

Recommended Plant Lists for Best Management Practices

This appendix contains recommended native and non-native (when appropriate) plant species for the Best Management Practices detailed throughout the manual. Species have been recommended based on hardiness, aesthetics, functionality, and commercial availability. It is certain that species exist outside the confines of this list that will perform in a comparable way to those listed; however, commercial availability is often a limiting factor in obtaining material for native plantings. Over time, and in certain locales, additional species will become available to supplement those listed below.

An array of planting zones is provided based on normal water levels (Figure C.1). Using these zones will provide the best chances for long-term success of native planting in the context of LID. While plants may naturally occur outside of the given ranges, these ranges are intended to

be guidelines for plant installation. Whenever possible and practical in standing water conditions, native plants should be installed in live plant form (rather than seed). Seed or a combination of seed and live plants may be used in upland situations.

Recommendations are given for height, bloom color, bloom time, sun requirements, salt tolerance, and ecoregion. Please note that these are recommendations based on a range of situations, and a specific plant or population may vary from site-to-site. For sun requirements, F = Full sun required, P = Partial sun tolerated, and S = Shade tolerated. Salt tolerance is classified as Yes (Y) or No (N). This was determined through literature reviews and anecdotal evidence. If there is no information confirming tolerance, a “No” was listed.

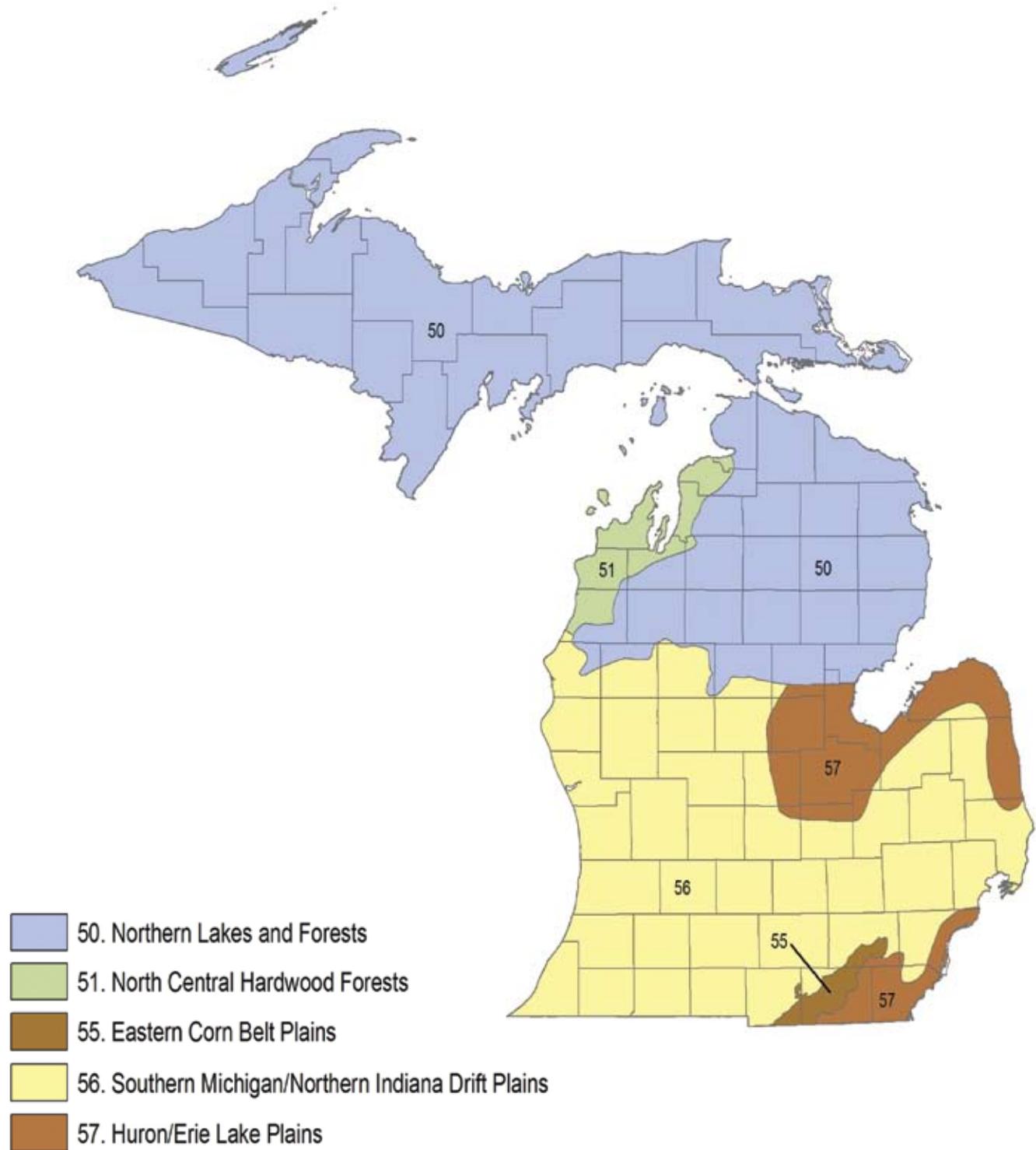
Figure C.1
Planting Zone/BMP Matrix

	Zone A — 2”-4” Below Water Level	Zone B — 0”-2” Below Water Level	Zone C — 0”-2” Above Water Level	Zone D — 2”-4” Above Water Level	Zone E — 4”-18” Above Water Level	Zone F — 18”+ Above Water Level	Zone G — Planter Boxes	Zone H — Vegetated Roofs
Rain gardens/Bioretenion	☘	☘	☘	☘	☘	☘		
Vegetated Filter Strips			☘	☘	☘	☘		
Vegetated Swales		☘	☘	☘				
Infiltration Basin		☘	☘					
Subsurface Infiltration Basins				☘	☘	☘		
Infiltration Trenches				☘	☘	☘		
Infiltration Berns	☘	☘	☘	☘	☘	☘		
Planter Boxes							☘	
Vegetated Roofs								☘
Constructed Wetlands	☘	☘	☘	☘				
Wet Ponds	☘	☘	☘					
Dry Extended Detention Basins			☘	☘	☘	☘		
Riparian Corridor Restoration			☘	☘				
Native Revegetation	☘	☘	☘	☘	☘	☘	☘	☘

Ecoregion recommendations are also provided for each species (Figure C.2). Whenever possible, the designer/installer should seek to use species that historically occurred in the same ecoregion as the project. When necessary, species occurring in an adjacent ecoregion may be used.

Figure C.2

EPA Level III Ecoregions for Michigan



Source: USEPA

Plant Installation

Native Seeding

Seasonal consideration: October 1-June 15 (note: seeds should not be planted on frozen ground).

Native seeding is generally recommended for areas above the water line or 1-2" below the water line. Live plant material should be used to establish vegetation at deeper water levels.

Broadcast seeding

Broadcast seeding is preferred over drill seeding on graded, bare soil sites. Apply the seed uniformly over the surface using a combination seeder/cultipacker unit such as a Brillion or Truax Trillion seeder. The Trillion seeder is preferred as it is designed to handle native seeds.

A cone seeder or other similar broadcasting equipment may also be used if the seed mix does not contain fluffy seeds in amounts sufficient to prevent free flowing without plugging. Seed should then be pressed into the surface using a cultipacker or roller.

Drill seeding

A rangeland-type no-till drill designed to plant native grasses and forbs may be used in bare soils although this equipment is specifically designed to plant through existing vegetation which is killed with an herbicide. Cultipacking or rolling before seeding may be required to prevent seed placement depths exceeding .25 inch, but cultipacking or rolling after seeding is not required.

All seeding equipment, whether broadcast or drill, should be calibrated to deliver the seed at the rates and proportions specified in the plans. Equipment should be operated to ensure complete coverage of the entire area to be seeded, and seed must be placed no deeper than .25 inch in the soil. No fertilizers or soil conditioners will be required or allowed.

Native Planting

Seasonal considerations: May 1-July 1

Plant plugs should be installed in holes drilled with an auger the same diameter and depth as the plug within +0.75 inch/- 0.25 inch. In wetland plantings where soil is soft and moist enough, a dibble bar or trowel may also be used. The planting layout should consider the requirements of the individual species regarding soil type, moisture, slope, shading, and other factors for the particular plant species.

Planting densities vary according to budget and project goals and can range from three-to-five foot spacing for plug supplements of seeded areas to six inches to two foot spacing for high visibility landscaping projects with large budgets. Groups of five-to-seven plugs of the same species planted approximately one foot apart is usually preferable to planting all species intermixed randomly across the site at a uniform density.

In wetland or shoreline areas with potential for high wave action or wildlife predation that may dislodge newly planted plugs, plugs should be secured with six inch or eight inch U-shaped wire erosion control blanket staples. Staple length is determined by the density of the planting substrate; softer substrates require longer length to hold plugs adequately.

In areas where potential for wildlife predation exists, such as retention basins or other planting areas adjacent to open water, waterfowl barriers should be installed around a minimum of 50 percent of the plugs. All plugs not protected by barriers should be stapled into the substrate as described above. Barriers may consist of plastic or wire mesh enclosures supported with wooden stakes, adequately constructed to inhibit access by waterfowl for one growing season. Enclosures should extend at least two feet above the plant tops. Methodology should be approved by the project designer with input from a restoration ecologist if necessary. Barriers may be removed after one growing season.

Maintenance and Management

Maintaining vegetated BMPs is typically most important during the first few years following installation. Supplemental irrigation may be needed to help establish plants in drought conditions. Plants may need to be replaced due to predation or other unseen factors. Most commonly, management includes removing invasive species via mowing, hand-pulling, or spot herbicide applications. In larger areas, broadcast herbicide applications may be appropriate. Over time in upland areas, controlled burning may be used as a way to invigorate the plantings and control certain invasive species. If not feasible for social or cultural reasons, an annual or biennial mowing may be used instead of fire.

Long-term management may be necessary, but is typically significantly less intensive. The site should be periodically checked for invasive species infestations. Any prairie or open area may need occasional (every three to five years) burning or mowing to remove woody vegetation that may encroach.

Zone A

Planting Zone = two-to-four inches below water level

These species require continual inundation within the given water depths in order to thrive. Although slight, short-term variances may be tolerated (+/- five inches for a period of 48 hours or less), water levels must remain in this range for a majority of the growing season for maximum plant growth and survival.

Botanical Name	Common Name	Height	Color	Bloom Time	Sun	Salt Tolerant	Ecoregion
Woody Species:							
<i>Cephalanthus occidentalis</i>	Buttonbush	15'	White	Jun-Aug	F/P/S	N	51,55,56,57
Grasses/Sedges/Rushes:							
<i>Acorus calamus</i>	Sweet flag	1'-4'	Green	May-Jun	F/P	N	50,51,55,56,57
<i>Scirpus acutus</i>	Hard-stemmed bulrush	4'-6'	Brown	Apr-Aug	F	Y	50,51,55,56,57
<i>Scirpus validus</i>	Great bulrush	4'-8'	Brown	May-Aug	F	Y	50,51,55,56,57
<i>Sparganium americanum</i>	American bur reed	2'-5'	Green	Jun-Aug	F/P	N	50,51,55,56,57
<i>Sparganium eurycarpum</i>	Common bur reed	2'-6'	Green	May-Aug	F	N	50,51,55,56,57
Forbs:							
<i>Asclepias incarnata</i>	Swamp milkweed	3'-5'	Pink	Jun-Sep	F/P	N	50,51,55,56,57
<i>Decodon verticillatus</i>	Swamp loosestrife	2'-4'	Purple	Jul-Sep	F/P	N	51,55,56,57
<i>Iris virginica</i>	Blue flag iris	2'-3'	Purple	May-Jul	F/P/S	N	50,51,55,56,57
<i>Peltandra virginica</i>	Arrow arum	2'-5'	Green	Jun-Jul	F/P/S	N	55,56,57
<i>Pontedaria cordata</i>	Pickereelweed	1'-3'	Violet	Jun-Sep	F/P	N	50,51,55,56,57
<i>Sagittaria latifolia</i>	Arrowhead	1'-4'	White	Jun-Sep	F/P	N	50,51,55,56,57

Representative Zone A Species

Buttonbush



Arrowhead



Blue Flag Iris



Pickereel Weed



Swamp Milkweed

Source: JFNew

Zone B

Planting Zone = zero-to-two inches below water level

These species tolerate fluctuating water levels within this range. Although slight, short-term variances may be tolerated (+/- five inches for a period of 48 hours or less), water levels must remain in this range for most of the growing season for maximum plant growth and survival.

Botanical Name	Common Name	Height	Color	Bloom Time	Sun	Salt Tolerant	Ecoregion
<i>Woody Species:</i>							
<i>Cephalanthus occidentalis</i>	Buttonbush	15'	White	Jun-Aug	F/P/S	N	51,55,56,57
<i>Grasses/Sedges/Rushes:</i>							
<i>Acorus calamus</i>	Sweet flag	1'-4'	Green	May-Jun	F/P	N	50,51,55,56,57
<i>Carex comosa</i>	Bristly sedge	2'-3'	Green	May-Jun	F	N	50,51,55,56,57
<i>Carex lacustris</i>	Lake sedge	2'-4'	Brown	May-Jun	F/P/S	N	50,51,55,56,57
<i>Carex stricta</i>	Tussock sedge	2'-3'	Brown	Apr-Jun	F/P	N	50,51,55,56,57
<i>Eleocharis acicularis</i>	Needle spike rush	6"	Green	May-Oct	F	N	50,51,55,56,57
<i>Eleocharis obtusa</i>	Blunt spike rush	1'-2'	Green	May-Sep	F/P	N	50,51,55,56,57
<i>Glyceria striata</i>	Fowl manna grass	1'-5'	Green	May-Jun	F/P/S	N	50,51,55,56,57
<i>Juncus effusus</i>	Soft rush	1'-4'	Brown	July	F/P	N	50,51,55,56,57
<i>Scirpus acutus</i>	Hard-stemmed bulrush	4'-6'	Brown	Apr-Aug	F	Y	50,51,55,56,57
<i>Scirpus cyperinus</i>	Wool grass	3'-5'	Tan	Jun-Sep	F	Y	50,51,55,56,57
<i>Scirpus pendulus</i>	Red bulrush	2'-4'	Brown	May-Jun	F	N	51,55,56,57
<i>Scirpus validus</i>	Great bulrush	4'-8'	Brown	May-Aug	F	Y	50,51,55,56,57
<i>Sparganium americanum</i>	American bur reed	2'-5'	Green	Jun-Aug	F/P	N	50,51,55,56,57
<i>Sparganium eurycarpum</i>	Common bur reed	2'-6'	Green	May-Aug	F	N	50,51,55,56,57
<i>Forbs:</i>							
<i>Alisma plantago-aquatica</i>	Water plantain	2'-4'	White	Jul-Sep	F	N	50,51,55,56,57
<i>Asclepias incarnata</i>	Swamp milkweed	3'-5'	Pink	Jun-Sep	F/P	N	50,51,55,56,57
<i>Decodon verticillatus</i>	Swamp loosestrife	2'-4'	Purple	Jul-Sep	F/P	N	51,55,56,57
<i>Iris virginica</i>	Blue flag iris	2'-3'	Purple	May-Jul	F/P/S	N	50,51,55,56,57
<i>Peltandra virginica</i>	Arrow arum	2'-5'	Green	Jun-Jul	F/P/S	N	55,56,57
<i>Pontedaria cordata</i>	Pickerelweed	1'-3'	Violet	Jun-Sep	F/P	N	50,51,55,56,57
<i>Sagittaria latifolia</i>	Arrowhead	1'-4'	White	Jun-Sep	F/P	N	50,51,55,56,57
<i>Saururus cernuus</i>	Lizard's tail	2'-4'	White	Jun-Aug	P/S	N	55,56,57

Representative Zone B Species

Blue Flag Iris



Arrowhead



Bristly Sedge



Pickerel Weed



Swamp Milkweed

Source: JFNew

Zone C

Planting Zone = zero-to-two inches above water level

These plants are tolerant of fluctuating water levels within this range. They will also tolerate short periods of inundation, not to exceed 48 hours in most situations, making them appropriate for BMP settings.

Botanical Name	Common Name	Height	Color	Bloom Time	Sun	Salt Tolerant	Ecoregion
Woody Species:							
<i>Acer rubrum</i>	Red maple	90'	Green/red	Mar-May	F/P/S	N	50,51,55,56,57
<i>Alnus rugosa</i>	Speckled alder	25'	Brown	Mar-May	F/P	N	50,51,55,56,57
<i>Amelanchier arborea</i>	Downy serviceberry	40'	White	April	F/P/S	N	50,51,55,56,57
<i>Aronia prunifolia</i>	Purple chokeberry	10'	White	Apr-Jul	F/P	N	50,51,55,56,57
<i>Betula alleghaniensis</i>	Yellow birch	100'	Purple/Yellow	Apr-May	P/S	N	50,51,55,56,57
<i>Betula papyrifera</i>	Paper birch	70'	Brown	Apr-May	F/P	N	50,51,55,56,57
<i>Cephalanthus occidentalis</i>	Buttonbush	15'	White	Jun/Aug	F/P/S	N	51,55,56,57
<i>Cornus amomum</i>	Silky dogwood	10'	White	May-Jul	F/P	N	51,55,56,57
<i>Cornus sericea</i>	Red-osier dogwood	10'	White	May-Sep	F/P	N	50,51,55,56,57
<i>Ilex verticillata</i>	Winterberry	10'	White	June	F/P/S	Y	50,51,55,56,57
<i>Larix laricina</i>	American larch	75'	Brown	May	F/P	N	50,51,55,56,57
<i>Lindera benzoin</i>	Spicebush	15'	Yellow	Apr-May	P/S	N	51,55,56,57
<i>Morus rubra</i>	Red mulberry	50'	Green	May-Jun	F/P/S	N	55,56,57
<i>Nyssa sylvatica</i>	Black gum	100'	Green	May-Jul	F/P/S	Y	51,55,56,57
<i>Physocarpus opulifolius</i>	Ninebark	10'	White	May-Jun	F/P	N	50,51,55,56,57
<i>Picea mariana</i>	Black spruce	60'	Brown	May-Jun	F/P/S	N	50,51,57
<i>Quercus bicolor</i>	Swamp white oak	70'	Green/yellow	May	F/P/S	Y	55,56,57
<i>Quercus palustris</i>	Pin oak	90'	Green/yellow	Apr-May	F/P/S	Y	55,56,57
<i>Ribes americanum</i>	Wild black currant	5'	Yellow	Apr-Jun	F/P/S	N	50,51,55,56,57
<i>Rosa palustris</i>	Swamp rose	2'-7'	Pink	Jun-Aug	F/P/S	N	50,51,55,56,57
<i>Thuja occidentalis</i>	White cedar	50'	Brown	Apr-May	F/P/S	N	50,51,55,56,57
<i>Ulmus americana</i>	American elm	100'	Brown	Mar-Apr	F/P/S	N	50,51,55,56,57
<i>Ulmus rubra</i>	Slippery elm	80'	Green	Mar-Apr	F/P/S	N	51,55,56,57
<i>Viburnum lentago</i>	Nannyberry	20'	White	Apr-Jun	P/S	Y	50,51,55,56,57
Grasses/Sedges/Rushes:							
<i>Calamagrostis canadensis</i>	Blue joint grass	2'-4'	Brown	June	F/P	N	50,51,55,56,57
<i>Carex comosa</i>	Bristly sedge	2'-3'	Green	May-June	F/P	N	50,51,55,56,57
<i>Carex crinita</i>	Fringed sedge	2'-5'	Green	May	F/P/S	N	50,51,55,56,57
<i>Carex hystericina</i>	Porcupine sedge	2'-3'	Green	May-June	F/P/S	N	50,51,55,56,57
<i>Carex lupulina</i>	Common hop sedge	2'-3'	Green/Brown	May-June	F/P/S	N	50,51,55,56,57
<i>Carex muskingumensis</i>	Palm sedge	1'-2'	Brown	May-June	S	N	55,56,57
<i>Carex stipata</i>	Common fox sedge	1'-3'	Brown	Apr-May	F/P/S	N	50,51,55,56,57
<i>Carex stricta</i>	Tussock sedge	2'-3'	Brown	Apr-Jun	F/P	N	50,51,55,56,57
<i>Carex vulpinoidea</i>	Brown fox sedge	2'-3'	Brown	May-Jun	F/P	N	50,51,55,56,57
<i>Cinna arundinacea</i>	Common wood reed	3'-4'	Green	Aug-Sep	P/S	N	55,56,57
<i>Eleocharis acicularis</i>	Needle spike rush	6"	Green	May-Oct	F	N	50,51,55,56,57
<i>Eleocharis obtusa</i>	Blunt spike rush	1'-2'	Green	May-Sep	F/P	N	50,51,55,56,57
<i>Glyceria striata</i>	Fowl manna grass	1'-5'	Green	May-Jun	F/P/S	N	50,51,55,56,57
<i>Juncus effusus</i>	Soft rush	1'-4'	Brown	July	F/P	N	50,51,55,56,57
<i>Juncus tenuis</i>	Path rush	6"-2'	Brown	June	F/P/S	N	50,51,55,56,57
<i>Juncus torreyi</i>	Torrey's rush	1'-2'	Brown	Jun-Sep	F	Y	51,55,56,57
<i>Scirpus acutus</i>	Hard-stemmed bulrush	4'-6'	Brown	Apr-Aug	F	Y	50,51,55,56,57
<i>Scirpus atrovirens</i>	Dark green rush	3'-5'	Brown	Jun-Aug	F	N	50,51,55,56,57
<i>Scirpus cyperinus</i>	Wool grass	3'-5'	Tan	Jun-Sep	F	Y	50,51,55,56,57
<i>Scirpus pendulus</i>	Red bulrush	2'-4'	Brown	May-Jun	F	N	51,55,56,57
<i>Scirpus validus</i>	Great bulrush	4'-8'	Brown	May-Aug	F	Y	50,51,55,56,57

Botanical Name	Common Name	Height	Color	Bloom Time	Sun	Salt Tolerant	Ecoregion
Forbs:							
<i>Alisma plantago-aquatica</i>	Water plantain	2'-4'	White	Jul-Sep	F	N	50,51,55,56,57
<i>Anemone canadensis</i>	Canada anemone	1'-2'	White	May-Sep	F/P	N	50,51,55,56,57
<i>Angelica atropurpurea</i>	Great angelica	6'-9'	White	May-Jun	F/P	N	55,56,57
<i>Asclepias incarnata</i>	Swamp milkweed	3'-5'	Pink	Jun-Sep	F/P	N	50,51,55,56,57
<i>Aster novae-angliae</i>	New England aster	3'-6'	Violet	Jul-Oct	F/P	N	50,51,55,56,57
<i>Aster puniceus</i>	Swamp aster	3'-6'	Lav/ White	Aug-Oct	F	Y	50,51,55,56,57
<i>Aster umbellatus</i>	Flat-topped aster	1'-4'	White	Jul-Oct	F/P	N	50,51,55,56,57
<i>Cassia hebecarpa</i>	Wild senna	3'-5'	Yellow	Jul-Aug	F/P	N	55,56
<i>Chelone glabra</i>	Turtlehead	2'-4'	Cream	Aug-Sep	F/P/S	N	50,51,55,56,57
<i>Eupatorium maculatum</i>	Spotted Joe-pye weed	4'-7'	Pink	Jun-Oct	F/P	N	50,51,55,56,57
<i>Eupatorium perfoliatum</i>	Boneset	3'-5'	White	Jul-Oct	F/P	Y	50,51,55,56,57
<i>Euthamia graminifolia</i>	Grass-leaved goldenrod	1'-4'	Yellow	Jul-Sep	F/P	N	50,51,55,56,57
<i>Gentiana andrewsii</i>	Bottle gentian	1'-3'	Blue	Aug-Oct	F/P	N	50,51,55,56,57
<i>Helenium autumnale</i>	Sneezeweed	3'-5'	Yellow	Jul-Nov	F/P	Y	50,51,55,56,57
<i>Helianthus giganteus</i>	Tall sunflower	5'-12'	Yellow	Jul-Sep	F/P	N	50,51,55,56,57
<i>Iris virginica</i>	Blue flag iris	2'-3'	Purple	May-Jul	F/P/S	N	50,51,55,56,57
<i>Liatrix spicata</i>	Marsh blazing star	3'-5'	Pink	Jul-Sep	F/P	N	55,56,57
<i>Lilium michiganense</i>	Michigan lily	3'-8'	Orange	Jul-Aug	P/S	N	55,56,57
<i>Lobelia cardinalis</i>	Cardinal flower	2'-5'	Red	Jul-Oct	F/P/S	N	50,51,55,56,57
<i>Lobelia siphilitica</i>	Great blue lobelia	1'-4'	Blue	Jul-Oct	F/P/S	N	50,51,55,56,57
<i>Lobelia spicata</i>	Pale spiked lobelia	1'-3'	Lavender	May-Aug	F/P	N	50,51,55,56,57
<i>Mimulus ringens</i>	Monkeyflower	2'-4'	Lavender	Jun-Sep	F/P	N	50,51,55,56,57
<i>Physostegia virginiana</i>	Obedient plant	2'-5'	Pink	Aug-Oct	F	Y	50,51,55,56,57
<i>Pycnanthemum virginianum</i>	Mountain mint	1'-3'	White	Jun-Oct	F/P	N	55,56,57
<i>Rudbeckia laciniata</i>	Cutleaf coneflower	3'-10'	Yellow	Jul-Nov	F/P/S	N	50,51,55,56,57
<i>Sagittaria latifolia</i>	Arrowhead	1'-4'	White	Jun-Sep	F/P	N	50,51,55,56,57
<i>Saururus cernuus</i>	Lizard's tail	2'-4'	White	Jun-Aug	P/S	N	55,56,57
<i>Sisyrinchium angustifolium</i>	Stout blue-eyed grass	1'	Blue	May-Aug	F/P	N	55,56,57
<i>Solidago ohioensis</i>	Ohio goldenrod	2'-3'	Yellow	Jul-Oct	F/P	N	50,51,55,56,57
<i>Solidago patula</i>	Swamp goldenrod	3'-6'	Yellow	Aug-Oct	F/P/S	N	50,51,55,56,57
<i>Solidago riddellii</i>	Riddell's goldenrod	2'-5'	Yellow	Sep-Nov	F	N	55,56,57
<i>Spiraea alba</i>	Meadowsweet	3'-6'	White	June-Sep	F/P	Y	50,51,55,56,57
<i>Spiraea tomentosa</i>	Steeplebush	2'-5'	Pink	Jul-Sep	F/P	Y	55,56,57
<i>Thalictrum dasycarpum</i>	Purple meadow-rue	3'-6'	Cream	May-Jul	F/P	N	50,51,55,56,57
<i>Verbena hastata</i>	Blue vervain	3'-6'	Violet	Jun-Sep	F	N	50,51,55,56,57
<i>Vernonia missurica</i>	Missouri ironweed	3'-5'	Purple	Jul-Sep	F	N	55,56,57
<i>Zizia aurea</i>	Golden Alexanders	1'-3'	Yellow	Apr-Jun	F/P/S	Y	55,56,57

Representative Zone C Species



Cardinal Flower



Swamp Milkweed



Blue-Eyed Grass



Obedient Plant



Path Rush



Joe-Pye Weed



Red-Osier Dogwood



Monkey Flower

Source: JFNew

Zone D

Planting Zone = two-to-four inches above water level

These plants tolerate fluctuating water levels within this range. They will also tolerate short periods of inundation, not to exceed 48 hours in most situations, making them appropriate for BMP settings.

Botanical Name	Common Name	Height	Color	Bloom Time	Sun	Salt Tolerant	Ecoregion
Woody Species:							
<i>Acer rubrum</i>	Red maple	90'	Green/red	Mar-May	F/P/S	N	50,51,55,56,57
<i>Acer saccharinum</i>	Silver Maple	100'	Yellow	Mar-Apr	F/P	N	50,51,55,56,57
<i>Amelanchier arborea</i>	Downy serviceberry	40'	White	April	F/P/S	N	50,51,55,56,57
<i>Aronia prunifolia</i>	Purple chokeberry	10'	White	Apr-Jul	F/P	N	50,51,55,56,57
<i>Betula alleghaniensis</i>	Yellow birch	100'	Purple/Yellow	Apr-May	P/S	N	50,51,55,56,57
<i>Betula papyrifera</i>	Paper birch	70'	Brown	Apr-May	F/P	N	50,51,55,56,57
<i>Celtis occidentalis</i>	Hackberry	60'	Green	May	F/P/S	N	55,56,57
<i>Cercis canadensis</i>	Redbud	25'	Red	Apr-May	F/P/S	N	55,56,57
<i>Cornus amomum</i>	Silky dogwood	10'	White	May-Jul	F/P	N	51,55,56,57
<i>Cornus sericea</i>	Red-osier dogwood	10'	White	May-Sep	F/P	N	50,51,55,56,57
<i>Corylus americana</i>	American hazelnut	10'	Yellow	Apr-May	F/P	N	55,56,57
<i>Ilex verticillata</i>	Winterberry	10'	White	June	F/P/S	Y	50,51,55,56,57
<i>Juglans nigra</i>	Black walnut	90'	Green	May	F/P	N	51,55,56,57
<i>Juniperus virginiana</i>	Red-cedar	50'	Brown	Apr-May	F/P	N	55,56,57
<i>Larix laricina</i>	American larch	75'	Brown	May	F/P	N	50,51,55,56,57
<i>Lindera benzoin</i>	Spicebush	15'	Yellow	Apr-May	P/S	N	51,55,56,57
<i>Liriodendron tulipifera</i>	Tulip tree	110'	Green	May-Jun	F/P	N	55,56,57
<i>Morus rubra</i>	Red mulberry	50'	Green	May-Jun	F/P/S	N	55,56,57
<i>Nyssa sylvatica</i>	Black gum	100'	Green	May-Jul	F/P/S	Y	51,55,56,57
<i>Physocarpus opulifolius</i>	Ninebark	10'	White	May-Jun	F/P	N	50,51,55,56,57
<i>Picea mariana</i>	Black spruce	60'	Brown	May-Jun	F/P/S	N	50,51,57
<i>Platanus occidentalis</i>	Sycamore	100'	Green	May	F/P	N	55,56,57
<i>Quercus bicolor</i>	Swamp white oak	70'	Green/yellow	May	F/P/S	N	55,56,57
<i>Quercus macrocarpa</i>	Bur oak	85'	Yellow	May-Jun	F/P/S	N	50,51,55,56,57
<i>Quercus palustris</i>	Pin oak	90'	Green/yellow	Apr-May	F/P/S	Y	55,56,57
<i>Ribes americanum</i>	Wild black currant	5'	Yellow	Apr-Jun	F/P/S	N	50,51,55,56,57
<i>Rosa carolina</i>	Pasture rose	3'	Pink	Jun-Sep	F/P	N	55,56,57
<i>Rosa palustris</i>	Swamp rose	2'-7'	Pink	Jun-Aug	F/P/S	N	50,51,55,56,57
<i>Thuja occidentalis</i>	White cedar	50'	Brown	Apr-May	F/P/S	N	50,51,55,56,57
<i>Tilia americana</i>	Basswood	100'	White	Jun-Jul	F/P/S	N	50,51,55,56,57
<i>Tsuga canadensis</i>	Hemlock	100'	Brown	Apr-May	F/P/S	N	50,51,55,56,57
<i>Ulmus americana</i>	American elm	100'	Brown	Mar-Apr	F/P/S	N	50,51,55,56,57
<i>Ulmus rubra</i>	Slippery elm	80'	Green	Mar-Apr	F/P/S	N	51,55,56,57
<i>Viburnum dentatum</i>	Arrowwood	10'	White	May-Jun	F/P/S	N	51,55,56,57
<i>Viburnum lentago</i>	Nannyberry	20'	White	Apr-Jun	P/S	Y	50,51,55,56,57
<i>Viburnum prunifolium</i>	Black haw	10'	White	Apr-May	F/P	N	55
<i>Viburnum trilobum</i>	Cranberry Viburnum	10'	White	Apr-May	F/P/S	N	50,51,55,56,57
Grasses/Sedges/Rushes:							
<i>Andropogon gerardii</i>	Big bluestem	4'-8'	Purple	Jul-Sep	F	N	50,51,55,56,57
<i>Calamagrostis canadensis</i>	Blue joint grass	2'-4'	Brown	June	F/P	N	50,51,55,56,57
<i>Carex comosa</i>	Bristly sedge	2'-3'	Green	May-June	F/P	N	50,51,55,56,57
<i>Carex crinita</i>	Fringed sedge	2'-5'	Green	May	F/P/S	N	50,51,55,56,57
<i>Carex hystericina</i>	Porcupine sedge	2'-3'	Green	May-June	F/P/S	N	50,51,55,56,57
<i>Carex lupulina</i>	Common hop sedge	2'-3'	Green/Brown	May-June	F/P/S	N	50,51,55,56,57
<i>Carex muskingumensis</i>	Palm sedge	1'-2'	Brown	May-June	S	N	55,56,57
<i>Carex stipata</i>	Common fox sedge	1'-3'	Brown	Apr-May	F/P/S	N	50,51,55,56,57
<i>Carex stricta</i>	Tussock sedge	2'-3'	Brown	Apr-Jun	F/P	N	50,51,55,56,57
<i>Carex vulpinoidea</i>	Brown fox sedge	2'-3'	Brown	May-Jun	F/P	N	50,51,55,56,57
<i>Cinna arundinacea</i>	Common wood reed	3'-4'	Green	Aug-Sep	P/S	N	55,56,57
<i>Elymus canadensis</i>	Canada wild rye	3'-6'	Green	Jun-Sep	F/P	N	50,51,55,56,57
<i>Elymus hystrix</i>	Bottlebrush Grass	3'-5'	Green	Jun-Jul	P/S	N	
<i>Elymus virginicus</i>	Virginia wild rye	2'-4'	Green	Jun	F/P/S	N	50,51,55,56,57

Botanical Name	Common Name	Height	Color	Bloom Time	Sun	Salt Tolerant	Ecoregion
<i>Glyceria striata</i>	Fowl manna grass	1'-5'	Green	May-Jun	F/P/S	N	50,51,55,56,57
<i>Juncus tenuis</i>	Path rush	6"-2'	Brown	June	F/P/S	N	50,51,55,56,57
<i>Juncus torreyi</i>	Torrey's rush	1'-2'	Brown	Jun-Sep	F	Y	51,55,56,57
<i>Panicum virgatum</i>	Switch grass	3'-5'	Green/ Purple	Jun-Oct	F/P	Y	51,55,56,57
<i>Scirpus atrovirens</i>	Dark green rush	3'-5'	Brown	Jun-Aug	F	N	50,51,55,56,57
<i>Scirpus cyperinus</i>	Wool grass	3'-5'	Tan	Jun-Sep	F	Y	50,51,55,56,57
<i>Scirpus pendulus</i>	Red bulrush	2'-4'	Brown	May-Jun	F	N	51,55,56,57
<i>Spartina pectinata</i>	Prairie cordgrass	6'-7'	Green	Jul-Aug	F	Y	50,51,55,56,57
Forbs:							
<i>Anemone canadensis</i>	Canada anemone	1'-2'	White	May-Sep	F/P	N	50,51,55,56,57
<i>Angelica atropurpurea</i>	Great angelica	6'-9'	White	May-Jun	F/P	N	55,56,57
<i>Asclepias incarnata</i>	Swamp milkweed	3'-5'	Pink	Jun-Sep	F/P	N	50,51,55,56,57
<i>Aster novae-angliae</i>	New England aster	3'-6'	Violet	Jul-Oct	F/P	N	50,51,55,56,57
<i>Aster puniceus</i>	Swamp aster	3'-6'	Lav/ White	Aug-Oct	F	Y	50,51,55,56,57
<i>Aster umbellatus</i>	Flat-topped aster	1'-4'	White	Jul-Oct	F/P	N	50,51,55,56,57
<i>Cacalia atriplicifolia</i>	Pale Indian plantain	3'-8'	White	Jun-Oct	F/P/S	N	55,56
<i>Cassia hebecarpa</i>	Wild senna	3'-5'	Yellow	Jul-Aug	F/P	N	55,56
<i>Chelone glabra</i>	Turtlehead	2'-4'	Cream	Aug-Sep	F/P/S	N	50,51,55,56,57
<i>Coreopsis tripteris</i>	Tall coreopsis	4'-8'	Yellow	Aug-Sep	F/P	N	55,56,57
<i>Desmodium canadense</i>	Showy tick-trefoil	2'-5'	Purple	Jun-Sep	F/P	N	51,55,56,57
<i>Eryngium yuccifolium</i>	Rattlesnake master	3'-5'	White	Jul-Sep	F	N	55
<i>Eupatorium maculatum</i>	Spotted Joe-pye weed	4'-7'	Pink	Jun-Oct	F/P	N	50,51,55,56,57
<i>Eupatorium perfoliatum</i>	Boneset	3'-5'	White	Jul-Oct	F/P	Y	50,51,55,56,57
<i>Euthamia graminifolia</i>	Grass-leaved goldenrod	1'-4'	Yellow	Jul-Sep	F/P	N	50,51,55,56,57
<i>Gentiana andrewsii</i>	Bottle gentian	1'-3'	Blue	Aug-Oct	F/P	N	50,51,55,56,57
<i>Helenium autumnale</i>	Sneezeweed	3'-5'	Yellow	Jul-Nov	F/P	Y	50,51,55,56,57
<i>Helianthus giganteus</i>	Tall sunflower	5'-12'	Yellow	Jul-Sep	F/P	N	50,51,55,56,57
<i>Heliopsis helianthoides</i>	False sunflower	4'-6'	Yellow	Jun-Oct	F/P	N	50,51,55,56,57
<i>Iris virginica</i>	Blue flag iris	2'-3'	Purple	May-Jul	F/P/S	N	50,51,55,56,57
<i>Liatris spicata</i>	Marsh blazing star	3'-5'	Pink	Jul-Sep	F/P	N	55,56,57
<i>Lilium michiganense</i>	Michigan lily	3'-8'	Orange	Jul-Aug	P/S	N	55,56,57
<i>Lobelia cardinalis</i>	Cardinal flower	2'-5'	Red	Jul-Oct	F/P/S	N	50,51,55,56,57
<i>Lobelia siphilitica</i>	Great blue lobelia	1'-4'	Blue	Jul-Oct	F/P/S	N	50,51,55,56,57
<i>Lobelia spicata</i>	Pale spiked lobelia	1'-3'	Lavender	May-Aug	F/P	N	50,51,55,56,57
<i>Mimulus ringens</i>	Monkeyflower	2'-4'	Lavender	Jun-Sep	F/P	N	50,51,55,56,57
<i>Monarda fistulosa</i>	Wild bergamot	2'-5'	Lavender	Jul-Sep	F/P	N	50,51,55,56,57
<i>Physostegia virginiana</i>	Obedient plant	2'-5'	Pink	Aug-Oct	F	Y	50,51,55,56,57
<i>Polygonatum biflorum</i>	Solomon seal	1'-4'	Green/ White	May/Jul	P/S	N	55,56,57
<i>Pycnanthemum virginianum</i>	Mountain mint	1'-3'	White	Jun-Oct	F/P	N	55,56,57
<i>Rudbeckia laciniata</i>	Cutleaf coneflower	3'-10'	Yellow	Jul-Nov	F/P/S	N	50,51,55,56,57
<i>Rudbeckia triloba</i>	Three-lobed coneflower	2'-5'	Yellow	Aug-Oct	F/P	N	55,56,57
<i>Solidago caesia</i>	Bluestem goldenrod	1'-2'	Yellow	Sep-Oct	P/S	N	51,55,56,57
<i>Solidago flexicaulis</i>	Zigzag goldenrod	1'-3'	Yellow	Aug/Oct	P/S	N	50,51,55,56,57
<i>Solidago ohioensis</i>	Ohio goldenrod	2'-3'	Yellow	Jul-Oct	F/P	N	50,51,55,56,57
<i>Solidago patula</i>	Swamp goldenrod	3'-6'	Yellow	Aug-Oct	F/P/S	N	50,51,55,56,57
<i>Solidago riddellii</i>	Riddell's goldenrod	2'-5'	Yellow	Sep-Nov	F	N	55,56,57
<i>Spiraea alba</i>	Meadowsweet	3'-6'	White	June-Sep	F/P	Y	50,51,55,56,57
<i>Spiraea tomentosa</i>	Steeplebush	2'-5'	Pink	Jul-Sep	F/P	Y	55,56,57
<i>Thalictrum dasycarpum</i>	Purple meadow-rue	3'-6'	Cream	May-Jul	F/P	N	50,51,55,56,57
<i>Verbena hastata</i>	Blue vervain	3'-6'	Violet	Jun-Sep	F	N	50,51,55,56,57
<i>Vernonia missurica</i>	Missouri ironweed	3'-5'	Purple	Jul-Sep	F	N	55,56,57
<i>Veronicastrum virginicum</i>	Culver's root	3'-6'	White	Jun-Aug	F/P	N	55,56,57
<i>Zizia aurea</i>	Golden Alexanders	1'-3'	Yellow	Apr-Jun	F/P/S	Y	55,56,57

Representative Zone D Species



Big Bluestem



Marsh Blazing Star



Wild Columbine



Great Blue Lobelia



Michigan Lily



Virginia Mountain Mint



Meadowsweet



Blue Vervain

Source: JFNew

Zone E

Planting Zone = four-to-18 inches above water level

These plants tolerate fluctuating water levels within this range. They will also tolerate short periods of inundation, not to exceed 48 hours in most situations, making them appropriate for BMP settings.

Botanical Name	Common Name	Height	Color	Bloom Time	Sun	Salt Tolerant	Ecoregion
Woody Species:							
<i>Acer rubrum</i>	Red maple	90'	Green/red	Mar-May	F/P/S	N	50,51,55,56,57
<i>Acer saccharum</i>	Sugar maple	100'	Green	Apr-May	F/P/S	N	50,51,55,56,57
<i>Acer saccharinum</i>	Silver Maple	100'	Yellow	Mar-Apr	F/P	N	50,51,55,56,57
<i>Amelanchier arborea</i>	Downy serviceberry	40'	White	April	F/P/S	N	N
<i>Aronia prunifolia</i>	Purple chokeberry	10'	White	Apr-Jul	F/P	N	50,51,55,56,57
<i>Betula papyrifera</i>	Paper birch	70'	Brown	Apr-May	F/P	N	50,51,55,56,57
<i>Carya ovata</i>	Shagbark hickory	80'	Green	May-Jun	F/P/S	N	55,56,57
<i>Ceanothus americanus</i>	New Jersey tea	1'-3'	White	Jun-Oct	F/P	N	50,51,55,56,57
<i>Celtis occidentalis</i>	Hackberry	60'	Green	May	F/P/S	N	55,56,57
<i>Cercis canadensis</i>	Redbud	25'	Red	Apr-May	F/P/S	N	55,56,57
<i>Cornus amomum</i>	Silky dogwood	10'	White	May-Jul	F/P	N	51,55,56,57
<i>Cornus florida</i>	Flowering dogwood	30'	White	May-Jun	F/P/S	N	55,56,57
<i>Cornus sericea</i>	Red-osier dogwood	10'	White	May-Sep	F/P	N	50,51,55,56,57
<i>Corylus americana</i>	American hazelnut	10'	Yellow	Apr-May	F/P	N	55,56,57
<i>Gymnocladus dioica</i>	Kentucky coffee tree	85'	White	Jun	F/P	N	55,56,57
<i>Juglans nigra</i>	Black walnut	90'	Green	May	F/P	N	51,55,56,57
<i>Juniperus virginiana</i>	Red-cedar	50'	Brown	Apr-May	F/P	N	55,56,57
<i>Larix laricina</i>	American larch	75'	Brown	May	F/P	N	50,51,55,56,57
<i>Lindera benzoin</i>	Spicebush	15'	Yellow	Apr-May	P/S	N	51,55,56,57
<i>Liriodendron tulipifera</i>	Tulip tree	110'	Green	May-Jun	F/P	N	55,56,57
<i>Morus rubra</i>	Red mulberry	50'	Green	May-Jun	F/P/S	N	55,56,57
<i>Nyssa sylvatica</i>	Black gum	100'	Green	May-Jul	F/P/S	Y	51,55,56,57
<i>Physocarpus opulifolius</i>	Ninebark	10'	White	May-Jun	F/P	N	50,51,55,56,57
<i>Picea mariana</i>	Black spruce	60'	Brown	May-Jun	F/P/S	N	50,51,57
<i>Pinus banksiana</i>	Jack pine	60'	Brown	May-Jun	F/P	N	50,51,55,57
<i>Pinus resinosa</i>	Red pine	100'	Brown	Apr-May	F/P	N	50,51,55,57
<i>Pinus strobus</i>	White pine	100'	Brown	Jun	F/P/S	N	50,51,55,56,57
<i>Platanus occidentalis</i>	Sycamore	100'	Green	May	F/P	N	55,56,57
<i>Prunus americana</i>	American plum	30'	Red	Apr-May	F/P	N	55,56,57
<i>Prunus virginiana</i>	Choke cherry	30'	White	May-Jun	F/P/S	N	50,51,55,56,57
<i>Quercus bicolor</i>	Swamp white oak	70'	Green/yellow	May	F/P/S	N	55,56,57
<i>Quercus macrocarpa</i>	Bur oak	85'	Yellow	May-Jun	F/P/S	N	50,51,55,56,57
<i>Quercus palustris</i>	Pin oak	90'	Green/yellow	Apr-May	F/P/S	Y	55,56,57
<i>Quercus rubra</i>	Red Oak	90'	Green	May-Jun	F/P/S	N	50,51,55,56,57
<i>Ribes americanum</i>	Wild black currant	5'	Yellow	Apr-Jun	F/P/S	N	50,51,55,56,57
<i>Rosa carolina</i>	Pasture rose	3'	Pink	Jun-Sep	F/P	N	55,56,57
<i>Tilia americana</i>	Basswood	100'	White	Jun-Jul	F/P/S	N	50,51,55,56,57
<i>Thuja occidentalis</i>	White cedar	50'	Brown	Apr-May	F/P/S	N	50,51,55,56,57
<i>Tsuga canadensis</i>	Hemlock	100'	Brown	Apr-May	F/P/S	N	50,51,55,56,57
<i>Ulmus americana</i>	American elm	100'	Brown	Mar-Apr	F/P/S	N	50,51,55,56,57
<i>Ulmus rubra</i>	Slippery elm	80'	Green	Mar-Apr	F/P/S	N	51,55,56,57
<i>Viburnum acerifolium</i>	Maple-leaved Viburnum	7'	White	May-Aug	F/P	N	50,51,55,56,57
<i>Viburnum dentatum</i>	Arrowwood	10'	White	May-Jun	F/P/S	N	51,55,56,57
<i>Viburnum prunifolium</i>	Black haw	10'	White	Apr-May	F/P	N	55
Grasses/Sedges/Rushes:							
<i>Andropogon gerardii</i>	Big bluestem	4'-8'	Purple	Jul-Sep	F	N	50,51,55,56,57
<i>Carex bicknellii</i>	Copper-shouldered oval sedge	1'-2'	Brown	May-Jun	F	N	55,56
<i>Carex muhlenbergii</i>	Sand bracted sedge	1'-3'	Brown	May-Jun	F/P/S	N	51,55,56,57
<i>Elymus canadensis</i>	Canada wild rye	3'-6'	Green	Jun-Sep	F/P	N	50,51,55,56,57

Botanical Name	Common Name	Height	Color	Bloom Time	Sun	Salt Tolerant	Ecoregion
<i>Elymus hystrix</i>	Bottlebrush Grass	3'-5'	Green	Jun-Jul	P/S	N	
<i>Elymus virginicus</i>	Virginia wild rye	2'-4'	Green	Jun	F/P/S	N	50,51,55,56,57
<i>Eragrostis spectabilis</i>	Purple love grass	1'-2'	Purple	Aug-Oct	F	N	51,55,56,57
<i>Juncus tenuis</i>	Path rush	6''-2'	Brown	June	F/P/S	N	50,51,55,56,57
<i>Panicum virgatum</i>	Switch grass	3'-6'	Green/ Purple	Jun-Oct	F/P	Y	51,55,56,57
<i>Schizachyrium scoparium</i>	Little bluestem	2'-4'	Brown	Aug-Sep	F/P	Y	50,51,55,56,57
<i>Sorghastrum nutans</i>	Indian grass	4'-9'	Green	Aug-Sep	F	N	51,55,56,57
<i>Spartina pectinata</i>	Prairie cordgrass	6'-7'	Green	Jul-Aug	F	Y	50,51,55,56,57
<i>Stipa spartea</i>	Porcupine grass	2'-4'	Green	Aug-Sep	F	Y	55,56,57
Forbs:							
<i>Allium cernuum</i>	Nodding wild onion	1'-2'	Lavender	Jun-Oct	F/P	N	55,56
<i>Aquilegia canadensis</i>	Wild columbine	1'-3'	Red/ Yellow	Apr-Jun	F/P/S	Y	50,51,55,56,57
<i>Asclepias syriaca</i>	Common milkweed	2'-4'	Pink	Jun-Aug	F/P	N	50,51,55,56,57
<i>Asclepias tuberosa</i>	Butterflyweed	1'-3'	Orange	Jun-Sep	F/P	Y	51,55,56,57
<i>Asclepias verticillata</i>	Whorled milkweed	1'-2'	White	Jun-Sep	F/P	N	51,55,56,57
<i>Aster cordifolius</i>	Heart-leaved aster	2'-4'	Blue/ White	Sep-Oct	P/S	N	55,56,57
<i>Aster laevis</i>	Smooth aster	3'-5'	Blue	Aug-Oct	F	Y	50,51,55,56,57
<i>Aster lateriflorus</i>	Calico aster	1'-3'	White	Jul-Oct	F/P/S	N	50,51,55,56,57
<i>Aster macrophyllus</i>	Big-leaved aster	6''-2'	Lav/ White	Jul-Oct	P/S	N	50,51,55,56,57
<i>Aster novae-angliae</i>	New England aster	3'-6'	Violet	Jul-Oct	F/P	N	50,51,55,56,57
<i>Aster oolentangiensis</i>	Sky-blue aster	1'-4'	Blue	Jul-Nov	F/P	Y	55,56,57
<i>Aster shortii</i>	Short's aster	1'-4'	Blue	Aug-Oct	P/S	N	55,56
<i>Cacalia atriplicifolia</i>	Pale Indian plantain	3'-8'	White	Jun-Oct	F/P/S	N	55,56
<i>Campanula americana</i>	Tall bellflower	2'-6'	Blue	Jul-Nov	P/S	N	55,56,57
<i>Cassia hebecarpa</i>	Wild senna	3'-5'	Yellow	Jul-Aug	F/P	N	55,56
<i>Clematis virginiana</i>	Virgin's bower	9' long	White	Jul-Aug	F/P	N	50,51,55,56,57
<i>Coreopsis tripteris</i>	Tall coreopsis	4'-8'	Yellow	Aug-Sep	F/P	N	55,56,57
<i>Desmodium canadense</i>	Showy tick-trefoil	2'-5'	Purple	Jun-Sep	F/P	N	55,56,57
<i>Echinacea pallida</i>	Purple coneflower	2'-5'	Lavender	May-Aug	F	N	55,56,57
<i>Eryngium yuccifolium</i>	Rattlesnake master	3'-5'	White	Jul-Sep	F	N	55
<i>Eupatorium purpureum</i>	Purple Joe-pye weed	3'-6'	Pink	Jul-Sep	P	N	55,56,57
<i>Euphorbia corollata</i>	Flowering spurge	2'-4'	White	May-Oct	F/P	N	51,55,56,57
<i>Geranium maculatum</i>	Wild geranium	1'-2'	Pink	Apr-Jul	F/P/S	N	55,56,57
<i>Helianthus divaricatus</i>	Woodland sunflower	2'-6'	Yellow	Jun-Sep	P/S	N	50,51,55,56,57
<i>Helianthus giganteus</i>	Tall sunflower	5'-12'	Yellow	Jul-Sep	F/P	N	50,51,55,56,57
<i>Helianthus pauciflorus</i>	Prairie sunflower	3'-5'	Yellow	Jul-Oct	F	N	50,55,56,57
<i>Heliopsis helianthoides</i>	False sunflower	4'-6'	Yellow	Jun-Oct	F/P	N	50,51,55,56,57
<i>Lespedeza capitata</i>	Round-headed bush clover	2'-4'	Green	Jul-Sep	F/P	N	55,56,57
<i>Liatris aspera</i>	Rough blazing star	2'-3'	Violet	Jul-Nov	F/P	Y	50,55,56,57
<i>Liatris spicata</i>	Marsh blazing star	3'-5'	Pink	Jul-Sep	F/P/S	N	55,56,57
<i>Liatris scariosa</i>	Savanna blazing star	3'-5'	Violet	Aug-Oct	F/P	N	50,51,55,56,57
<i>Monarda fistulosa</i>	Wild bergamot	2'-5'	Lavender	Jul-Sep	F/P	N	50,51,55,56,57
<i>Penstemon digitalis</i>	Foxglove beardtongue	2'-4'	White	May-Jul	F/P	N	50,51,55,56,57
<i>Penstemon hirsutus</i>	Hairy beardtongue	1'-2'	Purple	May-Jul	F/P	N	55,56,57
<i>Phlox divaricata</i>	Wild blue phlox	1'-2'	Blue	Apr-Jun	P/S	N	51,55,56,57
<i>Phlox pilosa</i>	Sand prairie phlox	1'-2'	Pink	May-Aug	F/P	N	56
<i>Physostegia virginiana</i>	Obedient plant	2'-5'	Pink	Aug-Oct	F	Y	50,51,55,56,57
<i>Polygonatum biflorum</i>	Solomon seal	1'-4'	Green/ White	May/Jul	P/S	N	55,56,57
<i>Polygonatum pubescens</i>	Downy Solomon seal	1'-3'	White	May-Jul	P/S	N	50,51,55,56,57
<i>Pycnanthemum virginianum</i>	Mountain mint	1'-3'	White	Jun-Oct	F/P	N	55,56,57
<i>Ratibida pinnata</i>	Yellow coneflower	3'-6'	Yellow	Jul-Oct	F	N	55,56
<i>Rudbeckia hirta</i>	Black-eyed Susan	1'-3'	Yellow	May-Oct	F/P	Y	50,51,55,56,57
<i>Rudbeckia triloba</i>	Three-lobed cone-flower	2'-5'	Yellow	Aug-Oct	F/P	N	55,56,57
<i>Silphium terebinthinaceum</i>	Prairie-dock	3'-8'	Yellow	Jun-Sep	F	N	55,56,57
<i>Smilacina racemosa</i>	Feathery false Solomon's seal	1'-3'	White	Apr-Jun	P/S	N	50,51,55,56,57
<i>Smilacina stellata</i>	Starry false Solomon's seal	1'-2'	White	Apr-Jun	F/P	N	50,51,55,56,57
<i>Solidago caesia</i>	Bluestem goldenrod	1'-2'	Yellow	Sep-Oct	P/S	N	51,55,56,57
<i>Solidago flexicaulis</i>	Zigzag goldenrod	1'-3'	Yellow	Aug-Oct	P/S	N	50,51,55,56,57
<i>Solidago juncea</i>	Early goldenrod	2'-4'	Yellow	Jul-Sep	F/P	N	50,51,55,56,57
<i>Solidago speciosa</i>	Showy goldenrod	1'-3'	Yellow	Jul-Oct	F/P	Y	50,51,55,56,57
<i>Thalictrum dioicum</i>	Early meadow-rue	1'-3'	Green	Apr-May	P/S	N	50,51,55,56,57
<i>Tradescantia ohiensis</i>	Spiderwort	2'-4'	Blue	May-Oct	F/P	N	55,56,57
<i>Vernonia missurica</i>	Missouri ironweed	3'-5'	Purple	Jul-Sep	F	N	55,56,57

Representative Zone E Species



New England Aster



Wild Bergamot



Showy Goldenrod



Tall Bellflower



Wild Geranium



Tall Coreopsis



Redbud



Indian Grass

Source: JFNew

Zone F

Planting Zone = 18+inches above water level

These plants tolerate fluctuating water levels within this range, although they are generally less tolerant than most wetter species. They may tolerate short periods of inundation, not to exceed 48 hours in most situations, making them appropriate for upland BMP settings.

Botanical Name	Common Name	Height	Color	Bloom Time	Sun	Salt Tolerant	Ecoregion
<i>Veronicastrum virginicum</i>	Culver's root	3'-6'	White	Jun-Aug	F/P	N	55,56,57
Woody Species:							
<i>Acer rubrum</i>	Red maple	90'	Green/red	Mar-May	F/P/S	N	50,51,55,56,57
<i>Acer saccharum</i>	Sugar maple	100'	Green	Apr-May	F/P/S	N	50,51,55,56,57
<i>Acer saccharinum</i>	Silver Maple	100'	Yellow	Mar-Apr	F/P	N	50,51,55,56,57
<i>Betula papyrifera</i>	Paper birch	70'	Brown	Apr-May	F/P	N	50,51,55,56,57
<i>Carya ovata</i>	Shagbark hickory	80'	Green	May-Jun	F/P/S	N	55,56,57
<i>Ceanothus americanus</i>	New Jersey tea	1'-3'	White	Jun-Oct	F/P	N	50,51,55,56,57
<i>Celtis occidentalis</i>	Hackberry	60'	Green	May	F/P/S	N	55,56,57
<i>Cercis canadensis</i>	Redbud	25'	Red	Apr-May	F/P/S	N	55,56,57
<i>Cornus florida</i>	Flowering dogwood	30'	White	May-Jun	F/P/S	N	55,56,57
<i>Corylus americana</i>	American hazelnut	10'	Yellow	Apr-May	F/P	N	55,56,57
<i>Gymnocladus dioicus</i>	Kentucky coffee tree	85'	White	Jun	F/P	N	55,56,57
<i>Hamamelis virginiana</i>	Witch hazel	30'	Yellow	Oct-Nov	F/P/S	N	50,51,55,56,57
<i>Juglans nigra</i>	Black walnut	90'	Green	May	F/P	N	51,55,56,57
<i>Juniperus virginiana</i>	Red-cedar	50'	Brown	Apr-May	F/P	N	55,56,57
<i>Liriodendron tulipifera</i>	Tulip tree	110'	Green	May-Jun	F/P	N	55,56,57
<i>Morus rubra</i>	Red mulberry	50'	Green	May-Jun	F/P/S	N	55,56,57
<i>Nyssa sylvatica</i>	Black gum	100'	Green	May-Jul	F/P/S	Y	51,55,56,57
<i>Pinus banksiana</i>	Jack pine	60'	Brown	May-Jun	F/P	N	50,51,55,57
<i>Pinus resinosa</i>	Red pine	100'	Brown	Apr-May	F/P	N	50,51,55,57
<i>Pinus strobus</i>	White pine	100'	Brown	Jun	F/P/S	N	50,51,55,56,57
<i>Prunus americana</i>	American plum	30'	Red	Apr-May	F/P	N	55,56,57
<i>Prunus virginiana</i>	Choke cherry	30'	White	May-Jun	F/P/S	N	50,51,55,56,57
<i>Quercus macrocarpa</i>	Bur oak	85'	Yellow	May-Jun	F/P/S	N	50,51,55,56,57
<i>Quercus palustris</i>	Pin oak	90'	Green/yellow	Apr-May	F/P/S	Y	55,56,57
<i>Quercus rubra</i>	Red Oak	90'	Green	May-Jun	F/P/S	N	50,51,55,56,57
<i>Rosa carolina</i>	Pasture rose	3'	Pink	Jun-Sep	F/P	N	55,56,57
<i>Tilia americana</i>	Basswood	100'	Yellow	Jun-Jul	F/P/S	N	50,51,55,56,57
<i>Tsuga canadensis</i>	Hemlock	100'	Brown	Apr-May	F/P/S	N	50,51,55,56,57
<i>Viburnum acerifolium</i>	Maple-leaved Viburnum	7'	White	May-Aug	F/P	N	50,51,55,56,57
<i>Viburnum dentatum</i>	Arrowwood	10'	White	May-Jun	F/P/S	N	51,55,56,57
Grasses/Sedges/Rushes:							
<i>Andropogon gerardii</i>	Big bluestem	4'-8'	Purple	Jul-Sep	F	N	50,51,55,56,57
<i>Carex bicknellii</i>	Copper-shouldered oval sedge	1'-2'	Brown	May-Jun	F	N	55,56
<i>Carex muhlenbergii</i>	Sand bracted sedge	1'-3'	Brown	May-Jun	F/P/S	N	51,55,56,57
<i>Elymus canadensis</i>	Canada wild rye	3'-6'	Green	Jun-Sep	F/P	N	50,51,55,56,57
<i>Elymus hystrix</i>	Bottlebrush Grass	3'-5'	Green	Jun-Jul	P/S	N	50,51,55,56,57
<i>Eragrostis spectabilis</i>	Purple love grass	1'-2'	Purple	Aug-Oct	F	N	51,55,56,57
<i>Koeleria macrantha</i>	June grass	1'-2'	White	May-Jul	F/P	N	50,51,55,56,57
<i>Panicum virgatum</i>	Switch grass	3'-6'	Green/Purple	Jun-Oct	F/P	Y	51,55,56,57
<i>Schizachyrium scoparium</i>	Little bluestem	2'-4'	Brown	Aug-Sep	F/P	Y	50,51,55,56,57
<i>Sorghastrum nutans</i>	Indian grass	4'-9'	Green	Aug-Sep	F	N	51,55,56,57
<i>Spartina pectinata</i>	Prairie cordgrass	6'-7'	Green	Jul-Aug	F	Y	50,51,55,56,57

Botanical Name	Common Name	Height	Color	Bloom Time	Sun	Salt Tolerant	Ecoregion
<i>Stipa spartea</i>	Porcupine grass	2'-4'	Green	Aug-Sep	F	Y	55,56,57
Forbs:							
<i>Allium cernuum</i>	Nodding wild onion	1'-2'	Lavender	Jun-Oct	F/P	N	55,56
<i>Asclepias syriaca</i>	Common milkweed	2'-4'	Pink	Jun-Aug	F/P	N	50,51,55,56,57
<i>Asclepias tuberosa</i>	Butterflyweed	1'-3'	Orange	Jun-Sep	F/P	Y	51,55,56,57
<i>Asclepias verticillata</i>	Whorled milkweed	1'-2'	White	Jun-Sep	F/P	N	51,55,56,57
<i>Aster cordifolius</i>	Heart-leaved aster	2'-4'	Blue/ White	Sep-Oct	P/S	N	55,56,57
<i>Aster laevis</i>	Smooth aster	3'-5'	Blue	Aug-Oct	F	Y	50,51,55,56,57
<i>Aster oolentangiensis</i>	Sky-blue aster	1'-4'	Blue	Jul-Nov	F/P	Y	55,56,57
<i>Aster shortii</i>	Short's aster	1'-4'	Blue	Aug-Oct	P/S	N	55,56
<i>Cacalia atriplicifolia</i>	Pale Indian plantain	3'-8'	White	Jun-Oct	F/P/S	N	55,56
<i>Campanula americana</i>	Tall bellflower	2'-6'	Blue	Jul-Nov	P/S	N	55,56,57
<i>Clematis virginiana</i>	Virgin's bower	9' long	White	Jul-Aug	F/P	N	50,51,55,56,57
<i>Coreopsis lanceolata</i>	Sand coreopsis	1'-2'	Yellow	May-Aug	F/P	N	50,51,55
<i>Coreopsis palmata</i>	Prairie coreopsis	1'-2'	Yellow	Jun-Aug	F/P	N	55
<i>Coreopsis tripteris</i>	Tall coreopsis	4'-8'	Yellow	Aug-Sep	F/P	N	55,56,57
<i>Echinacea pallida</i>	Purple coneflower	2'-5'	Lavender	May-Aug	F	N	55,56,57
<i>Eryngium yuccifolium</i>	Rattlesnake master	3'-5'	White	Jul-Sep	F	N	55
<i>Eupatorium purpureum</i>	Purple Joe-pye weed	3'-6'	Pink	Jul-Sep	P	N	55,56,57
<i>Euphorbia corollata</i>	Flowering spurge	2'-4'	White	May-Oct	F/P	N	51,55,56,57
<i>Geranium maculatum</i>	Wild geranium	1'-2'	Pink	Apr-Jul	F/P/S	N	55,56,57
<i>Helianthus divaricatus</i>	Woodland sunflower	2'-6'	Yellow	Jun-Sep	P/S	N	50,51,55,56,57
<i>Helianthus occidentalis</i>	Western sunflower	2'-4'	Yellow	Aug-Sep	F/P	N	50,51,55,56,57
<i>Helianthus pauciflorus</i>	Prairie sunflower	3'-5'	Yellow	Jul-Oct	F	N	50,55,56,57
<i>Heliopsis helianthoides</i>	False sunflower	4'-6'	Yellow	Jun-Oct	F/P	N	50,51,55,56,57
<i>Lespedeza capitata</i>	Round-headed bush clover	2'-4'	Green	Jul-Sep	F/P	N	55,56,57
<i>Liatris aspera</i>	Rough blazing star	2'-3'	Violet	Jul-Nov	F/P	Y	50,55,56,57
<i>Liatris cylindracea</i>	Cylindrical blazing star	1'-2'	Violet	Jul-Oct	F/P	N	51,55,56,57
<i>Liatris scariosa</i>	Savanna blazing star	3'-5'	Violet	Aug-Oct	F/P	N	50,51,55,56,57
<i>Lupinus perennis</i>	Wild lupine	1'-2'	Purple	Apr-Jun	F/P	N	55,56,57
<i>Monarda fistulosa</i>	Wild bergamot	2'-5'	Lavender	Jul-Sep	F/P	N	50,51,55,56,57
<i>Penstemon digitalis</i>	Foxglove beardtongue	2'-4'	White	May-Jul	F/P	N	50,51,55,56,57
<i>Penstemon hirsutus</i>	Hairy beardtongue	1'-2'	Purple	May-Jul	F/P	N	55,56,57
<i>Phlox pilosa</i>	Sand prairie phlox	1'-2'	Pink	May-Aug	F/P	N	56
<i>Polygonatum biflorum</i>	Solomon seal	1'-4'	Green/ White	May/Jul	P/S	N	55,56,57
<i>Polygonatum pubescens</i>	Downy Solomon seal	1'-3'	White	May-Jul	P/S	N	50,51,55,56,57
<i>Ratibida pinnata</i>	Yellow coneflower	3'-6'	Yellow	Jul-Oct	F	N	55,56
<i>Rudbeckia hirta</i>	Black-eyed Susan	1'-3'	Yellow	May-Oct	F/P	Y	50,51,55,56,57
<i>Silphium terebinthinaceum</i>	Prairie-dock	3'-8'	Yellow	Jun-Sep	F	N	55,56,57
<i>Smilacina racemosa</i>	Feathery false Solomon's seal	1'-3'	White	Apr-Jun	P/S	N	50,51,55,56,57
<i>Smilacina stellata</i>	Starry false Solomon's seal	1'-2'	White	Apr-Jun	F/P	N	50,51,55,56,57
<i>Solidago caesia</i>	Bluestem goldenrod	1'-2'	Yellow	Sep-Oct	P/S	N	51,55,56,57
<i>Solidago juncea</i>	Early goldenrod	2'-4'	Yellow	Jul-Sep	F/P	N	50,51,55,56,57
<i>Solidago speciosa</i>	Showy goldenrod	1'-3'	Yellow	Jul-Oct	F/P	Y	50,51,55,56,57
<i>Tradescantia ohimensis</i>	Spiderwort	2'-4'	Blue	May-Oct	F/P	N	55,56,57
<i>Veronicastrum virginicum</i>	Culver's root	3'-6'	White	Jun-Aug	F/P	N	55,56,57

Representative Zone F Species



Spiderwort



Butterfly Weed



Yellow Coneflower



Little Bluestem



Foxglove Beardtongue



Wild Lupine



Pale Purple Coneflower



Rattlesnake Master



Sand Coreopsis

Source: JFNew

Zone G

Planter Box Plantings

Although this manual typically recommends using native plants wherever possible, certain situations call for non-native plants due to particular site conditions. Because planter boxes traditionally have a short soil column and are exposed to drier conditions, non-native plants should be considered as long as they are considered non-invasive. Therefore, the list below contains both native and non-native species. Many planter boxes have traditionally used annual flowers. However, we recommend using perennial plants for establishing root systems and lowering maintenance in the long term. Many more species are available for planter boxes than are listed.

Botanical Name	Common Name	Height	Color	Bloom Time	Sun
<i>Ajuga reptans</i> 'Bronze Beauty'	Bronze Beauty Ajuga	6"	Blue	May-Jun	F
<i>Allium maximowiczii</i> 'Alba'	White Flowered Ornamental Chive	6"-1'	White	May-Jun	F
<i>Allium schoenoprasum</i> 'Glaucum'	Blue Flowered Ornamental Chive	6"-1'	Blue	Jun-Jul	F
<i>Allium senescens montanum</i>	Mountain Garlic	6"-1'	Pink/Purple	Jun-Aug	F
<i>Allium senescens glaucum</i>	Curly Onion	6"-1'	Pink	Jul-Sep	F
<i>Allium tanguticum</i> 'Summer Beauty'	Summer Beauty Ornamental Chive	6"-1'	Pink	Jul-Aug	F
<i>Aster</i> 'Wood's Light Blue'	Wood's Light Blue Aster	1'-3'	Blue	Aug-Sep	F
<i>Athyrium filix-femina</i>	Lady Fern	1'-3'	Green	NA	F/P/S
<i>Blechnum spicant</i>	Deer Fern	1'-2'	Green	NA	F/P/S
<i>Dryopteris erythrosora</i>	Autumn Fern	1'-2'	Green	NA	F/P/S
<i>Euphorbia myrsinites</i>	Myrtle Spurge	6"-1'	Yellow	May-Jun	F
<i>Dryopteris intermedia</i>	Fancy Fern	1'-3'	Green	NA	F/P/S
<i>Dryopteris marginalis</i>	Leatherleaf Fern	1'-2'	Green	NA	F/P/S
<i>Geranium</i> x 'Rozanne'	Rozanne Geranium	1'-2'	Violet	Jun-Sep	F/P
<i>Hemerocallis</i> 'Barbara Mitchell'	Barbara Mitchell Daylily	2'-3'	Pink	Jun-Aug	F/P
<i>Hemerocallis</i> 'Bill Norris'	Bill Norris Daylily	2'-3'	Yellow	Jun-Aug	F/P
<i>Hemerocallis</i> 'Chicago Apache'	Chicago Apache Daylily	2'-3'	Red	Jul-Sep	F/P
<i>Hosta</i> 'Francee'	Francee Hosta	1'-2'	Lavender	Jul-Aug	F/P/S
<i>Hosta</i> 'Guacamole'	Guacamole Hosta	1'-2'	Pink	Aug-Sep	F/P/S
<i>Hosta</i> 'Summer Fragrance'	Summer Fragrance Hosta	1'-2'	Lavender	Aug-Sep	F/P/S
<i>Hosta sieboldiana</i> 'Elegans'	Elegans Hosta	1'-2'	White	Jul-Aug	F/P/S
<i>Sedum</i> 'Autumn Charm'	Autumn Charm Sedum	6"-1'	Pink	Jun-Jul	F
<i>Sedum</i> 'Joyce Henderson'	Joyce Henderson Sedum	6"-1'	Pink	May-Jun	F
<i>Sedum</i> 'Mini Me'	Mini Me Sedum	6"-1'	Green	NA	F
<i>Sedum acre</i> 'Oktoberfest'	Oktoberfest Sedum	6"-1'	Yellow	Jul-Sep	F
<i>Sedum album</i> 'Athoum'	Jelly Bean Sedum	6"-1'	Pink	Aug-Sep	F
<i>Sedum album</i> 'Coral Carpet'	Coral Carpet Sedum	6"-1'	White	Jun-Aug	F
<i>Sedum album</i> 'Faro Island'	Faro Island Sedum	6"-1'	White	Jun-Aug	F
<i>Sedum album</i> 'Green Ice'	Green Ice Sedum	6"-1'	White	Jun-Jul	F
<i>Sedum album</i> 'Murale'	Wall Sedum	6"-1'	White	Jun-Jul	F
<i>Sedum cauticola</i> 'Sunset Cloud'	Sunset Cloud Sedum	6"-1'	Pink	Jul-Aug	F
<i>Sedum divergens</i>	Cascade Sedum	6"-1'	Yellow	Jun-Jul	F
<i>Sedum ellacombianum</i>	Ellacombe's Sedum	6"-1'	Yellow	May-Jun	F
<i>Sedum ellacombianum</i> 'Variegatum'	Variegated Ellacombe's Sedum	6"-1'	Yellow	May-Jun	F
<i>Sedum floriferum</i> 'Weihenstephaner Gold'	Weihenstephaner Gold Sedum	6"-1'	Yellow	Jun-Jul	F
<i>Sedum grisbachii</i>	Griseback Sedum	6"-1'	Yellow	Jul-Aug	F
<i>Sedum hybridum</i> 'Tekaridake'	Tekaridake Kamtschatka Sedum	6"-1'	Yellow	Jun	F
<i>Sedum kamtschaticum</i> 'Variegatum'	Variegated Kamtschatka Sedum	6"-1'	Orange	Jul-Aug	F
<i>Sedum middendorffianum</i> var. <i>diffusum</i>	Diffuse Middendorf's Sedum	6"-1'	Yellow	May-Jun	F

Representative Zone G Species



Guacamole Hosta



Mountain Garlic



Wall Sedum



Lady Fern

Source: JFNew

Zone H

Vegetated Roof Plantings

Research to-date shows that native plants do not typically thrive in vegetated roofs. Therefore, the list below reflects species that are known to thrive in green roof situations. All species listed below will generally grow to a height of six-to-18 inches.

Botanical Name	Common Name	Color	Bloom Time
<i>Allium maximowiczii</i> 'Alba'	White Flowered Ornamental Chive	White	May-Jun
<i>Allium schoenoprasum</i> 'Dwarf'	Dwarf Ornamental Chive	Pink	May-Jun
<i>Allium schoenoprasum</i> 'Glaucum'	Blue Flowered Ornamental Chive	Blue	Jun-Jul
<i>Allium senescens montanum</i>	Mountain Garlic	Pink/Purple	Jun-Aug
<i>Allium senescens glaucum</i>	Curly Onion	Pink	Jul-Sep
<i>Allium tanguticum</i> 'Summer Beauty'	Summer Beauty Ornamental Chive	Pink	Jul-Aug
<i>Euphorbia myrsinites</i>	Mytle Spurge	Yellow	May-Jun
<i>Sedum</i> 'Autumn Charm'	Autumn Charm Sedum	Pink	Jun-Jul
<i>Sedum</i> 'Joyce Henderson'	Joyce Henderson Sedum	Pink	May-Jun
<i>Sedum</i> 'Mini Me'	Mini Me Sedum	Green	NA
<i>Sedum acre</i> 'Aureum'	Gold Leaved Goldmoss Sedum	Yellow	May-Jun
<i>Sedum acre</i> 'Oktoberfest'	Oktoberfest Sedum	Yellow	Jul-Sep
<i>Sedum album</i> 'Athoum'	Jelly Bean Sedum	Pink	Aug-Sep
<i>Sedum album</i> 'Coral Carpet'	Coral Carpet Sedum	White	Jun-Aug
<i>Sedum album</i> 'Faro Island'	Faro Island Sedum	White	Jun-Aug
<i>Sedum album</i> 'Green Ice'	Green Ice Sedum	White	Jun-Jul
<i>Sedum album</i> 'Murale'	Wall Sedum	White	Jun-Jul
<i>Sedum album</i> 'Red Ice'	Red Ice Sedum	White	Jun-Jul
<i>Sedum cautacola</i> 'Bertram Anderson'	Bertram Anderson Sedum	Pink	Jul-Aug
<i>Sedum cauticola</i> 'Sunset Cloud'	Sunset Cloud Sedum	Pink	Jul-Aug
<i>Sedum divergens</i>	Cascade Sedum	Yellow	Jun-Jul
<i>Sedum ellacombianum</i>	Ellacombe's Sedum	Yellow	May-Jun
<i>Sedum ellacombianum</i> 'Variegatum'	Variegated Ellacombe's Sedum	Yellow	May-Jun
<i>Sedum floriferum</i> 'Weihenstephaner Gold'	Weihenstephaner Gold Sedum	Yellow	Jun-Jul
<i>Sedum grisbachii</i>	Griseback Sedum	Yellow	Jul-Aug
<i>Sedum hispanicum</i> 'Pinkie'	Pinkie Sedum	Pink	Jun-Jul
<i>Sedum hybridum</i> 'Immergunchen'	Evergreen Sedum	Yellow	Jun, Sep
<i>Sedum hybridum</i> 'Tekaridake'	Tekaridake Kamtschatka Sedum	Yellow	Jun
<i>Sedum kamtschaticum</i> 'Variegatum'	Variegated Kamtschatka Sedum	Orange	Jul-Aug
<i>Sedum middendorffianum</i> var. <i>diffusum</i>	Diffuse Middendorf's Sedum	Yellow	May-Jun

*List provided by Hortech, Inc.

Representative Zone H Species



Mountain Garlic



Cascade Sedum



Ellacombe's Sedum



Wall Sedum

Source: JFNew