b>	Fragrant white-pinkish flowers in small clusters at top of stem.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Also known as striped wintergreen or striped Prince's pine.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Clethra alnifolia**

**Sweet Pepperbush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC+	<b>Soil:</b>	pH 4.5-6.5
<b>Form/Color</b>	Deciduous, grows to 8' tall, flowers white in July-August, fruit dry September-October.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Moist to wet woods.	<b>Urban Tolerance:</b>			Tolerant of soil compaction, performs well in the right of way.
<b>Hydrology:</b>	Tolerant of flooding. Intolerant of drought.	<b>Ecosystem Services:</b>			Wildlife value low, host to some butterfly larvae, twigs eaten by rabbits and deer.
<b>Ornamental Value:</b>	White flowers in summer, fragrant.	<b>Compatibility:</b>			Can form colonies.
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Tolerates shade but better in gaps and edges.
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Comptonia peregrina**

**Sweetfern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.5-6.5
<b>Form/Color</b>	Deciduous, dense, rounded shrub, slow grower to 2-4' tall, 4-8' wide, flowers catkins in May-June.	<b>Stormwater Tolerance:</b>			Potentially tolerant of stormwater.
<b>Habitat:</b>	Grassland, meadows, fields, open woodlands.	<b>Urban Tolerance:</b>			Intolerant of soil compaction, tolerant of poor soils, performs well in the right of way.
<b>Hydrology:</b>	Tolerant of drought.	<b>Ecosystem Services:</b>			Wildlife value low.
<b>Ornamental Value:</b>	Lustrous leaves, resemble fern frond, fragrant.	<b>Compatibility:</b>			Suckers can form colonies.
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Can be difficult to establish, nitrogen fixer. Sexes on separate plants.
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Cornus alternifolia**

**Pagoda Dogwood**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.5-7.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Rich woods, stream and pond banks, prefers moist soil.	<b>Urban Tolerance:</b>		Moderately tolerant of soil compaction.	
<b>Hydrology:</b>	Moderately tolerant of flooding, intolerant of drought.	<b>Ecosystem Services:</b>		Wildlife value very high, fruit eaten by birds.	
<b>Ornamental Value:</b>	Small cluster of off-white flowers, dark blue fruits, fragrant.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Susceptible to dogwood borer and cottony scales.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Cornus amomum**

**Silky Dogwood**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 6.0-8.5
<b>Form/Color</b>	Deciduous, sprawling, grows to 9' tall, flowers white in May-July, blue-white fruit in August-September.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Open freshwater tidal and nontidal marshes, pond edges, flood plain forests, wet habitats.	<b>Urban Tolerance:</b>		Tolerant of concrete debris, moderate disturbance, performs well in the right of way.	
<b>Hydrology:</b>	Tolerant of flooding, moderately tolerant of drought.	<b>Ecosystem Services:</b>		Wildlife value very high, host to some butterfly larvae, fruit eaten by birds, raccoons, skunks, leaves and twigs eaten by deer and rabbits.	
<b>Ornamental Value:</b>	Flowers in white, showy clusters in summer, fleshy blue-white fruit in late summer and fall.	<b>Compatibility:</b>		Branch tips rooting.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Most common Cornus species in NYC, can be infected by leaf spot in cool, wet summers, wounded plants may be infected by cankers.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Cornus racemosa**

**Gray Dogwood**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 6.0-8.5
<b>Form/Color</b>	Deciduous, moderate grower to 15', flowers white in May-July, white fruit with red stems in July-September.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Moist soil.	<b>Urban Tolerance:</b>		Should tolerate concrete debris, alkaline fill, soil compaction; performs well in the right of way.	
<b>Hydrology:</b>	Moderately tolerant of flooding, drought.	<b>Ecosystem Services:</b>		Wildlife value very high, fruit eaten by many bird species.	
<b>Ornamental Value:</b>	White, showy, flower clusters in summer, fleshy white fruit with red pedicels.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Roots fairly well from cuttings. Also known as Red-Panicled Dogwood.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Cornus sericea**

**Red-Osier Dogwood**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 6.0-8.5
<b>Form/Color</b>	Deciduous, grows to 8', flowers white in May-August, white fruit in August-October.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Pond and marsh edges.	<b>Urban Tolerance:</b>		Tolerant of concrete debris, performs well in the right of way.	
<b>Hydrology:</b>	Tolerant of swampy conditions, wet soils.	<b>Ecosystem Services:</b>		Fruit eaten by birds, raccoons, skunks, twigs and leaves eaten by rabbits and deer, host to some butterfly larvae.	
<b>Ornamental 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>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Does not reproduce well in New York City, roots well from cuttings.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				



**Corylus americana**

**American Hazel-Nut**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 6.0-7.5
<b>Form/Color</b>	Deciduous, moderate to fast grower to 9', flowers yellow catkins in March-April, fruit in September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist woods, thickets.	<b>Urban Tolerance:</b>		Moderately tolerant of soil compaction.	
<b>Hydrology:</b>	Moderately tolerant of drought, intolerant of flooding.	<b>Ecosystem Services:</b>		Wildlife value moderate, nuts eaten by birds and mammals.	
<b>Ornamental Value:</b>	Yellow catkins in spring, fruit in September.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Dasiphora fruticosa**

**Shrubby Cinquefoil**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 6.0-8.5
<b>Form/Color</b>	Deciduous, rounded shrub, yellow flowers from June until frost, slow grower to 2-4' tall, 2-4' wide.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Open areas, wet to moist soil.	<b>Urban Tolerance:</b>		Should tolerate concrete debris, tolerant of poor soils, performs well in the right of way.	
<b>Hydrology:</b>	Tolerant of flooding, drought.	<b>Ecosystem Services:</b>		Attracts butterflies.	
<b>Ornamental Value:</b>	Bluish-green leaves, bright yellow, white, pink, or red flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Very few pests.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Diervilla lonicera**

**Dwarf Bush Honeysuckle**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-6.5
<b>Form/Color</b>	Deciduous, short-lived, fast grower to 3', flowers yellow to red in June-July, fruit dry in August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry woods, rocky soil.	<b>Urban Tolerance:</b>		Tolerant of soil compaction.	
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.	<b>Ecosystem Services:</b>		Wildlife value low, flowers attractive to hummingbirds.	
<b>Ornamental Value:</b>	Yellow to red flowers in summer.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Epigaea repens**

**Trailing Arbutus**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	pH 4.5-6.0
<b>Form/Color</b>	Evergreen, creeping mat, grows to 4-6", flowers white or pink in March-May, white fruit, dioecious.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Sandy to peaty woods or clearings.	<b>Urban Tolerance:</b>		Intolerant of soil compaction, roots easily injured, human disturbance causes leaf browning and rot.	
<b>Hydrology:</b>	Intolerant of flooding, drought.	<b>Ecosystem Services:</b>		Wildlife value low, attracts butterflies.	
<b>Ornamental Value:</b>	Aromatic, leathery leaves, trumpet-shaped white-pale pink flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Exploitably vulnerable in New York state, does not tolerate disturbance.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Eubotrys racemosa**

**Fetterbush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.4-6.0
<b>Form/Color</b>	Deciduous, grows to 12', flowers white in May-June, fruit dry September-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Swamp forests, margins of woodland ponds, vernal pools, moist to wet oak woodlands understory.	<b>Ecosystem Services:</b>		Wildlife value low, eaten by deer.	
<b>Hydrology:</b>	Wet soil conditions; medium moisture usage.				
<b>Ornamental Value:</b>	Small, white flowers in summer.	<b>Compatibility:</b>		Colonial from root sprouts.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Euonymus americanus**

**Strawberry Bush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 6.0-7.5
<b>Form/Color</b>	Deciduous, moderate grower to 7', green twigs, flowers greenish-purple in May-June, fruit a warty capsule.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Moderately tolerant of soil compaction.	
<b>Habitat:</b>	Moist woods.	<b>Ecosystem Services:</b>		Wildlife value low.	
<b>Hydrology:</b>	Moderately tolerant of flooding, intolerant of drought.				
<b>Ornamental Value:</b>	Beautiful red seed capsules burst open to reveal shiny orange seeds. Green stems add interest all winter long.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		It's showy fruits give rise to its other common name bursting-heart.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Gaultheria procumbens**

**Eastern Teaberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.5-6.5
<b>Form/Color</b>	Slow grower to 6", stoloniferous with creeping horizontal rhizomes, forms a mat, dark green foliage, flowers white to pinkish in spring, red fruit.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Bog, swamp, barrens, dune, forest, old field.	<b>Urban Tolerance:</b>		Tolerant of soil compaction.	
<b>Hydrology:</b>	Tolerant of flooding, drought.	<b>Ecosystem Services:</b>		Wildlife value low, limited use by large and small mammals, and birds.	
<b>Ornamental Value:</b>	White flowers, red fruit.	<b>Compatibility:</b>		Can slowly form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Difficult to transplant.	
<b>Shade Tolerance:</b>	Tolerant of shade, demands partial shade.				

**Gaylussacia baccata**

**Black Huckleberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 3.9-4.8
<b>Form/Color</b>	Deciduous, very slow grower to 3', flowers white-pinkish in May-June, black fruit in August-September.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Dry, sandy, or rocky oak woods, pine barrens.	<b>Urban Tolerance:</b>		Performs well in the right of way.	
<b>Hydrology:</b>	Moderately tolerant of drought.	<b>Ecosystem Services:</b>		Wildlife value high, fruit eaten by birds and mammals, host to some butterfly larvae.	
<b>Ornamental Value:</b>	White flowers, fleshy black fruit.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Gaylussacia frondosa**

**Tall Huckleberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 4.5-6.5
<b>Form/Color</b>	Deciduous, very slow grower to 6', flowers white in May-June, blue fruit in August-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to coarse soils, intolerant of anaerobic conditions.
<b>Habitat:</b>	Moist to dry open oak or pine woods.	<b>Ecosystem Services:</b>	Wildlife value high, fruit eaten by birds and mammals, host to some butterfly larvae, pollinated by bumble bees and smaller bees.		
<b>Hydrology:</b>	Sandy, wet soil conditions.				
<b>Ornamental Value:</b>	White flowers, fleshy blue fruit.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Hamamelis virginiana**

**Witch Hazel**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC-	<b>Soil:</b>	pH 6.0-6.5
<b>Form/Color</b>	Deciduous, slow grower to 25', flowers yellow in September-November, fruit dry in autumn of the following year.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.	<b>Urban Tolerance:</b>	Intolerant of soil compaction, performs well in the right of way.
<b>Habitat:</b>	Moist, rich, open woods.	<b>Ecosystem Services:</b>	Seeds eaten by wild turkeys, squirrels, twigs eaten by deer and rabbits; leaves fed on by several insects.		
<b>Hydrology:</b>	Intolerant of flooding, drought.	<b>Compatibility:</b>			
<b>Ornamental Value:</b>	Lemon yellow fall foliage, yellow flowers in fall and interesting fruits that release seeds explosively.	<b>Other:</b>	Susceptible to leaf spot and blight.		
<b>Salt Tolerance:</b>	Intolerant of salt.				
<b>Shade Tolerance:</b>	Tolerant of shade.				

## **Hudsonia ericoides**

## **Golden Heather**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.1-7.5
<b>Form/Color</b>	Evergreen, mound or mat-forming to 1' or less, flowers yellow in May-June, fruit dry July-August.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Sandy soil of pine barrens, acid, rocky outcrops.	<b>Ecosystem Services:</b>	Attractive to bees, butterflies, and birds.		
<b>Hydrology:</b>	Tolerant of drought.				
<b>Ornamental Value:</b>	Yellow showy flowers.	<b>Compatibility:</b>	Cannot compete with weedy vegetation in good quality soil.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

## **Hudsonia tomentosa**

## **False Heather**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.5-6.9
<b>Form/Color</b>	Evergreen, shrubby, less than 1', flowers yellow in May-June, fruit in June-August.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of coarse soil, intolerant of anaerobic soils.
<b>Habitat:</b>	Coastal, open sandy soil, back dunes.	<b>Ecosystem Services:</b>	Attractive to bees, butterflies, and birds.		
<b>Hydrology:</b>	Tolerant of moderate drought, sandy, moist soil conditions; low moisture usage.				
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Hypericum prolificum**

**Shrubby St-John's Wort**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 6.0-8.5
<b>Form/Color</b>	Deciduous, grows to 3', flowers yellow in June-August, fruit dry.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Tolerant of soil compaction, should tolerate concrete debris.	
<b>Habitat:</b>	Swamp margins, cliffs, sandy or rocky soil.	<b>Ecosystem Services:</b>		Wildlife value moderate.	
<b>Hydrology:</b>	Tolerant of flooding, drought.				
<b>Ornamental Value:</b>	Showy yellow flowers in summer.	<b>Compatibility:</b>		Easily shaded out by competing vegetation.	
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Ilex glabra**

**Inkberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.5-6.0
<b>Form/Color</b>	Evergreen, slow grower to 6', flowers white in June-July, black fruit in September-November, dioecious.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
		<b>Urban Tolerance:</b>		Tolerant of soil compaction, performs well in the right of way.	
<b>Habitat:</b>	Margins of bogs, swamps of coastal plain and pine barrens, Atlantic white cedar swamps.	<b>Ecosystem Services:</b>		Wildlife value high, fruit eaten by birds, winter cover for small birds, seeds eaten by small mammals, twigs eaten by deer.	
<b>Hydrology:</b>	Tolerant of flooding, intolerant of drought.				
<b>Ornamental Value:</b>	Small, white flowers in summer, black fleshy fruit in the fall.	<b>Compatibility:</b>		Eventually colonial.	
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Ilex verticillata**

**Winterberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.5-6.0, tolerates to 8.0
<b>Form/Color</b>	Deciduous, slow grower to 15', flowers white in June-July, red fruit in September-October, dioecious.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Freshwater tidal marshes, shrub swamps, swamp forest, flood plain forests.	<b>Urban Tolerance:</b>			Tolerates soil compaction, performs well in the right of way.
<b>Hydrology:</b>	Tolerant of flooding, moderately tolerant of drought.	<b>Ecosystem Services:</b>			Wildlife value high, fruit eaten by birds throughout winter, also eaten by small mammals.
<b>Ornamental Value:</b>	Small white flowers in summer, red fleshy fruit in fall, persisting into the winter.	<b>Compatibility:</b>			Males often colonial.
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Iva frutescens**

**Marsh Elder**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 5.0-7.5
<b>Form/Color</b>	Grows to 9', usually dies back in winter, flowers greenish in August-October.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Coastal, high salt marsh, salt marsh edges.	<b>Urban Tolerance:</b>			Tolerant of concrete debris.
<b>Hydrology:</b>	Tolerant of flooding, drought.	<b>Ecosystem Services:</b>			Attractive to song birds. Habitat for generalist wetland birds. Secondary nesting habitat for Saltmarsh Sparrows.
<b>Ornamental Value:</b>	Greenish flowers and fruits.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				



**Juniperus communis**

**Common Juniper**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-8.5
<b>Form/Color</b>	Evergreen, columnar, slow grower to 6', no true flowers, fruit berry-like blue-black cone in October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Tolerates concrete debris.	
<b>Habitat:</b>	Sterile, dry, open rocky soil.	<b>Ecosystem Services:</b>		Wildlife value very high, evergreen cover and food for small birds, fruit eaten by birds.	
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.				
<b>Ornamental Value:</b>	Berry-like cone of blue-black fruit. Evergreen foliage.	<b>Compatibility:</b>		Does not tolerate competition from weedy vegetation.	
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		It has the most extensive worldwide native range of any conifer. Sexes on separate plants.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Kalmia angustifolia**

**Sheep Laurel**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 4.5-6.0
<b>Form/Color</b>	Evergreen, slow grower to 3', flowers pink in May-June, fruit dry in August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Tolerant of soil compaction.	
<b>Habitat:</b>	Dry to moist, acid, sterile sandy soil, oak or pine woods, barrens, bog edges.	<b>Ecosystem Services:</b>		Wildlife value low.	
<b>Hydrology:</b>	Tolerant of flooding, drought.				
<b>Ornamental Value:</b>	Pink showy flowers in early summer.	<b>Compatibility:</b>		Gradually colonial.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Adapted to fire, attacked by very few insects, leaves infected by several fungi.	
<b>Shade Tolerance:</b>	Tolerant of open shade.				

**Kalmia latifolia**

**Mountain Laurel**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.5-6.0
<b>Form/Color</b>	Evergreen, slow grower to 9', flowers white in May-July, fruit dry in August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Sandy or rocky, oak or pine woods, north-facing slopes, oak forests, pine barrens.	<b>Urban Tolerance:</b>		Intolerant of soil compaction.	
<b>Hydrology:</b>	Moderately tolerant of drought, intolerant of flooding.	<b>Ecosystem Services:</b>		Wildlife value low.	
<b>Ornamental Value:</b>	White showy flowers in early summer.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Foliage toxic but eaten by deer.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Lindera benzoin**

**Spicebush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.5-7.7
<b>Form/Color</b>	Deciduous, slow grower to 15', flowers yellow in March-April, red fruit September-October, yellow fall foliage, dioecious.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Swamp forests, understory of moist forests.	<b>Urban Tolerance:</b>		Somewhat tolerant of urban pollution, performs well in the right of way.	
<b>Hydrology:</b>	Moderately tolerant flooding, intolerant of drought.	<b>Ecosystem Services:</b>		Wildlife value very high, oily fruit good for migrating birds, host to some butterfly larvae, such as the Spicebush Swallowtail.	
<b>Ornamental Value:</b>	Aromatic leaves, small yellow flowers in early spring before leafing out, red fleshy fruit in fall, fall foliage clear yellow.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		A common plant in New York City, does not grow well in heavy clay soils.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Lyonia ligustrina**

**Male-Berry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.0-6.0
<b>Form/Color</b>	Deciduous, moderate grower to 12', flowers white in May-July, fruit dry September-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Tolerates soil compaction.	
<b>Habitat:</b>	Swamps, moist to wet open woods, pond edges.	<b>Ecosystem Services:</b>		Wildlife value low.	
<b>Hydrology:</b>	Tolerant of flooding, drought.				
<b>Ornamental Value:</b>	Small white flowers in summer.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Lyonia mariana**

**Staggerbush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC-	<b>Soil:</b>	pH 4.0-6.0
<b>Form/Color</b>	Grows to 6', flowers white in May-June, fruit dry in September-October into winter.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
		<b>Urban Tolerance:</b>		Performs well in the right of way.	
<b>Habitat:</b>	Moist sandy soil, open oak or pine woods, needs acid soil.	<b>Ecosystem Services:</b>		Attractive to bees.	
<b>Hydrology:</b>	Moist to wet soil conditions.				
<b>Ornamental Value:</b>	White flowers in early summer. Interesting seed heads.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

### **Morella pensylvanica**

### **Northern Bayberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.5-7.8
<b>Form/Color</b>	Deciduous, irregular shrub, upright branches, blue-gray fruits in late summer through winter, fast grower to 5-12' tall, 5-8' wide.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of infertile soils.
<b>Habitat:</b>	Coastal regions.	<b>Ecosystem Services:</b>	Attracts birds. Primary winter food of yellow-rumped warbler.		
<b>Hydrology:</b>	Tolerant of drought.				
<b>Ornamental Value:</b>	Deep green leaves, blue-gray fruits, fragrant.	<b>Compatibility:</b>	Tends to sucker and form colonies.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Nitrogen fixer.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

### **Photinia floribunda**

### **Purple Fruit Chokeberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.0-6.5
<b>Form/Color</b>	Deciduous, somewhat colonial grower to 12' tall, fall red foliage, flowers white in April-May, dark purple fruit in August-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of soil compaction.
<b>Habitat:</b>	Swamps, wet woods.	<b>Ecosystem Services:</b>	Wildlife value moderate, host to some butterfly larvae.		
<b>Hydrology:</b>	Tolerant of flooding, moderately tolerant of drought.				
<b>Ornamental Value:</b>	White showy flowers in spring, fleshy dark purple fruit in late summer and fall, red fall foliage.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Probably hybrid between <i>P. pyrifolia</i> and <i>P. melanocarpa</i> .		
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Photinia melanocarpa**

**Black Chokeberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.0-6.5
<b>Form/Color</b>	Deciduous, slow grower to 6' tall, flowers white in April-May, black fruit in July-October.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Swamps, wet woods.	<b>Urban Tolerance:</b>		Tolerant of soil compaction, performs well in the right of way.	
<b>Hydrology:</b>	Tolerant of flooding and drought.	<b>Ecosystem Services:</b>		Wildlife value moderate, host to some butterfly larvae, birds eat fruit, pollinated by native bees and European honeybees.	
<b>Ornamental Value:</b>	White showy flowers in spring, fleshy black fruit in summer and fall.	<b>Compatibility:</b>		Slow colonization rate.	
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Not attacked by many insects, infected by quince rust, powdery mildew, leaf spot fungi.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Photinia pyrifolia**

**Red Chokeberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.0-6.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Swamps, wet woods, salt marsh edges, back dune swales.	<b>Urban Tolerance:</b>		Tolerant of soil compaction, performs well in the right of way.	
<b>Hydrology:</b>	Tolerant of flooding, moderately tolerant of drought.	<b>Ecosystem Services:</b>		Wildlife value moderate, fruit eaten by birds, twigs eaten by deer and rabbits, seeds eaten by mice, host to some butterfly larvae. Host of rare precious underwing (Cataoala pretiosa) moth.	
<b>Ornamental Value:</b>	Delicate white flowers in spring, red fall colors, glossy red fruits.	<b>Compatibility:</b>		Can form suckering colony.	
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Susceptible to Japanese beetles and leaf spots. Fruit persists in winter.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## *Prunus maritima*

## Beach Plum

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	pH 5.8-7.7
<b>Form/Color</b>	Deciduous, irregular shrub, upright branches, flowers pink in spring, plum colored fruits in August, fast grower to 4-15' tall, 4-15' wide.	<b>Stormwater Tolerance:</b>		<b>Stormwater Tolerance:</b>	Tolerant of stormwater.
<b>Habitat:</b>	Dunes; sandy soil.	<b>Urban Tolerance:</b>		<b>Urban Tolerance:</b>	Tolerant of coarse, medium soils, moderately tolerant of anaerobic soils, performs well in the right of way.
<b>Hydrology:</b>	Tolerant of drought.	<b>Ecosystem Services:</b>		<b>Ecosystem Services:</b>	Attracts bees, fruit is edible.
<b>Ornamental Value:</b>	Pink flowers, plum colored fruit.	<b>Compatibility:</b>		<b>Compatibility:</b>	Tends to sucker and form colonies.
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		<b>Other:</b>	Pest problems include brown rot, plum curculio, tent caterpillar, and black knot.
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Prunus pumila*

## Sand Cherry

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.9-7.0
<b>Form/Color</b>	Deciduous, branches ascending, grows to 3', flowers white in May-June, black fruit July-September.	<b>Stormwater Tolerance:</b>		<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Dry, rocky woods, acid soil.	<b>Urban Tolerance:</b>		<b>Urban Tolerance:</b>	Tolerant of coarse, medium soils, intolerant of anaerobic soils.
<b>Hydrology:</b>	Tolerant of drought; well-drained, sandy, clay, loamy soil conditions.	<b>Ecosystem Services:</b>		<b>Ecosystem Services:</b>	Attracts bees.
<b>Ornamental Value:</b>	White flowers in summer, black fruit in summer and early fall.	<b>Compatibility:</b>		<b>Compatibility:</b>	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		<b>Other:</b>	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Quercus ilicifolia**

**Bear Oak**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.0-7.5
<b>Form/Color</b>	Deciduous, moderate grower to 15', blooms May, acorns ripen September of the following year.	<b>Stormwater Tolerance:</b>		Intolerant of stormwater.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry rocky or sandy, sterile acid soil in oak and pine barrens, coastal scrub, dry, sandy sterile soil.	<b>Ecosystem Services:</b>		Wildlife value very high, acorns eaten by birds and mammals.	
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.				
<b>Ornamental Value:</b>	Blooms in May.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Quercus prinoides**

**Dwarf Chinkapin Oak**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-8.5
<b>Form/Color</b>	Deciduous, slow grower to 9', blooms in May, acorns ripen September-October of the following year.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Should tolerate concrete debris, intolerant of soil compaction.	
<b>Habitat:</b>	Dry rocky rich soils, slopes, oak barrens.	<b>Ecosystem Services:</b>		Wildlife value very high.	
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.				
<b>Ornamental Value:</b>	Blooms in May.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Rhododendron periclymenoides**

**Pinkster Azalea**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 4.2-5.5
<b>Form/Color</b>	Deciduous, slow grower to 6', flowers pink in April-May, fruit dry in September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Tolerant of soil compaction.	
<b>Habitat:</b>	Moist oak woods, acid soil.	<b>Ecosystem Services:</b>		Wildlife value low.	
<b>Hydrology:</b>	Tolerant of flooding, moderately tolerant of drought.				
<b>Ornamental Value:</b>	Pink showy flowers in spring.	<b>Compatibility:</b>		Gradually colonial.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Rhododendron maximum**

**White Laurel**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 4.5-6.0
<b>Form/Color</b>	Evergreen, grows to 30', flowers white in June-July, fruit dry September-November.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Intolerant of soil compaction, disturbance.	
<b>Habitat:</b>	Wet to moist woods, Atlantic white cedar bogs, cool, moist, high shade.	<b>Ecosystem Services:</b>		Wildlife value low, winter cover for birds.	
<b>Hydrology:</b>	Tolerant flooding, intolerant of drought.				
<b>Ornamental Value:</b>	White showy flowers in summer.	<b>Compatibility:</b>		Gradually colonial.	
<b>Salt Tolerance:</b>	Very intolerant of salt.	<b>Other:</b>		Damaged by various fungi and insects.	
<b>Shade Tolerance:</b>	Tolerant of shade.				



**Rhododendron viscosum**

**Swamp Azalea**

**Native To:** New York City      **Wetland Indicator:** OBL      **Soil:** pH 4.0-6.0

**Form/Color:** Deciduous, moderate grower to 6', flowers white in June-July, fruit dry September-October.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Open swamp forests, bogs.      **Urban Tolerance:** Tolerant of soil compaction.

**Hydrology:** Moderately tolerant of drought.      **Ecosystem Services:** Wildlife value low.

**Ornamental Value:** White, showy, fragrant flowers in summer.      **Compatibility:** Slow colonization rate.

**Salt Tolerance:** Intolerant of salt.      **Other:**

**Shade Tolerance:** Moderately tolerant of shade.

**Rhus aromatica**

**Fragrant Sumac**

**Native To:** New York City      **Wetland Indicator:** UPL      **Soil:** pH 6.8-7.2

**Form/Color:** Deciduous, low-growing, spreading plant, to 2' tall, 6-8' wide, soft red fruit in late summer into winter, often dioecious.      **Stormwater Tolerance:** Tolerant of stormwater.

**Habitat:** Wooded edges in acid soil.      **Urban Tolerance:** Performs well in the right of way.

**Hydrology:** Tolerant of drought.      **Ecosystem Services:** Attracts butterflies and bees.

**Ornamental Value:** Fragrant trifoliolate leaves, fiery red autumn color, yellow catkin-like flowers, small red fruits.      **Compatibility:** Spreads by root suckers.

**Salt Tolerance:** Tolerant of salt.      **Other:**

**Shade Tolerance:** Tolerant of partial shade.

## **Rhus copallina**

## **Winged Sumac**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-7.0
<b>Form/Color</b>	Deciduous, fast grower to 25', fall foliage red, flowers greenish in July-September, red fruit clusters in August-October through winter.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Intolerant of soil compaction.
<b>Habitat:</b>	Open, sandy, sterile soil, fill, back dune shrublands.	<b>Ecosystem Services:</b>	Wildlife value high, fruit eaten by birds.		
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.				
<b>Ornamental Value:</b>	Fall foliage bright red, flowers greenish, showy pink fruit clusters, winged leaves.	<b>Compatibility:</b>	Tolerates weedy vegetation. Can form colonies.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Common in New York City. Sexes on separate plants.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## **Rhus glabra**

## **Smooth Sumac**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-7.0
<b>Form/Color</b>	Deciduous, grows to 15', red-orange fall foliage, flowers greenish in June-July, red fruit clusters in July-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Intolerant of soil compaction.
<b>Habitat:</b>	Open areas, rich soils, fill, soils.	<b>Ecosystem Services:</b>	Fruit eaten by some birds.		
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.				
<b>Ornamental Value:</b>	Fall foliage orange-red, flowers greenish, red fruit clusters.	<b>Compatibility:</b>	Tolerates weedy vegetation. Can form colonies.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Sexes on separate plants.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## **Rhus typhina**

## **Staghorn Sumac**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-7.0
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Intolerant of soil compaction.
<b>Habitat:</b>	Open, rocky areas, edges, fill.	<b>Ecosystem Services:</b>	Fruits eaten by gamebirds, songbirds, large and small mammals.		
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.				
<b>Ornamental Value:</b>	Some cultivars have golden foliage, fiery autumn color, bright crimson upright fruits.	<b>Compatibility:</b>	Tolerates weedy vegetation. Can form colonies.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Sexes on separate plants.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## **Rosa carolina**

## **Pasture Rose**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-8.5
<b>Form/Color</b>	Deciduous, multistemmed, prickly, fast grower to 3', flowers pink in June, red fruit.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.	<b>Urban Tolerance:</b>	Should tolerate concrete debris, some tolerance of soil compaction, performs well in the right of way.
<b>Habitat:</b>	Dry, open areas, old fields, sandy or rocky soil.	<b>Ecosystem Services:</b>	Wildlife value moderate, fruit eaten by birds and mammals.		
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.				
<b>Ornamental Value:</b>	Pink showy flowers in June, fleshy red fruit.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

## Rosa palustris

## Swamp Rose

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.6-6.5
<b>Form/Color</b>	Deciduous, multistemmed, prickly stems, grows to 6', flowers pink in June-July, red fruit in September-October.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.		
<b>Habitat:</b>	Freshwater tidal and nontidal marshes, pond edges.	<b>Urban Tolerance:</b>	Performs well in the right of way.		
<b>Hydrology:</b>	Tolerant of flooding.	<b>Ecosystem Services:</b>	Wildlife value high, fruit eaten by birds.		
<b>Ornamental Value:</b>	Pink showy flowers, red fleshy fruit.	<b>Compatibility:</b>	Aggressively colonial.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

## Rosa virginiana

## Virginia Rose

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Deciduous, multi-stemmed, dense shrub, flowers pink with yellow centers in summer, red rose hips throughout winter, to 4-6' tall, 4-6' wide.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.		
<b>Habitat:</b>	Open areas, moist to dry soil, especially sandy areas, back dune scrub.	<b>Urban Tolerance:</b>	Performs well in the right of way.		
<b>Hydrology:</b>	Low tolerance to drought.	<b>Ecosystem Services:</b>	Eaten by birds.		
<b>Ornamental Value:</b>	Pink flowers with yellow centers, red rose hips.	<b>Compatibility:</b>	Will sucker and spread quickly.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Very disease resistant.		
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Rubus allegheniensis**

**Common Blackberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.5-7.5
<b>Form/Color</b>	Stout, curved, sharp prickles, fast grower stems to 6', flowers white in May-July, black fruit in August-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Wide tolerance in soils and moisture, grows in fill soils.	<b>Urban Tolerance:</b>	Moderately tolerant of soil compaction, tolerates poor soil.		
<b>Hydrology:</b>	Moderately tolerant of flooding, drought.	<b>Ecosystem Services:</b>	Wildlife value very high, fruit eaten by birds and mammals.		
<b>Ornamental Value:</b>	White flowers in summer, black fruit in summer and early fall.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Roots well from cuttings.		
<b>Shade Tolerance:</b>	Tolerant of open, partial shade.				

**Rubus flagellaris**

**Dewberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Deciduous, grows to about 1', stems arching, prickles stout, sharp, flowers white in June-July, black fruit in July-August.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Open soil, fill, weedy sites.	<b>Urban Tolerance:</b>	Tolerant of concrete debris.		
<b>Hydrology:</b>	Low tolerance to drought.	<b>Ecosystem Services:</b>	Fruit and seeds eaten by birds and small mammals.		
<b>Ornamental Value:</b>	Trailing vine or groundcover. Flowers white in summer, black fleshy fruit in late summer.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Rubus hispidus**

**Bristly Dewberry**

**Native To:** New York City      **Wetland Indicator:** FACW      **Soil:** pH 4.5-7.0

**Form/Color:** Moderate grower to 2', flowers white, gray-green foliage, black fruit.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Moist thickets, open woods, clearings.      **Urban Tolerance:** Adapted to coarse, medium and fine soils, low tolerance of soil compaction.

**Hydrology:** Moderately tolerant of drought.      **Ecosystem Services:** Food for songbirds, game birds, and mammals.

**Ornamental Value:** Trailing delicate vine or ground cover. White flowers, red to black fruit.      **Compatibility:** Can form colonies.

**Salt Tolerance:** Intolerant of salt.      **Other:**

**Shade Tolerance:** Intolerant of shade.

**Rubus idaeus**

**Red Raspberry**

**Native To:** New York City      **Wetland Indicator:** UPL      **Soil:** pH 5.0-7.5

**Form/Color:** Deciduous, moderate grower, stems to 2', slender-based prickles, flowers white-greenish, red fruit.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Swamps, bogs, recently disturbed sites.      **Urban Tolerance:** Insufficient information to determine tolerance.

**Hydrology:** Tolerant of drought.      **Ecosystem Services:** Food and cover for birds, mammals.

**Ornamental Value:** White-greenish flowers.      **Compatibility:**

**Salt Tolerance:** Intolerant of salt.      **Other:**

**Shade Tolerance:** Tolerant of shade.

## **Rubus occidentalis**

## **Black Raspberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.5-6.5
<b>Form/Color</b>	Deciduous, fast grower to 4', prickly, bluish stems, flowers white in May-June, black fruit in June-July.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Open areas, edges, part shade, open woodlands, rich acid soil.	<b>Urban Tolerance:</b>	Moderately tolerant of soil compaction.		
<b>Hydrology:</b>	Tolerant of drought, moderately tolerant of flooding.	<b>Ecosystem Services:</b>	Wildlife value very high, fruit eaten by birds and mammals.		
<b>Ornamental Value:</b>	Bluish-purple stems providing good winter color, white flowers in early summer, black fruit in summer.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Grows poorly in full shade, not as common as <i>Rubus allegheniensis</i> .		
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## **Rubus odoratus**

## **Flowering Raspberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-6.0
<b>Form/Color</b>	Deciduous, fast grower to 6', unarmed, flowers purple in July-August, red fruit in August-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Moist part shade, rocky woodland edges.	<b>Urban Tolerance:</b>	Moderately tolerant of soil compaction.		
<b>Hydrology:</b>	Moderately tolerant of drought, intolerant of flooding.	<b>Ecosystem Services:</b>	Wildlife value very high, fruit eaten by birds and mammals.		
<b>Ornamental Value:</b>	Purple showy flowers, red fleshy fruit.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Rubus pensilvanicus**

**Pennsylvania Blackberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.7-7.6
<b>Form/Color</b>	Purple canes to 10' long, stout prickles, flowers white in May-June, black fruit in July-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Thickets, woodland edges, successional habitats.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moderately tolerant of drought.	<b>Ecosystem Services:</b>		Fruit eaten by birds and mammals.	
<b>Ornamental Value:</b>	Canes can be reddish in color, white flowers, black fleshy fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>					

**Sambucus canadensis**

**Elderberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 6.0-8.0
<b>Form/Color</b>	Deciduous, fast grower to 12', flowers white in June-July, black fruit in July-September, forms thickets.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Freshwater tidal and nontidal marshes, wet edges, shrub swamps.	<b>Urban Tolerance:</b>		Tolerant of soil compaction, probably tolerant of concrete debris.	
<b>Hydrology:</b>	Tolerant of flooding, drought.	<b>Ecosystem Services:</b>		Wildlife value very high, fruit eaten by birds, mammals.	
<b>Ornamental Value:</b>	White, showy, clusters of flowers, black fleshy fruit.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Will not bloom or fruit in dense shade.	
<b>Shade Tolerance:</b>	Moderately tolerant of partial shade.				



**Spiraea alba var. latifolia**

**Meadowsweet**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC+	<b>Soil:</b>	pH 6.6-7.5
<b>Form/Color</b>	Deciduous, fast grower to 6', flowers white in June-August, fruit dry September-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Tolerant of soil compaction.	
<b>Habitat:</b>	Moist wet open uplands, rocky slopes, meadows.	<b>Ecosystem Services:</b>		Wildlife value moderate, host to some butterfly larvae.	
<b>Hydrology:</b>	Tolerant of flooding, drought.				
<b>Ornamental Value:</b>	White, showy, clusters of flowers.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Roots fairly well from cuttings, attacked by the Spiraea aphid, Spiraea leaf roller moth, and the Spiraea scale.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Spiraea tomentosa**

**Hardhack**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.0-6.0
<b>Form/Color</b>	Deciduous, fast grower to 5', flowers pink in July-September, fruit dry in September-October.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
		<b>Urban Tolerance:</b>		Tolerant of soil compaction, performs well in the right of way.	
<b>Habitat:</b>	Open swamps, wet meadows, rocky, acid, sterile soil.	<b>Ecosystem Services:</b>		Wildlife value moderate, host to some butterfly larvae.	
<b>Hydrology:</b>	Tolerant of flooding, drought.				
<b>Ornamental Value:</b>	Pink, showy, clusters of flowers.	<b>Compatibility:</b>		Colonial from root sprouts.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Roots fairly well from cuttings, affected by same insects and fungi of Spiraea alba.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Staphylea trifolia**

**Bladder-Nut**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 6.0-8.0
<b>Form/Color</b>	Deciduous, moderate grower to 15', striped bark, flowers white in May, fruit dry in September-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Forest understories, edges in moist, often rocky soil.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moderately tolerant of drought, flooding.	<b>Ecosystem Services:</b>		Wildlife value low.	
<b>Ornamental Value:</b>	Striped bark. Yellow, balloon-like hanging fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Symphoricarpos albus**

**Common Snowberry**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 6.0-7.8
<b>Form/Color</b>	Deciduous, grows to 3', shreddy bark, flowers white in May-July, white fruit in August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Edges, degraded woodlands.	<b>Urban Tolerance:</b>		Tolerant of coarse, medium, and fine soils, intolerant of anaerobic soil.	
<b>Hydrology:</b>	Tolerant of drought.	<b>Ecosystem Services:</b>		Food and shelter for birds, mammals.	
<b>Ornamental Value:</b>	White flowers and fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Infected by a powdery mildew, leaves attacked by leafmining fly larva.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Symphoricarpos orbiculatus**

**Coralberry**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.5-7.5
<b>Form/Color</b>	Deciduous, to 5', shreddy bark, dark blue/green foliage, flowers greenish-purplish in June-August, fruit red to purplish.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Edges of woods.	<b>Urban Tolerance:</b>		Tolerant of urban pollution.	
<b>Hydrology:</b>	Tolerant of drought.	<b>Ecosystem Services:</b>		Attractive to birds.	
<b>Ornamental Value:</b>	Dark bluish green leaves, red to purplish fruit, greenish and purplish flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>		Also known as indiancurrant.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Vaccinium angustifolium**

**Lowbush Blueberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.0-6.0
<b>Form/Color</b>	Deciduous, slow grower to 2', flowers white in May-June, blue fruit in August-September.	<b>Stormwater Tolerance:</b>		Potentially tolerant of stormwater.	
<b>Habitat:</b>	Sandy or rocky soil, open oak woods, needs acid soil.	<b>Urban Tolerance:</b>		Intolerant of soil compaction, performs well in the right of way.	
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.	<b>Ecosystem Services:</b>		Fruit eaten by birds and mammals, twigs eaten by many birds and mammals.	
<b>Ornamental Value:</b>	Low-growing shrub. White flowers in summer, blue fleshy fruits in late summer.	<b>Compatibility:</b>		Eventually colonial.	
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Susceptible to blueberry witches'-broom rust.	
<b>Shade Tolerance:</b>	Tolerant of light shade.				

**Vaccinium corymbosum**

**Highbush Blueberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 3.5-6.5
<b>Form/Color</b>	Deciduous, slow grower to 9', flowers white in May-June, blue fruit in July-August, red foliage in fall.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Swamps edges, moist upland forests, shrub swamps.	<b>Urban Tolerance:</b>		Tolerant of soil compaction.	
<b>Hydrology:</b>	Tolerant of flooding, moderately tolerant of drought.	<b>Ecosystem Services:</b>		Wildlife value very high, host to some butterfly larvae, fruit eaten by birds and mammals.	
<b>Ornamental Value:</b>	Red fall foliage, fleshy blue fruit in July-August, white, small flowers in May-June.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Grown commercially for fruit, susceptible to canker and dieback disease.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Vaccinium pallidum**

**Early Low Blueberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 3.9-5.0
<b>Form/Color</b>	Deciduous, slow grower to 3', flowers white in May-July, blue fruit in August-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open, oak woods, sandy, acid soil, prefers deep humus.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moist to droughty soil conditions; medium moisture usage.	<b>Ecosystem Services:</b>		Wildlife value very high, fruit eaten by birds and mammals.	
<b>Ornamental Value:</b>	Low-growing shrub. White flowers in summer, blue fleshy fruits in late summer.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Vaccinium stamineum**

**Deerberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 4.0-6.5
<b>Form/Color</b>	Deciduous, slow grower to 5', flowers greenish-white in May-June, yellowish to blue fruit in July-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry to moist open oak woods, pine barrens.	<b>Urban Tolerance:</b>		Moderately tolerant of soil compaction.	
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.	<b>Ecosystem Services:</b>		Wildlife value high, fruit eaten by birds, host to some butterfly larvae, like the red-spotted purple butterfly.	
<b>Ornamental Value:</b>	Flowers greenish-white in summer, fleshy yellowish to blue fruit in late summer/early fall.	<b>Compatibility:</b>		Eventually colonial.	
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Viburnum acerifolium**

**Maple-Leaved Viburnum**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 3.9-6.0
<b>Form/Color</b>	Deciduous, to 7', usually 3-4', pinkish-purple fall foliage, flowers white in May-June, black fruit in August-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Understory of moist to moderately dry forests, with oak, beech, hickory, maple, prefers deep humus.	<b>Urban Tolerance:</b>		Moderately tolerant of soil compaction.	
<b>Hydrology:</b>	Moderately tolerant of drought, intolerant of flooding.	<b>Ecosystem Services:</b>		Wildlife value high, fruit eaten by overwintering birds, host to some butterfly larvae.	
<b>Ornamental Value:</b>	Fall foliage pinkish-purple, white flowers in showy clusters, black fleshy fruit.	<b>Compatibility:</b>		Eventually colonial.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Viburnum dentatum**

**Arrow-Wood**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 3.9-7.0
<b>Form/Color</b>	Deciduous, multistemmed, moderate grower to 10', flowers white in June-July, dark blue fruit in August-October.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Swamps, freshwater tidal and nontidal marshes, pond edges, swamp forest gaps moist to wet soil.	<b>Urban Tolerance:</b>		Moderately tolerant of soil compaction, performs well in the right of way.	
<b>Hydrology:</b>	Tolerant of flooding, drought.	<b>Ecosystem Services:</b>		Wildlife value high, fruit eaten by mammals and birds, host to some butterfly larvae.	
<b>Ornamental Value:</b>	White, showy, clusters of flowers in summer, fleshy dark blue fruit in late summer and fall.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Common in New York City. Attacked by Viburnum leaf beetle.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Viburnum lentago**

**Nanny-Berry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 6.0-8.5
<b>Form/Color</b>	Deciduous, forms thickets, fast grower to 30', often a small tree, flowers white in May-June, black fruit in August-October.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Open woods, edges, rich, moist soil.	<b>Urban Tolerance:</b>		Intolerant of soil compaction, should tolerate concrete debris.	
<b>Hydrology:</b>	Tolerant of drought, tolerant of flooding.	<b>Ecosystem Services:</b>		Wildlife value high, host to some butterfly larvae, fruit eaten by birds.	
<b>Ornamental Value:</b>	White, fragrant, showy clusters of flowers, black fleshy fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Roots fairly well from cuttings.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Viburnum opulus var. americanum**

**Highbush Cranberry**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.5-7.5
<b>Form/Color</b>	Deciduous, grows to 13', reddish new leaves, yellow to red fall foliage, flowers white in May, red fruit.	<b>Stormwater Tolerance:</b>			Potentially tolerant of stormwater.
<b>Habitat:</b>	Hedges, scrub, woodland, damp soils.	<b>Urban Tolerance:</b>			Very tough, soil adaptable, performs well in the right of way, tolerant of varied soils.
<b>Hydrology:</b>	Intolerant of drought.	<b>Ecosystem Services:</b>			Attracts butterflies.
<b>Ornamental Value:</b>	Yellow to red fall foliage, white flowers, red fleshy fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Viburnum prunifolium**

**Black-Haw**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.0-8.5
<b>Form/Color</b>	Deciduous, to 15', small tree, flowers white in April-May, black fruit in September-October.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Open woods, open habitats, edges.	<b>Urban Tolerance:</b>			Should tolerate concrete debris, intolerant of soil compaction.
<b>Hydrology:</b>	Tolerates drought, intolerant of flooding.	<b>Ecosystem Services:</b>			Wildlife value high, host to some butterfly larvae, fruit eaten by birds and mammals.
<b>Ornamental Value:</b>	White, showy, clusters of flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			Very slow grower.
<b>Shade Tolerance:</b>	Somewhat tolerant of partial, open shade.				

## Vines:

Vines can be selected to screen unsightly structures, climb trees and gently drape banks of shrubs or cover the ground plane. Consider the forms of specified plants to avoid introducing species that will smother other plants.



**Apios americana**

**Groundnut**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 6.0-7.5
<b>Form/Color</b>	Herbaceous, twining vine, flowers brownish purple-pink in July-September, fruit dry in September-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Marshes, moist woods, edges.	<b>Urban Tolerance:</b>		Adapted to coarse, medium, and fine soils, high tolerance of soil compaction.	
<b>Hydrology:</b>	Low drought tolerance.	<b>Ecosystem Services:</b>		Attractive to butterflies. Seeds eaten by some birds.	
<b>Ornamental Value:</b>	Brownish purple-pink flowers.	<b>Compatibility:</b>		Can be aggressive and difficult to control in well-manicured environment.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Nitrogen fixer can help improve sterile soil.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Celastrus scandens**

**American Bittersweet**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 6.1-7.5
<b>Form/Color</b>	Woody climbing vine, to 25', flowers greenish in May-June, fruit bright orange berry in October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist to dry woodlands. Climbs fences and trees.	<b>Urban Tolerance:</b>		Moderately tolerant of soil compaction.	
<b>Hydrology:</b>	Found in sandy or rocky soil. Drought tolerant.	<b>Ecosystem Services:</b>		Berries eaten by birds. Leaves eaten by rabbits.	
<b>Ornamental Value:</b>	Orange berries.	<b>Compatibility:</b>		Can climb other trees and shrubs, sometimes damaging them. Not as aggressive as the invasive Oriental bittersweet.	
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Fast grower.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Clematis occidentalis**

**Purple Clematis**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-8.5
<b>Form/Color</b>	Woody climbing vine, to 6', moderate to fast grower, flowers violet in May-June, fruit dry July-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Rocky, limestone woods and slopes.	<b>Urban Tolerance:</b>		Tolerant of concrete debris. Intolerant of soil compaction.	
<b>Hydrology:</b>	Moderately tolerant of drought. Intolerant of flooding.	<b>Ecosystem Services:</b>		Wildlife value low.	
<b>Ornamental Value:</b>	Violet flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Has poisonous leaves. Needs limestone (calcareous) soil.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Clematis virginiana**

**Virgin's Bower**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 6.0-8.5
<b>Form/Color</b>	Deciduous, twining, flowering vine, 12-20' high, fast grower, white flowers in July-August, fruit dry September-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Low woods. Climbs trellises, fences, rock walls, and other structures.	<b>Urban Tolerance:</b>		Tolerant of concrete debris and soil compaction.	
<b>Hydrology:</b>	Moist to wet soil. Tolerant of drought and flooding.	<b>Ecosystem Services:</b>		Minor element for increased diversity.	
<b>Ornamental Value:</b>	Small white fragrant flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Leaves may be irritating. Needs limestone (calcareous) soil.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Dioscorea villosa*

## Wild Yam

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC+	<b>Soil:</b>	pH 5.0-6.0
<b>Form/Color</b>	Herbaceous, slender, twining vine to 15', thin reddish-brown stems, broad heart shaped leaves with deep veins, flowers small, green in June-July.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Open thickets, woods, wetland edges, roadsides.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Moist soils, low tolerance to drought.				
<b>Ornamental Value:</b>	Small green flowers. Persistent winged fruits. Flowers vanilla scented.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Related to the tropical Yam found in grocery stores, but does not produce edible tubers.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Lonicera dioica*

## Limber Honeysuckle

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 6.0-8.5
<b>Form/Color</b>	Shrub or woody climber to 9', moderate to fast grower, flowers bright yellow May-June, red fleshy fruit July-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of concrete debris. Moderately tolerant of soil compaction.
<b>Habitat:</b>	Moist, rocky woods.	<b>Ecosystem Services:</b>	Moderate wildlife value. Attractive to hummingbirds.		
<b>Hydrology:</b>	Tolerant of drought. Moderately tolerant of flooding.				
<b>Ornamental Value:</b>	Bright yellow flowers and red, fleshy fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Needs limestone (calcareous) soil.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Lonicera sempervirens**

**Trumpet Honeysuckle**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 6.0-7.5
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Moderately tolerant of soil compaction.
<b>Habitat:</b>	Open woods edges, woodlands. Support by trellis, arbor, or fence.	<b>Ecosystem Services:</b>	Attractive to hummingbirds. Fruit eaten by songbirds. Moderate wildlife value.		
<b>Hydrology:</b>	Grows best in moist soil. Tolerant of drought. Intolerant of flooding.	<b>Compatibility:</b>			
<b>Ornamental Value:</b>	Bright flowers in yellow, pink, red, and orange, leaves have silver undersides, red fleshy fruit.	<b>Other:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.				
<b>Shade Tolerance:</b>	Best flowering in full sun. Tolerant of partial shade.				

**Menispermum canadense**

**Moon Seed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-7.5
<b>Form/Color</b>	Woody climber or ground cover to 12', very fast grower, flowers whitish in June-July, fleshy blue-black fruit in September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of soil compaction.
<b>Habitat:</b>	Moist rich woods, edges, open uplands.	<b>Ecosystem Services:</b>	High wildlife value.		
<b>Hydrology:</b>	Tolerant of flooding. Moderately tolerant of drought.	<b>Compatibility:</b>	Can form colonies. Sprawls over other vegetation.		
<b>Ornamental Value:</b>	Whitish flowers. Blue-black fleshy fruit.	<b>Other:</b>	Poisonous fruit. Needs or tolerates acidic soils.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.				
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Mikania scandens*

## Climbing Hempweed

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 5.7-7.5
<b>Form/Color</b>	Herbaceous, twining vine, stems to 17' long, dull purple flowers in July-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to medium and fine soils, moderate tolerance of soil compaction.
<b>Habitat:</b>	Wet soil, swamps, stream margins, marshes.	<b>Ecosystem Services:</b>	Minor species for increased diversity. Attractive to honeybees, bumblebees, and other native bees		
<b>Hydrology:</b>	Low tolerance to drought.				
<b>Ornamental Value:</b>	Purple flowers.	<b>Compatibility:</b>	Can be aggressive in high nutrient soils. Climbs over shrubs.		
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Parthenocissus quinquefolia*

## Virginia Creeper

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.8-7.0
<b>Form/Color</b>	Woody climber to 35', ground cover, tiny, dull yellow flowers in June-July, blue-black fleshy fruit with red stems in September-October.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.	<b>Urban Tolerance:</b>	Tolerant of soil compaction.
<b>Habitat:</b>	Woods, edges, back dunes scrub.	<b>Ecosystem Services:</b>	High wildlife value, fruit eaten by songbirds and mammals, foliage eaten by rabbits.		
<b>Hydrology:</b>	Tolerant of flooding and drought.				
<b>Ornamental Value:</b>	Good fall color. Dull yellowish flowers. Blue-black fruit with red stems.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>	Used for slope stabilization. Vegetation of fills. Needs or tolerates acidic soils.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Smilax herbacea**

**Carrion Flower**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 6.1-7.8
<b>Form/Color</b>	Herbaceous, unarmed climber to 7', yellowish flowers in May-June, blue fleshy fruit July-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Moist rich woods, flood plains.	<b>Ecosystem Services:</b>	Fruit eaten by birds and mammals, stems eaten by rabbits and deer.		
<b>Hydrology:</b>	Moist soil conditions.				
<b>Ornamental Value:</b>	Yellowish flowers, blue fleshy fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Strophostyles helvola**

**Trailing Wild Bean**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Annual, herbaceous, twining vine to 3', flowers pink-purple, becoming greenish in July-September, fruit dry in August-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Dry to moist sandy soil, often on cinders, open woods, old fields.	<b>Ecosystem Services:</b>	Attractive to butterflies.		
<b>Hydrology:</b>	Sandy soil. Moderately tolerant of drought.				
<b>Ornamental Value:</b>	Delicate pink-purple flowers become greenish.	<b>Compatibility:</b>	Can be aggressive.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Nitrogen fixer can help improve sterile soil.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Vitis aestivalis**

**Summer Grape**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.3-7.0
<b>Form/Color</b>	Woody, high climber, flowers greenish in June-July, small dark purple fleshy fruit in September-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist woods, edges, thickets, and streambanks.	<b>Ecosystem Services:</b>		Fruit eaten by birds and mammals, secondary species for wildlife food and shelter along roadsides and edges.	
<b>Hydrology:</b>	Tolerant of drought.				
<b>Ornamental Value:</b>	Greenish flowers. Small, dark purple fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Revegetation of fill, can be used for sites.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Vitis labrusca**

**Fox Grape**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.5-7.5
<b>Form/Color</b>	Woody, high climber to 35', very fast grower, greenish flowers in June-July, fleshy dark purple fruit September-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Tolerant of soil compaction.	
<b>Habitat:</b>	Edges, thickets, woods, moist soil.	<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>Hydrology:</b>	Tolerant of flooding. Moderately tolerant of drought when established.				
<b>Ornamental Value:</b>	Greenish flowers. Fleshy dark purple fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Will not bloom or fruit in shade.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Vitis riparia**

**River Grape**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 6.0-8.5
<b>Form/Color</b>	Woody, high climber to 35', very fast grower, greenish flowers in June, black fleshy fruit in August-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist to wet rich soil of edges, stream margins, and flood plains.	<b>Urban Tolerance:</b>		Tolerant of soil compaction and concrete debris.	
<b>Hydrology:</b>	Tolerant of flooding and drought.	<b>Ecosystem Services:</b>		Eaten by birds and mammals, provides moderate shelter.	
<b>Ornamental Value:</b>	Greenish flowers. Dark fleshy fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Needs limestone (calcareous) soil.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Vitis vulpina**

**Frost Grape**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 6.0-7.5
<b>Form/Color</b>	Woody, high climbing vine to 83', tiny white flowers, black fruit, moderate grower.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Woods, thickets.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Low drought tolerance.	<b>Ecosystem Services:</b>		Eaten by birds and mammals.	
<b>Ornamental Value:</b>	Black fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				



## Forbs:

Forbs can add visual interest to the ground plane of a designed landscape as well as habitat for wildlife. Careful consideration of ornamental qualities, longevity, and reproductive facility can extend the period of interest and ensure adequate vegetative cover.

**Acorus americanus**

**Sweet flag**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.6-7.2
<b>Form/Color</b>	Aromatic, alternating, grasslike leaves; yellow-brown flowers on 5-10 cm long spike; produces small, hard berries May-August.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Quiet pond and lake margins, marshes.	<b>Urban Tolerance:</b>		Performs well in the right of way.	
<b>Hydrology:</b>	Intolerant of drought; high moisture usage.	<b>Ecosystem Services:</b>		Provides habitat and food for small mammals and songbirds.	
<b>Ornamental Value:</b>	Yellow-brown flowers.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Moderate lifespan.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Actaea pachypoda**

**White Baneberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Perennial, grows to 1' to 3', flowers white in terminal racemes, May-June. flowers white in May-June, white berries.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Ravines, rich thick woods.	<b>Urban Tolerance:</b>		Somewhat tolerant of urban pollution.	
<b>Hydrology:</b>	Moist well-drained soil.	<b>Ecosystem Services:</b>		Wildlife value low, attractive to beetles, berries eaten by some birds and mice.	
<b>Ornamental Value:</b>	White flowers and clusters of white globular fruit. Known for its ornamental fruits which look like doll's eyes.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Exploitably vulnerable in New York state, plant is toxic.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Actaea racemosa*

## **Black Baneberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH < 6.8
<b>Form/Color</b>	Perennial, large, compound basal leaves, grows to 5-6', flowers white racemes 1-3' high in June-July.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Somewhat tolerant of urban pollution.
<b>Habitat:</b>	Rocky woods, ravines, creek margins, thickets, deciduous forests, moist meadowlands.	<b>Ecosystem Services:</b>	Attractive to beneficial insects, songbirds, and host to Appalachian blue and spring azure butterflies.		
<b>Hydrology:</b>	Tolerant of drought.				
<b>Ornamental Value:</b>	Terminal cluster of small white flowers are held above divided leaves.	<b>Compatibility:</b>	Grows well with other woodland plants.		
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>	Slow to establish.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Agalinis purpurea*

## **Purple False Foxglove**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW-	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Annual, grows to 4', simple to branched stems, dark seeds, round capsule fruit.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Moist to wet open soils.	<b>Ecosystem Services:</b>	Attractive to several bee species, butterflies, and beetles.		
<b>Hydrology:</b>	Moist soil.				
<b>Ornamental Value:</b>	Large pink bell shaped flowers grow close to the axils of this annual. The spreading form is dotted with small linear leaves all along the stems.	<b>Compatibility:</b>	Thrives with occasional disturbance to eliminate some competing vegetation.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Agastache scrophulariifolia**

**Purple Giant Hyssop**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-7.0
<b>Form/Color</b>	Single stem growing to 3-5'; purple irregular flowers bloom July-September; dry-seeded achenes.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry upland woodlands.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moist to dry soil conditions.	<b>Ecosystem Services:</b>		Attracts hummingbirds and butterflies.	
<b>Ornamental Value:</b>	One of the tallest mints. Terminal spikes of purple-red flowers are held atop purplish stems with opposite leaves.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Ageratina altissima**

**White Snakeroot**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 6.1-6.5
<b>Form/Color</b>	Single stem growing to 5', flowers white in July-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist forests.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Tolerant of drought.	<b>Ecosystem Services:</b>		Attracts butterfly species and birds.	
<b>Ornamental Value:</b>	White inflorescence throughout fall.	<b>Compatibility:</b>		Can spread aggressively by rhizomes.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Somewhat weedy, poisonous if ingested.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Alisma subcordatum*

## Water Plantain

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Perennial emergent aquatic, grows to 4', triangular flower stem, flowers white in July-August.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to medium and fine soils, high tolerance of soil compaction, tolerates moderate disturbance.
<b>Habitat:</b>	Shallow water, edges of open ponds, swamps.	<b>Ecosystem Services:</b>	Wildlife value moderate.		
<b>Hydrology:</b>	Intolerant of drought, water depth to 1' or saturated soil.				
<b>Ornamental Value:</b>	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 bronze hue.	<b>Compatibility:</b>	Colonial from rhizomes.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Allium canadense*

## Meadow Garlic

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 6.6-7.5
<b>Form/Color</b>	Perennial succulent grass-like form grows to 8-24", flowers white-pink in May-June.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Moist, open areas.	<b>Ecosystem Services:</b>	Attractive to some bees and butterflies, avoided by rabbits and deer.		
<b>Hydrology:</b>	Tolerant of some drought.				
<b>Ornamental Value:</b>	Grass-like leaves with a strong onion odor surround a flowering stalk with a cluster of star-like white-pink flowers.	<b>Compatibility:</b>	Does not compete well with taller forbs. Can form colonies.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Smells strongly of onion or garlic.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## Allium triococcum

## Wild Leek

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU+	<b>Soil:</b>	pH 6.8-7.2
<b>Form/Color</b>	Succulent grass-like spring ephemeral, flower stalks appear after leaves die back, flowers white in June-July.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Forest interior, rich woods.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Moist to wet soil conditions.				
<b>Ornamental Value:</b>	Pairs of glossy green leaves appear in spring before the flower stalk. White flowers form in umbrella-shaped cluster and produce black seeds.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Needs at least 0.5% full sunlight but no more than 20% full sunlight.				

## Anaphalis margaritacea

## Pearly Everlasting

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-7.5
<b>Form/Color</b>	1' to 3' high, white flowers; stem and underside of leaves white wooly, July - September, fast grower.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Dry open sites.	<b>Ecosystem Services:</b>	Attracts butterflies.		
<b>Hydrology:</b>	Medium textured soils; medium drought tolerance; medium moisture usage.				
<b>Ornamental Value:</b>	Cotton-like appearance. White pearly bracts surround a yellow center in the cluster of flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Minor species for increased diversity and aesthetics in restoration of open habitats, dry grasslands, meadows, sandy fill.		
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## *Anemone canadensis*

## Canadian Anemone

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 6.8-7.2
<b>Form/Color</b>	Perennial, grows to 2'; white flowers bloom May-July.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Sandy shores, wet meadows.	<b>Ecosystem Services:</b>	Attracts butterflies and insects.		
<b>Hydrology:</b>	Moderately drought tolerant, prefers moist sandy soil.				
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>	Can be aggressive in favorable conditions. Can be colonial.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Used for increased diversity and aesthetics in wetland restoration and mitigation.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Anemone quinquefolia*

## Wood Anemone

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.0-6.0
<b>Form/Color</b>	Perennial, spring ephemeral, grows to 8", solitary basal leaf, flowers white in April-May.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Rich, moist, open woods.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Prefers moist soil, tolerant of drought.				
<b>Ornamental Value:</b>	Early spring flowering in large, low-lying patches. Foliage is finely divided with delicate five-petaled white flowers.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Poisonous if ingested.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Anemonella thalictroides*

## Rue Anemone

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH < 6.8
<b>Form/Color</b>	8"; white flowers bloom April-May; produces fruit May-June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry to moist woods.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Medium, well-drained soil; tolerant of drought.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	This tiny spring perennial reaches only 8 inches tall. Delicate five-petaled white flowers are held above small leaves that resemble meadow-rue leaves.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Minor species for increased diversity and aesthetics in restoration of moist woodland habitats.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Antennaria neglecta*

## Field Pussytoes

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	pH 5.5-7.5
<b>Form/Color</b>	Perennial single stem growing to 1'; white flowers bloom in May-July; slow grower.	<b>Stormwater Tolerance:</b>		Intolerant of stormwater.	
<b>Habitat:</b>	Dry fields, sterile meadows, sandy fill.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Dry soil conditions; fine and medium textured soil; low drought tolerance.	<b>Ecosystem Services:</b>		Attracts birds and butterflies. Host of painted lady butterfly.	
<b>Ornamental Value:</b>	Creates groundcover of white, hairy, rounded basal leaves. Flowering heads are dense and turn a fluffy white when in seed.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Minor species for increasing diversity and aesthetics in restoration of dry, open habitats, dry grasslands, meadows.	
<b>Shade Tolerance:</b>	Intolerant of shade.				



**Apocynum cannabinum**

**Indian hemp**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.5-7.0
<b>Form/Color</b>	Perennial, grows to 4', red in full sun, flowers whitish in terminal clusters in May-September.	<b>Stormwater Tolerance:</b>		Intolerant of stormwater.	
<b>Habitat:</b>	Open areas, fill, edges, roadsides, vacant lots, meadows.	<b>Urban Tolerance:</b>		Tolerates fill, vacant lots, nutrient poor soil, concrete debris, moderate tolerance of soil compaction.	
<b>Hydrology:</b>	Moderate tolerance to drought.	<b>Ecosystem Services:</b>		Attractive to butterflies, host to some butterfly larvae.	
<b>Ornamental Value:</b>	Reddish purple stems and long oval leaves. White flowers grow in clusters and produce long skinny pods that turn brown and fluffy when mature.	<b>Compatibility:</b>		Can compete with mugwort. Can form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Contains various toxins.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Aquilegia canadensis**

**Wild Columbine**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	Acidic and alkaline soils.
<b>Form/Color</b>	Perennial, grows to 6.5', flowers red and yellow in May-June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Rocky, undisturbed woods.	<b>Urban Tolerance:</b>		Somewhat tolerant of urban pollution.	
<b>Hydrology:</b>	Tolerant of drought, well-drained soil.	<b>Ecosystem Services:</b>		Attractive to hummingbirds and bees.	
<b>Ornamental Value:</b>	Finely divided blue green foliage lays low beneath a flowering stem. Showy red and yellow flowers nod with long spurs pointing upward.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Arabis canadensis*

## Sicklepod

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Biennial to 40", winter rosette evergreen, flowers cream-white in May-July, fruits in August-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Rocky banks, rich woods, thickets.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Hydrology:</b>	Prefers mesic to dry conditions.	<b>Ecosystem Services:</b>	Attractive to bees and flies.		
<b>Ornamental Value:</b>	Small cream-white flowers on long stalks line a thin stem. Long drooping sickle-shaped pods form covering papery seeds.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Aralia nudicaulis*

## Wild Sarsaparilla

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.4-7.2
<b>Form/Color</b>	Perennial, grows to 15", dioecious, flowers tiny, whitish in May-July, blackish fruit in July-August, dioecious.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Undisturbed, moist forest understories.	<b>Urban Tolerance:</b>	Adapted to coarse, medium, and fine soils, no tolerance of soil compaction.		
<b>Hydrology:</b>	Moderate tolerance to drought.	<b>Ecosystem Services:</b>	Attractive to bumble bees, other bees, and syrphid flies, fruits eaten by some birds and mammals.		
<b>Ornamental Value:</b>	Single leaf stalks divide with oval leaflets. Whitish flowers in round clusters. Purple to black round berries.	<b>Compatibility:</b>	Frequently forms colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Aralia racemosa*

## Spikenard

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.1-7.8
<b>Form/Color</b>	Perennial, grows to 6.5', widely branched, large leaves, flowers white in June-August, dark purple fruit.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Undisturbed forest understories, moist to moderately dry soil.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Hydrology:</b>	Tolerant of drought, prefers moist soil.	<b>Ecosystem Services:</b>	Fruit eaten by a few birds and mammals.		
<b>Ornamental Value:</b>	Large compound leaves with aromatic, white flowers in branched clusters. Purple red berries follow in fall.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Arisaema triphyllum*

## Jack-in-the-pulpit

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW-	<b>Soil:</b>	pH 4.0-7.0
<b>Form/Color</b>	Perennial, slow grower to 2', brown-purple spathe arches over whitish spadix, red fruit.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Undisturbed moist woods, swamp forests, edges in good soil.	<b>Urban Tolerance:</b>	Adapted to coarse and medium soils, moderate tolerance of soil compaction.		
<b>Hydrology:</b>	Low tolerance to drought.	<b>Ecosystem Services:</b>	Fruit eaten by birds, foliage eaten by pheasants.		
<b>Ornamental Value:</b>	Brown-purple to green spathe arches over a white spadix. Oval cluster of red berries.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	May change sex seasonally, susceptible to rust fungus.		
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## *Asarum canadense*

## Wild Ginger

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-7.0
<b>Form/Color</b>	Perennial, very slow grower to 8", round-cordate dark green leaves, flowers at base of stems.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Forest interior, rich, moist soil.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Hydrology:</b>	Intolerant of drought.	<b>Ecosystem Services:</b>	Eaten by the pipevine swallowtail butterfly.		
<b>Ornamental Value:</b>	Low-growing perennial with heart shaped leaves. Velvety stem hides solitary dark red-brown flower.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Spreads very slowly.		
<b>Shade Tolerance:</b>	Very tolerant of shade.				

## *Asclepias incarnata*

## Swamp Milkweed

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.0-8.0
<b>Form/Color</b>	Perennial, single-stemmed, slow grower to 5', leafy stems, flowers pink in July-August, narrow fruit pods.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.		
<b>Habitat:</b>	Open, undisturbed wet areas, marshes, pond edges.	<b>Urban Tolerance:</b>	Adapted to medium and fine soils, high tolerance of soil compaction, performs well in the right of way.		
<b>Hydrology:</b>	Tolerant of drought and periodic flooding.	<b>Ecosystem Services:</b>	Wildlife value high, attractive to butterflies, bees, wasps. As with other milkweeds, host to monarch butterfly.		
<b>Ornamental Value:</b>	Small rose-purple flowers with reflexed petals clustered in an inflorescence atop a thick stem. Long pointed seed pods fluff out when ripe.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Occasionally attacked by chrysomelid beetles, monarch butterfly larvae, and some aphids.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Asclepias syriaca*

## Common Milkweed

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.6-7.5
<b>Form/Color</b>	Perennial, single-stemmed, grows to 6.5', stout, hairy stem, umbrella-shaped inflorescence, flowers muddy mauve.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of fill soils, disturbance, concrete debris.
<b>Habitat:</b>	Open areas, roadsides, fill, abandoned lots.	<b>Ecosystem Services:</b>	Attractive to bees, wasps, flies, butterflies, moths, eaten by monarch butterfly larvae, curculionid and cerambycid beetles, lygaeid bugs.		
<b>Hydrology:</b>	Tolerant of drought.	<b>Compatibility:</b>	Can form colonies. Often found with dogbane and common aster.		
<b>Ornamental Value:</b>	Large ball shaped drooping flowers that are pink-brown and fragrant. Wide oval leaves and green seed pods with warts will split and fluff out when mature.	<b>Other:</b>	Sap is toxic, attacked by aphids, parasitized by several fungi.		
<b>Salt Tolerance:</b>	Intolerant of salt.				
<b>Shade Tolerance:</b>	Needs at least 30% full sun.				

## *Asclepias tuberosa*

## Butterfly Weed

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.8-6.8
<b>Form/Color</b>	Perennial, single-stemmed, grows to 2', flowers orange in July-August, in umbels.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.	<b>Urban Tolerance:</b>	Adapted to coarse and medium soils, no tolerance of soil compaction, performs well in the right of way.
<b>Habitat:</b>	Open, undisturbed, upland areas.	<b>Ecosystem Services:</b>	Attractive to bees, butterflies, seedlings eaten by rabbits.		
<b>Hydrology:</b>	High tolerance to drought.	<b>Compatibility:</b>	Not a good competitor in dense vegetation, easily shaded out by other plants.		
<b>Ornamental Value:</b>	Showy orange flowers radially symmetrical. Narrow lanceolate leaves line the stem and excrete a milky-sap when damaged.	<b>Other:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.				
<b>Shade Tolerance:</b>	Intolerant of shade.				

## **Baptisia tinctoria**

## **Yellow Wild Indigo**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.8-7.0
<b>Form/Color</b>	Perennial, grows to 3', sometimes mounding, freely branched, flowers yellow, in short, unbranched clusters in June-July.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to coarse and medium soils, no tolerance of soil compaction.
<b>Habitat:</b>	Dry, open areas, sandy soil.	<b>Ecosystem Services:</b>	Moderately palatable by browse animals, host to some butterfly species.		
<b>Hydrology:</b>	High tolerance to drought.				
<b>Ornamental Value:</b>	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.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Leaves are black when dead, nitrogen fixer.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## **Bidens frondosa**

## **Beggar Ticks**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.2-7.2
<b>Form/Color</b>	Annual, grows to 4', purple stems, flowers yellow in June-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to coarse and medium soils, moderate tolerance of soil compaction.
<b>Habitat:</b>	Wet, open areas, fields, edges, disturbed soil.	<b>Ecosystem Services:</b>	Seeds eaten by birds, plant eaten by rabbits.		
<b>Hydrology:</b>	Low tolerance to drought.				
<b>Ornamental 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>Compatibility:</b>	Can be weedy.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Boehmeria cylindrica**

**False Nettle**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 5.1-7.0
<b>Form/Color</b>	Perennial, grows to 3', dioecious, stem erect and opaque, flowers green/white in rounded clusters, female flowers in slender clusters.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Wet to moist shady areas, swamp forests, flood plains, edges, stream corridors.	<b>Urban Tolerance:</b>		Adapted to medium and fine soils, moderate tolerance of soil compaction.	
<b>Hydrology:</b>	Low tolerance to drought.	<b>Ecosystem Services:</b>		Host to mourning cloak butterfly larvae, question mark butterfly, and comma butterfly.	
<b>Ornamental Value:</b>	Large toothed leaves hang below tiny green flowers that grow on spikes from the leaf axils.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Similar in form to stinging nettle.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Cakile edentula**

**American Searocket**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	Circumneutral soils.
<b>Form/Color</b>	Annual, grows to 32", succulent leaves, flowers pale purple to white in June-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Coastal, primary dunes, upland of high high-tide line.	<b>Urban Tolerance:</b>		Tolerant of gravelly, rocky, sandy soils.	
<b>Hydrology:</b>	Tolerant of drought.	<b>Ecosystem Services:</b>		Attractive to bees and other insects.	
<b>Ornamental Value:</b>	Succulent stems with shallow toothed leaves and pale purple to white flowers. Rocked-shaped seed pods turn a pale yellow when ripening.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Caulophyllum thalictroides**

**Blue Cohosh**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.5-7.0
<b>Form/Color</b>	Perennial, grows to 32", stems and leaves waxy-pale, flowers yellow-green or purplish in April-June, blue seeds.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Adapted to medium soils, low tolerance of soil compaction.	
<b>Habitat:</b>	Interior, moist forests, rich woods.	<b>Ecosystem Services:</b>		Attractive to bees.	
<b>Hydrology:</b>	Low tolerance to drought.				
<b>Ornamental Value:</b>	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.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Plant poisonous, leaves live 20 weeks.	
<b>Shade Tolerance:</b>	Needs at least 1% sunlight, but no more than 30% full sun.				

**Chamaesyce polygonifolia**

**Seaside Sandmat**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Annual, widely branching, prostrate, forms mat, flowers in July-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dunes, beaches, sandy soil.	<b>Ecosystem Services:</b>		Attractive to small bees and flies, seeds eaten by birds.	
<b>Hydrology:</b>	Prefers mesic to dry conditions.				
<b>Ornamental Value:</b>	Spreading with red stems and small flowers. Rounded seed pods develop on the ends of the branching stems.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				



**Chelone glabra**

**Turtlehead**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH<6.8
<b>Form/Color</b>	Perennial, grows to 3' tall, flowers white to pinkish in July-August.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
		<b>Urban Tolerance:</b>		Performs well in the right of way.	
<b>Habitat:</b>	Open marshes, open swamp forest.	<b>Ecosystem Services:</b>		Host for some butterfly species, including Baltimore checkerspot butterfly, attractive to hummingbirds.	
<b>Hydrology:</b>	Tolerant of wet soil.				
<b>Ornamental Value:</b>	White to pinkish tubular flowers bunched in a terminal cluster atop a stem of long narrow dark opposite green leaves.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Exploitably vulnerable in New York state.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Chrysopsis mariana**

**Maryland Goldenaster**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Grows to 32", fruits and flowers yellow in August-November.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Sandy soil, open woods.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Wet to moist soil conditions.				
<b>Ornamental Value:</b>	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.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Claytonia virginica**

**Spring Beauty**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 6.0
<b>Form/Color</b>	Perennial, spring ephemeral, grows to 7", several flowering stems, flowers pinkish-white in April-June.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Understory of moist forests, sometimes in lawns and hedgerows.	<b>Ecosystem Services:</b>	Attractive to bees, flies, seeds eaten by mice.		
<b>Hydrology:</b>	Rich, moist soil conditions.				
<b>Ornamental Value:</b>	This delicate spring ephemeral has showy pinkish-white flowers and long narrow smooth leaves.	<b>Compatibility:</b>	Very colonial in nature. Often found with trout-lily.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Collinsonia canadensis**

**Horse Balm**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW-	<b>Soil:</b>	pH 6.0-7.0
<b>Form/Color</b>	Perennial, grows to 3', egg-shaped leaves, flowers pale yellow in July-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Woodland herb of moist or wet soil.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Medium moisture usage.				
<b>Ornamental Value:</b>	Flowers and foliage have a distinct lemon or citronella scent. Wide oval leaves line the stems. Small yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Conoclinium coelestinum**

**Blue Mistflower**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.5-7.5
<b>Form/Color</b>	Perennial, grows to 3.2'; single-stem; blue flowers bloom in September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Wood margins, stream banks, low woods, wet meadows, ditches.	<b>Ecosystem Services:</b>		Attracts butterflies and birds.	
<b>Hydrology:</b>	Fine and medium textured soil; medium drought tolerance.				
<b>Ornamental Value:</b>	Blue flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Corydalis sempervirens**

**Pink Corydalis**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-6.0
<b>Form/Color</b>	Wintergreen, annual or biennial, grows to 2', pale foliage, waxy-green, flowers pink/yellow in May-June, fruit in June-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry rocky woodlands.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Dry soil conditions.				
<b>Ornamental Value:</b>	Bluish-green foliage is very delicate and lacy. Pink and yellow tubular dangling flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Cryptotaenia canadensis**

**Canada Honewort**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, grows to 3.3', shiny, unbranched stem, flowers white, black and dark Gray striped fruit.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist to wet, rich woods.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moist soil conditions.	<b>Ecosystem Services:</b>		Attractive to butterfly species.	
<b>Ornamental Value:</b>	Irregular umbels of flowers with ascending white rays. Three-parted toothed leaves line the stem and distinctive narrow seeds split in two.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Decodon verticillatus**

**Swamp-loosestrife**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.9-8.6
<b>Form/Color</b>	Perennial, grows to 4', flowers pink-purple in July-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open, shallow water, saturated soils of ponds and sunny vernal pools.	<b>Urban Tolerance:</b>		Adapted to coarse, medium, and fine soils, high tolerance of soil compaction.	
<b>Hydrology:</b>	Intolerant of drought.	<b>Ecosystem Services:</b>		Attractive to bees, butterflies, wasps.	
<b>Ornamental Value:</b>	Sessile pink-purple flower clusters. Arching leafy stems can become woody and root at the tip.	<b>Compatibility:</b>		Extensively colonial.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## *Desmodium canadense*

## Showy Tick-Trefoil

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, grows to 6.5', one to several stems, flowers rose-purple to blue in July-August.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Moist, open woods, edges.	<b>Ecosystem Services:</b>	Seeds eaten by some birds and mammals, host to some butterfly species.		
<b>Hydrology:</b>	Dry to moist soil conditions.				
<b>Ornamental Value:</b>	Large rose-purple pea like flowers make this the showiest species of the Genus. Velvet hairs cover the stems and leaves and the plant can get quite bushy.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Seeds stick to fur and clothing, nitrogen fixer.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Desmodium paniculatum*

## Panicled Tick-Trefoil

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-7.0
<b>Form/Color</b>	Perennial, grows to 3', slender, erect, several stems from base, flowers pinkish In July-August.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to medium and fine soils, no tolerance of soil compaction.
<b>Habitat:</b>	Dry woods and edges.	<b>Ecosystem Services:</b>	Host to larvae of orange sulfur butterfly.		
<b>Hydrology:</b>	Moderate tolerance to drought.				
<b>Ornamental Value:</b>	Slender, pinkish flowers line long stems with narrow lanceolate leaves in threes.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Seeds stick to fur and clothing, nitrogen fixer.		
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Dicentra cucullaria**

**Dutchman's Breeches**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-7.0
<b>Form/Color</b>	Perennial, spring ephemeral, grows to 6", pale blue-green plant with dark blotches, flowers white-yellowish in April-May, foliage disappears by mid-May.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist forests.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Intolerant of flooding, intolerant of drought.	<b>Ecosystem Services:</b>		Attractive to bees, ants.	
<b>Ornamental Value:</b>	Blue-green fern-like foliage. Rows of nodding white-yellow flowers line a thin stem.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Doellingeria umbellata**

**Parasol Whitetop**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.0-6.0
<b>Form/Color</b>	Herbacious perennial; wide flat-top cluster of white flowers bloom August-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist thickets, swamp edges, woods.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Loamy, sandy soil; moist to wet.	<b>Ecosystem Services:</b>		Attracts butterflies and bees.	
<b>Ornamental Value:</b>		<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Equisetum hyemale**

**Scouring Rush Horsetail**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Evergreen chambered stalk growing to 4'; no flowers; densely colonial.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open or partly shaded areas in moist to wet sandy soil, shady stream margins.	<b>Urban Tolerance:</b>		Tolerates wide range of soil, performs well in the right of way.	
<b>Hydrology:</b>	Moist, wet sandy soil.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>		<b>Compatibility:</b>		Aggressive spreader.	
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Erigeron pulchellus**

**Robin's Plantain**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Well-branched aster with erect stem growing to 20"; violet to whitish flowers bloom May-June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Rich, open woods, meadows, streambanks.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moist soil conditions.	<b>Ecosystem Services:</b>		High wildlife value.	
<b>Ornamental Value:</b>	Numerous narrow rays of violet to white make up the inflorescence. Basal leaves are paddle shaped, soft and hairy.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Erythronium americanum**

**Trout Lily**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-6.0
<b>Form/Color</b>	Perennial, spring ephemeral, grows to 8", pale blue-green plant with dark blotches, flowers yellow.	<b>Stormwater Tolerance:</b>		Intolerant of stormwater.	
<b>Habitat:</b>	Undisturbed moist woods.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moist, rich soil conditions.	<b>Ecosystem Services:</b>		Attractive to bees, seeds eaten by mice, birds, insects.	
<b>Ornamental Value:</b>	Yellow, bell-shaped flowers with darker spots, blue-green plant.	<b>Compatibility:</b>		Extensively colonial.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Eupatorium altissimum**

**Tall Boneset**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Circumneutral soils.
<b>Form/Color</b>	Perennial, grows to 31"-6.5', stems solitary or paired, very leafy, flowers white in August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry, open woods.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moist to dry soils.	<b>Ecosystem Services:</b>		Attractive to bees, wasps, butterflies, plant eaten by caterpillars.	
<b>Ornamental Value:</b>	White flowers throughout the fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				



## *Eupatorium perfoliatum*

## Common Boneset

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, grows to 4', most parts very hairy, flowers dull white in July-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Open wet areas, marsh edges, wet roadsides.	<b>Ecosystem Services:</b>	Attractive to bees, wasps, butterflies, plant eaten by caterpillars.		
<b>Hydrology:</b>	Moist to wet soil conditions.				
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Eupatorium serotinum*

## Late Eupatorium

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC-	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, grows to 1-6.5', stems Grayish-purple, flowers dull pinkish-white in August-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Moist to dry open areas, sandy soil, fill.	<b>Ecosystem Services:</b>	Seeds eaten by some birds.		
<b>Hydrology:</b>	Moist soil conditions; medium moisture usage.				
<b>Ornamental Value:</b>	Pinkish-white flowers in heads of 9-15 flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Eurybia divaricata**

**White Wood Aster**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	pH 6.8-7.2
<b>Form/Color</b>	2.5"; herbaceous perennial; white with yellow/red centers bloom August-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry woods.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Dry to medium moisture conditions; well-drained soil; tolerates drought.	<b>Ecosystem Services:</b>		Attracts butterflies; seeds eaten by birds.	
<b>Ornamental Value:</b>	Showy white flowers in late summer to early fall.	<b>Compatibility:</b>		Can form colonies. Can be aggressive in the right environment.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Euthamia caroliniana**

**Slender Goldentop**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Herbaceous perennial; yellow flowers bloom August-November; deciduous.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist, marshy, sandy areas.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moist soils.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Yellow flowers bloom in late fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of light shade.				

**Euthamia graminifolia**

**Lance-Leaved Goldenrod**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, grows to 1-5', ray flowers yellow in July-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open areas, dry to moist soil of meadows, roadsides and path edges.	<b>Urban Tolerance:</b>		Tolerant of poor, gravelly, sandy, or dry soils.	
<b>Hydrology:</b>	Tolerant of drought.	<b>Ecosystem Services:</b>		Seeds eaten by some birds and small mammals, foliage eaten by rabbits, flowers eaten by Blister beetles. `	
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>		Leaf extracts have inhibited seed germination in other plants, may displace other species if left unmanaged.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Eutrochium dubium**

**Three-Nerved Joe-Pye Weed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Perennial, grows to 15-40", stems have purple speckles, flowers dull purple in July-September.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Open moist sandy, gravelly acidic soil, wet woods, edges.	<b>Urban Tolerance:</b>		Performs well in the right of way.	
<b>Hydrology:</b>	Medium moisture usage.	<b>Ecosystem Services:</b>		Eaten by some birds, host for some butterfly species.	
<b>Ornamental Value:</b>	Purple flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Eutrochium maculatum**

**Spotted Joe Pye Weed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	Circumneutral to alkaline soils.
<b>Form/Color</b>	2-10'; Perennial; clusters of pink to purplish flowers blooms July-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist soil along shores.	<b>Ecosystem Services:</b>		Attracts butterflies.	
<b>Hydrology:</b>	Moist soil conditions.				
<b>Ornamental Value:</b>	Pink, purplish flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Eutrochium purpureum**

**Sweetscented Joe Pye Weed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	Alkaline soils.
<b>Form/Color</b>	Herbaceous perennial; grows to 7'; pink and purple flowers blooms July-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Low moist ground; wooded slopes; wet meadows; thickets; stream margins.	<b>Ecosystem Services:</b>		Attracts butterflies.	
<b>Hydrology:</b>	Average to medium moisture soil conditions.				
<b>Ornamental Value:</b>	Showy, fragrant pink and purple flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Fragaria virginiana**

**Wild Strawberry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, low growing to about 6", winter-green, flowers white, red fruit with small seeds in fruit surface, fruits in June-July.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Low vegetation, fields or open woods, good soil.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Dry soil conditions.	<b>Ecosystem Services:</b>		Fruit eaten by songbirds, pheasants, and mammals, foliage eaten by rabbits, deer, and other herbivores.	
<b>Ornamental Value:</b>	Red fruit in summer.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of light shade.				

**Geranium maculatum**

**Wild Geranium**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.4-5.6
<b>Form/Color</b>	Perennial, grows to 15", flowers pink-purple in loose clusters in April-June.	<b>Stormwater Tolerance:</b>		Potentially tolerant of stormwater.	
<b>Habitat:</b>	Undisturbed moist to dry woods, good soil.	<b>Urban Tolerance:</b>		Performs well in the right of way.	
<b>Hydrology:</b>	Tolerant of drought; medium moisture usage.	<b>Ecosystem Services:</b>		Seeds eaten by birds and small mammals, foliage eaten by deer.	
<b>Ornamental Value:</b>	Pink-purple clusters of flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Geum canadense**

**White Avens**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.5-7.5
<b>Form/Color</b>	Perennial, evergreen, grows to 3', flowers white with petals longer than sepals, upper stem and leaves hairy.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Woods, part shaded edges, meadows in moist to dry soil.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Dry to moist soil conditions; medium moisture usage.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Helenium autumnale**

**Common Sneezeweed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 4.0-7.5
<b>Form/Color</b>	Perennial, grows to 20-60", flowers yellow in August-October.	<b>Stormwater Tolerance:</b>		Potentially tolerant of stormwater.	
<b>Habitat:</b>	Rich, moist thickets, shores.	<b>Urban Tolerance:</b>		Performs well in the right of way.	
<b>Hydrology:</b>	Medium to wet moisture soil conditions.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Yellow flowers in the fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Helenium flexuosum**

**Southern Sneezeweed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC-	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, grows to 8-47", branched inflorescence, numerous flower heads, flowers yellow in June-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist, open habitats.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Medium to wet moisture soil conditions.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Yellow flowers throughout fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Helianthemum canadense**

**Longbranch Frostweed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Grows to 16", flowers yellow in May-July, fruits in August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry, sandy soil, wooded edges, barrens.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Sandy, loamy, well-drained soil; dry to moist soil.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Showy yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Helianthus decapetalus**

**Thin-Leaved Sunflower**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, grows to 5', rough textured, yellow rays in August-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Open woods, rich, moist soil.	<b>Ecosystem Services:</b>	Seeds eaten by birds and small mammals.		
<b>Hydrology:</b>	Dry or moist soil.				
<b>Ornamental Value:</b>	Yellow flowers in fall.	<b>Compatibility:</b>	Colonial from rhizomes.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Helianthus divaricatus**

**Woodland Sunflower**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Perennial, grows to 5', waxy-pale stem, yellow rays in August-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Dry, thin woods.	<b>Ecosystem Services:</b>	Seeds eaten by birds and small mammals, attractive to butterfly species.		
<b>Hydrology:</b>	Dry to medium moisture conditions.				
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>	Colonial from rhizomes.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				



**Helianthus giganteus**

**Tall Sunflower**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, grows to 9', usually hairy, flowers yellow in July-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Wet woods, rich thickets, marshes, wooded swamps.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moist to wet soil conditions.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Yellow flowers throughout fall.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Heliopsis helianthoides**

**Smooth Oxeye**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.6-6.8
<b>Form/Color</b>	3-5' tall, branching occasionally and becoming rather bushy in open situations. Opposite dark green leaves have a rough texture. July -September.	<b>Stormwater Tolerance:</b>		Potentially tolerant of stormwater.	
<b>Habitat:</b>	Dry, open woods, dry banks.	<b>Urban Tolerance:</b>		Performs well in the right of way.	
<b>Hydrology:</b>	Dry to moderately moist soil conditions; tolerates drought.	<b>Ecosystem Services:</b>		Attracts butterflies.	
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Used for increased diversity and aesthetics in restoration of open woodlands, edges. Also known as false sunflower.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

### **Hibiscus moscheutos**

### **Rose-Mallow**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.0-7.5
<b>Form/Color</b>	Perennial, slow grower to 3-7', flowers pink to white in July-September.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.		
<b>Habitat:</b>	Open marshes, undisturbed wet ditches, pond edges, tolerates brackish water.	<b>Urban Tolerance:</b>	Performs well in the right of way.		
<b>Hydrology:</b>	Low drought tolerance; moist to wet soil conditions; high water usage.	<b>Ecosystem Services:</b>	Host to some butterfly species, attractive to hummingbirds.		
<b>Ornamental Value:</b>	Very showy pink to white flowers.	<b>Compatibility:</b>	Often in small colonies.		
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

### **Hieracium venosum**

### **Rattlesnake Weed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Perennial, grows to 3', reddish-purple midrib and veins, flowers yellow in May-July.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Open, rocky, dry woods.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Hydrology:</b>	Dry soil conditions.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Yellow flowers, attractive foliage.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Hydrophyllum virginianum**

**Virginia Waterleaf**

**Native To:** New York City      **Wetland Indicator:** FAC      **Soil:** pH 6.0-7.0

**Form/Color:** Perennial, grows to 30", usually low, sprawling, flowers pale violet to white in clusters in May-June.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Moist to wet, open woods, stream banks.      **Urban Tolerance:** Insufficient information to determine tolerance.

**Hydrology:** Moist soil conditions.      **Ecosystem Services:**

**Ornamental Value:** Pale violet to white flowers.      **Compatibility:** Can form colonies.

**Salt Tolerance:** Insufficient information to determine tolerance.      **Other:**

**Shade Tolerance:** Tolerant of shade.

**Hypericum hypericoides**

**St. Andrew's Cross**

**Native To:** New York City      **Wetland Indicator:** FACU      **Soil:** Not Available.

**Form/Color:** 1-3'; perennial; yellow flowers bloom June-September.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Dry woods, pine barrens; sand hills; ridges; floodplains,      **Urban Tolerance:** Insufficient information to determine tolerance.

**Hydrology:** Dry to moist soil conditions.      **Ecosystem Services:**

**Ornamental Value:** Yellow flowers.      **Compatibility:**

**Salt Tolerance:** Insufficient information to determine tolerance.      **Other:**

**Shade Tolerance:** Tolerant of partial shade.

**Impatiens capensis**

**Jewelweed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.6-7.0
<b>Form/Color</b>	Annual, grows to 5', stem succulent, flowers orange in June-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Swamp forests, shady or open marsh, stream edges, moist woods.	<b>Ecosystem Services:</b>		Seeds eaten by birds and mice, flowers attractive to hummingbirds.	
<b>Hydrology:</b>	Moist to wet. Not drought tolerant.				
<b>Ornamental Value:</b>	Showy orange flowers.	<b>Compatibility:</b>		Often forms dense monocultures.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Ionactis linariifolius**

**Flaxleaf Whitetop Aster**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Perennial, herbacious; white, yellow, blue and purple flowers bloom August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry clearings, rocky banks.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Dry to moist soil conditions.				
<b>Ornamental Value:</b>	Blue and purple flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Iris prismatica**

**Slender Blue Flag**

**Native To:** New York City      **Wetland Indicator:** OBL      **Soil:** Not Available.

**Form/Color:** Perennial, grows to 8-30", leaves have reddish bases, flowers blue-violet in June-July.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Undisturbed marshes, swamp forests, salt marsh edges, mostly coastal.      **Urban Tolerance:** Insufficient information to determine tolerance.

**Hydrology:** Moist soil conditions, tolerant of saturated soil.      **Ecosystem Services:** Attractive to hummingbirds.

**Ornamental Value:** Showy blue-violet flowers.      **Compatibility:** Can form colonies.

**Salt Tolerance:** Moderately tolerant of salt.      **Other:**

**Shade Tolerance:** Tolerant of partial shade.

**Iris versicolor**

**Large Blue Flag**

**Native To:** New York City      **Wetland Indicator:** OBL      **Soil:** Acidic soils.

**Form/Color:** Perennial, slow grower to 32", often forms large clumps, leaves usually purple at base, flowers blue-violet in May-July.      **Stormwater Tolerance:** Tolerant of stormwater.

**Habitat:** Undisturbed marshes, pond edges, swamp forest gaps, freshwater and brackish tidal marshes.      **Urban Tolerance:** Performs well in the right of way.

**Hydrology:** Tolerant of flooding or saturated soil.      **Ecosystem Services:** Flowers attractive to hummingbirds, insects, and birds.

**Ornamental Value:** Showy blue-violet flowers.      **Compatibility:** Can form colonies.

**Salt Tolerance:** Moderately tolerant of salt.      **Other:**

**Shade Tolerance:** Tolerant of shade but will not flower.

**Krigia virginica**

**Virginia Dwarf Dandelion**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Annual, slender, grows to 12", basal rosette forming leaves, flowers yellow in May-July.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry to mesic, sandy soil.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Dry, well-drained soil.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Yellow flowers, similar in appearance to dandelions.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Leaves and flowering stems contain a white latex.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Lechea maritima**

**Beach Pinweed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Red flowers bloom June-July.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dunes, beaches; sandy soils.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Dry, well-drained soil. Drought tolerant.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Red flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Lechea mucronata**

**Pinweed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, grows to 32", one or few flowering stems, brownish-purple, flowers reddish in July-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open, dry woods, fields, sandy or gravelly soil.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Dry, well-drained soil.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Small reddish flowers throughout fall, reddish brown stems throughout winter.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Lespedeza capitata**

**Round-Headed Bush-Clover**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Perennial, single stem, grows to 5', flowers dull white with purple spot at base.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open fields, sandy soil, tolerates sterile soil.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Dry, well-drained soil conditions.	<b>Ecosystem Services:</b>		Seeds eaten by birds, plants eaten by deer.	
<b>Ornamental Value:</b>	Dull white flowers with purple at the bases.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Nitrogen fixer.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Lespedeza hirta*

## Hairy Bush Clover

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.7-8.2
<b>Form/Color</b>	Perennial, grows to 5', flowers pea-flower-shaped, yellowish-white with purple base in July-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Dry open rocky or sandy soil, open woods, fields.	<b>Ecosystem Services:</b>	Seeds eaten by birds, plants eaten by deer, host to some butterfly species.	<b>Compatibility:</b>	
<b>Hydrology:</b>	Sandy, dry soil conditions; low moisture usage.	<b>Other:</b>	Nitrogen fixer.		
<b>Ornamental Value:</b>	Pea-flower-shaped flowers in yellowish-white with purple base.				
<b>Salt Tolerance:</b>	Intolerant of salt.				
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Liatis spicata*

## Dense Blazing Star

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.6-7.5
<b>Form/Color</b>	Grows to 4.5, rhizomatous; showy, purple flowers bloom August-September.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.	<b>Urban Tolerance:</b>	Tolerant of poor soil, performs well in the right of way.
<b>Habitat:</b>	Dry, open woods, gaps.	<b>Ecosystem Services:</b>	Attracts butterflies.	<b>Compatibility:</b>	
<b>Hydrology:</b>	Fine and medium textured soils; low drought tolerance.	<b>Other:</b>	Used for increased diversity and aesthetics in restoration of open woodlands, on dry, rocky or sandy soils.		
<b>Ornamental Value:</b>	Purple flowers.				
<b>Salt Tolerance:</b>	Low tolerance of salt.				
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				



**Lilium superbum**

**Turk's Cap Lily**

**Native To:** New York City      **Wetland Indicator:** FACW+      **Soil:** pH 4.4-5.0

**Form/Color:** Perennial, grows to 8', flowers orange in July-August.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Moist to wet forests.      **Urban Tolerance:** Insufficient information to determine tolerance.

**Hydrology:** Low drought tolerance; moist, loamy, sandy soil; medium moisture usage.      **Ecosystem Services:** Attractive to hummingbirds, bulbs may be eaten by voles and muskrats.

**Ornamental Value:** Orange flowers, petals curled back.      **Compatibility:** Sparingly colonial.

**Salt Tolerance:** Intolerant of salt.      **Other:**

**Shade Tolerance:** Tolerant of shade.

**Limonium carolinianum**

**Sea Lavander**

**Native To:** New York City      **Wetland Indicator:** NI      **Soil:** Not Available.

**Form/Color:** Grows to 1'; herbaceous perennial; branching cluster of small, pale, purple flower bloom June-August.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Salt marshes.      **Urban Tolerance:** Insufficient information to determine tolerance.

**Hydrology:** Moist clay, loamy, sandy soil; high moisture use.      **Ecosystem Services:**

**Ornamental Value:** Pale purple flowers.      **Compatibility:**

**Salt Tolerance:** Tolerant of salt.      **Other:**

**Shade Tolerance:** Tolerant of partial shade.

**Lobelia cardinalis****Cardinal Flower**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 5.5-7.0
<b>Form/Color</b>	Perennial, single stem, slow grower to 20-60", flowers scarlet in July-September.	<b>Stormwater Tolerance:</b>		Stormwater	Tolerant of stormwater.
		<b>Urban Tolerance:</b>		Urban	Performs well in the right of way.
<b>Habitat:</b>	Swamp forests and marshes.	<b>Ecosystem Services:</b>		Ecosystem	Flowers attractive to hummingbirds, host to some butterfly species.
<b>Hydrology:</b>	Tolerant of flooding.				
<b>Ornamental Value:</b>	Showy scarlet flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Lobelia siphilitica****Great Lobelia**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, single stem, grows to 20-60", flowers blue in August-September.	<b>Stormwater Tolerance:</b>		Stormwater	Insufficient information to determine tolerance.
		<b>Urban Tolerance:</b>		Urban	Insufficient information to determine tolerance.
<b>Habitat:</b>	Open marshes, swamp forests.	<b>Ecosystem Services:</b>		Ecosystem	
<b>Hydrology:</b>	Low drought tolerance; moist to wet clay, loamy, sandy soil conditions.				
<b>Ornamental Value:</b>	Showy blue flowers in late summer.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Other:	Spreads easily from seed.
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Ludwigia alternifolia**

**Seed Box**

**Native To:** New York City      **Wetland Indicator:** FACW+      **Soil:** Not Available.

**Form/Color:** Perennial, grows to 4', flowers yellow in July-August.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Open marshes, moist to wet forest edges.      **Urban Tolerance:** Insufficient information to determine tolerance.

**Hydrology:** Wet to moist soil.      **Ecosystem Services:**

**Ornamental Value:** Yellow flowers.      **Compatibility:**

**Salt Tolerance:** Insufficient information to determine tolerance.      **Other:**

**Shade Tolerance:** Tolerant of partial shade.

**Lycopus americanus**

**Water Horehound**

**Native To:** New York City      **Wetland Indicator:** OBL      **Soil:** pH 5.2-7.8

**Form/Color:** Perennial, single stem, grows to 35", flowers white in June-September.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Open or part-shaded wet soil, ditches, swamp forests, pond edges, wet roadsides.      **Urban Tolerance:** Insufficient information to determine tolerance.

**Hydrology:** Intolerant of drought, tolerant of flooding.      **Ecosystem Services:**

**Ornamental Value:** White flowers.      **Compatibility:** Tolerant of competition. Colonial from rhizomes.

**Salt Tolerance:** Low tolerance of salt.      **Other:**

**Shade Tolerance:** Tolerant of partial shade.

**Lysimachia ciliata**

**Fringed Loosestrife**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 6.8
<b>Form/Color</b>	24"-30"; narrowly egg-shaped stem leaves; five-petaled yellow flowers bloom June-July; round fruit capsule; fast grower.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist to well-drained soils; swamps, partial shade in undisturbed woods; floodplains.	<b>Ecosystem Services:</b>		Attracts butterflies and other insects.	
<b>Hydrology:</b>	Drought tolerant.				
<b>Ornamental Value:</b>	Yellow flowers June to July.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used for increasing diversity and aesthetics of wetland restoration and mitigation; used for erosion control.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Lysimachia quadrifolia**

**Whorled Loosestrife**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 4.8-5.0
<b>Form/Color</b>	3'; yellow flowers bloom June-August; fruit August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open woods, gaps, edges.	<b>Ecosystem Services:</b>		Attracts butterflies and insects.	
<b>Hydrology:</b>	Suited best for dry uplands.				
<b>Ornamental Value:</b>	Yellow flowers June to August.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used for increasing diversity and restoration of aesthetics of open woodlands, gaps, and edges.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Maianthemum canadense**

**Canada Mayflower**

**Native To:** New York City      **Wetland Indicator:** FAC      **Soil:** pH 4.4-5.4

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

**Habitat:** Moist, beech, oak, or conifer woods.      **Ecosystem Services:** Provides valuable cover.

**Hydrology:** Moist to wet; prefers humus-rich soil.

**Ornamental Value:** Red fruit, delicate white flowers.      **Compatibility:** Frequently forms colonies.

**Salt Tolerance:** Moderately tolerant of salt.      **Other:** A common understory plant, frequently found with Solomon's seal, false Solomon's seal, sessile-leaved bellwort, wild sarsparilla.

**Shade Tolerance:** Very tolerant of shade.

**Maianthemum racemosum**

**False Solomon's Seal**

**Native To:** New York City      **Wetland Indicator:** FACU-      **Soil:** pH < 6.8

**Form/Color:** Grows to 32"; single stem, white flowers bloom May-June; fleshy, speckled red fruit September-October.      **Stormwater Tolerance:** Insufficient information to determine tolerance.      **Urban Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Frequent in New York City woodlands; mixed deciduous forests.      **Ecosystem Services:** Dispersed by small mammals and birds.

**Hydrology:** Drought tolerant.

**Ornamental Value:** White flowers, berries.      **Compatibility:** Can form colonies.

**Salt Tolerance:** Insufficient information to determine tolerance.      **Other:** Used for increased diversity and aesthetics in restoration of moist forest understories.

**Shade Tolerance:** Tolerant of shade.

**Shade Tolerance:**

## *Maianthemum stellatum*

## Star-flowered Solomon's Seal

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.9
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Moist, sandy, gravelly, open forests, floodplains, margins of seasonal or temporary streams and flooded areas, moist swales, in black dune forests.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Dry to moist soil conditions.				
<b>Ornamental Value:</b>	White flowers May-July, berries.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Used in restoration and mitigation of wetland in sandy soil, coastal woodlands. Slow to moderate grower.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Mimulus ringens*

## Monkey Flower

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Grows to 3': pink-purple flowers bloom July-August; fruit August-September;	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Swamp forests, shady stream banks, wet meadows.	<b>Ecosystem Services:</b>	Attracts butterflies.		
<b>Hydrology:</b>	Medium to wet moisture conditions.				
<b>Ornamental Value:</b>	Attractive foliage and pink- purple flowers July to August.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Common name refers to resemblance of the flower to a monkey's face when it is squeezed by the fingers.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Mitchella repens**

**Partridge Berry**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.0
<b>Form/Color</b>	Low-growing groundcover; 8"; white flowers bloom June-July; fleshy red fruit develop August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Rich, moist to dry woods.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Dry to moist soil conditions.	<b>Ecosystem Services:</b>		Eaten by birds and small mammals.	
<b>Ornamental Value:</b>	White flowers June-July,	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used for increasing diversity and aesthetics in restoration of moist forest understories.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Monarda fistulosa**

**Wild Bergamot**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-8.0
<b>Form/Color</b>	Grows to 4'; lilac or pink flowers bloom July-September; fruit develops August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Upland, open woods.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Intolerant of drought; high moisture usage.	<b>Ecosystem Services:</b>		Attracts hummingbirds, bees, and butterflies.	
<b>Ornamental Value:</b>	Lilac or pink flowers.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Monarda punctata**

**Spotted Beebalm**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.8-7.2
<b>Form/Color</b>	Grows to 3'; yellow flowers with purple spots bloom July-October; fruit develops September-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry, open, sandy soil.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Tolerates drought; dry to moist soil conditions.	<b>Ecosystem Services:</b>		Provides low amount of food for large mammals; attractive to hummingbirds and a host for butterfly species.	
<b>Ornamental Value:</b>	Yellow flowers with purple spots.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Used for increased diversity and aesthetics in restoration of dry grasslands and meadows of coastal plains.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Nuttallanthus canadensis**

**Blue Toadflax**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	2'; pale blue flowers bloom April-May; fruits develops June-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open, sterile, sandy; maritime grassland or shrubland, forests, sandy fields; dry or poor soils.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Prefers dry to moist conditions; tolerant of drought.	<b>Ecosystem Services:</b>		Provides low amount of cover for large mammals.	
<b>Ornamental Value:</b>	Pale blue flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used for increased diversity and aesthetics in restoration of open sand barren and coastal grassland habitat; helps with erosion control.	
<b>Shade Tolerance:</b>	Intolerant of shade.				



**Oenothera biennis**

**Common Evening Primrose**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Yellow flower bloom in late spring to early fall; fast grower.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Common in open, disturbed areas, vacant lots, fill, and roadsides.	<b>Urban Tolerance:</b>		Performs well in the right of way.	
<b>Hydrology:</b>	Medium drought tolerance; medium moisture usage.	<b>Ecosystem Services:</b>		Seeds eaten by birds.	
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>		Can become weedy.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Short lifespan.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Oenothera fruticosa**

**Sundrops**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 4.5-7.0
<b>Form/Color</b>	Grows to 1'-3'; slender, hairy stems; alternating elliptic leaves; showy, bright yellow four-petaled flowers; four-sided, club-shaped fruit pods.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry open woods, meadows, disturbed sites.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Course, fine, medium textured soils; high moisture usage; low drought tolerance.	<b>Ecosystem Services:</b>		Attracts birds, hummingbirds, and bees.	
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Moderate lifespan.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Oenothera perennis**

**Small Sundrops**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FAC-	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, stems to 2', unbranched, narrow leaves, flowers yellow in June-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist or wet soil in undisturbed, open areas, meadows.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moist to average sandy or gravelly soil.	<b>Ecosystem Services:</b>		Attractive to hummingbirds.	
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Opuntia humifusa**

**Prickly Pear Cactus**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.5-7.0
<b>Form/Color</b>	Grows to 1'; evergreen, prickly; showy, yellow flowers bloom in June-July; reddish, fleshy fruit ripe October-November.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry sand, back dunes, cliff faces and rocky sites.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Drought tolerant; grows well on varied moisture conditions; well drained soil.	<b>Ecosystem Services:</b>		Used for protection and shelter by birds, snakes, and lizards. Flower very attractive to bees.	
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Also known as Devil's tongue	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Osmorhiza claytonii**

**Hairy Sweet Cicely**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Grows to 2'; white flowers bloom May-June; fruit ripe June-August.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Rich, moist mixed hardwood forests; urban parks.	<b>Ecosystem Services:</b>	Attracts butterflies.		
<b>Hydrology:</b>	Grows well on drained gravelly or sandy loams; poorly drained clay loams.				
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Osmorhiza longistylis**

**Longstyle Sweetroot**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Compound umbrella-shaped with 3-6 rays; small white flowers, styles longer than petals, bloom May-June; blackish, bristly fruit ripe June-August.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Moist woods, floodplain forests.	<b>Ecosystem Services:</b>	Attracts butterflies.		
<b>Hydrology:</b>	Drought tolerant; prefers rich loamy soil.				
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Used for increasing diversity and aesthetics in restoration of moist, mixed deciduous woodland understories.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Peltandra virginica*

## Green Arrow Arum

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.0-9.5
<b>Form/Color</b>	Grows to 30"; green-white flowers bloom June-July; fruit ripe August; slow grower.	<b>Stormwater Tolerance:</b>	Potentially tolerant of stormwater.	<b>Urban Tolerance:</b>	Tolerant of concrete debris.
<b>Habitat:</b>	Fresh to slightly brackish tidal and nontidal marshes and pond edges.	<b>Ecosystem Services:</b>	Provides cover for invertebrates and small fish.	<b>Compatibility:</b>	Can form colonies.
<b>Hydrology:</b>	Tolerant of flooding 100% of growing season.	<b>Other:</b>	Used for erosion control, vegetation, diversity, and aesthetics for the margins of ponds and lakes; used for wetland mitigation.		
<b>Ornamental Value:</b>	Green-white flowers.				
<b>Salt Tolerance:</b>	Moderately tolerant of salt.				
<b>Shade Tolerance:</b>	Tolerant of shade.				

## *Penstemon digitalis*

## White Beardtongue

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.5-7.0
<b>Form/Color</b>	Moderate grower to 5', single stem, waxy-whitish or purplish, flowers white or pale purple in May-July.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to coarse, medium, and fine soils, low tolerance of soil compaction.
<b>Habitat:</b>	Part shade, edges and meadows, second growth.	<b>Ecosystem Services:</b>	Attracts birds and butterflies.	<b>Compatibility:</b>	
<b>Hydrology:</b>	Tolerant of drought.	<b>Other:</b>			
<b>Ornamental Value:</b>	White or pale purplish flowers.				
<b>Salt Tolerance:</b>	Moderately tolerant of salt.				
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Penstemon hirsutus**

**Hairy Beardtongue**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.5-6.5
<b>Form/Color</b>	Grows to 32", single stem, flowers white and purplish in May-June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry sandy or rocky fields, open woods.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Tolerant of drought.				
<b>Ornamental Value:</b>	White and purplish flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Penthorum sedoides**

**Ditch Stonecrop**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Grows to 2': whitish flowers bloom July-September; fruit ripe August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Marshes, wet edges in low, sparse vegetation; undisturbed, open areas.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Medium drought tolerance; medium moisture usage; fine textured soils.				
<b>Ornamental Value:</b>	Interesting white flowers.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Used for shoreline stabilization and increased diversity and aesthetics in wetland restoration, pond edges.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Phlox divaricata**

**Wild Blue Phlox**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.5-7.2
<b>Form/Color</b>	Rapid grower to 20", flowers pale blue-purple in May-June.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to coarse, medium, and fine soils, low tolerance of soil compaction.
<b>Habitat:</b>	Moist, rich, open woods, fields.	<b>Ecosystem Services:</b>	Attracts birds and butterflies.		
<b>Hydrology:</b>	Tolerant of drought.				
<b>Ornamental Value:</b>	Showy blue-purple flowers.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Phlox subulata**

**Mountain Phlox**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-8.0
<b>Form/Color</b>	Ground cover, semi-evergreen, rapid grower to 8", flowers purple to pink in May-July.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to coarse, medium, and fine soils, no tolerance of soil compaction.
<b>Habitat:</b>	Gravelly, sandy soil, rocky ledges.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Low tolerance to drought.				
<b>Ornamental Value:</b>	Purple and pink showy flowers.	<b>Compatibility:</b>	Quickly overgrown by taller vegetation.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Pityopsis falcata**

**Atlantic Golden Aster**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	8"-15"; single stem, yellow flowers bloom July-September; leaves and stem white-wooly;	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry, sandy soil near the coast, pine barrens.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Dry, sandy, well-drained soil. Not flood tolerant.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used in restoration of coastal back dunes and grasslands. Has a restricted range, though common in region.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Plantago aristata**

**Largebracted Plantain**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Grows to 6"-12"; white, green, brown flowers bloom May-November.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Roadsides, dry soil.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moderate drought tolerance.	<b>Ecosystem Services:</b>		Eaten by large mammals and terrestrial birds.	
<b>Ornamental Value:</b>		<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Podophyllum peltatum**

**Mayapple**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH < 6.8
<b>Form/Color</b>	Grows to 20"; erect stems; large umbrella-shaped leaves; white flowers with yellow center blooms in May; yellow fruit ripe in July-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist, undisturbed woods.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Medium moisture; well-drained soil.	<b>Ecosystem Services:</b>		Fruit eaten by box turtles, birds, and small mammals.	
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>		Frequently forms colonies.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Sometimes affected by bright orange rust fungus.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Polygonatum biflorum**

**Smooth Solomon's Seal**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH < 6.8
<b>Form/Color</b>	Arching stem grows to 12"; bright yellow green foliage; pale green to white flowers bloom April-June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Rich, dry to moist woods; thickets; calcareous hammocks.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Medium moisture; moist, acid soils.	<b>Ecosystem Services:</b>		Roots eaten by mammals; fruit attracts butterflies and birds.	
<b>Ornamental Value:</b>	White flowers, fruit.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				



**Polygonatum pubescens**

**Hairy Solomon's Seal**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	pH 5.0-7.6
<b>Form/Color</b>	Single stem, to 15", has minute hairs on underside of leaves; green fruit; blooms April-June	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry to moist woods.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moist soil; intolerant of drought.	<b>Ecosystem Services:</b>		Attracts birds and butterflies.	
<b>Ornamental Value:</b>	Flowers, fruit.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Poisonous berries.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Polygonella articulata**

**Jointweed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Grows to 4"-20" ; erect tall forb, thin stems; white to pink flowers bloom July-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry, sandy cliffs; acidic soil.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Drought tolerant.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	White to pink flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

### *Polygonum arifolium*

### Halberd-leaved Tearthumb

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Single stem with hooked prickles; arrow-shaped leaves; pink, white, or green flowers bloom August-September; shiny brown seeds.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Open marshes and pond edges.	<b>Ecosystem Services:</b>	Seeds eaten by birds and small mammals.		
<b>Hydrology:</b>	Wet to moist soils.				
<b>Ornamental Value:</b>	Pink, white, green flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

### *Polygonum hydropiperoides*

### Mild Water-pepper

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.8-8.8
<b>Form/Color</b>	Grows to 6'; reclining stems; tops of leaves fringed with long bristles; pink to white flowers bloom July-November; slow grower.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Open, wet soil, pond edges; freshwater tidal and nontidal marshes.	<b>Ecosystem Services:</b>	Moderate wildlife value.		
<b>Hydrology:</b>	Intolerant of drought; medium moisture usage; fine and medium textured soils.				
<b>Ornamental Value:</b>	Pink to white flowers.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Used as a minor species for increasing diversity and aesthetics in marsh and swamp habitat restoration; wetland mitigation.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Polygonum sagittatum**

**Arrow-leaved Tearthumb**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.0-8.5
<b>Form/Color</b>	Grows to 6'; reclining stems; pink to green flowers bloom and fruits August-November; fast grower.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Freshwater tidal and nontidal marshes.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Course, fine, medium textured soils; low drought tolerance.	<b>Ecosystem Services:</b>		Low wildlife value as food for waterbirds.	
<b>Ornamental Value:</b>	Pink to green flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Secondary species erosion control on open soil of newly restored wetlands and wetland mitigation.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Polygonum virginianum**

**Jumpseed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	6'; single stem, greenish white flowers bloom July-October; produces fruit August-November.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Woods, floodplain forests, common in disturbed woodlands and urban forests.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moderately drought tolerant.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Greenish white flowers.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used for erosion control and soil cover in degraded forest understory.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

### **Pontederia cordata**

### **Pickeralweed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 6.0-8.0
<b>Form/Color</b>	3'; spike, showy blue flowers bloom July-September; moderate grower.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of alkaline fill and concrete debris.
<b>Habitat:</b>	Shallow water; tolerates brief tidal submersion; pond edges; freshwater to slightly brackish tidal marshes.	<b>Ecosystem Services:</b>	High wildlife value as cover for fish and invertebrates; cools water by providing shade.		
<b>Hydrology:</b>	Tolerant of flooding or saturated soil 100% of growing season.				
<b>Ornamental Value:</b>	Blue flowers.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Used for erosion control, diversity, aesthetics for restoration of pond and lake edges, marshes; wetland mitigation.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

### **Potentilla arguta**

### **Tall Cinquefoil**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-8.0
<b>Form/Color</b>	Grows to 3', flowers white in May-June, fruits in July-August.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to medium soils, moderate tolerance of soil compaction.
<b>Habitat:</b>	Dry, rocky, open woods, fields.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Low tolerance to drought; deep mesic or alluvial soils; moist soil conditions.				
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Potentilla canadensis**

**Dwarf Cinquefoil**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Grows to 1.5'; yellow flowers bloom April-June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry to moist soils in woods and fields.	<b>Ecosystem Services:</b>		Minor food source for small and large mammals and terrestrial birds, host of grizzled skipper.	
<b>Hydrology:</b>	Moderately drought tolerant.				
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Potentilla simplex**

**Common Cinquefoil**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 5.5-7.0
<b>Form/Color</b>	Yellow flowers bloom April-June; produces fruit in July; prostrate stems.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry woods, fields, meadows; open areas, lawns, edges, low vegetation.	<b>Ecosystem Services:</b>		Attracts bees.	
<b>Hydrology:</b>	Moderately drought tolerant.				
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used for erosion control plantings and soil cover in degraded, open woodlands, roadsides, and low meadows.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Prenanthes trifoliata**

**Gall-of-the-Earth**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-5.2
<b>Form/Color</b>	Grows to 7'; whitish flowers bloom August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry to moist woods, gaps, edges, sandy soil.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Dry to moist, sandy soil conditions.				
<b>Ornamental Value:</b>	Whitish flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used to increase diversity and aesthetics in restoration of dry woodlands on sandy soils.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Pseudognaphalium obtusifolium**

**Rabbit-tobacco**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Single stem, whitish, yellow, round flowers bloom August-November.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Pine woods and dry open areas.	<b>Ecosystem Services:</b>		Attracts butterflies and other insects.	
<b>Hydrology:</b>	Dry, well-drained soil.				
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

### **Pycnanthemum incanum**

### **Hoary Mountainmint**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	pH < 6.8
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Thickets; pastures.	<b>Ecosystem Services:</b>	Attracts butterflies.		
<b>Hydrology:</b>	Tolerant of drought.				
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Used for erosion control.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

### **Pycnanthemum tenuifolium**

### **Narrow-leaved Mountain Mint**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH < 6.8
<b>Form/Color</b>	Grows to 30"; leafy, short axillary branches; white flowers with purple spots bloom June-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Moist to dry soil, fields, bogs.	<b>Ecosystem Services:</b>	Attracts birds and butterflies.		
<b>Hydrology:</b>	Dry to moist soil conditions; medium water usage.				
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Pycnanthemum virginianum**

**Mountain Mint**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.5-7.0
<b>Form/Color</b>	Grows to 1'to 3'; Flowers in numerous , roundish heads, leaves lance-shaped, stalkless and rounded at the base, July-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Open areas, upland woods, fields.	<b>Ecosystem Services:</b>	Attracts butterflies.		
<b>Hydrology:</b>	Moist soil.				
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Pyrola americana**

**American Wintergreen**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, evergreen, grows to 1', flowers white in June-August, shiny, leathery and almost round leaves.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Moist to dry undisturbed woods.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Moist, organic soil.				
<b>Ornamental Value:</b>	White bell shaped flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				



## **Ranunculus arborvitus**

## **Small-flowered Crow-foot**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.0-7.5
<b>Form/Color</b>	Grows to 20"; small, yellow flowers bloom April-June; fruit ripe June-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Wet woods, shores; moist to wet herb layers of open forests, stream banks.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Moist to wet soil.				
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Minor species for restoring wet woodlands, open areas and increasing diversity.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## **Rudbeckia hirta**

## **Black-eyed Susan**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-7.0
<b>Form/Color</b>	Grows to 15-36"; yellow, orange ray flowers sometimes with a dark base, blooms June-October; rapid grower.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.	<b>Urban Tolerance:</b>	Performs well in the right of way.
<b>Habitat:</b>	Open areas, roadsides.	<b>Ecosystem Services:</b>	Eaten by mammals and terrestrial birds.		
<b>Hydrology:</b>	Medium drought tolerance, fine and medium textured soils.				
<b>Ornamental Value:</b>	Yellow, orange flowers	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Used in wildflower mixes for restoration projects.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

### **Rudbeckia laciniata**

### **Cutleaf Coneflower**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.5-7.0
<b>Form/Color</b>	Perennial, grow to 1.5-10', hairless stems, waxy-pale plant, flowers yellow in July-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to coarse, medium, and fine soils, low tolerance of soil compaction.
<b>Habitat:</b>	Stream banks, moist places, rich low ground.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Tolerant of drought.				
<b>Ornamental Value:</b>	Yellow flowers in summer and fall.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

### **Rudbeckia triloba v. triloba**

### **Thin Leaved Coneflower**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Short-lived perennial or biennial, grows to 1.5-5', flowers yellow to orange in June-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Moist open woods, thickets.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Tolerant of drought.				
<b>Ornamental Value:</b>	Showy yellow to orange flowers in summer and fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Rumex verticillatus**

**Swamp Dock**

**Native To:** New York City      **Wetland Indicator:** OBL      **Soil:** Not Available.

**Form/Color:** Grows to 4'; perennial, ascending branches; green flowers; 3-winged flower fruit June-September.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Pond edges, swamps.      **Urban Tolerance:** Insufficient information to determine tolerance.

**Hydrology:** Intolerant of drought.      **Ecosystem Services:**

**Ornamental Value:**      **Compatibility:** Can form colonies.

**Salt Tolerance:** Insufficient information to determine tolerance.      **Other:**

**Shade Tolerance:** Tolerant of partial shade.

**Sagittaria latifolia**

**Broadlead Arrowhead**

**Native To:** New York City      **Wetland Indicator:** OBL      **Soil:** pH 4.7-8.9

**Form/Color:** Basal leaves; leaf blades are arrowhead-shaped; white three-petaled flowers bloom summer through fall.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Ditches, marshes, pools along stream and lake edges.      **Urban Tolerance:** Insufficient information to determine tolerance.

**Hydrology:** Intolerant of drought conditions; high moisture usage.      **Ecosystem Services:** Attracts birds.

**Ornamental Value:** White flowers.      **Compatibility:** Can form colonies.

**Salt Tolerance:** Intolerant of salt.      **Other:**

**Shade Tolerance:** Intolerant of shade.

**Salicornia depressa**

**Virginia Glasswort**

**Native To:** New York City      **Wetland Indicator:** OBL      **Soil:** pH 6.6-8.5

**Form/Color:** Herbaceous perennial, emergent, erect, succulent stem, to 12", green turning red in the fall.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Salty marshes.      **Urban Tolerance:** Insufficient information to determine tolerance.

**Hydrology:** Medium moisture usage.      **Ecosystem Services:**

**Ornamental Value:**      **Compatibility:** Can form mats.

**Salt Tolerance:** Tolerant of salt.      **Other:** Minor species for salt marsh restoration

**Shade Tolerance:** Intolerant of shade.

**Salvia lyrata**

**Lyreleaf Sage**

**Native To:** Regional      **Wetland Indicator:** FACW      **Soil:** pH 6.8-7.2

**Form/Color:** Perennial, dark green to purplish leaves, flowers light blue to violet in April-June.      **Stormwater Tolerance:** Insufficient information to determine tolerance.

**Habitat:** Roadsides, fields, open woodlands.      **Urban Tolerance:** Insufficient information to determine tolerance.

**Hydrology:** Tolerant of medium drought; dry to moist soil conditions.      **Ecosystem Services:** Attracts butterflies and hummingbirds.

**Ornamental Value:** Blue to violet flowers in clusters at the top of the stem.      **Compatibility:** May become weedy.

**Salt Tolerance:** Insufficient information to determine tolerance.      **Other:**

**Shade Tolerance:** Tolerant of partial shade.

**Sanguinaria canadensis**

**Bloodroot**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 6.8-7.2
<b>Form/Color</b>	Grows to 15", white flowers with 8-12 petals and yellow stamens bloom March-April.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Interiors of undisturbed forests, moisted woods, sometimes floodplains or slopes of streams.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Drought tolerant; medium moisture usage.	<b>Ecosystem Services:</b>		Attracts birds and butterflies.	
<b>Ornamental Value:</b>	Showy white flowers, bloom time only a few days, scallop shaped leaves.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Sanicula canadensis**

**Canada Sanicle**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	75 cm; greenish yellow flowers bloom May-July; hooked, bristly fruit.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry open woods.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moist soil conditions.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Greenish yellow flowers, often overlooked due to their small size.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Saururus cernuus**

**Lizard's Tail**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Grows to 4'; hairy, erect stem; spike of small whitish flowers bloom June-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Still water, wet lowlands, stream and lake edges.	<b>Ecosystem Services:</b>		Attracts birds.	
<b>Hydrology:</b>	Moist to wet soil conditions.				
<b>Ornamental Value:</b>		<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Silene caroliniana ssp. Pensylvanica**

**Wild Pink**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0
<b>Form/Color</b>	Perennial, grows to 6", grows in clumps, flowers dark pink in April-May.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Crevasses in exposed bedrock in undisturbed, dry, woods.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Tolerant of drought; medium moisture usage.				
<b>Ornamental Value:</b>	Showy dark pink flowers in spring.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Attracts early season pollinators.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Silene stellata**

**Widowsfrill**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	pH <6.8
<b>Form/Color</b>	Grows to 2'-3'; perennial, multi-stemmed, white flowers bloom July-August; fringed petals.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open woods.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Moist, rich soils.				
<b>Ornamental Value:</b>	Brilliant white flowers.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used for increased diversity and aesthetics in restoration of open woodlands.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Sisyrinchium angustifolium**

**Blue Eyed Grass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW-	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Perennial, grows to 6-20", flowers pale-blue in June-July.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist, open soil, open woods, fields.	<b>Ecosystem Services:</b>		Browsed by large mammals and terrestrial birds.	
<b>Hydrology:</b>	Low tolerance of drought; medium moisture usage.				
<b>Ornamental Value:</b>	Radially symmetrical, pale-blue flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Solidago bicolor**

**Silverrod**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-6.0
<b>Form/Color</b>	1-5 stems to 3'; white flowers bloom August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry, open, oak, woods on sterile, rocky soil.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Dry soil conditions.	<b>Ecosystem Services:</b>		Attracts bees.	
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used for increased diversity and aesthetics in restoration of open, dry woodlands, butterfly gardens.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Solidago caesia**

**Blue Stemmed Goldenrod**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	3'; yellow flowers bloom August-October; moderate grower.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Rich, open, deciduous woods; frequent in NYC understories.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Fine and medium textured soils; low drought tolerance.	<b>Ecosystem Services:</b>		Attracts butterflies.	
<b>Ornamental Value:</b>	Showy, yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Used for increased diversity and aesthetics in restoration of moist forest understories; used in butterfly gardens; short lifespan.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				



## *Solidago canadensis*

## Canada Goldenrod

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.8-7.5
<b>Form/Color</b>	Perennial, multi-stemmed to 6'; yellow flowers bloom August-October; fast grower.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Open areas and old fields.	<b>Urban Tolerance:</b>			Tolerant of fill and concrete.
<b>Hydrology:</b>	Fine, coarse, and medium textured soils; medium drought tolerance.	<b>Ecosystem Services:</b>			Eaten by small and large mammals and terrestrial birds.
<b>Ornamental Value:</b>	Showy, yellow flowers.	<b>Compatibility:</b>			Can compete with Mugwort invasion in nutrient rich, open fill soils, considered aggressive.
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			Used for erosion control on open slope, degraded open areas, meadows with concrete, roadsides.
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Solidago juncea*

## Early Goldenrod

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0-6.0
<b>Form/Color</b>	Perennial, frequently multistemmed to 4'; showy, yellow flowers bloom July-August.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Dry fields and roadsides.	<b>Urban Tolerance:</b>			Tolerant of concrete and fill soil.
<b>Hydrology:</b>	Dry to moist, sandy soils.	<b>Ecosystem Services:</b>			Attracts birds and butterflies.
<b>Ornamental Value:</b>	Showy, yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			Used for increased diversity and aesthetics in vegetation of open slopes, degraded open areas, roadsides, meadows with concrete.
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Solidago nemoralis**

**Gray Goldenrod**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.5-7.5
<b>Form/Color</b>	Perennial, frequently multistemmed to 3'; showy, yellow flowers bloom August-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open, dry, sandy soil, old fields, thin woods, edges.	<b>Urban Tolerance:</b>		Tolerant of fill soils.	
<b>Hydrology:</b>	Coarse and medium textured soils; medium drought tolerance.	<b>Ecosystem Services:</b>		Eaten by small and large mammals and terrestrial birds.	
<b>Ornamental Value:</b>	Showy, yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Used for restoration of coastal grasslands and meadows on dry, sandy, sterile soils.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Solidago odora**

**Sweet Goldenrod**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH < 6.8
<b>Form/Color</b>	Perennial, frequently multistemmed to 5'; showy, yellow flowers bloom July-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry, sandy soil in open woods, fields, edges.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Dry and sandy soil.	<b>Ecosystem Services:</b>		Eaten by small and large mammals and terrestrial birds; attracts honey bees.	
<b>Ornamental Value:</b>	Showy, yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used for increased diversity and aesthetics in restoration of thin meadows, open woodlands on dry, sandy, sterile soils.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Solidago rugosa**

**Wrinkleleaf Goldenrod**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Perennial, frequently multistemmed to 4'; showy, yellow flowers bloom August-November; fast grower.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Moist to dry open areas.	<b>Urban Tolerance:</b>			Tolerant of fill soils and concrete, Performs well in the right of way.
<b>Hydrology:</b>	Medium moisture usage; wet, well-drained soil conditions.	<b>Ecosystem Services:</b>			Attracts birds.
<b>Ornamental Value:</b>	Showy, yellow flowers.	<b>Compatibility:</b>			Can form colonies.
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			Prevents invasion from mugwort in nutrient rich, moist fill soils.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Solidago sempervirens**

**Seaside Goldenrod**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.5-7.5
<b>Form/Color</b>	Perennial, frequently multistemmed to 5'; thick leathery leaves, showy yellow flowers bloom September-November; produces fruit September-November.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Low dunes, brackish wet areas, salt marsh edges.	<b>Urban Tolerance:</b>			Insufficient information to determine tolerance.
<b>Hydrology:</b>	Coarse and medium textured soils; medium drought tolerance.	<b>Ecosystem Services:</b>			Attracts butterflies, bees, and small mammals.
<b>Ornamental Value:</b>	Showy, yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Very tolerant of salt.	<b>Other:</b>			Used for increasing diversity when restoring high salt marsh habitats, back dune swales, and low fore-dunes.
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Solidago speciosa**

**Showy Goldenrod**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 6.0-7.0
<b>Form/Color</b>	Perennial, frequently multistemmed to 5'; showy, yellow flowers bloom August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Meadows, woodland edges, dry, rocky fields.	<b>Urban Tolerance:</b>		Tolerates poor, dry soil.	
<b>Hydrology:</b>	Dry to medium soil conditions.	<b>Ecosystem Services:</b>		Attracts butterflies.	
<b>Ornamental Value:</b>	Showy, yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used for increased diversity and aesthetics in vegetation of open slopes, meadows, roadside.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Symphotrichum cordifolium**

**Common Blue Wood Aster**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	pH 5.7- 7.5
<b>Form/Color</b>	Grows to 5'; purple flowers bloom in summer; moderate grower.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open woods, clearings.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Coarse and fine textured soils; medium drought tolerance; low moisture usage.	<b>Ecosystem Services:</b>		Attracts butterflies.	
<b>Ornamental Value:</b>	Purple flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Short lifespan.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Symphyotrichum ericoides**

**White Heath Aster**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Grows to 3'; white flowers bloom August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry, open areas; sandy soil in New York City coastal habitats and successional scrub.	<b>Ecosystem Services:</b>		Attracts butterflies.	
<b>Hydrology:</b>	Moist to dry soil.				
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used for vegetation in restoration of open areas, meadows, warm season grasslands, coastal black dune habitats. Used in butterfly	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Symphyotrichum laeve**

**Smooth Blue Aster**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.8-7.8
<b>Form/Color</b>	Grows to 3'; waxy dark green leaves; showy blue flowers bloom August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry, open woods, sandy soil.	<b>Ecosystem Services:</b>		Attracts butterflies.	
<b>Hydrology:</b>	Moist to dry soil.				
<b>Ornamental Value:</b>	Showy, blue flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Used for open, sandy soil, in restoration of meadows, warm season grasslands, coastal back-dune successional habitats. Used in	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Symphyotrichum novae-angliae*

## New England Aster

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW-	<b>Soil:</b>	pH < 6.8
<b>Form/Color</b>	Grows to 6': showy, blue-purple flowers bloom August-October; produces fruit October-November; slow grower.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Moist meadows, swamps, pond edges.	<b>Urban Tolerance:</b>			Performs well in the right of way.
<b>Hydrology:</b>	Tolerant of flooding 25% of growing season; tolerant of moderate drought.	<b>Ecosystem Services:</b>			Attracts butterflies.
<b>Ornamental Value:</b>	Showy, blue-purple flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			Used for open wetland restoration and mitigation; used in butterfly gardens.
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Symphyotrichum novi-belgii*

## New York Aster

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 5.5-7.0
<b>Form/Color</b>	Grows to 4': showy, blue flowers bloom August-October.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Moist to wet open areas.	<b>Urban Tolerance:</b>			Insufficient information to determine tolerance.
<b>Hydrology:</b>	Medium moisture conditions.	<b>Ecosystem Services:</b>			Attracts butterflies.
<b>Ornamental Value:</b>	Showy, blue flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			Used for increased diversity and aesthetics in restoration of moist to dry open areas, meadows, warm-season grasslands.
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Symphotrichum pilosum**

**Hairy White Oldfield Aster**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.4-7.0
<b>Form/Color</b>	Prennial, frequently multistemmed, 5': white flowers bloom August-November.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry to moist open habitats, slopes, meadows, butterfly gardens.	<b>Urban Tolerance:</b>		Tolerant of concrete debris and other urban conditions.	
<b>Hydrology:</b>	Moist to dry, sandy soil.	<b>Ecosystem Services:</b>		Attracts butterflies.	
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Symplocarpus foetidus**

**Skunk Cabbage**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.0-6.2
<b>Form/Color</b>	Grows to 2'; purple green floral bract February-March; blackish, green, fleshy fruit August-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Swamp forests, freshwater tidal and nontidal marshes, shady steeps, stream banks.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Tolerant of saturated soil 100% of growing season.	<b>Ecosystem Services:</b>		Low wildlife value.	
<b>Ornamental Value:</b>	Purple flowers.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Used for increasing diversity and aesthetics in restoration of swamp forests herb layer; wetland mitigation.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Tephrosia virginiana*

## Goat's Eve

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Alternate compound leaves to 28"; pale yellow and pink flowers bloom June-July; produces fruit August- October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Sandy or rocky soil of of back-dune grasslands, open pine or oak barrens.	<b>Ecosystem Services:</b>	Eaten by small and large mammals and terrestrial birds.		
<b>Hydrology:</b>	Dry, sandy soil conditions.				
<b>Ornamental Value:</b>	Pale yellow and pink flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Parts of plant considered toxic. Used for increased diversity and aesthetics in restoration or open woodlands or barrens on dry sandy soil.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Thalictrum dioicum*

## Early Meadow Rue

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.0-8.0
<b>Form/Color</b>	Grows to 1-2'; herbacious perennial; showy, white flowers bloom April-May.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Open, moist meadows, edges, rocky, open woods.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Fine and medium textured soils; medium drought tolerance.				
<b>Ornamental Value:</b>	Showy, white flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Short lifespan. Male and female flowers are on separate plants.		
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				



**Thalictrum pubescens**

**King of the Meadow**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 4.0-8.0
<b>Form/Color</b>	Grows to 9'; stalkless stem leaves; pale green flowers bloom June-August; small rounded head of achenes.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Wet woods, meadows, marshes, stream banks.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Hydrology:</b>	Wet or moist soil; well-drained soil.	<b>Ecosystem Services:</b>	Attracts butterflies and bees.		
<b>Ornamental Value:</b>	Pale green flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Short lifespan.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Tiarella cordifolia**

**Heartleaf Foamflower**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Grows to 1', flowers white in May, fruits in July.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Rich, moist woods.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Hydrology:</b>	Medium moisture usage.	<b>Ecosystem Services:</b>	Attracts small bees, flies and butterflies.		
<b>Ornamental Value:</b>	Showy white flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Spreads well by rhizomes.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Tradescantia virginiana**

**Spiderwort**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.0-8.0
<b>Form/Color</b>	Grows to 18"; 3-petaled blue flowers on erect stem bloom in small clusters May-June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Tolerant of fill soils.	
<b>Habitat:</b>	Open woods, edges, fill.	<b>Ecosystem Services:</b>		Attracts butterflies and bees.	
<b>Hydrology:</b>	Fine and medium textured soils.				
<b>Ornamental Value:</b>	Blue flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Short lifespan, fast grower.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Triadenum virginicum**

**Virginia Marsh St. Johnswort**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Grows to 2'; pinkish, 5-petaled pinkish flowers.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Wet, open areas, pond edges, clean, undisturbed marshes.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Tolerates some flooding.				
<b>Ornamental Value:</b>	Pink flowers.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>		Used for increased diversity and aesthetics, erosion control, in wetland restoration and mitigations.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Trichostema dichotomum*

## Forked Bluecurls

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Grows to 6-24"; blue irregularly 5-lobed flowers bloom August-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Open, dry, soil, old fields, open woods, open dry, disturbed soil.	<b>Ecosystem Services:</b>	Valuable to native bees.		
<b>Hydrology:</b>	Dry, sandy soil conditions.				
<b>Ornamental Value:</b>	Blue flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Used for increased diversity and aesthetics in restoration of dry grasslands or coastal meadows.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Typha angustifolia*

## Narrowleaf Cattail

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 3.5-8.7
<b>Form/Color</b>	Tall grasslike form, wide leaves, to 10'; brown flowers bloom May-June; produces fruit July-August; fast grower.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Swamps, pond margins, freshwater and brackish tidal marshes, open saturated soil.	<b>Ecosystem Services:</b>	Moderate wildlife value; rhizomes eaten by muskrats; red-wing blackbirds use for nesting.		
<b>Hydrology:</b>	Coarse, fine, and medium textured soils; low drought tolerance.				
<b>Ornamental Value:</b>	Brown flowers and seed heads.	<b>Compatibility:</b>	Frequently forms colonies.		
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>	Sometimes used in restorations and mitigations; used for controlling erosion in wetland soils in brackish or alkaline soils; long lifespan.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Typha latifolia*

## Broadleaf Cattail

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.5-8.7
<b>Form/Color</b>	Tall grasslike form, broad leaves, to 10'; male yellowish flowers, dark brown female flowers bloom May-July; fast grower.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Clean water, marshes, roadside ditches.	<b>Ecosystem Services:</b>	Seeds eaten by waterfowl; rhizomes eaten by muskrats.		
<b>Hydrology:</b>	Coarse, fine, and medium textured soils; intolerant of drought; high moisture usage.				
<b>Ornamental Value:</b>	Yellowish flowers.	<b>Compatibility:</b>	Frequently forms colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Used for erosion control, bank stabilization, in freshwater wetlands, restorations of pond margins, marshes, and wetland mitigations.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Uvularia sessilifolia*

## Sessileleaf Bellwort

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.8-5.6
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Undisturbed moist forest interiors.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Prefers moist conditions.				
<b>Ornamental Value:</b>	Pale yellow flowers, attractive fruit.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Used for increased diversity and aesthetics in restoration of moist forest understories.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Verbena hastata**

**Swamp Verbena**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Grows to 4', perennial; blue tubular flowers bloom July-September.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
		<b>Urban Tolerance:</b>		Performs well in the right of way.	
<b>Habitat:</b>	Open areas, part shade, marshes, pond edges.	<b>Ecosystem Services:</b>		Seeds eaten by birds; plants eaten by rabbits.	
<b>Hydrology:</b>	Prefers moist conditions.				
<b>Ornamental Value:</b>	Blue flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Verbena urticifolia**

**White Vervain**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Grows to 4'; erect hairy single stem; small tubular white flowers bloom June-August; small dry fruit.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Wetland edges; partially shaded open edges in good soil.	<b>Ecosystem Services:</b>		Seeds eaten by songbirds; plant eaten by rabbits.	
<b>Hydrology:</b>	Moist, well-drained soils.				
<b>Ornamental Value:</b>	White flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Vernonia noveboracensis**

**New York Ironweed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 4.5-8.0
<b>Form/Color</b>	Grows to 3-6'; purple flowers August-October; dry achene with dark brownish plume fruit; moderate grower.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
<b>Habitat:</b>	Open marshes, wet edges.	<b>Urban Tolerance:</b>			Performs well in the right of way.
<b>Hydrology:</b>	Moderate drought tolerance; medium moisture usage.	<b>Ecosystem Services:</b>			Attracts butterflies and insects.
<b>Ornamental Value:</b>	Purple flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			Short lifespan.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Veronicastrum virginicum**

**Culver's Root**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH < 6.8
<b>Form/Color</b>	Perennial, grows to 6', whorled leaves, flowers white in June-August.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Rich, moist to dry woods, gaps, dry meadows.	<b>Urban Tolerance:</b>			Insufficient information to determine tolerance.
<b>Hydrology:</b>	Medium to wet moisture usage. Moderate drought tolerance.	<b>Ecosystem Services:</b>			Host to several bee species, moths, flies, wasps, and butterflies.
<b>Ornamental Value:</b>	Showy, white, bottle-brush shaped flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of light shade.				

**Viola cucullata**

**Blue Marsh Violet**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	To 8". Pale violet flowers with dark blue-veined center bloom April-July; egg-shaped fruit, dry capsule with black seeds April-July.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Swamps, bogs.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moist, well-drained soils.	<b>Ecosystem Services:</b>		Attracts birds.	
<b>Ornamental Value:</b>	Pale violet flowers.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Viola labradorica**

**Labrador Violet**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.0-6.5
<b>Form/Color</b>	Evergreen, perennial; grows 1-3"; violet to lavender flowers bloom in May.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Woods and grassy places.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Well-drained soil; moist soil conditions.	<b>Ecosystem Services:</b>		Attracts butterflies and birds.	
<b>Ornamental Value:</b>	Lavendar, purple flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Viola pubescens**

**Yellow Forest Violet**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 6.0-7.0
<b>Form/Color</b>	Grows to 18"; showy, yellow flowers bloom April-May; produces fruit July-August.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Rich woods and floodplain forests.	<b>Ecosystem Services:</b>	Attracts butterflies.		
<b>Hydrology:</b>	Medium textured soils; medium drought tolerance.				
<b>Ornamental Value:</b>	Showy, yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Used for increased diversity and aesthetics in restoration of forest understories; short lifespan.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Viola sororia**

**Common Violet**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC-	<b>Soil:</b>	pH 6.0-7.8
<b>Form/Color</b>	Grows to 6"; showy, violet flowers bloom April-May; produces fruit June-July.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of disturbance. Tolerates calcium deicers.
<b>Habitat:</b>	Open woods, shady lawns.	<b>Ecosystem Services:</b>	Attracts butterflies.		
<b>Hydrology:</b>	Low drought tolerance; high moisture usage; fine and medium textured soils.				
<b>Ornamental Value:</b>	Violet flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Used for shady edges.		
<b>Shade Tolerance:</b>	Tolerant of shade.				



**Viola x primulifolia**

**Primrose-leaved Violet**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC+	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Grows to 6"; white flowers marked with purple bloom April-June; fruit produces August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist, open meadows; open swamp forests, sandy soil.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Sandy soil.	<b>Ecosystem Services:</b>		Attracts butterflies.	
<b>Ornamental Value:</b>	White flowers with purple.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Used for increased diversity and aesthetics in restoration of wooded wetlands in appropriate habitats.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Waldsteinia fragarioides**

**Barren Strawberry**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	Slightly acidic soils.
<b>Form/Color</b>	Herbaceous perennial, five-petaled, yellow flowers bloom April to May; grows to 6".	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Wooded slopes.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Medium moisture usage; drought tolerant.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Yellow flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Very tolerant of salt.	<b>Other:</b>		Fruit is inedible; good plant for low maintenance sites.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Zizia aurea**

**Golden Alexanders**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 5.5-7.0
<b>Form/Color</b>	Grows to 32", shiny compound leaves with 3-5 leaflets, flowers yellow in April-June, fruits in August-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Rich, moist meadows, wet, open woods, rich soil.	<b>Ecosystem Services:</b>	Host to some butterfly species.		
<b>Hydrology:</b>	Moist soils, not drought tolerant.				
<b>Ornamental Value:</b>	Showy yellow flowers in spring and summer.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

## Ferns:

Ferns add texture to the ground plane and there are species adapted to sun or shade, wet or dry conditions, and various heights and degrees of vigor.

**Adiantum pedatum**

**Maidenhair Fern**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FAC-	<b>Soil:</b>	pH 4.6-6.6
<b>Form/Color</b>	Slow grower to 3', erect stipe that forks in two, leaf blades lax and arching, spores in July-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Rich, moist woods, stream banks.	<b>Urban Tolerance:</b>		Adapted to coarse and medium soils, low tolerance of soil compaction.	
<b>Hydrology:</b>	Tolerant of mild drought.	<b>Ecosystem Services:</b>		Fronds occasionally eaten by rabbits, secondary species for increased diversity.	
<b>Ornamental Value:</b>	Fine fronds, semi-erect shape.	<b>Compatibility:</b>		Slow seed spread rate, low seedling vigor, moderate vegetative spread rate.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Asplenium platyneuron**

**Ebony Spleenwort**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.5-7.0
<b>Form/Color</b>	Semievergreen perennial, grows to 1.5', spores June-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist, open, rocky woods, rich, circumneutral soil.	<b>Urban Tolerance:</b>		Will colonize masonry in urban sites, found in disturbed sites.	
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.	<b>Ecosystem Services:</b>		Minor species for increased diversity.	
<b>Ornamental Value:</b>	Fronds have herringbone shape and are light and dark green.	<b>Compatibility:</b>		Does not compete well with aggressive plants.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Exploitably vulnerable in New York state.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Athyrium filix-femina**

**Lady Fern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 3.9-7.0
<b>Form/Color</b>	Perennial, fine-textured, upright-growing fern, moderate grower to 2-3', spores June-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Somewhat tolerant of urban pollution.	
<b>Habitat:</b>	Moist woods, shady edges.	<b>Ecosystem Services:</b>		Leaves eaten by rabbits and deer, secondary species for increased diversity.	
<b>Hydrology:</b>	Tolerant of drought.				
<b>Ornamental Value:</b>	Fine-textured fronds, upright growing.	<b>Compatibility:</b>		Moderate rate of vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Dennstaedtia punctilobula**

**Hay-Scented Fern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.0-5.0
<b>Form/Color</b>	Perennial, groundcover, single, very fine fronds in large colonies, 1-3.5', spreads primarily by rhizomes, spores June-August.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
		<b>Urban Tolerance:</b>		Somewhat tolerant of urban pollution, performs well in the right of way.	
<b>Habitat:</b>	Open woods, gaps, edges.	<b>Ecosystem Services:</b>		Habitat for birds and bees.	
<b>Hydrology:</b>	Tolerant of drought when well established.				
<b>Ornamental Value:</b>	Single, very fine fronds, that will colonize.	<b>Compatibility:</b>		May crowd out less aggressive plants. Can form colonies.	
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Often colonizes old burn sites.	
<b>Shade Tolerance:</b>	Tolerant of open shade.				

**Deparia acrostichoides**

**Silver False Spleenwort**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 6.1-7.5
<b>Form/Color</b>	Perennial, fronds to 4' long, long-tapering fronds, forms in asymmetric clumps.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Damp woods, slopes.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Needs consistently moist soil.				
<b>Ornamental Value:</b>	Silvery fronds.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Exploitably vulnerable in New York state, parts of plant poisonous if ingested.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Dryopteris carthusiana**

**Spinulose Woodfern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC+	<b>Soil:</b>	pH 5.0-6.0
<b>Form/Color</b>	Evergreen, delicate, lacy-cut, lance-shaped fronds, grow in colonies, 1-2.5', spores May-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Rich, moist to wet woods, circumneutral soil.	<b>Ecosystem Services:</b>		Secondary or minor species for increased diversity.	
<b>Hydrology:</b>	Needs consistently moist soil.				
<b>Ornamental Value:</b>	Delicate, lacy-cut, lance-shaped fronds.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Dryopteris cristata**

**Crested Woodfern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 3.5-6.5
<b>Form/Color</b>	Evergreen, blue-green narrow lance-shaped fronds, 1.5-2.5', spores July-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Wet woods, swamp forests, bogs in acid soil.	<b>Urban Tolerance:</b>		Adapted to medium and fine soils, high tolerance of soil compaction.	
<b>Hydrology:</b>	Low tolerance to drought.	<b>Ecosystem Services:</b>		Secondary or minor species for increased diversity.	
<b>Ornamental Value:</b>	Blue-green narrow lance-shaped fronds.	<b>Compatibility:</b>		Slow seed spread rate, moderate vegetative spread rate.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Dryopteris marginalis**

**Marginal Woodfern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH up to 7.5
<b>Form/Color</b>	Evergreen, fine, clustered fronds, vase-like, 1.5-2', spores June-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Woods, shaded, rocky slopes.	<b>Urban Tolerance:</b>		Somewhat tolerant of urban pollution.	
<b>Hydrology:</b>	Tolerant of drought, prefers moist soil.	<b>Ecosystem Services:</b>		Secondary species for increased diversity, provides habitat and shelter for birds and bees.	
<b>Ornamental Value:</b>	Fine, clustered fronds.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>		Exploitably vulnerable in New York state.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

## ***Onoclea sensibilis***

## **Sensitive Fern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.5-7.5
<b>Form/Color</b>	Perennial, sturdy, coarse, with broad triangular fronds, grows moderately to 1-2', spores mature in October.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.		
<b>Habitat:</b>	Open swamp forests, freshwater tidal and nontidal marshes, undisturbed ditches.	<b>Urban Tolerance:</b>	Somewhat tolerant of urban pollution, performs well in the right of way.		
<b>Hydrology:</b>	Tolerant of flooding. Intolerant of drought.				
<b>Ornamental Value:</b>	Broad triangular fronds with persistent fertile frond throughout.	<b>Ecosystem Services:</b>	Wildlife value low, but eaten by some insects.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Compatibility:</b>	Can form colonies.		
<b>Shade Tolerance:</b>	Tolerant of shade.	<b>Other:</b>	Eaten by some insects, toxic to horses, tolerant of disturbed sites with wet soil. Used for swamp forest restoration.		

## ***Osmunda cinnamomea***

## **Cinnamon Fern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.5-7.0
<b>Form/Color</b>	Perennial, large, pinnate fronds growing in circular clusters, to 2.5-3', spores mature May-June.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Swamp forests, shady stream banks, moist to wet forest soil.	<b>Urban Tolerance:</b>	Adapted to medium and fine soils, moderate tolerance of soil compaction.		
<b>Hydrology:</b>	Tolerant of flooding and drought.				
<b>Ornamental Value:</b>	Large, pinnate fronds in circular clusters. Cinnamon colored fronds.	<b>Ecosystem Services:</b>	Eaten by rabbits, but overall wildlife value low.		
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Compatibility:</b>	Moderate seed spread rate.		
<b>Shade Tolerance:</b>	Tolerant of shade. Prefers partial shade.	<b>Other:</b>	Slow grower. Used for restoration of swamp forest habitats, woodland pond edges.		



**Osmunda claytoniana**

**Interrupted Fern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 4.0-6.0
<b>Form/Color</b>	Perennial, large, coarse, pinnate fronds, 2-4', spores May-June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist to somewhat dry open woods, rocky or sandy acid soils.	<b>Urban Tolerance:</b>		Adapted to medium and fine soils, moderate tolerance of soil compaction.	
<b>Hydrology:</b>	Low tolerance to drought, prefers moist soil.	<b>Ecosystem Services:</b>		Used infrequently by wildlife.	
<b>Ornamental Value:</b>	Large pinnate fronds. Fertile pinnae interrupting the fronds.	<b>Compatibility:</b>		Slow seed spread rate, rapid vegetative spread rate.	
<b>Salt Tolerance:</b>		<b>Other:</b>		Intolerant of salt.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Osmunda regalis**

**Royal Fern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.0-7.0
<b>Form/Color</b>	Perennial, fine, bipinnate fronds, to 2-6', spores May-June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Stream banks, freshwater tidal marshes, swamp forests, vernal pond margins, shallow water to wet soil, prefers acid soil.	<b>Urban Tolerance:</b>		Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.	
<b>Hydrology:</b>	Tolerant of flooding and drought.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Fine fronds. Delicate soft green fertile fronds.	<b>Compatibility:</b>		Rapid vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Slow grower. Used for restoration of swamp forest habitats, woodland pond edges, stream banks.	
<b>Shade Tolerance:</b>	Tolerant of light shade.				

**Polypodium virginianum**

**Rock Cap Fern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH < 6.8
<b>Form/Color</b>	Evergreen, grows to 1' or less, spores June-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Tolerant of soil compaction.	
<b>Habitat:</b>	Moist to dry shade, in thin, circumneutral soils on glacial erratics in rocky woods, sometimes on banks, tree bases, old logs, limestone cliffs.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Tolerant of drought and moist, well-drained soil.				
<b>Ornamental Value:</b>	Persistent leathery fronds that will colonize on rocky areas.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Exploitably vulnerable in New York state. Secondary species for increased diversity.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Polystichum acrostichoides**

**Christmas Fern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Evergreen groundcover, fronds clustered, tall, bushy, 1-3', spores May-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Somewhat tolerant of urban pollution.	
<b>Habitat:</b>	Rich soil of wooded slopes with minimal deep leaf litter, rocky slopes.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Tolerant of drought, prefers well-drained soil.				
<b>Ornamental Value:</b>	Clustered persistent fronds that thrive on slopes.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Minor species for increased diversity.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Pteridium aquilinum**

**Bracken Fern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.5-7.0
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>		Intolerant of stormwater.	
<b>Habitat:</b>	Dry, sterile soils, open, shrubby successional habitats or open woodlands in sterile, sandy soils.	<b>Urban Tolerance:</b>		Adapted to coarse and medium soils, no tolerance of soil compaction.	
<b>Hydrology:</b>	Moderate tolerance to drought.	<b>Ecosystem Services:</b>		Eaten by insect larvae, especially moths.	
<b>Ornamental Value:</b>	Large, triangular shaped leaves.	<b>Compatibility:</b>		Can be aggressive, particularly in burned-over sites, allelopathic.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Somewhat weedy, infected by fungi, leaf spot, root/stem rot, no edible parts, toxic to animals.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Thelypteris noveboracensis**

**New York Fern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 4.9-7.0
<b>Form/Color</b>	Perennial, very fine, pinnate fronds, 1-2', spores June-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open, moist to wet woodlands.	<b>Urban Tolerance:</b>		Somewhat tolerant of urban pollution.	
<b>Hydrology:</b>	Tolerant of drought.	<b>Ecosystem Services:</b>		Wildlife value low.	
<b>Ornamental Value:</b>	Very fine, pinnate fronds.	<b>Compatibility:</b>		Aggressively colonial with rapid colonization rate.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Used for erosion control.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

***Thelypteris palustris***

**Marsh Fern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Perennial, slender fronds, moderate grower to 18", spore production June-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Freshwater tidal and nontidal marshes, wet meadows, rich muddy, subacid soil, stream banks	<b>Urban Tolerance:</b>	Somewhat tolerant of urban pollution.		
<b>Hydrology:</b>	Does not prefer standing water, but grows well by water.	<b>Ecosystem Services:</b>	Wildlife value low, good cover for smaller insects.		
<b>Ornamental Value:</b>	Lance-oblong fronds, slightly narrower at base, turns harvest gold in the fall.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>	Exploitably vulnerable in New York		
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

***Woodwardia areolata***

**Netted Chain Fern**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 5.6-6.5
<b>Form/Color</b>	Perennial, lobed fronds, slow grower to 2', spore production July-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Swamp forests, in acid soil, acid bogs, shrub swamps.	<b>Urban Tolerance:</b>	Somewhat tolerant of urban pollution.		
<b>Hydrology:</b>	Requires consistently moist soil.	<b>Ecosystem Services:</b>	Wildlife value low.		
<b>Ornamental Value:</b>	Leaves begin pink and mature to forest-green.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Transplants well. Exploitably vulnerable in New York state.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

## Graminoids:

Graminoids provide abundant food sources to bird, animal, and insect species and can provide textural interest to ornamental planting. Different species are adapted to a wide variety of light, soil, and hydrologic conditions.

**Agrostis perennans**

**Autumn Bent-Grass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.5-7.5
<b>Form/Color</b>	Perennial, grows to 3' tall, tufted with autumn basal shoots, inflorescence flowers and fruits August-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		High tolerance of soil compaction	
<b>Habitat:</b>	Disturbed woods, open areas, lawns, trail edges.	<b>Ecosystem Services:</b>		Slightly palatable for browse animals, moderately palatable for graze animals.	
<b>Hydrology:</b>	Low tolerance to drought.				
<b>Ornamental Value:</b>	Pale green to bronze-tinged inflorescence. Fine-textured form.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, moderate rate of vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Susceptible to infection by some endophytic fungi.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Ammophila breviligulata**

**Beach Grass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 5.5-7.9
<b>Form/Color</b>	Rapid grower to 3', blooms and fruits in July-September. Thick wiry-green basal foliage with upright yellow flowering stalks.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Adapted to coarse and medium textured soils, low tolerance of soil compaction.	
<b>Habitat:</b>	Beach foredunes, needs a moving substrate.	<b>Ecosystem Services:</b>		Moderately palatable by browse animals.	
<b>Hydrology:</b>	Moderately tolerant of drought.				
<b>Ornamental Value:</b>		<b>Compatibility:</b>		Not a known allelopath, rapid grower, moderate rate of vegetative spread.	
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Used extensively in dune stabilization.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Andropogon gerardii*

## Big Bluestem

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 6.5-7.5
<b>Form/Color</b>	Perennial, 3-9' tall, tufted, stems waxy blue-green and purple in bloom, densely flowered purple in July-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.
<b>Habitat:</b>	Open areas.	<b>Ecosystem Services:</b>	Host to some butterflies.		
<b>Hydrology:</b>	Tolerant of drought.				
<b>Ornamental Value:</b>	Blue-green stem, with a turkey foot shaped inflorescence. Purple-white flowers.	<b>Compatibility:</b>	Not a known allelopath, slow rate of vegetative spread. May become weedy.		
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Andropogon virginicus*

## Broom-Sedge

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.9-7.0
<b>Form/Color</b>	Perennial, 20-60" tall, in clumps, pale, waxy green in bloom, pale yellow-tan in winter, awned, blooms and fruits in August-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to medium and fine soils, no tolerance of soil compaction.
<b>Habitat:</b>	Sandy, gravelly soil, open areas, uplands to seasonally dry wetland edges.	<b>Ecosystem Services:</b>	Wildlife value moderate, host to some butterflies.		
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.				
<b>Ornamental Value:</b>	Green and straw yellow stalk with white fluffy seeds along the stalk.	<b>Compatibility:</b>	Allelopathic to competitors.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Early pioneer on poor soil, often infected by endophytic fungi.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Aristida dichotoma**

**Churchmouse Three-Awn**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Annual, 8-16" tall, tufted, pale green to reddish, spikelets, blooms and fruits in August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry, sterile soil, fill.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moderately drought tolerant.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Gray-green to reddish stalks turning a straw-like color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Aristida oligantha**

**Prairie Three-Awn**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Annual, 8-16" tall, pale green, spikelets, blooms and fruits in August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry, open areas, sandy soil.	<b>Urban Tolerance:</b>		Tolerant of gravel, sand, and clay.	
<b>Hydrology:</b>	Tolerant of drought, intolerant of flooding.	<b>Ecosystem Services:</b>		Seeds eaten by some rodents and songbirds, attracts butterflies.	
<b>Ornamental Value:</b>	Pale green stalks, turning a straw-like color.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				



**Aristida purpurascens**

**Arrowfeather**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic to alkaline soils.
<b>Form/Color</b>	Perennial, 1-3' tall, tufted, spikelets, purplish, blooms and fruits in August-October.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
		<b>Urban Tolerance:</b>			Should tolerate concrete debris.
<b>Habitat:</b>	Dry, sparsely vegetated soils, prairies, glades.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Moderately drought tolerant.				
<b>Ornamental Value:</b>	Purplish plants.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			May be mechanically injurious to livestock.
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Aristida tuberculosa**

**Three-Awn**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Annual, 32" tall, spikelets, inflorescence open, blooms and fruits in August-October.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
		<b>Urban Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Dry, sterile, soil in open areas, sandy fill, dunes.	<b>Ecosystem Services:</b>			Seeds eaten by few birds and small mammals, plants eaten by rabbits.
<b>Hydrology:</b>	Moderately drought tolerant.				
<b>Ornamental Value:</b>	Distinctive open inflorescence with long twisted awns.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Bolboschoenus robustus**

**Saltmarsh Bulrush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 6.4-8.4
<b>Form/Color</b>	Rhizomatous; blooms and produces fruit July-October; alternating green leaves; dry, papery flowers covered by brown, finely hairy scale on 1" long cylindrical spikes.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	High salt marsh; near brackish water; fine and medium textured soil.	<b>Urban Tolerance:</b>		Tolerant of concrete debris.	
<b>Hydrology:</b>	Low drought tolerance; high moisture usage.	<b>Ecosystem Services:</b>		Roots eaten by muskrats; seeds eaten by songbirds and waterfowl.	
<b>Ornamental Value:</b>	Large cluster of long spikelets sessile to a green blade.	<b>Compatibility:</b>		Can form colonies.	
<b>Salt Tolerance:</b>	Very tolerant of salt.	<b>Other:</b>		Long lifespan. One of the few native sedges to tolerate brackish conditions.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Carex albicans var. emmonsii**

**Emmon's Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	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.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry, open woods.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moderately drought tolerant.	<b>Ecosystem Services:</b>			
<b>Ornamental Value:</b>	Open inflorescence with long twisted awns, attractive tufted form.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of moderate shade.				

**Carex annectens**

**Yellowfruit Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Grows 1-3' in dense tussocks, flowers greenish-yellow in May-June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open, dry to moist soils.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Tolerant of flooding, intolerant of drought.				
<b>Ornamental Value:</b>	Greenish-yellow blooms with the inflorescence held above the stems. Grass-like leaves in dense clumps.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Carex appalachica**

**Appalachian Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	To 32", slender, tufted, blooms and fruits in June-July.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Easy to grow, tolerant of several soil types.	
<b>Habitat:</b>	Moist, open forest understories.	<b>Ecosystem Services:</b>		Host to some butterflies.	
<b>Hydrology:</b>	Tolerant of drought and moist soil.				
<b>Ornamental Value:</b>	Fine textured clumps with graceful arching fruiting stems.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Carex atlantica**

**Prickly Bog Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 4.5-6.0
<b>Form/Color</b>	To 32", tufted, blooms and fruits in June-August.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Open swamps.	<b>Urban Tolerance:</b>	Adapted to medium and fines soils, high tolerance of soil compaction.		
<b>Hydrology:</b>	Intolerant of drought.	<b>Ecosystem Services:</b>	Host to some butterflies.		
<b>Ornamental Value:</b>	Fine green flowering stems and foliage, grows in tussocks.	<b>Compatibility:</b>	Not a known allelopath, moderate grower, moderate rate of vegetative spread.		
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

**Carex blanda**

**Woodland Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 4.4-7.0
<b>Form/Color</b>	Semievergreen, 8"-2' tall, tufted, waxy green, flowers whitish, blooms and fruits in May-June.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Moist to dry, often disturbed, woods, shady lawn edges.	<b>Urban Tolerance:</b>	Adapted to medium and fine soils, high tolerance of soil compaction.		
<b>Hydrology:</b>	Low tolerance to drought.	<b>Ecosystem Services:</b>	Wildlife value low.		
<b>Ornamental Value:</b>	Whitish flowers, waxy-green foliage and seed heads.	<b>Compatibility:</b>	Not a known allelopath, slow grower, no vegetative spread.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Carex communis**

**Fibrousroot Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, 8-20" tall, forms tussocks, purplish at base.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Mixed deciduous woods, upland oak forests.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moderately drought tolerant.	<b>Ecosystem Services:</b>		Attractive to ants.	
<b>Ornamental Value:</b>	Ground cover, attractive tussocks.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		Good substitution for <i>Carex pensylvanica</i> .	
<b>Shade Tolerance:</b>	Tolerant of open shade.				

**Carex comosa**

**Bearded Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.6-7.5
<b>Form/Color</b>	Slow grower to 3', tufted, blooms and fruits in June-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Marshes, wet meadows, pond edges.	<b>Urban Tolerance:</b>		Adapted to medium and fine soils, high tolerance of soil compaction.	
<b>Hydrology:</b>	Tolerant of flooding.	<b>Ecosystem Services:</b>		Wildlife value high, host to some butterflies.	
<b>Ornamental Value:</b>	Long drooping thick yellow seed heads.	<b>Compatibility:</b>		Not a known allelopath, slow grower, moderate rate of vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Carex crinita**

**Fringed Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.0-7.5
<b>Form/Color</b>	To 4', tufted, blooms and fruits in May-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open swamp forests, marshes.	<b>Urban Tolerance:</b>		Adapted to medium and fine soils, high tolerance of soil compaction.	
<b>Hydrology:</b>	Low tolerance to drought.	<b>Ecosystem Services:</b>		Moderately palatable by some animals.	
<b>Ornamental Value:</b>	Staggered drooping seed heads turning from yellow to brown, grows in bunches.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Carex debilis**

**White-Edge Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 4.6-6.6
<b>Form/Color</b>	Perennial, to 3', tufted, looks similar to grass, blooms and fruits in May-June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Swamp forest edges, moist woods.	<b>Urban Tolerance:</b>		Adapted to coarse and medium soils, high tolerance of soil compaction.	
<b>Hydrology:</b>	Intolerant of drought.	<b>Ecosystem Services:</b>		Host to some butterflies.	
<b>Ornamental Value:</b>	Fine textured drooping seed heads, grows in bunches.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Carex folliculata**

**Northern Long Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Perennial, clumped, 1-3' tall, tufted, blooms and fruits in June-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Wet woods, wet meadow, moist upland sites.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Low tolerance to drought.				
<b>Ornamental Value:</b>	Attractive tufts	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Carex intumescens**

**Bladder Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 4.8-6.9
<b>Form/Color</b>	To 32", tufted, blooms and fruits in May-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Adapted to medium and fine soils, high tolerance of soil compaction.	
<b>Habitat:</b>	Open swamp forests, wet meadows, floodplain forests.	<b>Ecosystem Services:</b>		Host to some butterflies.	
<b>Hydrology:</b>	Intolerant of drought.				
<b>Ornamental Value:</b>	Large star-like seeds heads sessile to the flowering stem, grows in bunches.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Carex lupulina**

**Hop Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 6.2-7.0
<b>Form/Color</b>	Perennial, to 8-51", solitary stems or small clumps, blooms and fruits in June-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Wet meadows, pond edges.	<b>Urban Tolerance:</b>		Adapted to medium and fine soils, moderate tolerance of soil compaction.	
<b>Hydrology:</b>	Low tolerance to drought.	<b>Ecosystem Services:</b>		Seeds eaten by birds and small mammals, plant eaten by some mammals.	
<b>Ornamental Value:</b>	Large clustered seed head in an oval-like form are distinctive.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Carex lurida**

**Shallow Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.9-6.8
<b>Form/Color</b>	To 3', tufted, blooms and fruits in June-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Wet, open soil of marshes, wet meadows.	<b>Urban Tolerance:</b>		Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.	
<b>Hydrology:</b>	Low tolerance to drought.	<b>Ecosystem Services:</b>		Host to some butterflies.	
<b>Ornamental Value:</b>	Green flowers and foliage, yellow fruit clustered in a long oval-like form.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				



**Carex pensylvanica**

**Pennsylvania Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 5.0
<b>Form/Color</b>	Semievergreen, 20" tall, tufts leafy and reddish, forms patchy ground cover, blooms in March-May.	<b>Stormwater Tolerance:</b>		Tolerant of stormwater.	
<b>Habitat:</b>	Upland oak, mixed deciduous woods, dry, sandy soil.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moderately drought tolerant.	<b>Ecosystem Services:</b>		Seeds eaten by birds and small mammals, plant eaten by some mammals.	
<b>Ornamental Value:</b>	Attractive small tufts.	<b>Compatibility:</b>		Colonial from rhizomes or stolons.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of open shade.				

**Carex platyphylla**

**Broadleaf Sedge**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Grows to 16"; stems tufted; waxy pale green basal wide leaves; blooms and fruits May-June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Rich, mixed deciduous woods.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Moist to average; well drained.	<b>Ecosystem Services:</b>		Host plant for butterflies	
<b>Ornamental Value:</b>	Very wide tufted leaves are distinctive.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Minor species for increased diversity and aesthetics in restoration of woodland understories.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Carex radiata**

**Eastern Star Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Circumneutral soils.
<b>Form/Color</b>	Perennial, densely tufted, to 32" tall, very slender, blooms and fruits in June-July.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist woods, open forest understories.	<b>Ecosystem Services:</b>		Host to some butterflies.	
<b>Hydrology:</b>	Low tolerance of drought.				
<b>Ornamental Value:</b>	Tufted, slender leaves.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Carex rosea**

**Rosy Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Circumneutral soils.
<b>Form/Color</b>	Perennial, densely tufted, 32" tall, inflorescence of small clusters, blooms and fruits in June-July.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist woods, usually near wetland edges.	<b>Ecosystem Services:</b>		Host to some butterflies.	
<b>Hydrology:</b>	Low tolerance of drought.				
<b>Ornamental Value:</b>	Tufted slender leaves.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Carex scoparia**

**Pointed Broom Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.6-6.9
<b>Form/Color</b>	To 3', tufted, blooms and fruits in May-August. Green foliage with nodding or arching inflorescence on flowering stems.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist to temporary shallow water of marshes, open swamp forests, wet meadows.	<b>Urban Tolerance:</b>		Adapted to medium and fine soils, high tolerance of soil compaction.	
<b>Hydrology:</b>	Intolerant to drought.	<b>Ecosystem Services:</b>		Wildlife value low, mildly palatable to larger animals.	
<b>Ornamental Value:</b>	Attractive foliage and flowering stems.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Carex stipata**

**Awl-Fruited Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.9-7.9
<b>Form/Color</b>	Slow grower to 3', tufted, blooms and fruits in May-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Wet meadows, swamps.	<b>Urban Tolerance:</b>		Should tolerate concrete debris.	
<b>Hydrology:</b>	Tolerant of drought and brief flooding.	<b>Ecosystem Services:</b>		Moderately palatable to browse animals.	
<b>Ornamental Value:</b>	Upright flowering fleshy stems with spike-like inflorescence at the apex, grows in clumps.	<b>Compatibility:</b>		Not a known allelopath, slow grower, slow rate of vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Carex stricta**

**Tussock Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 3.5-7.0
<b>Form/Color</b>	Moderate grower to 3', densely tufted, forms permanent, low tussocks, blooms and fruits in May-August.	<b>Stormwater Tolerance:</b>		Potentially tolerant of stormwater.	
<b>Habitat:</b>	Shallow, calm, undisturbed swamps, freshwater tidal areas, margins of woodland ponds.	<b>Urban Tolerance:</b>		Adaptable, moderate tolerance of soil compaction, performs well in the right of way.	
<b>Hydrology:</b>	Low tolerance to drought.	<b>Ecosystem Services:</b>		Wildlife value high, host to some butterflies.	
<b>Ornamental Value:</b>	Large tussock forming sedge with clustered brown seed heads at the ends of the flowering stems.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Carex swanii**

**Swan's Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Perennial, tufted, to 3' tall, reddish at base, densely flowered, pale grayish-green.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Upland forest understory, disturbed woods.	<b>Urban Tolerance:</b>		Tolerates disturbed habitats.	
<b>Hydrology:</b>	Moderately drought tolerant.	<b>Ecosystem Services:</b>		Host to some butterflies.	
<b>Ornamental Value:</b>	Tufted form.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Carex virescens**

**Ribbed Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	To 40", tufted, pale green plant, blooms and fruits in May-July.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
		<b>Urban Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Dry woods, thickets.	<b>Ecosystem Services:</b>			Host to some butterflies.
<b>Hydrology:</b>	Moderately drought tolerant.				
<b>Ornamental Value:</b>		<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Carex vulpinoidea**

**Fox Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 6.8-8.9
<b>Form/Color</b>	Slow grower to 3', tufted, blooms and fruits June-August.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
		<b>Urban Tolerance:</b>			Should tolerate concrete debris.
<b>Habitat:</b>	Moist to wet meadows, marshes.	<b>Ecosystem Services:</b>			Wildlife value high, host to some butterflies.
<b>Hydrology:</b>	Tolerant of flooding.				
<b>Ornamental Value:</b>	Green flowers and foliage, yellow to brown seed heads on flowering stems shorter than the leaves.	<b>Compatibility:</b>			Not a known allelopath, moderate grower, no vegetative spread.
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## *Cenchrus longispinus*

## Common Sandbur

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Annual, to 32", tufted, blooms and fruits in July-October, spiny inflorescence.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Open, sandy soil, fill, usually coastal.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Moderately drought tolerant.				
<b>Ornamental Value:</b>	Tufted form.	<b>Compatibility:</b>	Can become weedy.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Common in dry waste sites. Spiny burs are extremely sharp and barbed and can be a nuisance.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Chasmanthium laxum*

## Northern Sea Oats

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.0-7.0
<b>Form/Color</b>	Perennial, moderate grower up to 4', forms in clumps, upright form with nodding seed heads.	<b>Stormwater Tolerance:</b>	Potentially tolerant of stormwater.	<b>Urban Tolerance:</b>	Moderate tolerance of soil compaction, tolerant of poor soil, performs well in the right of way.
<b>Habitat:</b>	Moist to well-drained sites, moderate or greater shade.	<b>Ecosystem Services:</b>	Seed eaten by birds and rodents, host to some butterfly species.		
<b>Hydrology:</b>	Moderate tolerance to drought.				
<b>Ornamental Value:</b>	Panicles of flat and broad seed heads turning from green to gold dangle from very slender stems adding fall and winter interest.	<b>Compatibility:</b>	May become weedy.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	Requires low levels of fertility; tolerates wind.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Cinna arundinacea**

**Stout Woodreed**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 4.0-8.5
<b>Form/Color</b>	Tall woodland grass with nodding inflorescence. To 5', stems few together, blooms and fruits in August-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Moist woods, swamp forests.	<b>Urban Tolerance:</b>		Should tolerate concrete debris, tolerant of disturbed conditions.	
<b>Hydrology:</b>	Low tolerance to drought.	<b>Ecosystem Services:</b>		Highly palatable to deer and grazing animals.	
<b>Ornamental Value:</b>	Turns a nice straw color and has a feathery texture.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		One of very few tall woodland grasses to bloom in the summer.	
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Cyperus diandrus**

**Umbrella Flatsedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	Annual, to 8", blooms and fruits in June-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Wet to moist soil, shores.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Low tolerance to drought.	<b>Ecosystem Services:</b>		Wildlife value high, host to some butterflies.	
<b>Ornamental Value:</b>	Scales of this sedge become pigmented with a beautiful red-purple color as they mature.	<b>Compatibility:</b>		May become weedy.	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Cyperus grayi**

**Gray's Flatsedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	To 16", blooms and fruits in July-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry, sandy soil or fill, open areas, beaches.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Moderately drought tolerant.				
<b>Ornamental Value:</b>		<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>		Grows in dry sterile soil where many other plants can't.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Danthonia compressa**

**Flattened Oatgrass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.8-7.0
<b>Form/Color</b>	To 8", flowering stems to 32", leaves short, fine, densely tufted, blooms and fruits in June-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Adapted to coarse, medium, and fine soils, no tolerance of soil compaction.	
<b>Habitat:</b>	Moist to dry open woods.	<b>Ecosystem Services:</b>		Wildlife value low.	
<b>Hydrology:</b>	Moderately drought tolerant.				
<b>Ornamental Value:</b>	Low growing grass with long flowering stem.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Often infected by an endophytic fungus.	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				



## *Danthonia spicata*

## Poverty Oatgrass

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	Perennial, tufted, inflorescence to 2', leaves to 5", blooms and fruits in May-September. Low growing grass with long flowering stem.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Fairly tolerant of disturbance.
<b>Habitat:</b>	Dry, sterile soil of open woods and edges, tolerant of a wide range of habitats.	<b>Ecosystem Services:</b>	Insects feed on foliage.		
<b>Hydrology:</b>	Moderately drought tolerant.				
<b>Ornamental Value:</b>	Inflorescence is spike-like and turns a straw-like color.	<b>Compatibility:</b>	Does not tolerate taller ground cover competition.		
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>	Seeds can remain dormant for a number of decades.		
<b>Shade Tolerance:</b>	Tolerant of light shade.				

## *Deschampsia caespitosa*

## Tufted Hairgrass

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 3.5-7.5
<b>Form/Color</b>	To 3.5', densely tufted, blooms and fruits in June-August, wiry, short, flowers purplish.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to coarse, medium, and fine soils, high tolerance of soil compaction.
<b>Habitat:</b>	Wet soil, shores, cool banks.	<b>Ecosystem Services:</b>	Host to some butterflies.		
<b>Hydrology:</b>	Low tolerance to drought.				
<b>Ornamental Value:</b>	Tall erect stems with leaves in a basal tuft. Panicle inflorescence is loosely branched and somewhat nodding.	<b>Compatibility:</b>	Not a known allelopath, moderate grower, no vegetative spread.		
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Deschampsia flexuosa**

**Common Hairgrass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.8-6.8
<b>Form/Color</b>	Perennial, slow grower to 3', tufted, wiry, blooms and fruits in June-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Adapted to coarse and medium soils, no tolerance of soil compaction.	
<b>Habitat:</b>	Dry, open woods, fields.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Moderate tolerance to drought.				
<b>Ornamental Value:</b>	Thin wiry basal leaves with long arching flowering stems. Graceful inflorescence turning a nice straw color.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Dichanthelium clandestinum**

**Deertongue**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC+	<b>Soil:</b>	pH 4.0-7.5
<b>Form/Color</b>	Slow grower to 2', grows in bunches, green foliage up to 1" wide, brown seeds, active in spring and summer.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Adapted to coarse, medium, and fine soils, low tolerance of soil compaction.	
<b>Habitat:</b>	Moist, often sandy ground, floodplains and thickets on stream banks; borders, and clearings; marshy ground, ditches.	<b>Ecosystem Services:</b>		Highly palatable to browse animals.	
<b>Hydrology:</b>	High tolerance to drought.				
<b>Ornamental Value:</b>	Green to yellow with small hairs along stem and inflorescence. Terminal flowering panicle in early summer.	<b>Compatibility:</b>		Not a known allelopath, slow grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Dichanthelium latifolium*

## Broadleaf Rosette Grass

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 4.0-6.5
<b>Form/Color</b>	Rapid grower to 3', grows in bunches, active in Summer, blooms in Spring.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to coarse and medium soils, no tolerance of soil compaction.
<b>Habitat:</b>	Forests and thickets.	<b>Ecosystem Services:</b>	Moderately palatable to browse animals.		
<b>Hydrology:</b>	Moderate tolerance to drought.				
<b>Ornamental Value:</b>	Broad-leaved grass growing in rosettes. Terminal flowering panicle with delicate flowers and seeds.	<b>Compatibility:</b>	Not a known allelopath, rapid grower, can spread by rhizomes.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## *Distichlis spicata*

## Salt-Grass

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 4.0-10.5
<b>Form/Color</b>	Moderate grower to 16", plant usually reclining, gray-green, tan in autumn, blooms and fruits in August-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Adapted to medium and fine soils, high tolerance of soil compaction.
<b>Habitat:</b>	High salt marsh.	<b>Ecosystem Services:</b>	Wildlife value low.		
<b>Hydrology:</b>	Tolerant of saltwater to 50 ppt, tolerant of spring tide flooding.				
<b>Ornamental Value:</b>	Low- growing, high marsh grass. A companion plant to <i>Spartina patens</i> . Thick flowering heads turning a straw like color.	<b>Compatibility:</b>	Often codominant with <i>Spartina patens</i> . Can form colonies.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>	One of very few grasses to tolerate salt marshes.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Dulichium arundinaceum**

**Three-Way Sedge**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.7-7.5
<b>Form/Color</b>	To 3', blooms and fruits in July-October, leaves in three ranks.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open freshwater marshes, tidal areas, pond edges.	<b>Urban Tolerance:</b>		Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.	
<b>Hydrology:</b>	Permanently saturated soil or flooding to 1 ft. Not drought tolerant.	<b>Ecosystem Services:</b>		Wildlife value moderate, host to some butterflies.	
<b>Ornamental Value:</b>	Architectural upright form, colonial habit. Green to yellow foliage with radiating leaves all along the stem.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, slow rate of vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Elymus canadensis**

**Canada Wild Rye**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU+	<b>Soil:</b>	pH 5.0-7.9
<b>Form/Color</b>	Perennial, tufted, 5' tall, waxy pale-gray-green, spikelets in pairs at each node, blooms and fruits in July-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry to moist rocky, sandy soil.	<b>Urban Tolerance:</b>		Adapted to coarse, medium, and fine soils, low tolerance of soil compaction.	
<b>Hydrology:</b>	Moderate tolerance to drought.	<b>Ecosystem Services:</b>		Moderately palatable to browse animals.	
<b>Ornamental Value:</b>	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.	<b>Compatibility:</b>		Not a known allelopath, rapid grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Elymus hystrix**

**Bottlebrush Grass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	To 5', little branched with blades up to 12" long. Blooms and fruits in June-August.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
		<b>Urban Tolerance:</b>			Tolerant of air pollution.
<b>Habitat:</b>	Upland open woods, gaps.	<b>Ecosystem Services:</b>			Attractive to birds.
<b>Hydrology:</b>	Tolerant of drought.				
<b>Ornamental Value:</b>	Showy inflorescence that resemble bottle brushes.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			Often infected by endophytic fungi.
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Elymus riparius**

**Streambank Wild Rye**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.5-7.2
<b>Form/Color</b>	To 3', tufted, blooms and fruits in July-September.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
		<b>Urban Tolerance:</b>			Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.
<b>Habitat:</b>	Moist woods, stream banks.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Low tolerance to drought.				
<b>Ornamental Value:</b>	Drooping inflorescence made up of bristly spikelets with shorter awns than E. canadensis.	<b>Compatibility:</b>			Not a known allelopath, moderate growth rate, no vegetative spread.
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Elymus virginicus**

**Virginia Wild Rye**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.0-7.4
<b>Form/Color</b>	To 4', culms unbranched and leaves up to 12" long. Blooms and fruits in June-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open, moist woods.	<b>Urban Tolerance:</b>		Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.	
<b>Hydrology:</b>	Moderate tolerance to drought.	<b>Ecosystem Services:</b>		Highly palatable to browse animals.	
<b>Ornamental Value:</b>	Upright growing habit and inflorescence made up of thick bristly spikelets.	<b>Compatibility:</b>		Not a known allelopath, moderate growth rate, no vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Eragrostis spectabilis**

**Purple Lovegrass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.0-7.5
<b>Form/Color</b>	To 2', stems usually in low tufts, blooms and fruits in August-September, inflorescence purple.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Tolerates dry, sandy soil or fill.	<b>Urban Tolerance:</b>		Adapted to coarse and medium soils, no tolerance of soil compaction.	
<b>Hydrology:</b>	High tolerance to drought.	<b>Ecosystem Services:</b>		Moderately palatable to browse animals.	
<b>Ornamental Value:</b>	Low growing, showy purple inflorescence in fall. Green thin leaves can have a reddish tinge.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, moderate rate of vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Glyceria canadensis**

**Rattlesnake Mannagrass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.0-8.5
<b>Form/Color</b>	Moderate grower to 3', stems solitary or few together, blooms and fruits in June-August.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Marshes, open, wet woods.	<b>Urban Tolerance:</b>		Adapted to coarse, medium, and fine soils, moderate tolerance of soil compaction.	
<b>Hydrology:</b>	Tolerant of flooding to 50% of growing season.	<b>Ecosystem Services:</b>		Wildlife value moderate, eaten by muskrat and deer.	
<b>Ornamental Value:</b>	Graceful drooping inflorescence with spikelets laterally compressed in an oval shape.	<b>Compatibility:</b>		Intolerant of competition. Can form colonies.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Glyceria obtusa**

**Coastal Mannagrass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.0-7.0
<b>Form/Color</b>	To 3', blooms and fruits in July-September, inflorescence dense.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Swamps, wet woods.	<b>Urban Tolerance:</b>		Adapted to medium and fine soils, high tolerance of soil compaction.	
<b>Hydrology:</b>	Low tolerance to drought.	<b>Ecosystem Services:</b>		Moderately palatable to browse animals.	
<b>Ornamental Value:</b>	Distinctive upright form with dense ovoid inflorescence.	<b>Compatibility:</b>		Not a known allelopath, rapid grower, moderate rate of vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Glyceria striata**

**Fowl Mannagrass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.0-8.0
<b>Form/Color</b>	Slow to moderate grower to 4', tufted, blooms and fruits in June-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Swamp forests, shrub swamps.	<b>Urban Tolerance:</b>		Adapted to medium and fine soils, high tolerance of soil compaction.	
<b>Hydrology:</b>	Tolerant of flooding.	<b>Ecosystem Services:</b>		Wildlife value moderate.	
<b>Ornamental Value:</b>	Early flowering grass with a wide open, delicate drooping inflorescence.	<b>Compatibility:</b>		Not a known allelopath, moderate grower, slow rate of vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Juncus canadensis**

**Canadian Rush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.5-5.9
<b>Form/Color</b>	To 3', tufted, leaves erect, terete and septate, blooms and fruits in July-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Swamps, marshes, wet shores.	<b>Urban Tolerance:</b>		Adapted to coarse, medium, and fine soils, high tolerance of soil compaction.	
<b>Hydrology:</b>	Intolerant of drought.	<b>Ecosystem Services:</b>		Host to some butterflies.	
<b>Ornamental Value:</b>	Spreading inflorescence with stout, rigid stems. Numerous small flowers with a reddish to chesnut brown tinge.	<b>Compatibility:</b>		Not a known allelopath, rapid grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Although called Canada rush, species barely enters southeastern Canada, being more widespread in the eastern United States.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				



**Juncus effusus**

**Soft Rush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 5.5-7.0
<b>Form/Color</b>	Semievergreen, slow grower to 3', tufted, spreading, blooms and fruits in July-September.	<b>Stormwater Tolerance:</b>	Tolerant of stormwater.		
<b>Habitat:</b>	Wet meadows, freshwater tidal and nontidal marshes, ditches, pond edges.	<b>Urban Tolerance:</b>	Adapted to variety of soils, moderate tolerance of soil compaction, performs well in the right of way.		
<b>Hydrology:</b>	Tolerant of flooding.	<b>Ecosystem Services:</b>	Wildlife value high, host to some butterflies.		
<b>Ornamental Value:</b>	Upright clump-forming rush with bright green hollow leaves. Compact inflorescence mid-way up the stem.	<b>Compatibility:</b>	Not a known allelopath, moderate grower, no vegetative spread.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Tough, reliable plant, resistant to goose depredations once established.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Juncus gerardii**

**Black Grass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	To 16", tufted, blooms and fruits in June-September, inflorescence is dark.	<b>Stormwater Tolerance:</b>	Potentially tolerant of stormwater.		
<b>Habitat:</b>	High salt marsh.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Hydrology:</b>	Tolerates some flooding.	<b>Ecosystem Services:</b>	Provides nesting habitat, attracts waterfowl.		
<b>Ornamental Value:</b>	Tufted form.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Juncus greenei**

**Greene's Rush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	Not Available.
<b>Form/Color</b>	To 32", erect, stem dark green and terete; tufted; brownish compact inflorescence blooms and fruits in June-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Open pine barrens, lake shores, dunes, often associated with disturbance.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Moderate drought tolerance, prefers dry well drained soils.				
<b>Ornamental Value:</b>	Erect, densely tufted form.	<b>Compatibility:</b>		Can spread by rhizomes.	
<b>Salt Tolerance:</b>	Moderate salt tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Not shade tolerant.				

**Juncus tenuis**

**Path Rush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC-	<b>Soil:</b>	pH 4.5-7.0
<b>Form/Color</b>	Slow grower to 28", tufted, blooms and fruit in July-September.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Tolerant of trampling, compacted soil, and fill.	
<b>Habitat:</b>	Disturbed sites, dry to moist woods.	<b>Ecosystem Services:</b>		Wildlife value moderate.	
<b>Hydrology:</b>	Tolerant of drought, moderately tolerant of flooding.				
<b>Ornamental Value:</b>	Low-growing, colonial rush with green foliage and an inflorescence turning brown.	<b>Compatibility:</b>		Not a known allelopath, slow grower, no vegetative spread.	
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## Leersia oryzoides

## Rice Cut-Grass

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.1-8.8
<b>Form/Color</b>	Moderate grower to 5', sprawling, rough leaves, saw toothed, blooms and fruits in June-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of concrete debris.
<b>Habitat:</b>	Freshwater nontidal marshes, wet ditches, open swamp forests.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Tolerant of flooding, drought.				
<b>Ornamental Value:</b>	Forming dense colonies, this upright grass is yellow-green in color. The panicle is open and drooping with seed heads covered in minute bristles.	<b>Compatibility:</b>	Aggressively colonial, may crowd out less aggressive plants.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## Leersia virginica

## White Grass

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 4.5-8.5
<b>Form/Color</b>	To 5', sprawling, blooms and fruit in July-October.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of concrete debris.
<b>Habitat:</b>	Wet woods, along trails, disturbed sites.	<b>Ecosystem Services:</b>	Host to some butterflies.		
<b>Hydrology:</b>	Intolerant of drought.				
<b>Ornamental Value:</b>	Grass with soft-textured foliage and a slender inflorescence with few spikelets.	<b>Compatibility:</b>	Not a known allelopath, moderate grower, moderate rate of vegetative spread.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Can be differentiated from the similar looking invasive Japanese stiltgrass by short retrorse hairs at each node along the culm.		
<b>Shade Tolerance:</b>	Tolerant of shade.				

**Luzula multiflora**

**Common Wood-Rush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.8-5.4
<b>Form/Color</b>	To 16', tufted, leaves often purplish, blooms and fruits in April-June.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Dry to moist mixed deciduous or oak woods.	<b>Ecosystem Services:</b>			
<b>Hydrology:</b>	Dry soils.				
<b>Ornamental Value:</b>	Tufted form.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Tolerant of bright shade.				

**Muhlenbergia capillaris**

**Pink Muhly Grass**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 5.8-6.8
<b>Form/Color</b>	Grows to 24"-36" high and wide; pink flowers in fall; copper foliage color in fall; brown, oval inconspicuous fruit; moderate grower.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Tolerant of urban conditions.	
<b>Habitat:</b>	Well drained soils.	<b>Ecosystem Services:</b>		Seeds and fruit eaten by birds.	
<b>Hydrology:</b>	Very drought tolerant; tolerant of flooding; well drained.				
<b>Ornamental Value:</b>	Attractive noticeable clouds of pink flowers.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		Very adaptable grass; used in wetlands and beachfronts; low maintenance.	
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## **Panicum virgatum**

## **Switchgrass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FAC	<b>Soil:</b>	pH 4.5-7.5
<b>Form/Color</b>	Tall upright clump forming grass. Slow grower to 6', tufted, blooms and fruits in July-September.	<b>Stormwater Tolerance:</b>		<b>Stormwater Tolerance:</b>	Tolerant of stormwater.
<b>Habitat:</b>	Back dunes, dry to wet meadows, successional shrub lands, grasslands, upper edges of salt marsh.	<b>Urban Tolerance:</b>		<b>Urban Tolerance:</b>	Tolerant of sterile, acid, sandy soil, low nutrient fill, performs well in the right of way.
<b>Hydrology:</b>	Tolerant of flooding, drought.	<b>Ecosystem Services:</b>		<b>Ecosystem Services:</b>	Wildlife value high.
<b>Ornamental Value:</b>	Attractive clumps. Large open panicles turning from green to a straw-like color.	<b>Compatibility:</b>		<b>Compatibility:</b>	Does not compete well with mugwort or other aggressive weeds in high-nutrient soils.
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		<b>Other:</b>	
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

## **Rhynchospora alba**

## **White Beak Rush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	To 28", tufted, blooms and fruits in July-September.	<b>Stormwater Tolerance:</b>		<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Sphagnum bogs, sandy or acid peaty soil.	<b>Urban Tolerance:</b>		<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Hydrology:</b>	Intolerant of drought, tolerant of flooding.	<b>Ecosystem Services:</b>		<b>Ecosystem Services:</b>	Host to some butterflies.
<b>Ornamental Value:</b>		<b>Compatibility:</b>		<b>Compatibility:</b>	
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>		<b>Other:</b>	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Rhynchospora capitellata**

**Brownish Beak Rush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	Acidic soils.
<b>Form/Color</b>	To 32", tufted, leaves flat and narrow; several flowers along stem bloom and fruit in July-October.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Wet open ground, bogs, wet sand, needs acid soil.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Intolerant of drought, tolerant of flooding.	<b>Ecosystem Services:</b>		Host to some butterflies.	
<b>Ornamental Value:</b>		<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Insufficient information to determine tolerance.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Saccharum giganteum**

**Sugarcane plumegrass**

<b>Native To:</b>	Regional	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 3.5-7.0
<b>Form/Color</b>	Grows to 10' tall; reedlike stems; green flower blooms in summer; fast grower.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Habitat:</b>	Coarse and medium textured soils; open, moist sandy areas; bogs; swales.	<b>Urban Tolerance:</b>		Insufficient information to determine tolerance.	
<b>Hydrology:</b>	Intolerant of drought; medium moisture usage.	<b>Ecosystem Services:</b>		Minor provider of food for terrestrial birds.	
<b>Ornamental Value:</b>	Giant grass growing 6-10 ft with large fluffy terminal panicles of reddish-peach seed heads.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Schizachyrium littorale**

**Coastal Little Bluestem**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	NI	<b>Soil:</b>	Circumneutral soils.
<b>Form/Color</b>	To 1-2', bunch grass, warm season grass grows in late spring throughout summer.	<b>Stormwater Tolerance:</b>			Insufficient information to determine tolerance.
		<b>Urban Tolerance:</b>			Insufficient information to determine tolerance.
<b>Habitat:</b>	Frontal back dunes, secondary dunes.	<b>Ecosystem Services:</b>			Provides cover for ground birds and small mammals.
<b>Hydrology:</b>	Tolerant of drought, minimally tolerant of flooding.				
<b>Ornamental Value:</b>	Blue-green leaves atop a spreading clump form. Turning a rust color with white fluffy seeds in the fall.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Schizachyrium scoparium**

**Little Bluestem**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU-	<b>Soil:</b>	pH 5.0-8.4
<b>Form/Color</b>	To 4', densely tufted, flowers bluish purple, becomes dark orange-gold over winter, blooms and fruits in September-October.	<b>Stormwater Tolerance:</b>			Tolerant of stormwater.
		<b>Urban Tolerance:</b>			Adapted to coarse, medium, and fine soils, no tolerance of soil compaction.
<b>Habitat:</b>	Old fields, open areas, back dunes, dry, acid soils.	<b>Ecosystem Services:</b>			Highly palatable to graze animals, moderately palatable to browse animals.
<b>Hydrology:</b>	High tolerance to drought.				
<b>Ornamental Value:</b>	Bluish purple foliage with an upright columnar form, turning a straw-like gold in winter with white fluffy seeds.	<b>Compatibility:</b>			Not a known allelopath, moderate grower, no vegetative spread.
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			Used for restoring grasslands and dry, open habitats, sandy soil.
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Schoenoplectus pungens**

**Common Threesquare**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 3.7-7.5
<b>Form/Color</b>	Erect triangular stem; spikelet of sharp brown scales; blooms brown June-September; produces brown achene fruit.	<b>Stormwater Tolerance:</b>	Potentially tolerant of stormwater.	<b>Urban Tolerance:</b>	Used in bioretention cells, raingardens, vegetated swales.
<b>Habitat:</b>	Wet sandy, gravelly, peaty shores; pond, lake, river marshy streams; fresh to brackish water; inland marshes.	<b>Ecosystem Services:</b>	Waterfowl and small mammals.		
<b>Hydrology:</b>	Found in wetlands. Low drought tolerance.				
<b>Ornamental Value:</b>	Rhizomatous bulrush with trigonous blue-green stems. Spiklets sessile to the stem and radiating, turning a dark brown.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Tolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Schoenoplectus tabernaemontani**

**Softstem Bulrush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.4-7.4
<b>Form/Color</b>	Rhizomatous; to 9'; red flower blooms in late Spring.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Salt marshes and flats, river or stream floodplains, edges of wetlands.	<b>Ecosystem Services:</b>	Seeds eaten by waterfowl.		
<b>Hydrology:</b>	Intolerant of drought; high moisture usage.				
<b>Ornamental Value:</b>	Tall bulrush reaching up to 9 feet tall. Smooth rounded green-blue stems have a terminal spreading inflorescence that turns reddish- brown.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>	Found throughout North America. Stems have relatively large air cavities, which make it compress easily when squeezed.		
<b>Shade Tolerance:</b>	Intolerant of shade.				



**Scirpus atrovirens**

**Dark-green Bulrush**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.0-8.0
<b>Form/Color</b>	Moderate grower to 4', tufted, blooms and fruits in July-August.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Wet meadows, swamps, wet thickets.	<b>Urban Tolerance:</b>	Tolerant of disturbance.		
<b>Hydrology:</b>	Low drought tolerance; medium moisture usage.	<b>Ecosystem Services:</b>	Host to some butterflies, seeds eaten by waterfowl, roots eaten by muskrats and geese, provides cover for nesting birds.		
<b>Ornamental Value:</b>	Dark green stems can reach up to 4.5 ft high. The terminal inflorescence holds brown dense spiklets that radiate in all different directions.	<b>Compatibility:</b>			
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>	Also known as green bulrush or black bulrush.		
<b>Shade Tolerance:</b>	Tolerant of partial shade.				

**Scirpus cyperinus**

**Wool Grass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW+	<b>Soil:</b>	pH 4.8-8.0
<b>Form/Color</b>	Moderate grower to 5', tufted, blooms and fruits in August-October, flowers greenish, becoming wooly brown.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.		
<b>Habitat:</b>	Freshwater tidal and nontidal marshes, wet fill, swamps.	<b>Urban Tolerance:</b>	Probably tolerant of concrete debris.		
<b>Hydrology:</b>	Tolerant of flooding, tolerates saturated soil 25% of growing season.	<b>Ecosystem Services:</b>	Wildlife value high, seeds eaten by waterfowl, muskrats, host to some butterflies.		
<b>Ornamental Value:</b>	Tall grass-like upright form reaching 4-5 ft high. The dense terminal inflorescence has a wooly-like appearance when in seed, turning a nice light brown.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>			
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Sorghastrum nutans*

## Indiangrass

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	UPL	<b>Soil:</b>	pH 4.8-8.0
<b>Form/Color</b>	Tall rhizomatous perennial from 3-7 ft tall. Bunch; yellow flower color in late spring; moderate grower.	<b>Stormwater Tolerance:</b>		<b>Stormwater Tolerance:</b>	Tolerant of stormwater.
<b>Habitat:</b>	Grasslands, meadows, fields, shores of rivers or lakes, wetland margins	<b>Urban Tolerance:</b>		<b>Urban Tolerance:</b>	Tolerant of urban conditions, performs well in the right of way.
<b>Hydrology:</b>	Medium tolerance of drought; medium moisture usage.	<b>Ecosystem Services:</b>		<b>Ecosystem Services:</b>	Provides cover for pheasants, mourning doves, and songbirds.
<b>Ornamental Value:</b>	Inflorescence changing from purple-yellow bloom to a bronze like narrow seed head.	<b>Compatibility:</b>		<b>Compatibility:</b>	Can form colonies.
<b>Salt Tolerance:</b>	Moderately tolerant of salt.	<b>Other:</b>		<b>Other:</b>	Long lifespan, often used in tall grass prairie restorations.
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Sparganium eurycarpum*

## Giant Bur-seed

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.0-8.5
<b>Form/Color</b>	Grows to 5'; flowering stem in a zig-zag pattern, green flower and green foliage; moderate grower.	<b>Stormwater Tolerance:</b>		<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Edges of open ponds in shallow water.	<b>Urban Tolerance:</b>		<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Hydrology:</b>	Intolerant of drought; high moisture usage.	<b>Ecosystem Services:</b>		<b>Ecosystem Services:</b>	Provides moderate amount of food for small mammals and minor amount of food for waterbirds.
<b>Ornamental Value:</b>	Erect sword-like green leaves on this semi-aquatic plant. The flowering stem holds globe-like green-white flowers that turn into a densely globular seed head.	<b>Compatibility:</b>		<b>Compatibility:</b>	Can form colonies.
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		<b>Other:</b>	Moderate lifespan.
<b>Shade Tolerance:</b>	Moderately tolerant of shade.				

## *Spartina alternifolia*

## Salt-Marsh Cordgrass

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 4.5-8.5
<b>Form/Color</b>	Tall low marsh grass that can grow from 2 to 4.5', stems disintegrate in winter, blooms and fruits in July-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of alkaline fill, concrete debris.
<b>Habitat:</b>	Low salt marsh.	<b>Ecosystem Services:</b>	Wildlife value moderate, eaten by Canada geese, muskrats.		
<b>Hydrology:</b>	Tolerant of ocean water to 35 ppt salt, intolerant of drought.				
<b>Ornamental Value:</b>	It will spread extensively by rhizomes and produces a spike-like inflorescence turning golden yellow in the fall.	<b>Compatibility:</b>	Can form colonies.		
<b>Salt Tolerance:</b>	Very tolerant of salt.	<b>Other:</b>	Roots used for stabilizing shore areas and decreasing destruction cause by storm tides and wave action; moderate lifespan.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

## *Spartina cynosuroides*

## Big Cordgrass

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 5.8-7.5
<b>Form/Color</b>	Moderate grower to 9', blooms and fruits in August-October, yellow flower blooms in spring.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Insufficient information to determine tolerance.
<b>Habitat:</b>	Brackish high tidal marsh, freshwater marshes.	<b>Ecosystem Services:</b>	Wildlife value low, eaten by Canada geese, muskrat, cover for waterfowl, wading birds, shorebirds.		
<b>Hydrology:</b>	Tolerant of brackish water to 10 ppt salt, Intolerant of drought.	<b>Compatibility:</b>	Can form colonies.		
<b>Ornamental Value:</b>	The inflorescence is large, spreading and flowers in the late summer. The seed head has 20-40 long spikes.	<b>Other:</b>	Long lifespan.		
<b>Salt Tolerance:</b>	Very tolerant of salt.				
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Spartina pectinata**

**Prairie Cordgrass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	OBL	<b>Soil:</b>	pH 6.0-8.5
<b>Form/Color</b>	To 7', blooms and fruits in July-September, has a distinctive comb-like inflorescence, rapid grower.	<b>Stormwater Tolerance:</b>		Insufficient information to determine tolerance.	
		<b>Urban Tolerance:</b>		Should be tolerant of concrete debris.	
<b>Habitat:</b>	Brackish to freshwater shores, marshes.	<b>Ecosystem Services:</b>		Low nutrition value; provides cover for game, songbirds, and small mammals.	
<b>Hydrology:</b>	Low drought tolerance; high moisture usage; poor drainage.	<b>Compatibility:</b>			
<b>Ornamental Value:</b>	The colorful inflorescence is large and spreading in a distinctive comb-like form.				
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>		Long lifespan.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Tridens flavus**

**Purpletop**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACU	<b>Soil:</b>	pH 4.5-6.5
<b>Form/Color</b>	This tall erect grass can reach 3-6.5 ft tall. Tufted, blooms and fruits in August-October, inflorescence dark purple.	<b>Stormwater Tolerance:</b>		Potentially tolerant of stormwater.	
		<b>Urban Tolerance:</b>		Tolerant of low-nutrient soils. Used for bioretention.	
<b>Habitat:</b>	Roadsides, fields, dry, open woods.	<b>Ecosystem Services:</b>		Host to some butterflies.	
<b>Hydrology:</b>	Tolerant of drought.	<b>Compatibility:</b>		Can form colonies.	
<b>Ornamental Value:</b>	Purple panicles bloom in a pyramidal form and droop when they are in seed.				
<b>Salt Tolerance:</b>	Intolerant of salt.	<b>Other:</b>		Used for bioretention.	
<b>Shade Tolerance:</b>	Intolerant of shade.				

**Tripsacum dactyloides**

**Gamma Grass**

<b>Native To:</b>	New York City	<b>Wetland Indicator:</b>	FACW	<b>Soil:</b>	pH 5.1-7.5
<b>Form/Color</b>	To 8', densely tufted, robust plants, large underground stems, blooms and fruits in June-September.	<b>Stormwater Tolerance:</b>	Insufficient information to determine tolerance.	<b>Urban Tolerance:</b>	Tolerant of soil compaction.
<b>Habitat:</b>	Open marshes.	<b>Ecosystem Services:</b>	Host to some butterflies and their larvae, host to larvae of moth <i>Amphipoea erepta</i> , seeds eaten by deer and birds.		
<b>Hydrology:</b>	Tolerant of brackish water.				
<b>Ornamental Value:</b>	Delicate red to orange stamens hang from a long inflorescence on male plants. The seed pods resemble fingers or claws.	<b>Compatibility:</b>	Can form colonies. Rhizomes can be visible above the earth.		
<b>Salt Tolerance:</b>	Low tolerance of salt.	<b>Other:</b>	Distant relative to corn. Known to sometimes compete with invasive species like <i>Phragmites</i> . One of very few grasses with unisexual flowers.		
<b>Shade Tolerance:</b>	Intolerant of shade.				

# Stormwater Tolerant Plants

Stormwater plantings have become a growing feature in the urban landscape. These include plantings within parks, such as rain gardens, as well as in the right of way, such as greenstreets. The proper plant selection is crucial to ensure that the installation thrives; plants intolerant of the variably wet and dry conditions of these spaces will not survive, while well-chosen plants will thrive. In many cases, such as stormwater capture greenstreets, the plants have better success than their non-stormwater counterparts. Tolerance of salt, sediments, seasonally high rates of water flow as well as drought due to the sandy soil often used are all crucial in selecting the ideal species.

## Stormwater Tolerant Native Plants

As shown in the plant species pages preceding, a number of New York City’s native plant species are able to grow and thrive in the manmade environments of stormwater systems. They are repeated here for the reader’s convenience. Parks has field tested these species for at least three years to gauge their performance. Note that these species can provide a wider array of benefits than simply a tolerance of stormwater planting conditions. Many species can provide food and habitat for native birds and insects, as well as enhancing the aesthetic appeal of the area. These plants should be considered first when selecting a palette of plants for a rain garden or other stormwater planting.

**SCIENTIFIC NAME**

**COMMON NAME**

**PLANTS THAT TOLERATE PERIODS OF INUNDATION**

**TREES**

<i>Acer rubrum</i>	Red Maple
<i>Amelanchier arborea</i>	Downy Serviceberry
<i>Amelanchier canadensis</i>	Shadblow Serviceberry
<i>Amelanchier laevis</i>	Allegheny Serviceberry
<i>Betula nigra</i>	River Birch
<i>Betula populifolia</i>	Grey Birch
<i>Carpinus caroliniana</i>	American Hornbeam
<i>Celtis occidentalis</i>	Common Hackberry
<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>Quercus phellos</i>	Willow Oak

## SHRUBS

<i>Clethra alnifolia</i>	Sweet Pepperbush
<i>Cornus amomum</i>	Silky Dogwood
<i>Cornus racemosa</i>	Grey Dogwood
<i>Cornus sericea</i>	Red-osier Dogwood
<i>Ilex glabra</i>	Inkberry
<i>Ilex verticillata</i>	Winterberry
<i>Lindera benzoin</i>	Spicebush
<i>Morella pennsylvanica</i>	Bayberry
<i>Photinia melanocarpa</i>	Black Chokeberry
<i>Photinia pyrifolia</i>	Red Chokeberry
<i>Rosa carolina</i>	Carolina Rose
<i>Rosa palustris</i>	Swamp Rose
<i>Rosa virginiana</i>	Virginia Rose

## FORBS

<i>Asclepias incarnata</i>	Swamp Milkweed
<i>Chelone glabra</i>	Turtlehead
<i>Eutrochium dubium</i>	Joe Pye Weed
<i>Hibiscus moscheutos</i>	Rose-mallow
<i>Iris versicolor</i>	Large Blue Flag
<i>Lobelia cardinalis</i>	Cardinal Flower
<i>Vernonia noveboracensis</i>	New York Ironweed

## GRASSES

<i>Acorus americanus</i>	Sweet Flag
<i>Juncus effusus</i>	Soft Rush
<i>Panicum virgatum</i>	Switchgrass

## PLANTS FOR SLOPES OF SWALES - MOIST TO DRY SOILS

### TREES

<i>Ilex opaca</i>	American Holly
<i>Magnolia virginiana</i>	Sweetbay Magnolia
<i>Ulmus americana</i>	American Elm

### SHRUBS

<i>Gaylussacia baccata</i>	Black Huckleberry
<i>Hamamelis virginiana</i>	Common Witchhazel
<i>Ilex glabra</i>	Inkberry

*Lindera benzoin*  
*Lyonia mariana*  
*Spiraea tomentosa*  
*Viburnum dentatum*  
*Viburnum lentago*

Spicebush  
Piedmont Staggerbush  
Hardhack  
Arrowwood Viburnum  
Nannyberry Viburnum

## FORBS

*Asclepias tuberosa*  
*Solidago canadensis*  
*Solidago rugosa*  
*Symphotrichum novae-angliae*  
*Verbena hastata*

Butterfly Weed  
Canadian Goldenrod  
Wrinkleleaf Goldenrod  
New England Aster  
Swamp Verbena

## FERNS

*Onoclea sensibilis*

Sensitive Fern

## PLANTS FOR UPLAND AREAS - RARELY MOIST TO DRY SOILS

## TREES

*Crataegus crus-galli*  
*Juniperus virginiana*  
*Quercus rubra*

Cockspur Hawthorn  
Eastern Redcedar  
Red Oak

## SHRUBS

*Prunus maritima*  
*Rhus aromatica*

Beach Plum  
Fragrant Sumac

## PERENNIALS

*Rudbeckia hirta*  
*Oenothera biennis*

Black-Eyed Susan  
Common Evening Primrose

## GRASSES

*Carex pennsylvanica*  
*Sorghastrum nutans*  
*Schizachyrium scoparium*

Pennsylvania Sedge  
Indian Grass  
Little Bluestem

## FERNS

*Dennstaedtia punctilobula*

Hay-scented Fern



## Other Stormwater Tolerant Plants

There are situations and locations where, despite the best of intentions, a native plant will not be the right plant for the site. In other instances, a mixture of native and non-native species allows for a wider array of aesthetic options and diversity of plants. The list that follows is of plants that perform well, particularly in the right of way, but the majority are not native to New York City or the surrounding region. Included on this list are ornamental cultivars of some native plants. These cultivars do not occur naturally in the region, and are not suited for planting in natural ecosystems. However, due to concerns about visibility and sight lines, as well as urban tolerance and aesthetic considerations, they merit consideration in right of way stormwater plantings.

### SCIENTIFIC NAME

### COMMON NAME

#### PLANTS THAT TOLERATE PERIODS OF INUNDATION

##### TREES

*Amelanchier lamarkii*  
*Amelanchier x grandiflora*  
*Carpinus betulus*  
*Chionanthus retusus*  
*Chionanthus virginicus*  
*Platanus x acerifolia*  
*Quercus acutissima*  
*Taxodium distichum*

Juneberry  
 Apple Serviceberry  
 European Hornbeam  
 Chinese Fringetree  
 White Fringetree  
 London Planetree  
 Sawtooth Oak  
 Common Baldcypress

##### SHRUBS

*Itea virginica*

Sweetspire

##### PERENNIALS

*Monarda didyma*

Bee Balm

##### GRASSES

*Carex elata*  
*Carex glauca*  
*Hakonechloa macra*

Golden Sedge  
 Blue Sedge  
 Japanese Forest Grass

#### PLANTS FOR SLOPES OF SWALES - MOIST TO DRY SOILS

##### TREES

*Cornus kousa*  
*Cornus mas*  
*Gleditsia triacanthos var. inermis*  
*Gymnocladus dioicus*  
*Hamamelis x intermedia*  
*Koelreuteria paniculata*  
*Metasequoia glyptostroboides*

Kousa Dogwood  
 Cornelian cherry Dogwood  
 Thornless Common Honeylocust  
 Kentucky Coffeetree  
 Witchhazel  
 Panicked Goldenraintree  
 Dawn Redwood

*Parrotia persica*  
*Prunus sargentii*  
*Prunus serrulata*  
*Quercus imbricaria*  
*Quercus robur*  
*Ulmus parvifolia*  
*Zelkova serrata*

Persian Parrotia  
Sargent Cherry  
Japanese Flowering Cherry  
Shingle Oak  
English Oak  
Lacebark (Chinese) Elm  
Japanese Zelkova

## SHRUBS

*Callicarpa dichotoma*  
*Callicarpa japonica*  
*Caryopteris x clandonensis*  
*Fothergilla gardenii*  
*Hamamelis vernalis*  
*Hydrangea quercifolia*  
*Ilex crenata*  
*Physocarpus opulifolius*  
*Potentilla fruticosa*  
*Rosa 'Radrazz'*  
*Rosa 'Radyod'*  
*Spiraea x bumald*  
*Spiraea nipponica*  
*Viburnum trilobum*

Purple Beautyberry  
Japanese Beautyberry  
Blue Mist Shrub  
Dwarf Forsythia  
Vernal Witchhazel  
Oakleaf Hydrangea  
Japanese Holly  
Ninebark  
Shrubby Cinquefoil  
Knockout Rose  
Blushing Knockout Rose  
Spirea  
Snowmound Spirea  
American Cranberrybush Viburnum

## FORBS

*Agastache nepetoides*  
*Astilbe japonica*  
*Geranium sanguineum*  
*Liatris spicata*  
*Rudbeckia fulgida*  
*Rudbeckia subtomentosa*

Giant Hyssop  
Astilbe  
Bloody Cranesbill  
Blazing Star  
Black-Eyed Susan  
Sweet Coneflower

## GRASSES

*Calamagrostis x acutiflora 'Karl Foerster'*  
*Pennisetum alopecuroides*

Karl Foerster Feather Reed Grass  
Fountain Grass

## PLANTS FOR UPLAND AREAS - RARELY MOIST TO DRY SOILS

### TREES

*Cercis canadensis*  
*Crataegus viridis*  
*Eucommia ulmoides*  
*Gingko biloba*  
*Quercus macrocarpa*

Eastern Redbud  
Green Hawthorn  
Hardy Rubber Tree  
Gingko, Maidenhair Tree  
Bur Oak

### SHRUBS

*Cotoneaster apiculatus*  
*Cotoneaster horizontalis*  
*Forsythia intermedia*  
*Prunus laurocerasus*

Cranberry Cotoneaster  
Rockspray Cotoneaster  
Showy Border Forsythia  
Common Cherrylaurel

**PERENNIALS**

*Echinacea purpurea*

*Nepeta racemosa*

*Nipponanthemum nipponicum*

*Liriope muscari*

*Liriope spicata*

*Perovskia atriplicifolia*

*Salvia nemerosa*

Purple Coneflower

Catmint

Montauk Daisy

Lily Turf

Lily Turf

Russian Sage

Salvia

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**Cavanos Perennials Inc-** [http://www.cavanos.com/sol\\_home.php#Salt](http://www.cavanos.com/sol_home.php#Salt)  
**Chalet Landscape, Nursery, Garden Center-** <http://plants.chaletnursery.com>  
**Colorado State Cooperative Extension-** <http://www.coopext.colostate.edu>  
**Dave's Garden-** <http://davesgarden.com>  
**Dutch Growers-** <http://plants.dutchgrowers.ca>  
**Echters Nursery-** <http://www.echters.com>  
**Edge of the Woods Nursery-** <http://edgeofthewoodsnursery.com>  
**Encyclopedia of Life-** <http://eol.org>  
**Evergreen Native Plants and Invasive Species-** <http://nativeplants.evergreen.ca/>  
**Fiddlehead Creek Nursery -** <http://www.fiddleheadcreek.org>  
**Flora of North America-** <http://www.efloras.org>  
**Florida Native Plant Society-** <http://www.fnps.org>  
**Garden Guides-** <http://gardenguides.com>  
**Gardening Know How-** <http://www.gardeningknowhow.com>  
**Go Botany-** <https://gobotany.newenglandwild.org>  
**Great Plant Picks-** <http://www.greatplantpicks.org>  
**Greenbelt Native Plant Center-** <http://www.nycgovparks.org/greening/greenbelt-native-plant-center>  
**Hardy Fern Foundation-** <http://www.hardyferns.org>  
**Hardy Fern Library-** <http://hardyfernlibrary.com/ferns>  
**Horticopia-** <http://www.horticopia.com>  
**Illinois Wildflowers-** <http://www.illinoiswildflowers.info/index.htm>  
**Kansas Native Plants-** <http://www.kansasnativeplants.com>  
**GreenThumb Certified Nurseries Florida Keys-**  
[http://www.keysgreenthumb.net/AlterNatives\\_Plant\\_Guide.pdf](http://www.keysgreenthumb.net/AlterNatives_Plant_Guide.pdf)  
**Lady Bird Johnson Wildflower Center-** <http://www.wildflower.org/>  
**Lakeshore Garden Center-** <http://www.lakeshoregardencentre.com>  
**Linders Landscape-** <http://www.linders.com>  
**Millican Nurseries Inc-** <http://www.millicannurseriesinc.com/uploads/pdfs/salt-tolerant-plants.pdf>  
**Missouri Botanical Garden-** <http://www.missouribotanicalgarden.org>  
**Missouri Plants-** <http://www.missouriplants.com>  
**Moody's Nursery and Garden Center-** <http://www.moodysnursery.com>  
**Morton Arboretum-** [www.mortonarb.org](http://www.mortonarb.org)  
**Mt. Cuba Center Inc-** <http://www.mtcubacenter.org/>

**Native Florida Wildflowers-** <http://hawthornhillwildflowers.blogspot.com>  
**Native Plant Center Chesapeake Region-** <http://www.nativeplantcenter.net>  
**New Jersey Agricultural Experiment Station, Rutgers Cooperative Extension-**  
<http://ocean.njaes.rutgers.edu/>  
**New York Botanical Garden-** <http://www.nybg.org>  
**New York Natural Heritage Program -** <http://www.acris.nynhp.org/>  
**North Carolina State Extension Service-** [www.ncsu.edu](http://www.ncsu.edu)  
**North Creek Nurseries-** <http://www.northcreeknurseries.com>  
**Online Plant Guide-** <http://www.onlineplantguide.com/>  
**Penn State Cooperative Extension-** <http://extension.psu.edu/>  
**Plant Delights Nursery-** <http://www.plantdelights.com/>  
**Plant Lust-** <http://plantlust.com/>  
**Plants for a Future-** <http://www.pfaf.org>  
**Practical Plants-** [http://practicalplants.org/wiki/Practical\\_Plants](http://practicalplants.org/wiki/Practical_Plants)  
**Prairie Moon Nursery-** <http://www.prairiemoon.com>  
**Project Noah-** <http://www.projectnoah.org>  
**Rhode Island Coastal Plant Guide-**  
<http://www.uri.edu/cels/ceoc/coastalPlants/CoastalPlantGuide.htm>  
**River Bend Nursery-** <http://www.riverbendnursery.com>  
**Royal Horticultural Society-** [http://www.rhs.org.uk/home\\_promo.aspx](http://www.rhs.org.uk/home_promo.aspx)  
**Smithsonian Marine Station at Fort Pierce-** <http://www.sms.si.edu>  
**Sunlight Gardens-** <http://www.sunlightgardens.com>  
**The Growing Place-** <http://www.thegrowingplace.com>  
**The Pennystone Project-** <http://www.pennystone.com/plants/forbs1.php>  
**U.S. Forest Service-** <http://www.fs.fed.us>  
**UConn Plant Database-** <http://www.hort.uconn.edu/plants/index.html>  
**University of Georgia Center for Invasive Species and Ecosystem Health-**  
<http://www.bugwood.org/>  
**USDA Forest Service-** [http://www.nrs.fs.fed.us/fmg/nfmg/bl\\_hardwood/def.html](http://www.nrs.fs.fed.us/fmg/nfmg/bl_hardwood/def.html)  
**USDA Plants Database-** <http://plants.usda.gov>  
**Virginia Cooperative Extension-** <http://pubs.ext.vt.edu/>  
**Virginia Department of Conservation and Recreation-** <http://www.dcr.virginia.gov>  
**Washington State University-**  
<http://county.wsu.edu/mason/nrs/water/pages/PlantsForShorelineAreas.aspx>  
**Wisconsin State Herbarium-** <http://www.botany.wisc.edu/herbarium>

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