

A close-up photograph of a bumblebee on a white flower spike against a blurred green background. The bee is positioned on the right side of the frame, facing left, and is actively interacting with the flowers. The flower spike is composed of numerous small, white, tubular flowers arranged in a dense, vertical cluster. The background is a soft, out-of-focus green, suggesting a natural outdoor setting.

Native Plant Nursery RESOURCE CATALOG

Restoration Guidelines:

- Supporting Pollinators
- Prairie, Wetland, and Specialty Seed Mixes
- Design and Planning Strategies
- Planting Guide
- Bioengineering Materials
- Establishment and Maintenance Strategies
- Ecological Consulting Services

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A note from the Nursery Practice Leader

The last few years have presented us with many unexpected challenges: a pandemic, semi-drought, supply shortages, increasing costs, and an unusually high demand for plants after a slow start. Through it all, our nursery team emerged and adapted to everything thrown our way. What a great team.

We're very excited about all the recent changes around here, including the expansion of our seed production fields and increase in native seed supply. Along with the seed production field, we have added seed harvesting and cleaning capabilities, and purchased a transplanting machine. A new greenhouse is in the works.

We're also making a difference. Stantec's native seed mixes are being used for monarch butterfly and pollinator habitat projects on roadsides, energy corridors, solar farms, filter strips, and soil stabilization projects across the Midwest. We produce native seed packets, which are a great way to showcase your commitment to the environment at tradeshow and conferences. Contact us about custom native seed mixes or seed packets for your project or business needs.

Our deep-water aquatic production continues to expand as we offer species that are part of the *Elodea*, *Potamogeton*, and *Vallisneria* genera. We are planning to bring more submerged aquatic species to market in the future.

We are excited about our growing native plant kit program designed for agencies to promote and provide native plants to their local communities. You can contact our nursery for the latest details.

Over the years, it has been a great pleasure to work on hundreds of unique projects and learn from many passionate and talented industry professionals. I would like to thank our loyal customers, vendors, and incredible nursery team. It's been a privilege working with all of you.

MARK O'BRIEN

Business Center Practice Leader
Restoration Services Nursery





The Stantec Native Plant Nursery

Since 1994, Stantec has operated a full-service native plant and seed nursery in northwest Indiana. We specialize in wetland, prairie, and woodland restoration and native landscape projects in the Midwest and beyond.

Over the years the nursery has continued to grow in size and product offerings, while continuing to focus on native species. Recently we have:

- Added more native species and genotype-specific plants and seed
- Expanded our restoration products to include live stakes, fascines, liners, and gallon stock
- Developed innovative, custom bioengineering materials to offer additional restoration options, including pre-vegetated coir products
- Provided custom contract growing, seed collection, and plant and seed amplification services, all of which can ensure the materials and necessary genotype are available for your project
- Increased the production of submerged aquatic plants to meet the demand for plants that grow in water more than 1 foot deep
- Continued to educate the public by sharing information on native plants—and their installation and maintenance—through our expanded social media sites

Our commitment to innovation allows us to make continual operational improvements and use technological advancements to keep our nursery at the forefront in meeting our clients' native restoration needs.

To create a successful native landscape or restoration project, it is critical to design, specify, install, and maintain native landscapes with plants most suited to the local environment, so that they become well established and flourish. To achieve a resilient, sustainable, and complex native landscape, the interaction among a site's climate, topography, soils, hydrology, and vegetation needs to be understood. Using Stantec's high-quality native plants and seed, along with quality design and installation, will provide you with the tools you need to achieve project success.



Advantages of Native Vegetation

Native plants are species indigenous to a particular habitat within a specific bio-geographic region. They have certain characteristics that contribute to their success. They:

- Are adapted to the region's soil, hydrology, and climate
- Have evolved defenses to many diseases and insect pests
- Create deep and extensive root systems, which help to stabilize the soil column and create an environment favorable to building fertile soils rich in organic matter
- Absorb excess nutrients from runoff, enhancing infiltration during periods of heavy rain as well as drought
- Provide habitat for butterflies, hummingbirds, songbirds, and beneficial insects, to create greater biodiversity

FUNCTIONS AND VALUES OF NATIVE PLANTS AND SEED

Native landscapes contribute to immediate and long-term ecosystem benefits, such as:

- Achieving green building site design goals
- Benefiting monarchs and pollinators
- Enhancing natural beauty
- Increasing wildlife habitat
- Managing nutrient loading
- Managing stormwater
- Mitigating habitat impacts
- Providing public education
- Reducing operational costs and long-term maintenance
- Restoring watersheds

Stantec seed mixes

Seed mix specifications are a key to the success of any restoration or native planting project. Stantec has hundreds of native plant and seed species available. Our experience with designing seed mixes allows us to offer high-quality custom and standard mixes to meet our clients' project needs.



When choosing a seed mix, the combination of species should be suited to existing site conditions. In addition, consider project goals and expectations, especially budget constraints. Seed is a highly economical way to create a native landscape, but expectations may require that species that germinate quickly be chosen. Supplementing seed with selective plant installation can help address expectations.

Standard seed mixes

To simplify the process and reduce costs, Stantec has developed several seed mixes for specific habitats and hydrologic conditions. To maintain maximum seed quality, our standard mixes are blended to order. Minor changes can be made to suit your project needs. Species can also be added to increase diversity. Because they are made to order, allow approximately one week for seed mix orders to be processed. Seed mixes are sold in 0.25 acre increments.

The seed mix lists can be downloaded as either an Excel spreadsheet or as a PDF at Stantec.com/nursery.

NATIVE WILDFLOWER MIX

This seed mix includes quick-blooming native wildflowers to provide initial color during native prairie establishment, especially on restoration sites. This mix contains many species beneficial to native bees and pollinators and can be used to supplement other seed mixes or existing natural areas. This seed mix includes at least 10 of 12 native forb species. Apply at 4.63 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Native Species:		
<i>Asclepias syriaca</i>	Common Milkweed	4.00
<i>Chamaecrista fasciculata</i>	Partridge Pea	16.00
<i>Coreopsis lanceolata</i>	Sand Coreopsis	8.00
<i>Desmanthus illinoensis</i>	Illinois Sensitive Plant	12.00
<i>Echinacea purpurea</i>	Broad-Leaved Purple Coneflower	12.00
<i>Lupinus perennis v. occidentalis</i>	Wild Lupine	4.00
<i>Monarda fistulosa</i>	Wild Bergamot	1.50
<i>Penstemon digitalis</i>	Foxglove Beard Tongue	1.00
<i>Ratibida pinnata</i>	Yellow Coneflower	4.00
<i>Rudbeckia hirta</i>	Black-Eyed Susan	10.00
<i>Solidago speciosa</i>	Showy Goldenrod	0.50
<i>Symphyotrichum laeve</i>	Smooth Blue Aster	1.00
Total		74.00



Penstemon digitalis, Foxglove Beard Tongue

BASIC PRAIRIE

A general prairie grass and wildflower mix providing a solid variety of species for most soil types and full sun, this seed mix features a broad palette of colorful species, including several key species for pollinator habitat. Adding seed or plant plugs at a later date is a wonderful way to increase a prairie's richness and diversity. This seed mix includes at least 6 of 7 native permanent grass and sedge species and 21 of 25 native forb species. Apply at 42.13 pure live seed (PLS) pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses		
<i>Andropogon gerardii</i>	Big Bluestem	12.00
<i>Bouteloua curtipendula</i>	Side-Oats Grama	16.00
<i>Carex spp.</i>	Prairie Sedge Species	3.00
<i>Elymus canadensis</i>	Canada Wild Rye	24.00
<i>Panicum virgatum</i>	Switch Grass	2.50
<i>Schizachyrium scoparium</i>	Little Bluestem	32.00
<i>Sorghastrum nutans</i>	Indian Grass	12.00
Total		101.50
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
Total		512.00
Forbs		
<i>Amorpha canescens</i>	Lead Plant	0.50
<i>Asclepias syriaca</i>	Common Milkweed	3.00
<i>Asclepias tuberosa</i>	Butterfly Weed	2.00
<i>Chamaecrista fasciculata</i>	Partridge Pea	10.00
<i>Coreopsis lanceolata</i>	Sand Coreopsis	6.00
<i>Coreopsis tripteris</i>	Tall Coreopsis	1.50
<i>Dalea purpurea</i>	Purple Prairie Clover	2.00
<i>Desmanthus illinoensis</i>	Illinois Sensitive Plant	2.00
<i>Drymocallis arguta</i>	Prairie Cinquefoil	1.00
<i>Echinacea purpurea</i>	Broad-Leaved Purple Coneflower	8.00
<i>Eryngium yuccifolium</i>	Rattlesnake Master	1.00
<i>Heliopsis helianthoides</i>	False Sunflower	0.50
<i>Lespedeza capitata</i>	Round-Headed Bush Clover	1.00
<i>Liatris pycnostachya</i>	Prairie Blazing Star	1.00
<i>Monarda fistulosa</i>	Wild Bergamot	1.00
<i>Oligoneuron rigidum</i>	Stiff Goldenrod	1.00
<i>Penstemon digitalis</i>	Foxglove Beard Tongue	2.00
<i>Ratibida pinnata</i>	Yellow Coneflower	4.00
<i>Rudbeckia hirta</i>	Black-Eyed Susan	6.00
<i>Silphium laciniatum</i>	Compass Plant	2.00
<i>Solidago speciosa</i>	Showy Goldenrod	0.50
<i>Symphyotrichum laeve</i>	Smooth Blue Aster	1.00
<i>Symphyotrichum novae-angliae</i>	New England Aster	0.50
<i>Verbena stricta</i>	Hoary Vervain	1.00
<i>Vernonia gigantea</i>	Smooth Tall Ironweed	2.00
Total		60.50

Prairie Seed Mixes



Andropogon gerardii, Big Bluestem



Lupinus perennis, Wild Lupine



Monarda fistulosa, Wild Bergamot

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

Prairie Seed Mixes



Established Economy Prairie Mix



Asclepias tuberosa, Butterfly Weed



Ratibida pinnata, Yellow Coneflower

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

ECONOMY PRAIRIE

This prairie seed mix offers an economical way to establish a prairie. In addition to native prairie grasses, flowering species provide color throughout the growing season and food sources for birds and butterflies. Adding seed or plant plugs at a later date is a wonderful way to increase a prairie's richness and diversity. This seed mix includes at least 6 of 7 native permanent grass and sedge species and 10 of 13 native forb species. Apply at 41.16 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses		
<i>Andropogon gerardii</i>	Big Bluestem	12.00
<i>Bouteloua curtipendula</i>	Side-Oats Grama	16.00
<i>Carex spp.</i>	Prairie Sedge Species	3.00
<i>Elymus canadensis</i>	Canada Wild Rye	24.00
<i>Panicum virgatum</i>	Switch Grass	2.50
<i>Schizachyrium scoparium</i>	Little Bluestem	32.00
<i>Sorghastrum nutans</i>	Indian Grass	12.00
Total		101.50
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
Total		512.00
Forbs		
<i>Asclepias syriaca</i>	Common Milkweed	3.00
<i>Asclepias tuberosa</i>	Butterfly Weed	1.00
<i>Chamaecrista fasciculata</i>	Partridge Pea	10.00
<i>Coreopsis lanceolata</i>	Sand Coreopsis	6.00
<i>Echinacea purpurea</i>	Broad-Leaved Purple Coneflower	8.00
<i>Heliopsis helianthoides</i>	False Sunflower	0.50
<i>Monarda fistulosa</i>	Wild Bergamot	0.50
<i>Penstemon digitalis</i>	Foxglove Beard Tongue	2.00
<i>Ratibida pinnata</i>	Yellow Coneflower	4.00
<i>Rudbeckia hirta</i>	Black-Eyed Susan	8.00
<i>Solidago speciosa</i>	Showy Goldenrod	0.50
<i>Symphotrichum laeve</i>	Smooth Blue Aster	1.00
<i>Symphotrichum novae-angliae</i>	New England Aster	0.50
Total		45.00

Keys to seeding success

- Prepare the site adequately
- Choose the correct plant species for the site conditions
- Purchase quality PLS
- Ensure good seed-to-soil contact
- Prevent annual weeds from re-seeding
- Create and follow a maintenance plan; adapt as site conditions dictate

LOW-PROFILE PRAIRIE

This prairie seed mix provides a wide range of shorter prairie grass, sedge, and wildflower species. Most species will grow to four feet or less, making this an ideal mix for areas where taller forbs and grasses are not appropriate. Once established, this wildflower community displays a variety of colors, blooming from early spring to fall, creating a diverse habitat for birds, butterflies, moths, and other pollinators. This seed mix is suitable for medium-to-dry sites. It includes at least 5 of 6 native permanent grass and sedge species and 28 of 32 native forb species. Apply at a rate of 41.69 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses		
<i>Bouteloua curtipendula</i>	Side-Oats Grama	16.00
<i>Carex spp.</i>	Prairie Sedge Species	4.00
<i>Elymus canadensis</i>	Canada Wild Rye	32.00
<i>Koeleria macrantha</i>	June Grass	1.00
<i>Panicum virgatum</i>	Switch Grass	1.00
<i>Schizachyrium scoparium</i>	Little Bluestem	36.00
Total		90.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
Total		512.00
Forbs		
<i>Amorpha canescens</i>	Lead Plant	0.50
<i>Asclepias syriaca</i>	Common Milkweed	2.00
<i>Asclepias tuberosa</i>	Butterfly Weed	2.00
<i>Baptisia lactea</i>	White Wild Indigo	2.00
<i>Chamaecrista fasciculata</i>	Partridge Pea	10.00
<i>Coreopsis lanceolata</i>	Sand Coreopsis	5.00
<i>Dalea candida</i>	White Prairie Clover	1.50
<i>Dalea purpurea</i>	Purple Prairie Clover	1.50
<i>Desmanthus illinoensis</i>	Illinois Sensitive Plant	3.00
<i>Echinacea purpurea</i>	Broad-Leaved Purple Coneflower	8.00
<i>Eryngium yuccifolium</i>	Rattlesnake Master	2.00
<i>Lespedeza capitata</i>	Round-Headed Bush Clover	2.00
<i>Liatis aspera</i>	Rough Blazing Star	0.50
<i>Lupinus perennis v. occidentalis</i>	Wild Lupine	3.00
<i>Monarda fistulosa</i>	Wild Bergamot	0.50
<i>Oligoneuron rigidum</i>	Stiff Goldenrod	1.00
<i>Parthenium integrifolium</i>	Wild Quinine	1.00
<i>Penstemon digitalis</i>	Foxglove Beard Tongue	0.50
<i>Penstemon hirsutus</i>	Hairy Beard Tongue	1.00
<i>Ratibida pinnata</i>	Yellow Coneflower	4.00
<i>Rudbeckia hirta</i>	Black-Eyed Susan	5.00
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan	1.00
<i>Silphium laciniatum</i>	Compass Plant	2.00
<i>Solidago juncea</i>	Early Goldenrod	0.25
<i>Solidago speciosa</i>	Showy Goldenrod	0.50
<i>Symphotrichum laeve</i>	Smooth Blue Aster	1.00
<i>Symphotrichum novae-angliae</i>	New England Aster	0.50
<i>Symphotrichum oolentangiense</i>	Sky-Blue Aster	0.50
<i>Tephrosia virginiana</i>	Goat's Rue	1.00
<i>Tradescantia ohioensis</i>	Common Spiderwort	1.00
<i>Verbena stricta</i>	Hoary Vervain	1.00
<i>Veronicastrum virginicum</i>	Culver's Root	0.25
Total		65.00

Prairie Seed Mixes



Dalea purpurea, Purple Prairie Clover



Oligoneuron rigidum, Stiff Goldenrod



Tradescantia ohioensis, Common Spiderwort

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

Prairie Seed Mixes



Symphotrichum novae-angliae,
New England Aster



Eryngium yuccifolium, Rattlesnake Master



Silphium laciniatum, Compass Plant

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

MESIC-TO-DRY PRAIRIE

This is a broad-spectrum prairie grass, sedge, and wildflower seed mix for sites with full sun and medium-to-dry soils. The height profile is more varied than the Low-Profile Prairie seed mix, with species ranging from short to tall. This profile creates a more diverse habitat, offering a variety of cover and food options for wildlife. This seed mix includes at least 6 of 7 native permanent grass and sedge species and 27 of 33 native forb species. Apply at a rate of 42.63 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses/Sedges		
<i>Andropogon gerardii</i>	Big Bluestem	18.00
<i>Bouteloua curtipendula</i>	Side-Oats Grama	12.00
<i>Carex spp.</i>	Prairie Sedge Species	4.00
<i>Elymus canadensis</i>	Canada Wild Rye	24.00
<i>Panicum virgatum</i>	Switch Grass	4.00
<i>Schizachyrium scoparium</i>	Little Bluestem	28.00
<i>Sorghastrum nutans</i>	Indian Grass	12.00
	Total	102.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
	Total	512.00
Forbs		
<i>Asclepias syriaca</i>	Common Milkweed	2.00
<i>Asclepias tuberosa</i>	Butterfly Weed	1.00
<i>Baptisia bracteata</i>	Cream Wild Indigo	0.50
<i>Baptisia lactea</i>	White Wild Indigo	2.00
<i>Chamaecrista fasciculata</i>	Partridge Pea	10.00
<i>Coreopsis lanceolata</i>	Sand Coreopsis	4.00
<i>Coreopsis tripteris</i>	Tall Coreopsis	0.75
<i>Desmanthus illinoensis</i>	Illinois Sensitive Plant	2.00
<i>Desmodium illinoense</i>	Illinois Tick Trefoil	0.50
<i>Dryocallis arguta</i>	Prairie Cinquefoil	0.50
<i>Echinacea purpurea</i>	Broad-Leaved Purple Coneflower	8.00
<i>Eryngium yuccifolium</i>	Rattlesnake Master	2.00
<i>Lespedeza capitata</i>	Round-Headed Bush Clover	2.00
<i>Liatris aspera</i>	Rough Blazing Star	1.00
<i>Liatris pycnostachya</i>	Prairie Blazing Star	2.00
<i>Monarda fistulosa</i>	Wild Bergamot	1.00
<i>Oligoneuron rigidum</i>	Stiff Goldenrod	2.00
<i>Parthenium integrifolium</i>	Wild Quinine	1.00
<i>Penstemon digitalis</i>	Foxglove Beard Tongue	2.00
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	0.25
<i>Ratibida pinnata</i>	Yellow Coneflower	4.00
<i>Rudbeckia hirta</i>	Black-Eyed Susan	5.00
<i>Silphium integrifolium</i>	Rosin Weed	3.00
<i>Silphium laciniatum</i>	Compass Plant	4.00
<i>Silphium terebinthinaceum</i>	Prairie Dock	2.00
<i>Solidago nemoralis</i>	Old-Field Goldenrod	0.25
<i>Solidago speciosa</i>	Showy Goldenrod	0.50
<i>Symphotrichum laeve</i>	Smooth Blue Aster	1.00
<i>Symphotrichum novae-angliae</i>	New England Aster	0.50
<i>Symphotrichum oolentangiense</i>	Sky-Blue Aster	1.00
<i>Tradescantia ohiensis</i>	Common Spiderwort	1.00
<i>Veronicastrum virginicum</i>	Culver's Root	0.25
<i>Zizia aurea</i>	Golden Alexanders	1.00
	Total	68.00

WET-TO-MESIC PRAIRIE

This prairie seed mix offers a broad spectrum of prairie grasses, sedges, and wildflowers for sites with medium-to-wet soils. This dynamic grouping of plants features a variety of colors and textures while tolerating a wide range of conditions with several Silphium and Solidago species to provide late-season food sources for native pollinators. This seed mix includes at least 8 of 11 native permanent grass and sedge species and 29 of 37 forb species. Apply at a rate of 39.47 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses/Sedges		
<i>Andropogon gerardii</i>	Big Bluestem	16.00
<i>Calamagrostis canadensis</i>	Bluejoint Grass	1.00
<i>Carex lurida</i>	Bottlebrush Sedge	3.00
<i>Carex stricta</i>	Common Tussock Sedge	0.75
<i>Carex vulpinoidea</i>	Brown Fox Sedge	2.00
<i>Elymus virginicus</i>	Virginia Wild Rye	24.00
<i>Juncus dudleyi</i>	Dudley's Rush	0.25
<i>Panicum virgatum</i>	Switch Grass	2.00
<i>Scirpus atrovirens</i>	Dark Green Rush	1.00
<i>Sorghastrum nutans</i>	Indian Grass	8.00
<i>Spartina pectinata</i>	Prairie Cord Grass	2.00
	Total	60.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
	Total	512.00
Forbs		
<i>Asclepias incarnata</i>	Swamp Milkweed	2.00
<i>Asclepias syriaca</i>	Common Milkweed	2.00
<i>Baptisia lactea</i>	White Wild Indigo	1.00
<i>Chamaecrista fasciculata</i>	Partridge Pea	8.00
<i>Coreopsis lanceolata</i>	Sand Coreopsis	4.00
<i>Coreopsis tripteris</i>	Tall Coreopsis	1.00
<i>Desmodium illinoense</i>	Illinois Tick Trefoil	0.50
<i>Doellingeria umbellata</i>	Flat-Top Aster	0.50
<i>Echinacea purpurea</i>	Broad-Leaved Purple Coneflower	4.00
<i>Eryngium yuccifolium</i>	Rattlesnake Master	2.00
<i>Helenium autumnale</i>	Sneezeweed	1.00
<i>Helianthus grosseserratus</i>	Sawtooth Sunflower	0.50
<i>Lespedeza capitata</i>	Round-Headed Bush Clover	1.50
<i>Liatris spicata</i>	Marsh Blazing Star	1.00
<i>Monarda fistulosa</i>	Wild Bergamot	1.00
<i>Oligoneuron rigidum</i>	Stiff Goldenrod	1.00
<i>Parthenium integrifolium</i>	Wild Quinine	1.00
<i>Penstemon digitalis</i>	Foxglove Beard Tongue	1.00
<i>Physostegia virginiana</i>	Obedient Plant	0.25
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	0.50
<i>Ratibida pinnata</i>	Yellow Coneflower	4.00
<i>Rudbeckia hirta</i>	Black-Eyed Susan	4.00
<i>Rudbeckia laciniata</i>	Wild Golden Glow	1.00
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan	0.50
<i>Senna hebecarpa</i>	Wild Senna	2.25
<i>Silphium integrifolium</i>	Rosin Weed	1.00
<i>Silphium laciniatum</i>	Compass Plant	3.00
<i>Silphium perfoliatum</i>	Cup Plant	2.00
<i>Silphium terebinthinaceum</i>	Prairie Dock	1.00
<i>Solidago juncea</i>	Early Goldenrod	0.25
<i>Solidago rugosa</i>	Rough Goldenrod	0.25
<i>Symphotrichum lanceolatum</i>	Panicked Aster	0.50
<i>Symphotrichum novae-angliae</i>	New England Aster	0.50
<i>Tradescantia ohiensis</i>	Common Spiderwort	1.25
<i>Vernonia fasciculata</i>	Common Ironweed	3.00
<i>Veronicastrum virginicum</i>	Culver's Root	0.25
<i>Zizia aurea</i>	Golden Alexanders	1.00
	Total	59.50

Prairie Seed Mixes



Established Wet-To-Mesic Prairie Mix



Spartina pectinata, Prairie Cord Grass



Echinacea purpurea,
Broad-Leaved Purple Coneflower

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

Wetland Seed Mixes



Juncus effusus, Common Rush



Peltandra virginica, Arrow Arum



Pontederia cordata, Pickerel Weed

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

EMERGENT WETLAND

This is a wetland seed mix for saturated soils and shallow water in relatively stable wetlands and ponds with good water quality. When established, plants will spread to water depths of up to 12 inches. This seed mix includes at least 8 of 12 native permanent grass and sedge species and 15 of 20 native forb or shrub species. Apply at a rate of 36.88 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses/Sedges/Rushes		
<i>Bolboschoenus fluviatilis</i>	River Bulrush	4.00
<i>Carex comosa</i>	Bristly Sedge	2.50
<i>Carex lacustris</i>	Common Lake Sedge	0.50
<i>Carex lurida</i>	Bottlebrush Sedge	2.00
<i>Carex stricta</i>	Common Tussock Sedge	1.00
<i>Carex vulpinoidea</i>	Brown Fox Sedge	2.00
<i>Eleocharis palustris</i>	Great Spike Rush	1.00
<i>Juncus effusus</i>	Common Rush	1.00
<i>Leersia oryzoides</i>	Rice Cut Grass	3.00
<i>Schoenoplectus acutus</i>	Hard-Stemmed Bulrush	1.50
<i>Schoenoplectus pungens</i>	Chairmaker's Rush	1.50
<i>Schoenoplectus tabernaemontani</i>	Great Bulrush	6.00
		Total
		26.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
		Total
		512.00
Forbs		
<i>Acorus americanus</i>	Sweet Flag	1.00
<i>Alisma subcordatum</i>	Common Water Plantain	2.00
<i>Asclepias incarnata</i>	Swamp Milkweed	1.00
<i>Boehmeria cylindrica</i>	False Nettle	2.00
<i>Cephalanthus occidentalis</i>	Buttonbush	1.00
<i>Decodon verticillatus</i>	Swamp Loosestrife	0.50
<i>Eutrochium maculatum</i>	Spotted Joe-Pye Weed	0.50
<i>Hibiscus spp.</i>	Rose Mallow Species	4.00
<i>Iris spp.</i>	Blue Flag Species	6.00
<i>Lobelia cardinalis</i>	Cardinal Flower	0.25
<i>Lobelia siphilitica</i>	Great Blue Lobelia	0.25
<i>Lycopus americanus</i>	Common Water Horehound	1.00
<i>Mimulus ringens</i>	Monkey Flower	1.00
<i>Peltandra virginica</i>	Arrow Arum	12.00
<i>Penthorum sedoides</i>	Ditch Stonecrop	0.50
<i>Persicaria spp.</i>	Pinkweed Species	2.00
<i>Pontederia cordata</i>	Pickerel Weed	8.00
<i>Sagittaria latifolia</i>	Common Arrowhead	2.00
<i>Sparganium eurycarpum</i>	Common Bur Reed	6.00
<i>Verbena hastata</i>	Blue Vervain	1.00
		Total
		52.00

SEDGE MEADOW

A grass and sedge mix for level sites with saturated soil conditions (although it will tolerate drier soils late in the year), this meadow seed mix creates a diverse habitat, offering a variety of cover and food options for wildlife. Many of the plants attract pollinators, such as butterflies and hummingbirds. This seed mix includes at least 14 of 17 native permanent grass and sedge species and 27 of 31 native forb and shrub species. Apply at a rate of 37.75 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses/Sedges		
<i>Calamagrostis canadensis</i>	Bluejoint Grass	1.00
<i>Carex comosa</i>	Bristly Sedge	2.00
<i>Carex cristatella</i>	Crested Oval Sedge	2.00
<i>Carex frankii</i>	Bristly Cattail Sedge	2.00
<i>Carex lurida</i>	Bottlebrush Sedge	2.00
<i>Carex stipata</i>	Common Fox Sedge	2.00
<i>Carex stricta</i>	Common Tussock Sedge	1.00
<i>Carex vulpinoidea</i>	Brown Fox Sedge	3.00
<i>Elymus virginicus</i>	Virginia Wild Rye	24.00
<i>Glyceria striata</i>	Fowl Manna Grass	0.50
<i>Juncus effusus</i>	Common Rush	0.50
<i>Leersia oryzoides</i>	Rice Cut Grass	1.00
<i>Schoenoplectus tabernaemontani</i>	Great Bulrush	1.00
<i>Scirpus atrovirens</i>	Dark Green Rush	1.00
<i>Scirpus cyperinus</i>	Wool Grass	0.50
<i>Scirpus pendulus</i>	Red Bulrush	0.50
<i>Spartina pectinata</i>	Prairie Cord Grass	2.00
		Total
		46.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
		Total
		512.00
Forbs		
<i>Alisma subcordatum</i>	Common Water Plantain	1.00
<i>Angelica atropurpurea</i>	Great Angelica	4.00
<i>Asclepias incarnata</i>	Swamp Milkweed	4.00
<i>Bidens cernua</i>	Nodding Bur Marigold	2.00
<i>Boehmeria cylindrica</i>	False Nettle	1.00
<i>Coreopsis tripteris</i>	Tall Coreopsis	1.00
<i>Doellingeria umbellata</i>	Flat-Top Aster	0.25
<i>Eupatorium perfoliatum</i>	Common Boneset	0.50
<i>Eutrochium maculatum</i>	Spotted Joe-Pye Weed	0.50
<i>Helenium autumnale</i>	Sneezeweed	1.00
<i>Hibiscus spp.</i>	Rose Mallow Species	4.00
<i>Iris spp.</i>	Blue Flag Species	3.00
<i>Liatis spicata</i>	Marsh Blazing Star	2.00
<i>Lobelia cardinalis</i>	Cardinal Flower	0.25
<i>Lobelia siphilitica</i>	Great Blue Lobelia	0.25
<i>Lycopus americanus</i>	Common Water Horehound	0.50
<i>Penthorum sedoides</i>	Ditch Stonecrop	1.00
<i>Persicaria spp.</i>	Pinkweed Species	2.00
<i>Physostegia virginiana</i>	Obedient Plant	0.50
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	0.50
<i>Sagittaria latifolia</i>	Common Arrowhead	1.00
<i>Senna hebecarpa</i>	Wild Senna	4.00
<i>Silphium perfoliatum</i>	Cup Plant	1.00
<i>Sparganium eurycarpum</i>	Common Bur Reed	4.00
<i>Symphotrichum lanceolatum</i>	Panicled Aster	0.75
<i>Symphotrichum novae-angliae</i>	New England Aster	0.50
<i>Symphotrichum puniceum</i>	Bristly Aster	0.50
<i>Thalictrum dasycarpum</i>	Purple Meadow Rue	1.00
<i>Verbena hastata</i>	Blue Vervain	2.00
<i>Vernonia fasciculata</i>	Common Ironweed	1.00
<i>Zizia aurea</i>	Golden Alexanders	1.00
		Total
		46.00

Wetland Seed Mixes



Established Sedge Meadow Mix



Lobelia cardinalis, Cardinal Flower



Zizia aurea, Golden Alexanders

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

Wetland Seed Mixes



Carex frankii, Bristly Cattail Sedge



Scirpus cyperinus, Wool Grass



Sagittaria latifolia, Common Arrowhead

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

WETLAND EDGE

This is a wetland and pond-edge seed mix for sites with stable, saturated soil conditions and good water quality. When established, the deep-rooted native plants will stabilize the soil and provide food and cover for many species of native fauna. Some plant species will spread to water depths of up to four inches. This seed mix includes at least 12 of 15 native permanent grass and sedge species and 19 of 26 native forb species. Apply at 36.63 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses/Sedges		
<i>Bolboschoenus fluviatilis</i>	River Bulrush	4.00
<i>Carex comosa</i>	Bristly Sedge	1.50
<i>Carex cristatella</i>	Crested Oval Sedge	0.50
<i>Carex frankii</i>	Bristly Cattail Sedge	4.00
<i>Carex stricta</i>	Common Tussock Sedge	0.50
<i>Carex vulpinoidea</i>	Brown Fox Sedge	2.00
<i>Eleocharis palustris</i>	Great Spike Rush	0.50
<i>Elymus virginicus</i>	Virginia Wild Rye	16.00
<i>Glyceria striata</i>	Fowl Manna Grass	1.00
<i>Juncus effusus</i>	Common Rush	1.00
<i>Leersia oryzoides</i>	Rice Cut Grass	0.50
<i>Schoenoplectus pungens</i>	Chairmaker's Rush	1.00
<i>Schoenoplectus tabernaemontani</i>	Great Bulrush	2.50
<i>Scirpus atrovirens</i>	Dark Green Rush	1.00
<i>Scirpus cyperinus</i>	Wool Grass	1.00
		Total
		37.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
		Total
		512.00
Forbs		
<i>Acorus americanus</i>	Sweet Flag	1.00
<i>Alisma subcordatum</i>	Common Water Plantain	2.00
<i>Asclepias incarnata</i>	Swamp Milkweed	2.00
<i>Bidens spp.</i>	Bidens Species	2.00
<i>Boehmeria cylindrica</i>	False Nettle	2.00
<i>Doellingeria umbellata</i>	Flat-Top Aster	0.25
<i>Eupatorium perfoliatum</i>	Common Boneset	1.00
<i>Helenium autumnale</i>	Sneezeweed	1.00
<i>Hibiscus spp.</i>	Rose Mallow Species	2.00
<i>Iris spp.</i>	Blue Flag Species	4.00
<i>Lobelia cardinalis</i>	Cardinal Flower	0.25
<i>Lobelia siphilitica</i>	Great Blue Lobelia	0.25
<i>Lycopus americanus</i>	Common Water Horehound	0.25
<i>Mimulus ringens</i>	Monkey Flower	0.50
<i>Penthorum sedoides</i>	Ditch Stonecrop	0.50
<i>Persicaria spp.</i>	Pinkweed Species	2.00
<i>Rudbeckia laciniata</i>	Wild Golden Glow	1.00
<i>Sagittaria latifolia</i>	Common Arrowhead	2.00
<i>Senna hebecarpa</i>	Wild Senna	2.00
<i>Sparganium eurycarpum</i>	Common Bur Reed	4.00
<i>Symphotrichum lanceolatum</i>	Panicled Aster	0.50
<i>Symphotrichum puniceum</i>	Bristly Aster	0.50
<i>Thalictrum dasycarpum</i>	Purple Meadow Rue	0.50
<i>Verbena hastata</i>	Blue Vervain	1.50
<i>Verbesina alternifolia</i>	Wingstem	2.00
<i>Vernonia fasciculata</i>	Common Ironweed	2.00
		Total
		37.00

WOODED WETLAND ESTABLISHMENT

Use this wetland seed mix in partially shaded riparian corridors and saturated, newly reforested areas to reduce weed competition and stabilize soil. As the tree canopy fills in, some of the species in this seed mix will establish a permanent herbaceous understory layer and help to fill out the maturing wooded wetland. This seed mix includes at least 12 of 16 native permanent grass and sedge species and 17 of 22 native forb and shrub species. Apply at 37.13 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses/Sedges		
<i>Calamagrostis canadensis</i>	Bluejoint Grass	1.00
<i>Carex crinita</i>	Fringed Sedge	1.00
<i>Carex frankii</i>	Bristly Cattail Sedge	3.00
<i>Carex lupulina</i>	Common Hop Sedge	3.00
<i>Carex lurida</i>	Bottlebrush Sedge	2.00
<i>Carex muskingumensis</i>	Swamp Oval Sedge	1.00
<i>Carex squarrosa</i>	Narrow-Leaved Cattail Sedge	1.00
<i>Carex typhina</i>	Common Cattail Sedge	3.00
<i>Carex vulpinoidea</i>	Brown Fox Sedge	2.00
<i>Cinna arundinacea</i>	Common Wood Reed	0.50
<i>Elymus virginicus</i>	Virginia Wild Rye	32.00
<i>Glyceria striata</i>	Fowl Manna Grass	2.00
<i>Juncus effusus</i>	Common Rush	0.50
<i>Leersia oryzoides</i>	Rice Cut Grass	2.00
<i>Scirpus atrovirens</i>	Dark Green Rush	1.00
<i>Spartina pectinata</i>	Prairie Cord Grass	1.00
		Total
		56.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
		Total
		512.00
Forbs		
<i>Alisma subcordatum</i>	Common Water Plantain	1.00
<i>Angelica atropurpurea</i>	Great Angelica	1.00
<i>Asclepias incarnata</i>	Swamp Milkweed	0.50
<i>Bidens spp.</i>	Bidens Species	2.50
<i>Boehmeria cylindrica</i>	False Nettle	2.00
<i>Campanulastrum americanum</i>	Tall Bellflower	0.25
<i>Cephalanthus occidentalis</i>	Buttonbush	0.50
<i>Doellingeria umbellata</i>	Flat-Top Aster	0.25
<i>Helenium autumnale</i>	Sneezeweed	1.00
<i>Heracleum maximum</i>	Cow Parsnip	1.00
<i>Lobelia siphilitica</i>	Great Blue Lobelia	0.50
<i>Lycopus americanus</i>	Common Water Horehound	0.50
<i>Mimulus ringens</i>	Monkey Flower	0.50
<i>Penthorum sedoides</i>	Ditch Stonecrop	0.50
<i>Persicaria spp.</i>	Pinkweed Species	2.00
<i>Rudbeckia laciniata</i>	Wild Golden Glow	2.00
<i>Senna hebecarpa</i>	Wild Senna	2.00
<i>Solidago patula</i>	Swamp Goldenrod	1.00
<i>Symphotrichum lanceolatum</i>	Panicled Aster	0.50
<i>Symphotrichum puniceum</i>	Bristly Aster	0.50
<i>Thalictrum dasycarpum</i>	Purple Meadow Rue	2.00
<i>Verbesina alternifolia</i>	Wingstem	4.00
		Total
		26.00

Wetland Seed Mixes



Carex lurida, Bottlebrush Sedge



Campanulastrum americanum, Tall Bellflower



Helenium autumnale, Sneezeweed

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

Specialty Seed Mixes



Well Field Seeding



Streambank Stabilization



Sorghastrum nutans, Indian Grass

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

SLOPE STABILIZATION

This grass and sedge mix is best suited for sites with slopes where erosion control is needed. Applications include embankments, dams, and levees. Use this mix in conjunction with erosion control materials for best results. This seed mix includes 7 of 8 native permanent grass and sedge species. Apply at 60.00 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses		
<i>Andropogon gerardii</i>	Big Bluestem	48.00
<i>Bouteloua curtipendula</i>	Side-Oats Grama	16.00
<i>Carex spp.</i>	Prairie Sedge Species	4.00
<i>Elymus canadensis</i>	Canada Wild Rye	32.00
<i>Elymus virginicus</i>	Virginia Wild Rye	24.00
<i>Panicum virgatum</i>	Switch Grass	12.00
<i>Schizachyrium scoparium</i>	Little Bluestem	32.00
<i>Sorghastrum nutans</i>	Indian Grass	32.00
Total		200.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	640.00
<i>Lolium multiflorum</i>	Annual Rye	120.00
Total		760.00

Add a pollinator enhancement

To add a pollinator enhancement to the Slope Stabilization seed mix, add our Native Wildflower seed mix (page 20) at a rate of .25 acre of Native Wildflower to 1 acre of the Slope Stabilization seed mix.

STORMWATER

A wetland seed mix for saturated soils in a detention pond or for seeding a saturated basin, this mix will tolerate highly fluctuating water levels and poor water quality associated with urban stormwater wetlands and ponds. For detention basins that experience long, dry periods, use the Economy Prairie seed mix in the upper third to half of the basin area in combination with this mix. This seed mix includes at least 10 of 13 native permanent grass and sedge species and 13 of 17 native forb species. Apply at 36.38 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses/Sedges/Rushes		
<i>Bolboschoenus fluviatilis</i>	River Bulrush	4.00
<i>Carex cristatella</i>	Crested Oval Sedge	0.50
<i>Carex lurida</i>	Bottlebrush Sedge	2.00
<i>Carex vulpinoidea</i>	Brown Fox Sedge	2.00
<i>Eleocharis obtusa</i>	Blunt Spike Rush	0.50
<i>Elymus virginicus</i>	Virginia Wild Rye	24.00
<i>Glyceria striata</i>	Fowl Manna Grass	1.00
<i>Juncus effusus</i>	Common Rush	1.00
<i>Leersia oryzoides</i>	Rice Cut Grass	1.00
<i>Panicum virgatum</i>	Switch Grass	2.00
<i>Schoenoplectus tabernaemontani</i>	Great Bulrush	3.00
<i>Scirpus atrovirens</i>	Dark Green Rush	2.00
<i>Scirpus cyperinus</i>	Wool Grass	1.00
Total		44.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
Total		512.00
Forbs and Shrubs		
<i>Alisma subcordatum</i>	Common Water Plantain	2.50
<i>Asclepias incarnata</i>	Swamp Milkweed	2.00
<i>Bidens spp.</i>	Bidens Species	2.00
<i>Eupatorium perfoliatum</i>	Common Boneset	1.00
<i>Helenium autumnale</i>	Sneezeweed	2.00
<i>Iris spp.</i>	Blue Flag Species	4.00
<i>Lycopus americanus</i>	Common Water Horehound	0.50
<i>Mimulus ringens</i>	Monkey Flower	1.00
<i>Penthorum sedoides</i>	Ditch Stonecrop	0.50
<i>Persicaria spp.</i>	Pinkweed Species	2.00
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan	1.00
<i>Rudbeckia triloba</i>	Brown-Eyed Susan	1.50
<i>Sagittaria latifolia</i>	Common Arrowhead	1.00
<i>Senna hebecarpa</i>	Wild Senna	2.00
<i>Symphotrichum lanceolatum</i>	Panicled Aster	0.50
<i>Symphotrichum novae-angliae</i>	New England Aster	0.50
<i>Thalictrum dasycarpum</i>	Purple Meadow Rue	2.00
Total		26.00



Carex cristatella, Crested Oval Sedge



Mimulus ringens, Monkey Flower



Rudbeckia subtomentosa, Sweet Black-Eyed Susan

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

Specialty Seed Mixes



Established Swale Seed Mix



Asclepias incarnata, Swamp Milkweed



Iris virginica, Blue Flag

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

SWALE

Best suited for drainage swales or depressions, the native plants used in this mix help filter pollutants from lawns and pavement runoff. This seed mix can also be applied to areas that temporarily retain water after a rain event or dry-bottomed detention basins. The swale seed mix includes at least 10 of 13 native permanent grass and sedge species and 12 of 17 native forb species to provide diversity for establishment. Apply at 37.00 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses/Sedges		
<i>Andropogon gerardii</i>	Big Bluestem	4.00
<i>Carex cristatella</i>	Crested Oval Sedge	0.50
<i>Carex lurida</i>	Bottlebrush Sedge	3.00
<i>Carex spp.</i>	Prairie Sedge Species	3.00
<i>Carex stipata</i>	Common Fox Sedge	2.00
<i>Carex vulpinoidea</i>	Brown Fox Sedge	6.00
<i>Elymus canadensis</i>	Canada Wild Rye	16.00
<i>Elymus virginicus</i>	Virginia Wild Rye	16.00
<i>Juncus effusus</i>	Common Rush	1.00
<i>Panicum virgatum</i>	Switch Grass	3.00
<i>Scirpus atrovirens</i>	Dark Green Rush	2.00
<i>Scirpus cyperinus</i>	Wool Grass	0.50
<i>Spartina pectinata</i>	Prairie Cord Grass	3.00
Total		60.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
Total		512.00
Forbs		
<i>Alisma subcordatum</i>	Common Water Plantain	1.00
<i>Asclepias incarnata</i>	Swamp Milkweed	3.00
<i>Coreopsis tripteris</i>	Tall Coreopsis	1.00
<i>Euthamia graminifolia</i>	Common Grass-Leaved Goldenrod	0.50
<i>Eutrochium maculatum</i>	Spotted Joe-Pye Weed	1.00
<i>Iris spp.</i>	Blue Flag Species	3.00
<i>Liatris spicata</i>	Marsh Blazing Star	1.00
<i>Lycopus americanus</i>	Common Water Horehound	0.50
<i>Mimulus ringens</i>	Monkey Flower	0.50
<i>Penthorum sedoides</i>	Ditch Stonecrop	1.00
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	0.50
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan	1.00
<i>Rudbeckia triloba</i>	Brown-Eyed Susan	1.00
<i>Senna hebecarpa</i>	Wild Senna	1.00
<i>Symphotrichum novae-angliae</i>	New England Aster	0.50
<i>Verbena hastata</i>	Blue Vervain	1.50
<i>Zizia aurea</i>	Golden Alexanders	2.00
Total		20.00

LOW SWALE

This new formulation of our Swale mix is designed with a lower height profile for plantings where lines of sight are important, such as high traffic areas and parking lots. This mix also contains more sedges and rushes by seed count for a denser grass matrix. The Low Swale mix includes at least 8 of 11 permanent grass and sedge species and 8 of 11 native forb species. Apply at 36.31 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses/Sedges		
<i>Calamagrostis canadensis</i>	Bluejoint Grass	1.00
<i>Carex cristatella</i>	Crested Oval Sedge	2.00
<i>Carex lurida</i>	Bottlebrush Sedge	3.00
<i>Carex spp.</i>	Prairie Sedge Species	4.00
<i>Carex stipata</i>	Common Fox Sedge	2.00
<i>Carex vulpinoidea</i>	Brown Fox Sedge	6.00
<i>Elymus canadensis</i>	Canada Wild Rye	16.00
<i>Elymus virginicus</i>	Virginia Wild Rye	16.00
<i>Glyceria striata</i>	Fowl Manna Grass	1.00
<i>Juncus effusus</i>	Common Rush	1.00
<i>Juncus tenuis</i>	Path Rush	1.00
Total		53.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
Total		512.00
Forbs		
<i>Alisma subcordatum</i>	Common Water Plantain	1.00
<i>Euthamia graminifolia</i>	Common Grass-Leaved Goldenrod	0.50
<i>Iris spp.</i>	Blue Flag Species	3.00
<i>Liatris spicata</i>	Marsh Blazing Star	1.50
<i>Lobelia siphilitica</i>	Great Blue Lobelia	0.50
<i>Lycopus americanus</i>	Common Water Horehound	0.50
<i>Mimulus ringens</i>	Monkey Flower	0.50
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	0.50
<i>Rudbeckia hirta</i>	Black-Eyed Susan	4.00
<i>Rudbeckia triloba</i>	Brown-Eyed Susan	2.00
<i>Zizia aurea</i>	Golden Alexanders	2.00
Total		16.00

Specialty Seed Mixes



Liatris spicata, Marsh Blazing Star



Juncus spp., Common and Path Rush



Pycnanthemum virginianum, Mountain Mint

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

Specialty Seed Mixes



Asclepias syriaca, Common Milkweed



Senna hebecarpa, Wild Senna



Silphium perfoliatum, Cup Plant

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

MIDWEST MESIC POLLINATOR

This pollinator seed mix is a good choice for creating new pollinator habitat or enhancing an existing native planting. Its combination of forbs and native grasses is ideal for creating wildflower-rich habitats that support a diverse population of bees and other pollinators for dry to mesic soils. This seed mix includes 3 native grass species and at least 21 of 26 native forb species. Apply at a rate of 39.00 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses/Sedges		
<i>Schizachyrium scoparium</i>	Little Bluestem	36.00
<i>Sorghastrum nutans</i>	Indian Grass	2.00
<i>Sporobolus heterolepis</i>	Prairie Dropseed	6.00
	Total	44.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
	Total	512.00
Forbs		
<i>Agastache foeniculum</i>	Lavender Hyssop	2.00
<i>Allium cernuum</i>	Nodding Onion	2.00
<i>Amorpha canescens</i>	Lead Plant	2.00
<i>Asclepias syriaca</i>	Common Milkweed	10.00
<i>Asclepias tuberosa</i>	Butterfly Weed	2.00
<i>Baptisia bracteata</i>	Cream Wild Indigo	1.00
<i>Chamaecrista fasciculata</i>	Partridge Pea	8.00
<i>Dalea candida</i>	White Prairie Clover	3.00
<i>Echinacea pallida</i>	Purple Coneflower	4.00
<i>Echinacea purpurea</i>	Broad-Leaved Purple Coneflower	8.00
<i>Eryngium yuccifolium</i>	Rattlesnake Master	2.00
<i>Liatris pycnostachya</i>	Prairie Blazing Star	1.00
<i>Lupinus perennis v. occidentalis</i>	Wild Lupine	4.00
<i>Monarda fistulosa</i>	Wild Bergamot	2.00
<i>Penstemon digitalis</i>	Foxglove Beard Tongue	1.00
<i>Penstemon hirsutus</i>	Hairy Beard Tongue	1.00
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	0.50
<i>Senna hebecarpa</i>	Wild Senna	4.00
<i>Silphium perfoliatum</i>	Cup Plant	1.00
<i>Solidago speciosa</i>	Showy Goldenrod	1.00
<i>Symphotrichum laeve</i>	Smooth Blue Aster	1.00
<i>Symphotrichum novae-angliae</i>	New England Aster	0.50
<i>Tradescantia ohioensis</i>	Common Spiderwort	2.00
<i>Verbena stricta</i>	Hoary Vervain	2.00
<i>Verbesina alternifolia</i>	Wingstem	2.00
<i>Veronica gigantea</i>	Smooth Tall Ironweed	1.00
	Total	68.00

GREAT LAKES DUNE

This dune seed mix contains species found in the fore- and back-dune areas around the Great Lakes. This mix is intended to be used in areas of disturbance to stabilize sandy soils. It is recommended that this mix is supplemented with bare-root dune grass (*Ammophila breviligulata*) plantings. Because dunes are dynamic zones, other erosion control methods may also be required. This Midwestern native seed mix includes at least 4 of 5 native permanent grass species and 7 of 9 native forbs species. Apply at a rate of 49.22 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz/Acre
Permanent Grasses		
<i>Calamovilfa longifolia</i>	Sand Reed	16.00
<i>Elymus canadensis</i>	Canada Wild Rye	24.00
<i>Koeleria macrantha</i>	June Grass	2.00
<i>Panicum virgatum</i>	Switch Grass	8.00
<i>Schizachyrium scoparium</i>	Little Bluestem	48.00
	Total	98.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	640.00
	Total	640.00
Forbs		
<i>Asclepias syriaca</i>	Common Milkweed	8.00
<i>Asclepias tuberosa</i>	Butterfly Weed	2.00
<i>Chamaecrista fasciculata</i>	Partridge Pea	16.00
<i>Coreopsis lanceolata</i>	Sand Coreopsis	8.00
<i>Lespedeza capitata</i>	Round-Headed Bush Clover	4.00
<i>Lupinus perennis v. occidentalis</i>	Wild Lupine	2.00
<i>Monarda punctata</i>	Horse Mint	0.50
<i>Rudbeckia hirta</i>	Black-Eyed Susan	8.00
<i>Verbena stricta</i>	Hoary Vervain	1.00
	Total	49.50

Custom seed mixes

For clients seeking unique project results or with the expertise to know exactly what they want, Stantec can blend a customized seed mix based on other specifications or project objectives. For example, we often supply seed mixes that state departments of transportation have designed for native roadside plantings. We also supply custom mixes for projects for design firms and specifiers.

Specialty Seed Mixes



Coreopsis lanceolata, Sand Coreopsis



Monarda punctata, Horse Mint



Great Lakes Dune Mix, 1 year after installation

For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery



Stantec Solar Field Pollinator Habitat Mix

This seed mix was designed for planting in solar arrays in the Midwest to increase available native pollinator habitat. It is best planted in dry, well-drained soils. The native grasses in this mix will provide overwintering habitat for native pollinating insects, and the wildflowers selected will provide year-long nectar and pollen sources for bees, butterflies, moths, and other native pollinating species. At mature height, the species selected will stay at or below three feet tall. This seed mix includes 4 of 5 native grass/sedge species and 9 of 14 forb species, three from each bloom period. Apply at 41.25 PLS pounds per acre.

Botanical Name	Common Name	PLS Oz /Acre
Permanent Grasses		
<i>Bouteloua curtipendula</i>	Side-Oats Grama	24.00
<i>Carex bicknellii</i>	Copper-Shouldered Oval Sedge	3.50
<i>Koeleria macrantha</i>	June Grass	1.50
<i>Schizachyrium scoparium</i>	Little Bluestem	64.00
<i>Sporobolus heterolepis</i>	Prairie Dropseed	3.00
	TOTAL	96.00
Temporary Cover		
<i>Avena sativa</i>	Common Oat	512.00
	TOTAL	512.00
Forbs		
<i>Allium cernuum</i>	Nodding Onion	6.00
<i>Aquilegia canadensis</i>	Wild Columbine	1.00
<i>Asclepias syriaca</i>	Common Milkweed	4.00
<i>Chamaecrista fasciculata</i>	Partridge Pea	12.00
<i>Coreopsis lanceolata</i>	Sand Coreopsis	10.00
<i>Dalea purpurea</i>	Purple Prairie Clover	6.00
<i>Liatris pycnostachya</i>	Prairie Blazing Star	2.00
<i>Lupinus perennis v. occidentalis</i>	Wild Lupine	2.00
<i>Monarda punctata</i>	Horse Mint	1.50
<i>Penstemon hirsutus</i>	Hairy Beard Tongue	1.50
<i>Solidago nemoralis</i>	Old-Field Goldenrod	1.00
<i>Symphotrichum pilosum</i>	Hairy Aster	1.00
<i>Verbena stricta</i>	Hoary Vervain	2.00
<i>Zizia aurea</i>	Golden Alexanders	2.00
	TOTAL	52.00

Promote Your Organization | Promote Native Pollinators

Is your organization looking for a unique way to stand out? Build a promotional seed packet! Stantec's Native Plant Nursery can build promotional seed packets customized with your organization's logo and contact information.

Advertise your organization and provide your audience with an opportunity to grow native plants that return year after year as a colorful reminder of your contribution.

These plants help restore native landscape in your region and build habitat for butterflies, hummingbirds, and other pollinators.

Stantec's seed packets make great handouts and conversation starters at conferences, tradeshows, and community events.

Packet Details

The packets start at \$1.25 each, with a 1,000 packet minimum. Our standard packet features:

- Your logo
 - Contact information
 - 1.5 – 2.0 grams of native plant seed of five species
 - Details on each species and planting instructions
- Custom mixes can be specialized by your region. Additional graphic services can be provided for an additional cost.





Native Plant Kits

Supplement your spring plant or tree sales program with native plants. Help raise funds for your organization while promoting stronger and more resilient native habitats.

What is it?

Each kit contains 50 Midwestern native plants of 10 species for various habitats. Each plant species is labeled with its common name, botanical name, bloom color, bloom time, height, and other growing information. Each kit is suitable for covering about 100 square feet (if planted on 18 inch centers).

Substitutions may be made based on current availability, but these kits are not customized.

How much are they?

To help support environmentally-focused non-profit organizations, we offer the kits at a 20 percent discount, plus shipping. Shipping rates will vary by destination, and we will work with you to determine an average price per kit before confirming the orders.

How does it work?

Take orders from your customers in the fall/winter for shipping in late spring. Send us a compiled list of names, shipping addresses, and the number and type of kits per customer. We will then send you order confirmations and ship the kits directly to your customers when the plants are ready (early June). We will send you an invoice for the plants, plus shipping, after the kits have been shipped.

If your normal plant/tree sales are in the fall, we can also arrange fall shipments. If you would prefer a central pickup location, we can deliver the kits to your location rather than direct shipping.

If you have any other questions about the program or how it would work for your organization, please contact a nursery sales representative.

574-586-2412
nurserysales@stantec.com

Plant Materials

Stantec has hundreds of native plant species in stock. Plants are available in 50-count plug trays (2" x 2" x 5" deep). We can also provide plants in 32- and 72-count trays, with adequate lead time. In addition, we have quart and gallon containers, and most plant species are also available as seed. Additional sizes can be provided as part of a custom grown order. Please contact our staff to request the size needed.

Stantec's Native Plant Nursery uses Flora of the *Chicago Region* (2017) by Wilhelm & Rericha as a guide for scientific names and classification.

Legend	
Upland Dry	
Upland Moist	
Saturated	
Emergent Shallow	
Emergent Deep	
Submerged	
Full Sun	
Partial Sun	
Shade	
Salt Tolerant	
Deer Resistant	
Pollinator	

Botanical Name	Common Name	Seeds/Oz	Height	Bloom Color	Bloom	Sunlight	Moisture Level	Other
<i>Acorus americanus</i>	Sweet Flag	7,000	1'-4'	Green	May-Jun			
<i>Agalinis purpurea</i>	Purple False Foxglove	781,250	1'-2'	Lavender	Aug-Oct			
<i>Agalinis tenuifolia</i>	Slender False Foxglove	781,250	1'-2'	Lavender	Aug-Oct			
<i>Agastache foeniculum</i>	Lavender Hyssop	65,000	2'-4'	Purple	Jun-Sep			
<i>Agastache nepetoides</i>	Yellow Giant Hyssop	90,000	3'-7'	Yellow	Jul-Oct			
<i>Ageratina altissima</i>	White Snakeroot	150,000	2'-4'	White	Jul-Oct			
<i>Alisma subcordatum</i>	Common Water Plantain	70,175	2'-4'	White	Jul-Sep			
<i>Allium cernuum</i>	Nodding Onion	7,700	1'-2'	White/Lavender	Jul-Oct			
<i>Allium tricoccum</i>	Wild Leek	1,400	6"-1'	White	Jun-Aug			
<i>Ammophila breviligulata</i>	Dune Grass	107,800	2'-3'	Green	Jul-Sep			
<i>Amorpha canescens</i>	Lead Plant	17,000	2'-3'	Purple	Jun-Aug			
<i>Amorpha fruticosa</i>	Indigo Bush	3,700	12'-17'	Purple	May-Aug			

Botanical Name	Common Name	Seeds/Oz	Height	Bloom Color	Bloom	Sunlight	Moisture Level	Other
<i>Andropogon gerardii</i>	Big Bluestem	8,188	4'-8'	Purple	Jul-Sep			
<i>Andropogon virginicus</i>	Broom Sedge	15,625	2'-3'	Brown	Aug-Sep			
<i>Anemone canadensis</i>	Meadow Anemone	9,250	1'-2'	White	May-Sep			
<i>Anemone cylindrica</i>	Thimbleweed	20,938	2'-3'	White	Jun-Aug			
<i>Anemone virginiana</i>	Tall Anemone	20,000	1'-3'	White	Jun-Aug			
<i>Angelica atropurpurea</i>	Great Angelica	6,250	4'-12'	White	May-Jun			
<i>Aquilegia canadensis</i>	Wild Columbine	25,000	1'-3'	Red/Yellow	Apr-Jul			
<i>Aralia racemosa</i>	Spikenard	33,000	3'-4'	Green	Jul-Aug			
<i>Arisaema triphyllum</i>	Jack-In-The-Pulpit	425	1'-3'	Green	Apr-Jul			
<i>Arnoglossum atriplicifolium</i>	Pale Indian Plantain	6,500	3'-8'	White	Jun-Oct			
<i>Arnoglossum plantagineum</i>	Prairie Indian Plantain	5,938	3'-5'	White	Jun-Aug			
<i>Asclepias exaltata</i>	Poke Milkweed	4,000	2'-5'	Green/Pink	Jun-Jul			
<i>Asclepias hirtella</i>	Tall Green Milkweed	4,300	2'-3'	Purple/Cream	Jun-Aug			
<i>Asclepias incarnata</i>	Swamp Milkweed	4,540	3'-5'	Pink	Jun-Sep			
<i>Asclepias purpurascens</i>	Purple Milkweed	5,141	2'-4'	Purple/Pink	Jun-Jul			
<i>Asclepias sullivantii</i>	Prairie Milkweed	5,300	2'-3'	Pink	Jun-Aug			
<i>Asclepias syriaca</i>	Common Milkweed	4,000	2'-4'	Pink	Jun-Aug			
<i>Asclepias tuberosa</i>	Butterfly Weed	3,500	1'-3'	Orange	Jun-Sep			
<i>Asclepias verticillata</i>	Whorled Milkweed	10,250	1'-1.5'	White	Jun-Sep			
<i>Astragalus canadensis</i>	Canadian Milk Vetch	16,000	1'-4'	Cream	Jun-Oct			
<i>Baptisia australis</i>	Blue Wild Indigo	1,600	1'-4'	Blue	May-Jun			
<i>Baptisia bracteata</i>	Cream Wild Indigo	1,700	3'-4'	Cream	May-Jun			
<i>Baptisia lactea</i>	White Wild Indigo	1,600	3'-4'	White	May-Aug			
<i>Baptisia tinctoria</i>	Yellow Wild Indigo	5,200	2'-3'	Yellow	Jun-Aug			
<i>Bidens cernua</i>	Nodding Bur Marigold	14,175	1'-4'	Yellow	Jun-Oct			
<i>Bidens coronata</i>	Tall Swamp Marigold	8,925	2'-5'	Yellow	Jun-Oct			
<i>Bidens frondosa</i>	Common Beggars-Tick	5,250	1'-4'	Orange	Jul-Sep			
<i>Blephilia hirsuta</i>	Wood Mint	233,539	1'-3'	White	Jun-Oct			
<i>Boehmeria cylindrica</i>	False Nettle	20,313	3'-4'	Yellow	Jul-Aug			

Botanical Name	Common Name	Seeds/Oz	Height	Bloom Color	Bloom	Sunlight	Moisture Level	Other
<i>Bolboschoenus fluviatilis</i>	River Bulrush	6,500	3'-7'	Brown	May-Jul			
<i>Boltonia asteroides</i>	False Aster	141,750	3'-5'	White/Yellow	Aug-Oct			
<i>Bouteloua curtipendula</i>	Side Oats Grama	9,375	2'-4'	Red	Jul-Oct			
<i>Brasenia schreberi</i>	Water Shield	78,125	-	Purple	Jun-Jul			
<i>Brickellia eupatorioides v. corymbulosa</i>	False Boneset	29,500	1'-4'	White	Aug-Oct			
<i>Bromus ciliatus</i>	Fringed Brome	6,188	2'-4'	Brown	Jun-Jul			
<i>Bromus kalmii</i>	Prairie Brome	9,063	2'-4'	Brown	Jun-Jul			
<i>Bromus pubescens</i>	Woodland Brome	7,188	2'-4'	Brown	Jun-Jul			
<i>Calamagrostis canadensis</i>	Bluejoint Grass	94,500	2'-4'	Brown	Jun			
<i>Calamovilfa longifolia</i>	Sand Reed	17,125	3'-6'	Brown	Jul-Sep			
<i>Caltha palustris</i>	Marsh Marigold	50,000	1'-2'	Yellow	Mar-Jun			
<i>Campanula rotundifolia</i>	Harebell	900,000	1'-2'	Blue	Jun-Oct			
<i>Campanulastrum americanum</i>	Tall Bellflower	800,000	2'-6'	Blue	Jul-Nov			
<i>Carex aquatilis</i>	Long-Bracted Tussock Sedge	125,000	2'-3'	Green	Apr-Jun			
<i>Carex bebbii</i>	Bebb's Oval Sedge	100,000	2'-3'	Green	Jun			
<i>Carex bicknellii</i>	Copper-Shouldered Oval Sedge	33,422	1'-2'	Green	May-Jun			
<i>Carex blanda</i>	Common Wood Sedge	12,500	1'-2'	Green	Apr-Jun			
<i>Carex brevior</i>	Plains Oval Sedge	27,500	1'-2'	Green	May-Jun			
<i>Carex buxbaumii</i>	Buxbaum's Sedge	14,500	2'-3'	Green	May-Jun			
<i>Carex cephaloidea</i>	Rough-Clustered Sedge	15,500	1'-3'	Green	May-Jun			
<i>Carex comosa</i>	Bristly Sedge	41,183	2'-3'	Green	May-Jun			
<i>Carex crinita</i>	Fringed Sedge	141,750	2'-5'	Green	May			
<i>Carex cristatella</i>	Crested Oval Sedge	59,000	2'-3'	Green	May-Jun			
<i>Carex davisii</i>	Awed Graceful Sedge	9,000	2'-3'	Green	May			
<i>Carex emoryi</i>	Riverbank Sedge	140,625	2'-3'	Green	May			
<i>Carex frankii</i>	Bristly Cattail Sedge	31,250	1'-2'	Green	Jun-Jul			
<i>Carex gracillima</i>	Graceful Sedge	100,000	2'-3'	Green	Apr-Jun			
<i>Carex granularis</i>	Pale Sedge	15,500	1'-2'	Green	May-Jun			
<i>Carex grayi</i>	Common Bur Sedge	1,200	1'-2'	Green	May-Jun			

Botanical Name	Common Name	Seeds/Oz	Height	Bloom Color	Bloom	Sunlight	Moisture Level	Other
<i>Carex hystericina</i>	Porcupine Sedge	36,000	2'-3'	Green	May-Jun			
<i>Carex lacustris</i>	Common Lake Sedge	26,000	2'-4'	Green	May-Jun			
<i>Carex lupulina</i>	Common Hop Sedge	3,635	2'-3'	Green	May-Jun			
<i>Carex lurida</i>	Bottlebrush Sedge	12,000	2'-3'	Green	May-Jun			
<i>Carex molesta</i>	Field Oval Sedge	27,500	1'-3'	Green	Jun-Jul			
<i>Carex muhlenbergii</i>	Sand Bracted Sedge	11,875	1'-3'	Green	May-Jun			
<i>Carex muskingumensis</i>	Swamp Oval Sedge	81,250	1'-2'	Green	May-Jun			
<i>Carex normalis</i>	Spreading Oval Sedge	25,000	1'-3'	Green	May-Jun			
<i>Carex pellita</i>	Wooly Sedge	28,000	1'-2'	Green	May-Jun			
<i>Carex pennsylvanica</i>	Common Oak Sedge	29,000	6"-1'	Green	Apr-May			
<i>Carex plantaginea</i>	Plantain Wood Sedge	30,000	6"-1'	Green	Mar-May			
<i>Carex prairea</i>	Fen Panicked Sedge	84,375	1'-4'	Green	May			
<i>Carex projecta</i>	Loose-Headed Oval Sedge	131,094	1'-3'	Green	May-Jun			
<i>Carex radiata</i>	Straight-Styled Wood Sedge	41,390	1'-2'	Green	May-Jun			
<i>Carex scoparia</i>	Lance-Fruited Oval Sedge	83,250	2'-3'	Green	May-Jun			
<i>Carex shortiana</i>	Short's Sedge	17,000	1'-3'	Green	May-Jun			
<i>Carex squarrosa</i>	Narrow-Leaved Cattail Sedge	25,111	1'-2'	Green	May-Jun			
<i>Carex stipata</i>	Common Fox Sedge	35,625	1'-3'	Green	Apr-May			
<i>Carex stricta</i>	Common Tussock Sedge	187,500	2'-3'	Green	Apr-Jun			
<i>Carex swanii</i>	Swan's Sedge	74,000	1'-2'	Green	May-Jun			
<i>Carex tribuloides</i>	Awl-Fruited Oval Sedge	118,750	2'-3'	Green	May-Jul			
<i>Carex typhina</i>	Common Cattail Sedge	15,375	1'-2'	Green	Jun			
<i>Carex vulpinoidea</i>	Brown Fox Sedge	125,000	2'-3'	Green	May-Jun			
<i>Caulophyllum thalictroides</i>	Blue Cohosh	120	1'-3'	Yellow	Apr-May			
<i>Ceanothus americanus</i>	New Jersey Tea	7,000	1'-3'	White	Jun-Oct			
<i>Chamaecrista fasciculata</i>	Partridge Pea	3,800	1'-3'	Yellow	Jun-Oct			
<i>Chasmanthium latifolium</i>	Indian Wood Oats	7,500	2'-3'	Green	Jul-Aug			
<i>Chelone glabra</i>	Turtlehead	96,875	2'-4'	Cream	Aug-Sep			
<i>Cinna arundinacea</i>	Common Wood Reed	308,750	3'-4'	Green	Aug-Sep			
<i>Cirsium discolor</i>	Field Thistle	6,400	2'-8'	Pink	Jul-Sep			

Botanical Name	Common Name	Seeds/Oz	Height	Bloom Color	Bloom	Sunlight	Moisture Level	Other
<i>Claytonia virginica</i>	Spring Beauty	24,000	6"	Pink	Apr-May			
<i>Clematis virginiana</i>	Virgin's Bower	13,600	Vine	White	Jul-Oct			
<i>Conoclinium coelestinum</i>	Blue Mistflower	315,000	1'-3'	Blue	Aug-Sep			
<i>Coreopsis lanceolata</i>	Sand Coreopsis	12,500	1'-2'	Yellow	May-Aug			
<i>Coreopsis palmata</i>	Prairie Coreopsis	11,875	1'-2'	Yellow	Jun-Aug			
<i>Coreopsis tripteris</i>	Tall Coreopsis	11,500	4'-8'	Yellow/Brown	Aug-Sep			
<i>Dalea candida</i>	White Prairie Clover	26,250	1'-3'	White	Jun-Oct			
<i>Dalea purpurea</i>	Purple Prairie Clover	20,000	1'-3'	Purple	Jun-Sep			
<i>Decodon verticillatus</i>	Swamp Loosestrife	40,250	2'-4'	Pink	Jul-Sep			
<i>Deschampsia caespitosa</i>	Tufted Hair Grass	75,000	1'-3'	Green	May-Jun			
<i>Desmanthus illinoensis</i>	Illinois Sensitive Plant	4,888	3'-5'	White	Jul-Aug			
<i>Desmodium canadense</i>	Showy Tick Trefoil	4,500	2'-5'	Purple	Jun-Sep			
<i>Desmodium canescens</i>	Hoary Tick Trefoil	2,800	3'-5'	Purple	Aug			
<i>Desmodium illinoense</i>	Illinois Tick Trefoil	4,250	3'-6'	Purple	Jul-Aug			
<i>Desmodium sessilifolium</i>	Sessile-Leaved Tick Trefoil	5,125	2'-4'	Purple	Jul-Sep			
<i>Diarrhena obovata</i>	Beak Grass	3,320	1'-3'	Green	Jul			
<i>Dodecatheon meadia</i>	Shooting Star	75,000	6" - 12"	White/Pink	Apr-May			
<i>Doellingeria umbellata</i>	Flat-Topped Aster	315,000	1'-4'	White/Yellow	Jul-Oct			
<i>Drymocallis arguta</i>	Prairie Cinquefoil	175,000	1'-3'	White	Jun-Sep			
<i>Dulichium arundinaceum</i>	Three-Way Sedge	100,000	1'-3'	Green	Jul-Aug			
<i>Echinacea pallida</i>	Pale Purple Coneflower	5,000	2'-4'	Lavender	May-Aug			
<i>Echinacea purpurea</i>	Broad-Leaved Purple Coneflower	6,600	3'-4'	Purple	Jun-Aug			
<i>Eleocharis acicularis</i>	Needle Spike Rush	70,000	5"-7"	Green	May-Oct			
<i>Eleocharis erythropoda</i>	Red-Rooted Spike Rush	70,000	2"-6"	Green	May-Sep			
<i>Eleocharis obtusa</i>	Blunt Spike Rush	95,000	6"-1'	Green	May-Sep			
<i>Eleocharis palustris</i>	Great Spike Rush	141,750	1'-2'	Green	Jul			
<i>Elodea canadensis</i>	Common Waterweed	-	-	Green	Jun-Aug			
<i>Elymus canadensis</i>	Canada Wild Rye	4,258	3'-5'	Green	Jun-Sep			
<i>Elymus riparius</i>	Riverbank Wild Rye	5,531	2'-4'	Green	Jul-Aug			
<i>Elymus villosus</i>	Silky Wild Rye	7,800	1'-3'	Green	Jul			

Botanical Name	Common Name	Seeds/Oz	Height	Bloom Color	Bloom	Sunlight	Moisture Level	Other
<i>Elymus virginicus</i>	Virginia Wild Rye	4,375	2'-4'	Green	Jun			
<i>Epilobium coloratum</i>	Cinnamon Willow Herb	55,000	1'-3'	Pink	Jun-Sep			
<i>Equisetum hyemale</i>	Tall Scouring Rush	-	1'-3'	Brown	Apr-Aug			
<i>Eragrostis spectabilis</i>	Purple Love Grass	66,000	1'-2'	Purple	Jul-Aug			
<i>Eryngium yuccifolium</i>	Rattlesnake Master	8,000	3'-5'	White	Jul-Sep			
<i>Eupatorium perfoliatum</i>	Common Boneset	125,000	3'-5'	White	Jul-Oct			
<i>Eupatorium serotinum</i>	Late Boneset	60,500	2'-5'	White	Jul-Oct			
<i>Euphorbia corollata</i>	Flowering Spurge	10,000	2'-4'	White	Jun-Oct			
<i>Eurybia macrophylla</i>	Big-Leaved Aster	21,600	6"-2'	Lavender/Yellow	Jul-Oct			
<i>Euthamia graminifolia</i>	Common Grass-Leaved Goldenrod	546,875	1'-4'	Yellow	Jul-Sep			
<i>Eutrochium fistulosum</i>	Hollow Joe Pye Weed	78,125	5'-9'	Pink	Jul-Aug			
<i>Eutrochium maculatum</i>	Spotted Joe Pye Weed	78,125	4'-7'	Pink	Jun-Oct			
<i>Eutrochium purpureum</i>	Purple Joe Pye Weed	48,000	3'-6'	Pink	Jul-Sep			
<i>Filipendula rubra</i>	Queen Of The Prairie	9,375	3'-6'	Pink	Jul			
<i>Gentiana andrewsii</i>	Bottle Gentian	227,000	1'-3'	Blue	Aug-Oct			
<i>Gentiana flavida</i>	Cream Gentian	180,000	1'-3'	Cream	Sep-Oct			
<i>Geranium maculatum</i>	Wild Geranium	4,850	1'-2'	Lavender	Apr-Jul			
<i>Geum triflorum</i>	Prairie Smoke	33,000	6"-1'	Pink	Apr-Jun			
<i>Glyceria canadensis</i>	Rattlesnake Grass	74,000	2'-5'	Green	Jun			
<i>Glyceria grandis</i>	Reed Manna Grass	109,375	3'-5'	Green	Jun			
<i>Glyceria striata</i>	Fowl Manna Grass	125,000	1'-5'	Green	May-Jun			
<i>Helenium autumnale</i>	Sneezeweed	141,750	3'-5'	Yellow	Jul-Nov			
<i>Helianthus giganteus</i>	Tall Sunflower	10,938	4'-12'	Yellow	Jul-Sep			
<i>Helianthus grosseserratus</i>	Sawtooth Sunflower	12,500	4'-12'	Yellow	Jul-Oct			
<i>Helianthus mollis</i>	Downy Sunflower	7,700	2'-4'	Yellow	Jul-Sep			
<i>Helianthus occidentalis</i>	Western Sunflower	13,000	2'-4'	Yellow	Aug-Sep			
<i>Helianthus strumosus</i>	Pale-Leaved Sunflower	7,200	2'-5'	Yellow	Jul-Oct			
<i>Heliopsis helianthoides</i>	False Sunflower	6,500	4'-6'	Yellow	Jun-Oct			
<i>Heracleum maximum</i>	Cow Parsnip	3,016	4'-10'	White	May-Jul			
<i>Hesperostipa spartea</i>	Porcupine Grass	680	2'-4'	Green	Jun			
<i>Heuchera richardsonii</i>	Prairie Alum Root	800,000	1'-3'	Green	May-Sep			
<i>Hibiscus laevis</i>	Smooth Rosemallow	2,188	3'-7'	White/Pink	Jul-Sep			

Botanical Name	Common Name	Seeds/Oz	Height	Bloom Color	Bloom	Sunlight	Moisture Level	Other
<i>Hibiscus palustris</i>	Swamp Rosemallow	2,188	3'-7'	White/Pink/Red	Jul-Sep			
<i>Hierochloe hirta</i>	Sweet Grass	41,000	1'-3'	Green	Apr-Jun			
<i>Hydrophyllum virginianum</i>	Virginia Waterleaf	2,800	1'-2'	Lavender	May-Jun			
<i>Hypericum ascyron</i>	Great St. John's Wort	220,000	3'-6'	Yellow	Jul-Aug			
<i>Hypericum kalmianum</i>	Kalm's St. John's Wort	121,336	2'-4'	Yellow	Jun-Aug			
<i>Hystrix patula</i>	Bottlebrush Grass	4,700	3'-5'	Green	Jun-Jul			
<i>Iris versicolor</i>	Northern Blue Flag	1,400	2'-3'	Lavender/Purple	May-Jul			
<i>Iris virginica v. shrevei</i>	Blue Flag	1,400	2'-3'	Lavender/Purple	May-Jul			
<i>Juncus canadensis</i>	Canadian Rush	1,000,000	1'-3'	Brown	Jul-Sep			
<i>Juncus dudleyi</i>	Dudley's Rush	2,270,000	1'-2'	Brown	May-Jul			
<i>Juncus effusus</i>	Common Rush	1,000,000	1'-4'	Brown	Jun			
<i>Juncus interior</i>	Inland Rush	2,800,000	6"-2'	Brown	Jun-Jul			
<i>Juncus tenuis</i>	Path Rush	1,000,000	6"-2'	Brown	Jun			
<i>Juncus torreyi</i>	Torrey's Rush	1,134,000	1'-2'	Brown	Jun-Sep			
<i>Justicia americana</i>	Water Willow	75,000	1'-2'	Lavender	Jun-Aug			
<i>Koeleria macrantha</i>	June Grass	150,000	1'-2'	Cream	May-Jul			
<i>Lathyrus palustris</i>	Marsh Vetchling	750	6"-1'	Pink/Purple	May-Sep			
<i>Leersia oryzoides</i>	Rice Cut Grass	94,500	2'-5'	Green	Jul-Sep			
<i>Lespedeza capitata</i>	Round-Headed Bush Clover	10,000	2'-4'	White	Jul-Sep			
<i>Liatris aspera</i>	Rough Blazing Star	13,000	2'-3'	Pink	Jul-Nov			
<i>Liatris cylindracea</i>	Cylindrical Blazing Star	13,300	1'-2'	Pink	Jul-Oct			
<i>Liatris pycnostachya</i>	Prairie Blazing Star	10,750	2'-4'	Pink	Jul-Sep			
<i>Liatris scariosa v. nieuwlandii</i>	Savanna Blazing Star	13,000	3'-5'	Pink	Aug-Oct			
<i>Liatris spicata</i>	Marsh Blazing Star	12,000	3'-5'	Pink	Jul-Sep			
<i>Lobelia cardinalis</i>	Cardinal Flower	437,500	2'-5'	Red	Jul-Oct			
<i>Lobelia inflata</i>	Indian Tobacco	495,000	1'-3'	Cream	Jun-Oct			
<i>Lobelia siphilitica</i>	Great Blue Lobelia	520,000	1'-4'	Blue	Jul-Oct			
<i>Lobelia spicata</i>	Pale Spiked Lobelia	90,000	1'-3'	Lavender	May-Aug			
<i>Ludwigia alternifolia</i>	Seedbox	281,250	2'-3'	Yellow	Jun-Aug			
<i>Lupinus perennis v. occidentalis</i>	Wild Lupine	1,000	1'-2'	Blue/Violet	Apr-Jul			
<i>Lycopus americanus</i>	Common Water Horehound	235,000	1'-2'	White	Jul-Sep			
<i>Lythrum alatum</i>	Winged Loosestrife	3,000,000	2'-3'	Purple	Jun-Sep			

Botanical Name	Common Name	Seeds/Oz	Height	Bloom Color	Bloom	Sunlight	Moisture Level	Other
<i>Mentha canadensis</i>	Wild Mint	315,000	1'-3'	White	Jul-Sep	☀️	💧💧	🐝
<i>Mertensia virginica</i>	Virginia Bluebells	9,650	1'-2'	Blue	Mar-May	☀️☁️	💧💧	🐝
<i>Mimulus ringens</i>	Monkey Flower	283,500	2'-4'	Lavender	Jun-Sep	☀️☁️	💧💧	
<i>Monarda fistulosa</i>	Wild Bergamot	78,000	2'-5'	Lavender	Jul-Sep	☀️☁️	💧💧	🐝
<i>Monarda punctata</i>	Horse Mint	94,000	1'-2'	Cream	Jul-Sep	☀️☁️	💧	🐝
<i>Nelumbo lutea</i>	Lotus	20	3"-1'	Cream	Jul-Aug	☀️	💧💧💧	
<i>Nuphar advena</i>	Yellow Pond Lily	-	-	Yellow	May-Sep	☀️☁️	💧💧💧	🗑️
<i>Nymphaea odorata tuberosa</i>	White Water Lily	-	-	White	May-Sep	☀️☁️	💧💧💧	
<i>Oenothera biennis</i>	Common Evening Primrose	55,000	2'-6'	Yellow	Jun-Nov	☀️☁️	💧💧	
<i>Oligoneuron ohioense</i>	Ohio Goldenrod	90,000	2'-4'	Yellow	Jul-Oct	☀️☁️	💧💧	🐝
<i>Oligoneuron riddellii</i>	Riddell's Goldenrod	94,500	2'-5'	Yellow	Sep-Nov	☀️	💧💧	🐝
<i>Oligoneuron rigidum</i>	Stiff Goldenrod	46,000	1'-5'	Yellow	Jul-Oct	☀️☁️	💧💧	🗑️🐝
<i>Opuntia cespitosa</i>	Eastern Prickly Pear	1,344	3"-6"	Yellow	Jun-Jul	☀️☁️	💧	🐝
<i>Osmorhiza claytonii</i>	Hairy Sweet Cicely	2,400	1'-3'	White	May-Jun	☀️☁️	💧	
<i>Packera aurea</i>	Golden Ragwort	69,375	1'-3'	Yellow	Apr-Jun	☀️☁️	💧	
<i>Panicum virgatum</i>	Switch Grass	28,356	3'-5'	Green/Purple	Jun-Oct	☀️☁️	💧💧💧	🗑️🐝
<i>Parthenium integrifolium</i>	Wild Quinine	6,800	2'-3'	White	Jun-Sep	☀️	💧	🐝
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	1,875	Vine	Green	Jul-Aug	☀️☁️	💧	🗑️
<i>Pedicularis lanceolata</i>	Fen Betony	32,500	1'-3'	Yellow	Aug-Oct	☀️☁️	💧	
<i>Peltandra virginica</i>	Arrow Arum	42	1'-3'	Green	Jun-Jul	☀️☁️	💧💧💧	
<i>Penstemon calycosus</i>	Smooth Beard Tongue	90,000	2'-4'	White	May-Jun	☀️☁️	💧💧	🐝
<i>Penstemon digitalis</i>	Foxglove Beard Tongue	115,000	2'-4'	White	May-Jul	☀️☁️	💧💧	🗑️🐝
<i>Penstemon hirsutus</i>	Hairy Beard Tongue	125,000	1'-2'	White/Lavender	May-Jul	☀️☁️	💧💧	🐝
<i>Penthorum sedoides</i>	Ditch Stonecrop	36,063	1'-3'	Green	Jun-Oct	☀️☁️	💧💧	
<i>Persicaria amphibia v. stipulacea</i>	Water Knotweed	3,125	1'-2'	Pink	Jun-Oct	☀️☁️	💧💧💧	
<i>Persicaria pensylvanica</i>	Pinkweed	4,063	1'-5'	Pink	Jun-Oct	☀️☁️	💧	🗑️
<i>Phlox divaricata</i>	Woodland Phlox	12,000	1'-2'	Blue	Apr-Jun	☀️☁️	💧	🐝
<i>Phlox glaberrima interior</i>	Marsh Phlox	7,400	1'-2'	Pink/Lavender	Jun-Aug	☀️☁️	💧💧	🗑️🐝
<i>Phlox pilosa</i>	Sand Prairie Phlox	18,750	1'-2'	Pink	May-Aug	☀️☁️	💧💧	🐝
<i>Physostegia virginiana</i>	Obedient Plant	25,000	2'-5'	Pink	Aug-Oct	☀️	💧	🗑️

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<i>Polygonatum biflorum</i>	Smooth Solomon's Seal	1,200	1'-4'	Green/White	May-Jul	☀️☁️	💧	🐝
<i>Pontederia cordata</i>	Pickereel Weed	1,250	1'-3'	Purple	Jun-Sep	☀️☁️	💧💧💧	🐝
<i>Potamogeton natans</i>	Common Pondweed	22,500	-	Green/White	Jun-Jul	☀️☁️	💧💧	
<i>Potamogeton nodosus</i>	Long-Leaved Pondweed	22,500	-	Green/White	Jun-Jul	☀️☁️	💧💧	
<i>Pycnanthemum tenuifolium</i>	Mountain Mint	375,000	1'-3'	White	Jun-Aug	☀️☁️	💧💧	🐝
<i>Pycnanthemum virginianum</i>	Common Mountain Mint	331,250	1'-3'	White	Jun-Oct	☀️☁️	💧	🐝
<i>Ratibida pinnata</i>	Yellow Coneflower	25,250	3'-6'	Yellow/Brown	Jul-Oct	☀️	💧💧	🐝
<i>Rhexia virginica</i>	Virginia Meadow Beauty	115,000	6"-2'	Lavender/Yellow	Aug-Sep	☀️☁️	💧💧	
<i>Rosa carolina</i>	Pasture Rose	2,900	1'-3'	Pink	Jun-Sep	☀️☁️	💧	🐝
<i>Rosa palustris</i>	Swamp Rose	1,600	2'-7'	Pink	Jun-Aug	☀️☁️	💧💧	🐝
<i>Rudbeckia fulgida</i>	Showy Black-Eyed Susan	31,000	2'-3'	Yellow/Brown	Aug-Sep	☀️	💧💧	🐝
<i>Rudbeckia hirta</i>	Black-Eyed Susan	110,000	1'-3'	Yellow/Brown	Jun-Oct	☀️☁️	💧💧	🗑️🐝
<i>Rudbeckia laciniata</i>	Wild Golden Glow	15,000	3'-10'	Yellow	Jul-Nov	☀️☁️	💧	🐝
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan	46,000	3'-4'	Yellow/Brown	Aug-Sep	☀️☁️	💧💧	🐝
<i>Rudbeckia triloba</i>	Brown-Eyed Susan	33,000	2'-3'	Yellow/Brown	Aug-Oct	☀️☁️	💧	🐝
<i>Ruellia humilis</i>	Prairie Petunia	4,000	1'-2'	Lavender	Jun-Aug	☀️	💧💧	
<i>Rumex orbiculatus</i>	Great Water Dock	9,063	2'-5'	Green	May-Sep	☀️☁️	💧	🗑️
<i>Rumex verticillatus</i>	Swamp Dock	9,688	2'-5'	Green	Jun-Sep	☀️☁️	💧💧	
<i>Sagittaria latifolia</i>	Common Arrowhead	56,700	1'-4'	White	Jun-Sep	☀️☁️	💧💧💧	🐝
<i>Sanguinaria canadensis</i>	Bloodroot	2,500	6"-1'	White/Yellow	Apr-May	☀️☁️	💧💧	🐝
<i>Saururus cernuus</i>	Lizard's Tail	343,750	2'-4'	White	Jun-Aug	☀️☁️	💧💧	
<i>Schizachyrium scoparium</i>	Little Bluestem	8,800	2'-4'	Brown	Aug-Sep	☀️☁️	💧💧	🗑️🐝
<i>Schoenoplectus acutus</i>	Hardstem Bulrush	20,000	4'-6'	Brown	Apr-Aug	☀️	💧💧💧	🗑️🐝
<i>Schoenoplectus pungens</i>	Chairmaker's Rush	125,000	2'-5'	Brown	May-Sep	☀️	💧💧	🗑️🐝
<i>Schoenoplectus tabernaemontani</i>	Softstem Bulrush	37,813	4'-8'	Brown	May-Aug	☀️	💧💧💧	🗑️🐝
<i>Scirpus atrovirens</i>	Dark Green Rush	187,500	3'-5'	Brown	Jun-Aug	☀️	💧	🗑️
<i>Scirpus cyperinus</i>	Wool Grass	562,500	3'-5'	Brown	Jun-Sep	☀️	💧💧	🗑️🐝
<i>Scirpus pendulus</i>	Red Bulrush	378,125	2'-4'	Brown	May-Jun	☀️	💧	🗑️
<i>Scrophularia marilandica</i>	Late Figwort	125,000	3'-7'	Brown	Jun-Oct	☀️☁️	💧💧	🐝
<i>Scutellaria lateriflora</i>	Mad-Dog Skullcap	65,000	1'-2'	Purple	Jun-Sep	☀️☁️	💧💧	

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<i>Senna hebecarpa</i>	Wild Senna	1,400	3'-5'	Yellow	Jul-Aug			
<i>Silene regia</i>	Royal Catchfly	23,000	2'-4'	Red	Jul-Aug			
<i>Silene stellata</i>	Starry Campion	30,000	1'-2'	White	Jul-Oct			
<i>Silene virginica</i>	Fire Pink	26,000	6"-1'	Red	May-Jul			
<i>Silphium integrifolium</i>	Rosin Weed	4,000	2'-6'	Yellow	Jul-Sep			
<i>Silphium laciniatum</i>	Compass Plant	650	3'-8'	Yellow	Jun-Sep			
<i>Silphium perfoliatum</i>	Cup Plant	2,100	3'-8'	Yellow	Jul-Oct			
<i>Silphium terebinthinaceum</i>	Prairie Dock	1,100	3'-8'	Yellow	Jun-Sep			
<i>Sium suave</i>	Tall Water Parsnip	9,500	2'-6'	White	Jul-Sep			
<i>Smilacina racemosa</i>	Feathery False Solomon's Seal	900	1'-3'	White	Apr-Jun			
<i>Smilacina stellata</i>	Starry False Solomon's Seal	900	1'-2'	White	Apr-Jun			
<i>Solidago caesia</i>	Blue-Stemmed Goldenrod	546,875	1'-2'	Yellow	Sep-Oct			
<i>Solidago flexicaulis</i>	Broad-Leaved Goldenrod	84,000	1'-3'	Yellow	Aug-Oct			
<i>Solidago juncea</i>	Early Goldenrod	140,625	2'-4'	Yellow	Jul-Sep			
<i>Solidago nemoralis</i>	Old-Field Goldenrod	240,000	1'-3'	Yellow	Aug-Nov			
<i>Solidago patula</i>	Swamp Goldenrod	71,875	3'-6'	Yellow	Aug-Oct			
<i>Solidago rugosa</i>	Rough Goldenrod	92,500	2'-5'	Yellow	Aug-Oct			
<i>Solidago speciosa</i>	Showy Goldenrod	105,000	1'-4'	Yellow	Jul-Oct			
<i>Solidago ulmifolia</i>	Elm-Leaved Goldenrod	130,000	2'-3'	Yellow	Jul-Oct			
<i>Sorghastrum nutans</i>	Indian Grass	8,516	4'-7'	Green/Yellow	Aug-Sep			
<i>Sparganium americanum</i>	American Bur Reed	975	2'-3'	Green	Jun-Aug			
<i>Sparganium eurycarpum</i>	Common Bur Reed	596	2'-6'	Green	May-Aug			
<i>Spartina pectinata</i>	Prairie Cord Grass	15,750	3'-7'	Green	Jul-Aug			
<i>Spiraea alba</i>	Meadowsweet	390,625	3'-6'	White	Jun-Sep			
<i>Spiraea tomentosa</i>	Steeplebush	390,625	2'-5'	Pink	Jul-Sep			
<i>Sporobolus heterolepis</i>	Prairie Dropseed	14,000	2'-3'	Green	Aug-Sep			
<i>Stuckenia pectinata</i>	Sago Pondweed	22,500	-	Green/White	May-Sep			
<i>Stylophorum diphyllum</i>	Celandine Poppy	12,400	2'-3'	Yellow	Apr-Jun			
<i>Symphotrichum cordifolium</i>	Heart-Leaved Aster	131,250	2'-4'	Blue/White/Yellow	Sep-Oct			
<i>Symphotrichum dumosum</i>	Rice-Button Aster	57,000	1'-3'	Lavender/White	Sep-Oct			

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<i>Symphotrichum ericoides</i>	Heath Aster	140,000	1'-3'	White/Yellow	Aug-Oct			
<i>Symphotrichum laeve</i>	Smooth Blue Aster	48,000	3'-5'	Blue/Yellow	Aug-Oct			
<i>Symphotrichum lanceolatum</i>	Panicled Aster	141,750	3'-5'	White/Yellow	Jul-Nov			
<i>Symphotrichum lateriflorum</i>	Side-Flowering Aster	200,000	1'-3'	White/Yellow	Jul-Oct			
<i>Symphotrichum novae-angliae</i>	New England Aster	76,000	3'-6'	Violet/Yellow	Jul-Oct			
<i>Symphotrichum oblongifolium</i>	Aromatic Aster	51,000	2'-3'	Lavender	Aug-Oct			
<i>Symphotrichum oolentangiense</i>	Sky-Blue Aster	82,000	1'-4'	Blue/Yellow	Jul-Nov			
<i>Symphotrichum praealtum</i>	Willow Aster	104,000	2'-4'	Blue/White/Yellow	Sep-Oct			
<i>Symphotrichum puniceum</i>	Bristly Aster	76,000	3'-6'	Lavender/Yellow	Aug-Oct			
<i>Symphotrichum sericeum</i>	Silky Aster	57,000	1'-2'	Purple/Yellow	Aug-Oct			
<i>Symphotrichum shortii</i>	Short's Aster	60,000	1'-4'	Blue/Yellow	Aug-Oct			
<i>Symphotrichum urophyllum</i>	Arrow-Leaved Aster	110,000	2'-5'	White/Yellow	Aug-Sep			
<i>Symplocarpus foetidus</i>	Skunk Cabbage	30	1'-3'	Maroon	Feb-Apr			
<i>Tephrosia virginiana</i>	Goat's Rue	2,500	1'-3'	Pink/Cream	Jun-Jul			
<i>Teucrium canadense</i>	Germander	19,500	1'-3'	Purple	Jul-Sep			
<i>Thalictrum dasycarpum</i>	Purple Meadow Rue	13,500	3'-6'	Cream	May-Jun			
<i>Thalictrum dioicum</i>	Early Meadow Rue	7,300	1'-3'	Green	Apr-May			
<i>Tradescantia ohioensis</i>	Common Spiderwort	8,000	2'-4'	Blue/Lavender	May-Oct			
<i>Triadenum virginicum</i>	Marsh St. John's Wort	230,000	1'-2'	Pink	Jul-Sep			
<i>Vallisneria americana</i>	Eel Grass	-	-	Green	Jul-Sep			
<i>Verbena hastata</i>	Blue Vervain	100,000	3'-6'	Purple	Jun-Sep			
<i>Verbena stricta</i>	Hoary Vervain	32,000	2'-4'	Purple	Jun-Sep			
<i>Verbesina alternifolia</i>	Wingstem	9,063	3'-7'	Yellow	Jul-Oct			
<i>Vernonia fasciculata</i>	Common Ironweed	21,875	3'-7'	Purple	Jul-Oct			
<i>Vernonia gigantea</i>	Smooth Tall Ironweed	24,000	4'-9'	Purple	Jul-Oct			
<i>Veronicastrum virginicum</i>	Culver's Root	750,000	3'-6'	White	Jun-Aug			
<i>Zizia aptera</i>	Heart-Leaved Meadow Parsnip	9,000	1'-2'	Yellow	Apr-May			
<i>Zizia aurea</i>	Golden Alexanders	12,000	1'-3'	Yellow	Apr-Jun			



For current pricing, availability, and information on our full installation and management services, visit Stantec.com/nursery

Trees and Shrubs

Trees and Shrubs

Stantec supplies Midwestern genotype bare-root trees and shrubs. Sold in bundles of 25, our extensive selection of native tree and shrub species is stored in a dormant state in our climate-controlled storage facility. Our standard size bare-root stock is 12 to 18 inches above the root collar. Larger or smaller stock is available on request.

To optimize planting success, plant bare-root trees and shrubs in the early spring. Bare-root trees are available only from late November to early May, when seedlings are dormant. Seedling availability in the fall depends upon frost timing for dormancy and when the ground freezes permanently for the winter.

Botanical Name	Common Name	Height	Bloom Color	Bloom	Sunlight	Moisture Level	Other
<i>Acer rubrum</i>	Red Maple	60'-90'	Red/Yellow	Apr-May	☀️☀️☀️☀️	💧💧💧	
<i>Acer saccharinum</i>	Silver Maple	50'-90'	Green/Yellow	Mar-Apr	☀️☀️☀️☀️	💧💧	🪴
<i>Acer saccharum</i>	Sugar Maple	70'-100'	Green/Yellow	Apr-May	☀️☀️☀️☀️	💧💧	
<i>Aesculus glabra</i>	Ohio Buckeye	30'-70'	Green/Yellow	Apr-May	☀️☀️☀️☀️	💧💧💧	🐝
<i>Amelanchier canadensis</i>	Shadbush Serviceberry	15'-25'	White	Apr-Jun	☀️☀️☀️☀️	💧💧	🪴🐝
<i>Asimina triloba</i>	Pawpaw	10'-30'	Brown/Purple	Apr-May	☀️☀️☀️☀️	💧💧	
<i>Betula nigra</i>	River Birch	50'-90'	Green	May	☀️☀️☀️☀️	💧💧	🪴🐝
<i>Carpinus caroliniana virginiana</i>	Blue Beech, Ironwood	20'-30'	Yellow	Apr-May	☀️☀️☀️☀️	💧	
<i>Carya illinoensis</i>	Northern Pecan	70'-100'	Yellow/Green	May-Jun	☀️☀️☀️☀️	💧💧	
<i>Carya laciniosa</i>	Shellbark Hickory	70'-100'	Yellow/Green	May-Jun	☀️☀️☀️☀️	💧💧	
<i>Carya ovata</i>	Shagbark Hickory	70'-100'	Yellow/Green	May-Jun	☀️☀️☀️☀️	💧💧	🪴
<i>Celtis occidentalis</i>	Hackberry	50'-90'	Green	Apr-May	☀️☀️☀️☀️	💧💧💧	🪴
<i>Cephalanthus occidentalis</i>	Buttonbush	15'-20'	White	Jun-Aug	☀️☀️☀️☀️	💧💧💧💧	🐝
<i>Cercis canadensis</i>	Redbud	20'-35'	Pink	Apr-May	☀️☀️☀️☀️	💧💧	🐝

Botanical Name	Common Name	Height	Bloom Color	Bloom	Sunlight	Moisture Level	Other
<i>Cornus obliqua</i>	Silky Dogwood	10'-15'	White	May-Jul	☀️☀️☀️☀️	💧💧	
<i>Cornus florida</i>	Flowering Dogwood	30'-40'	White	May-Jun	☀️☀️☀️☀️	💧💧	
<i>Cornus racemosa</i>	Gray Dogwood	6'-15'	White	May-Jun	☀️☀️☀️☀️	💧💧💧	
<i>Cornus sericea</i>	Red-Osier Dogwood	3'-10'	White	May-Aug	☀️☀️☀️☀️	💧💧	
<i>Corylus americana</i>	American Hazelnut	3'-9'	Green	July-Aug	☀️☀️☀️☀️	💧💧	🪴
<i>Gymnocladus dioica</i>	Kentucky Coffee Tree	80'-100'	Green	May	☀️☀️☀️☀️	💧	🪴
<i>Hamamelis virginiana</i>	Witch Hazel	20'-30'	Yellow	Oct-Dec	☀️☀️☀️☀️	💧	🪴
<i>Ilex verticillata</i>	Winterberry	15'-20'	White	May-Jun	☀️☀️☀️☀️	💧💧	🪴
<i>Juglans nigra</i>	Black Walnut	90'-120'	Green	Apr-May	☀️☀️☀️☀️	💧💧	🪴
<i>Larix laricina</i>	Tamarack	50'-80'	-	-	☀️☀️☀️☀️	💧💧	🪴
<i>Lindera benzoin</i>	Spicebush	9'-15'	Yellow	Apr-May	☀️☀️☀️☀️	💧💧	🐝
<i>Liquidambar styraciflua</i>	Sweet Gum	60'-100'	Green	May-Jun	☀️☀️☀️☀️	💧	🪴
<i>Liriodendron tulipifera</i>	Tulip Tree	60'-180'	Green/Orange	May-Jun	☀️☀️☀️☀️	💧💧	🐝
<i>Nyssa sylvatica</i>	Black Gum	50'-90'	Green	May-Jun	☀️☀️☀️☀️	💧	🪴🐝
<i>Physocarpus opulifolius</i>	Ninebark	10'	White	May-Jul	☀️☀️☀️☀️	💧💧	
<i>Platanus occidentalis</i>	Sycamore	70'-150'	Green	Apr-Jun	☀️☀️☀️☀️	💧💧	🪴
<i>Populus deltoides</i>	Eastern Cottonwood	90'-120'	Green	Apr-Jun	☀️☀️☀️☀️	💧💧💧	🐝
<i>Prunus americana</i>	American Plum	25'-30'	White	Apr-May	☀️☀️☀️☀️	💧💧	🐝
<i>Prunus serotina</i>	Wild Black Cherry	75'-80'	White	Apr-May	☀️☀️☀️☀️	💧💧	🐝
<i>Quercus alba</i>	White Oak	80'-100'	Green/Yellow	Apr-Jun	☀️☀️☀️☀️	💧💧	🪴
<i>Quercus bicolor</i>	Swamp White Oak	60'-90'	Green/Yellow	May	☀️☀️☀️☀️	💧💧	🪴
<i>Quercus imbricaria</i>	Shingle Oak	50'-70'	Green/Yellow	May-Jun	☀️☀️☀️☀️	💧💧	🪴
<i>Quercus macrocarpa</i>	Bur Oak	50'-80'	Green/Yellow	Apr-Jun	☀️☀️☀️☀️	💧💧	🪴
<i>Quercus michauxii</i>	Swamp Chestnut Oak	60'-90'	Green/Yellow	Apr-Jun	☀️☀️☀️☀️	💧💧	
<i>Quercus palustris</i>	Pin Oak	50'-90'	Green/Yellow	Apr-May	☀️☀️☀️☀️	💧💧	
<i>Quercus rubra</i>	Red Oak	60'-90'	Green/Yellow	May	☀️☀️☀️☀️	💧💧	
<i>Quercus shumardii</i>	Shumard Oak	60'-100'	Green/Yellow	Apr-May	☀️☀️☀️☀️	💧💧	
<i>Quercus velutina</i>	Black Oak	60'-80'	Green/Yellow	Apr-Jun	☀️☀️☀️☀️	💧💧	
<i>Rhus typhina</i>	Staghorn Sumac	25'-30'	Green/Yellow	Apr-Jun	☀️☀️☀️☀️	💧💧	🪴
<i>Salix discolor</i>	Pussy Willow	6'-20'	Yellow	Mar-Apr	☀️☀️☀️☀️	💧💧	🐝
<i>Salix interior</i>	Sandbar Willow	5'-15'	Yellow	Apr-May	☀️☀️☀️☀️	💧💧💧	🐝
<i>Salix nigra</i>	Black Willow	60'-100'	Yellow	Apr-May	☀️☀️☀️☀️	💧💧	🐝

Trees and Shrubs

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Botanical Name	Common Name	Height	Bloom Color	Bloom	Sunlight	Moisture Level	Other
<i>Sambucus canadensis</i>	Elderberry	9'-15'	White	Jun-Aug	☀️☁️🌑	💧💧	🪴
<i>Taxodium distichum</i>	Bald Cypress	100'-120'	-	-	☀️☁️🌑	💧💧💧	🪴
<i>Tilia americana</i>	American Basswood	60'-100'	White	Jun	☀️☁️🌑	💧	🐝
<i>Ulmus americana</i>	American Elm	100'-120'	Green	Apr-May	☀️☁️🌑	💧	
<i>Viburnum dentatum</i>	Arrowwood	3'-15'	White	May-Jun	☀️☁️🌑	💧💧	🪴
<i>Viburnum lentago</i>	Nannyberry	20'-30'	White	Apr-Jun	☀️☁️🌑	💧	🪴
<i>Viburnum opulus v. americanum</i>	American Highbush Cranberry	3'-15'	White	May-Jun	☀️☁️🌑	💧💧	🪴
<i>Viburnum prunifolium</i>	Black Haw	20'-25'	White	May-Jun	☀️☁️🌑	💧💧	🪴



Bioengineering Materials

Bioengineering materials provide enhanced site stabilization to help control erosion and stabilize streambanks, lake shores, and steep slopes. They are typically used at sites where installation of plant material alone cannot achieve the desired results.

Submerged Aquatics

Brasenia schreberi - Water shield is an aquatic, perennial herb with floating leaves that grows in ponds, lakes, and slow moving streams. It is a food source for waterfowl. Its floating leaves provide shelter for fish and other aquatic organisms.

Elodea canadensis - Common waterweed can be found in wet mud along sluggish streams, seepage areas, and marshes. By absorbing nutrients, it helps control algae and keeps waters clear. It is a submerged aquatic perennial.

Potamogeton illinoensis - Illinois pondweed is a submersed plant that has both submersed and floating leaves. Rooted to the bottom, it grows in shallow or deeper waters and equally well in swift-flowing rivers or quiet lake margins.

Potamogeton natans - Common pondweed is native to quiet or slow-flowing freshwater habitats, such as lakes and rivers, ditches, ponds, and bogs. It is usually found in fairly shallow water but has been recorded at deeper depths down to 12 feet. This species almost never fails to produce floating leaves.

Potamogeton nodosus - Long-leaved pondweed's preference is full sun, warm standing water up to four feet deep, and a mucky bottom. Habitats consist of ponds, quiet harbors of lakes, slow-moving streams, and deep ditches with standing water. It is a food source for many turtles.

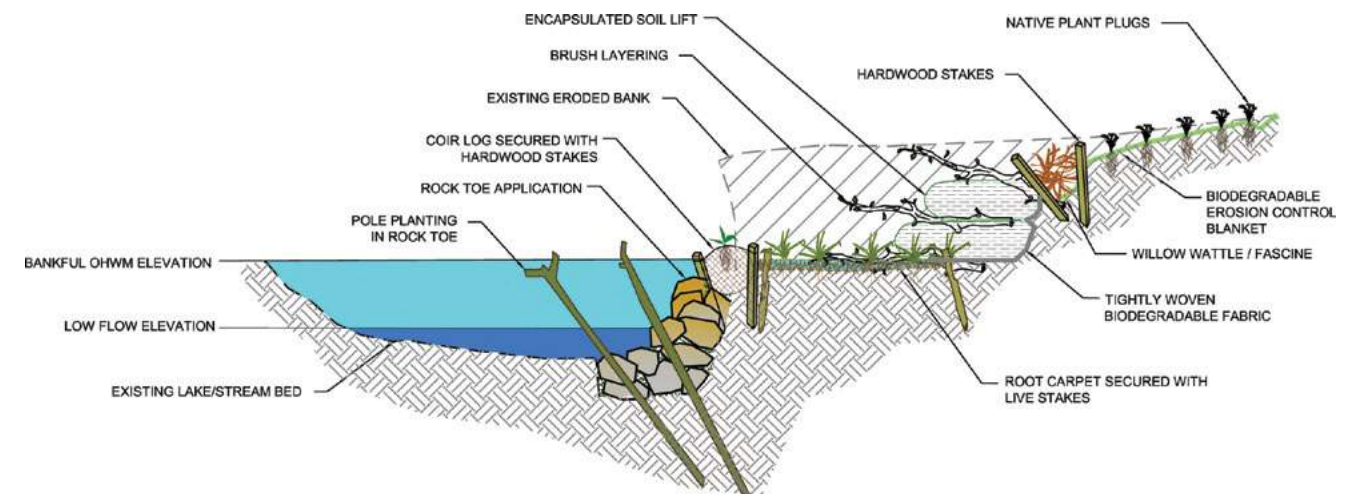
Stuckenia pectinata - Sago pondweed is found in stagnant ponds, spring-fed rivers, and slow-flowing marshes. Waterfowl extensively use and rely on it as a food source.

Vallisneria americana - Eel grass grows in lakes and slow-moving rivers in neutral to basic water. Its long strap-like leaves grow from stoloniferous clumps submerged under water. It is an important source of food for turtles and other aquatic wildlife.

Pre-vegetated coir materials

Many of Stantec's bioengineering solutions are pre-vegetated with native plant species. They can also be pre-vegetated with plant species tailored to a project. Pre-vegetated materials have an immediate aesthetic result along with enhanced performance. Because they are designed to biodegrade as the plant material becomes established, bioengineering materials should be used in conjunction with native seed or plants for long-term results.

Stantec's bioengineering materials perform best when integrated into a full-service site restoration solution. Contact Stantec to learn more about how we can help you design, select, install, and maintain one or more of these products as part of an ecological restoration project.





Pre-vegetated Mesh Containment Systems (Rock Socks)

Establishing native deep-water, submerged plants is always a challenge. Strong currents and fluctuating water levels make it difficult for plants to root. To meet this challenge, Stantec grows what are known as rock socks.

Using a mesh containment system filled with gravel, native plants selected to match the project objectives can be installed and grown out at our nursery until they have fully rooted within the bag. The weight of these bags allows them to sink to the bottom where the developed root systems can easily establish.

Our nursery professionals can advise on the specification of the containment systems to maximize the success of your plantings. This product takes eight to ten weeks to fully root out. It's best to start growing in spring for an August installation.



Live stakes, fascines, and brush layers

Specific tree and shrub species that root well from cuttings in water or moist soil conditions are available as live stakes, fascines, or brush layers. They are used as part of a strategy to stabilize streambanks and create natural shorelines.

Live stakes are dormant woody cuttings with the branches removed. They can be used alone or to secure other bioengineering materials such as erosion control blankets or root carpets. Live stakes are easier to install than bare-root trees and shrubs, because they require a 2-inch pilot hole, compared to an 18-inch hole for a tree or shrub.

Fascines (also called wattles) are living branches bundled together to trap sediment and protect against erosion. They are laid horizontally along streambank contours to impede water flow before it reaches the new streambank. Fascines can also be used above the waterline to slow down water flow and help prevent erosion.

Brush layers are living branches placed on a terrace along streambank contours, between layers of soil. They are typically used in conjunction with encapsulated soil lifts, which are layers of soil wrapped in erosion control blankets, to completely rebuild a streambank or slope. All these materials should be used along with seed and plugs to establish vegetation on a site.

We provide live stakes, fascines, and brush layering in these species: Buttonbush (*Cephalanthus occidentalis*), ninebark (*Physocarpus opulifolius*), willow species (*Salix spp.*), dogwood species (*Cornus spp.*), elderberry (*Sambucus canadensis*), and viburnum species. Other species may be available seasonally.



SPECIFICATIONS

These products are harvested between November and April. Because they are provided live and dormant, they are only available during these months.

Live stakes:

- Sold per stake, price based on length. Minimum length 18 inches, maximum length 3 feet for most species.
- Available in 3/8 - 1 inch caliper. Larger calipers may be available, depending on species.

Fascines:

- Length: Typically 4 to 6 feet; can be customized.
- Diameter: Typically between 4 and 12 inches; can be customized.

Brush layers:

- Sold as 4 to 6 foot lengths.
- Length: Typically 4 to 6 feet, depending on species; can be customized.

- If installing above the waterline, install the fascine in a shallow trench half to a third of the diameter of the fascine.
- If using multiple fascines, place them so the ends are touching.
- They can be anchored in place with hardwood stakes, live cuttings, or re-bar.

Brush layers:

- Install brush layers according to the engineering specifications.
- Contact the nursery for further information on brush layer use or installation.

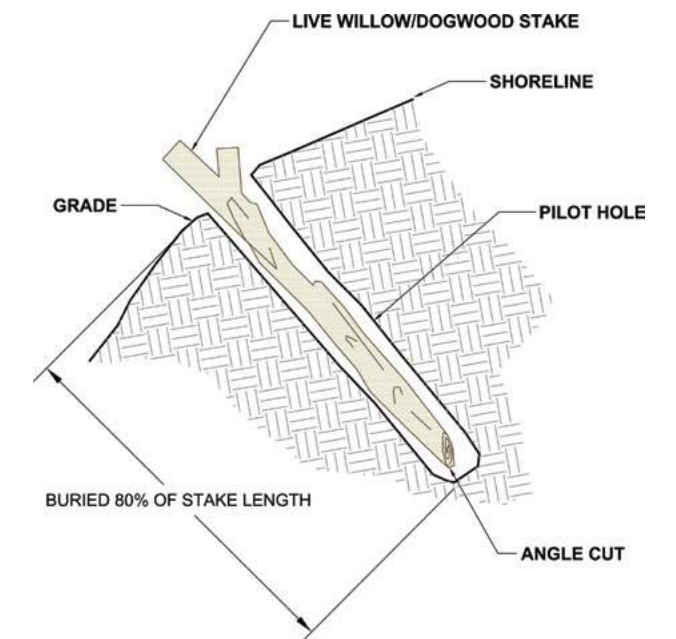
INSTALLATION

Live stakes:

- Install from late fall to spring, when stakes are dormant.
- Keep stakes cool and damp until ready to install.
- Plant with buds up and chiseled end down, with 80% of the stake underground.
- Space 3 to 6 feet apart, or as specified.

Fascines:

- Install fascine bundles parallel to the site's slope to slow water. The materials will establish roots there, forming a hedge structure.
- Fascines can also be installed above the waterline, parallel to slope contours to slow runoff and prevent erosion.





RootCarpet™

RootCarpet™ consists of thick sections of pre-vegetated coir fiber enclosed in a woven coir blanket that helps keep roots together and soil in place until plant establishment. Because the developed roots actively seek the soil, RootCarpet™ facilitates quick establishment across relatively large areas. It is especially good for wetlands and areas with moving water, and it is effective in controlling weeds.

All RootCarpet™ is grown on a contract basis. It can also be custom grown with plant species according to specification. To establish additional shrub and herbaceous vegetation, live stakes and fascines can be driven through it.

SPECIFICATIONS

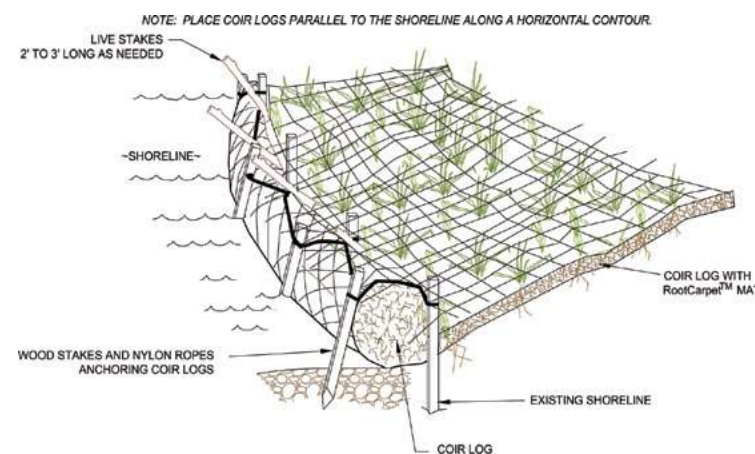
Carpet material: 100% biodegradable coconut fiber, vegetated with native wetland plants.

Custom orders: Please allow 8 to 12 weeks of lead time for all orders. Winter orders may require more lead time. Native wetland plants are installed 10 to 12 inches on center (approximately 45 to 65 plants per blanket).

- Length: 15 feet (4.6 m).
- Width: 3 feet (0.92 m).
- Area: 45 square feet (4.23 m²).
- Coir mat thickness: 2.75 inches (7 cm).
- Coir fiber density: 3 feet x 15 feet – 1.022 lbs/sqft.
- Exterior net structure: square patterned coir net.
- Net mesh size: 0.75 in x 0.75 inches (20 mm x 20 mm).
- Net thickness: 0.16 inches (4 mm).

INSTALLATION

- Final grade should be smooth and free of rocks, sticks, and existing vegetation. Do not install RootCarpet™ mats on hard, compacted soil.
- RootCarpet™ mats must have good soil contact and be in contact with water at the normal water level.
- If installing in a stream channel, unroll RootCarpet™ mats starting downstream and working upstream. Lay mats loosely and DO NOT stretch. Overlap RootCarpet™ mats similarly to roof shingles, six inches on ends and four inches on sides.
- If installing in conjunction with vegetated coir logs, RootCarpet™ should be in direct contact with coir logs.
- Securely anchor with 8- to 12-inch steel turf staples or hardwood stakes as needed to maintain direct contact with soil.



Vegetated coir logs

Vegetated coir logs are biodegradable coconut coir pith logs tightly packed in tubular netting. They are highly effective in reducing water velocity at the base of slopes, shorelines, and streambanks. They are used for controlling dry slope erosion and establishing wetland edges and stream channel banks.

Coir logs are available either vegetated or unvegetated, in a variety of sizes. They are grown on a contract basis. As the native species establish their root systems, the coir logs biodegrade over several years, allowing a native shoreline to develop. Upon request, Stantec can provide pre-vegetated coir logs with specific plant species. A minimum of 8 to 12 weeks of growing time is required. Winter orders may require additional lead time.

SPECIFICATIONS

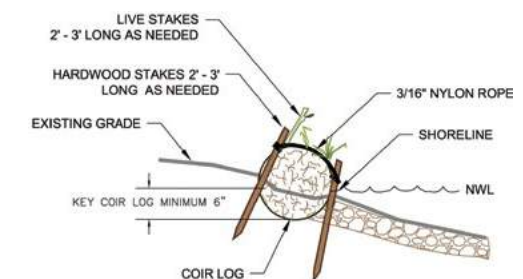
Coir log material: 100% biodegradable coconut fiber, plugged with native wetland plants. Vegetated coir logs can be custom grown based on your site conditions. Please allow 8 to 12 weeks of lead time. Plugs are planted at two per linear foot.

Coir fiber density: 30 cm x 3 m – 11 kilograms per linear meter (kg/lm). Larger diameters can be provided with sufficient lead time.

- Exterior net structure:
 - Coir net: diamond shape mesh.
 - PP net: knotless diamond shape mesh.
- Net mesh size: 5 cm x 5 cm.
- Net thickness:
 - Coir net: 4 mm.
 - PP net: 2 mm.

INSTALLATION

- Final grade should be smooth and free of rocks, sticks, and vegetation. Do not install vegetated coir logs on hard, compacted soil.
- Logs should maintain solid contact with the soil and be installed to minimize gaps between the bottom of the log and the substrate.
- Install logs at the approximate normal water level. Between one third and two thirds of the log should be submerged.
- Drive alternately-spaced hardwood stakes into the soil along the sides of the log until the top of the stake is about four inches above it. Stakes should be between three to four feet long, based on application, a minimum of 1.25 inches thick, and spaced two to three feet apart.
- Notch hardwood stakes approximately four inches below the top of the log deep enough to fit a 3/16 inch nylon rope. Crisscross the rope over the top of the log. When complete, drive stakes down until rope is tight against the log. Cut off excess from stakes so they are flush with the top of the installed log.
- Couple adjacent logs together with supplemental rope, wire ties, or cable ties.
- Supplemental plantings can be installed within the log and on the front and back sides.





Advantages of Native Vegetation

Native to a region

ECOREGIONS

Numerous factors determine biological diversity, such as climate, soil chemistry, soil composition, and geology. Together, such factors define complex natural patterns called ecological regions, or ecoregions. Plants and animals that are native to a particular ecoregion are adapted to that area's specific conditions. While a given species may be represented in many ecoregions, the species' specific genetic make-up may vary among ecoregions. The US Environmental Protection Agency (USEPA) and the US Forest Service are among the federal agencies that use ecoregions to define regions.

Stantec uses USEPA's Level III ecoregions as a key criterion for specifying native plants. To maximize the probability of successful plant growth and establishment, when possible, we recommend specifying native plant materials that originate from the ecoregion that the project lies within or an adjacent ecoregion. Not every project needs this level of specificity; contact Stantec to determine if ecoregion verification is important in meeting your project's goals and objectives.

GENOTYPE VERIFICATION

To further determine if a plant species is native to a region, the plant's genotype can be verified. Different regions and climates alter the dormancy, bloom times, and hardiness of the same plant species. These slight differences can affect a plant's relationship with pollinators and its ability to reproduce and survive.

In most instances, Stantec tracks the genotype of each plant to the parent collection site, to confirm that the plant is native to the particular region. If genotype is important for your restoration project, we can make appropriate plant recommendations and assist with regulatory compliance.



CUSTOM SEED COLLECTION

Stantec can custom-collect specific seed species or genotypes to meet project requirements. Global positioning system (GPS) technology may be used as part of the tracking detail provided. After custom collection, we clean and test the seed to remove inert material and contaminants, producing a purer and more productive seed lot. Consult with a Stantec team member to determine seed collection and custom growing options for your project.

Quality assurance and control

To ensure clients receive the highest quality plants and seed, Stantec has developed industry-leading standards for grading, cleaning, testing, and labeling seeds and enhancing plant materials.

PURE LIVE SEED TESTS

Stantec uses independent laboratories to conduct PLS tests to determine the purity and viability for all of our native seeds. This industry measure describes the percentage of a seed batch that will germinate. A PLS weight of 100% indicates that all materials are anticipated to germinate. PLS provides a standard quality assessment to allow customers to compare seed lots, especially across price variations, of the same species. Based on the PLS test results, we will increase the bulk quantity shipped to meet the equivalent of 100% PLS weight.

PLANT AND SEED AMPLIFICATION

When local genotype is important, Stantec can collect plants or seed from a specific site to make additional plants or seed available. Amplification is particularly useful for helping to conserve rare plant species or species with limited availability.

ENHANCED ROOT SYSTEMS

As a standard part of our growing process, Stantec uses a root maximizer—mycorrhizal fungi—to promote the development of a vigorous root system for all plants and seed. The symbiotic relationship between the fungi mix and the roots increases the plants' resistance to disease, drought, and insect damage, and it enhances the roots' ability to capture nutrients. We apply the same broad-spectrum inoculants to all seed blends to encourage more vigorous growth.

PLANT QUALITY GRADING

Before Stantec ships any plant material, our shipping department grades each item, using a scale of one to three and "dormant," with one being the highest quality. The grading system checks the quality of stems, foliage, and roots and looks for any potential diseases or pests. We automatically ship any grade one or two plants. Grade three plants are shipped if their grade is related to seasonal dormancy or after consulting with the client.



Creating a Native Landscape

Restoring native plant communities and creating attractive, dynamic landscapes using native plants requires in-depth knowledge of native plants and habitats. When designing a project, there are nine basic elements of successfully establishing native plant communities:

- | | |
|-----------------------------------|--|
| 1. Determine project objectives | 5. Determine seed and plant quantities |
| 2. Determine budget and resources | 6. Prepare site for installation |
| 3. Assess site conditions | 7. Follow appropriate timing |
| 4. Select plant species | 8. Install seed and plant material |
| | 9. Monitor and maintain site |

Determine project objectives

A restoration project may seek to achieve one or several goals, such as those described below:

MANAGE STORMWATER

As stormwater infrastructure becomes overburdened and additional regulations are adopted, communities are seeking alternatives to conventional stormwater systems. Natural treatment options, such as bioswales and rain gardens, have been shown to assist with water quality and quantity management issues. Stantec can provide stormwater planning options and assist with regulatory compliance.

RESTORE WATERSHEDS

Water quality and quantity have gained importance in areas that have long enjoyed abundant, clean water. Native landscape ecosystems can support water purification, groundwater recharge, and stormwater management. Healthy aquatic ecosystems rely on a carefully managed balance of vegetation, hydrology, and biological communities. Stantec’s team of aquatic ecologists can assist with watershed assessment and design.

MANAGE NUTRIENT LOADING

Too much nitrogen or phosphorus in rivers and streams causes algae blooms, resulting in hypoxic, or aquatic “dead” zones. Wetlands, floodplains, and riparian buffer zones take up these nutrients, offering a proven solution to this growing environmental challenge. Our team can perform water quality and biologic assessments and develop a water quality management plan to address these issues.

MITIGATE HABITAT IMPACTS

Developers are often required to offset impacts to sensitive natural areas that occur from the development process. Regulatory agencies commonly require that developers mitigate impacts to wetlands, streams, and rare, threatened, and endangered (RTE) species habitat. In addition to fulfilling regulatory requirements, mitigation sites can also provide secondary benefits such as wildlife habitat, outdoor recreation, and flood water storage. Stantec has extensive experience planning, building, and maintaining wetland and other mitigation sites.

INCREASE WILDLIFE HABITAT

Increasing native plant diversity can enhance a property’s overall biodiversity. Native plant installations also provide sources of food and shelter for many wildlife species, including pollinators. For projects in Areas of Concern or with an RTE component, habitat quality can be a primary consideration. Stantec has extensive experience creating sites that support increased biodiversity and habitat enhancement.

ENHANCE NATURAL BEAUTY

Landscapes with native plants bring nature to urban, suburban, and corporate settings. They attract a variety of birds, butterflies, and other animals. Many managers of residential communities, corporations, and educational campuses are seeking the aesthetic benefits natural spaces provide for the benefit of their clients and employees. Stantec can provide advice to help you plan and create a beautiful natural landscape.

PROVIDE PUBLIC EDUCATION

Traditional aesthetic values focused on manicured landscapes may conflict with sustainable and ecologically-sound landscapes. To help reduce the potential for such conflicts, restoration projects can include an educational component on the benefits of native landscapes and serve as outdoor classrooms. Stantec can assist with community outreach for urban native landscape and green infrastructure projects.

ACHIEVE GREEN BUILDING SITE DESIGN GOALS

Creating native landscapes is often part of a larger design context, in particular the US Green Building Council’s Leadership in Energy and Environmental Design (LEED) rating system. Our team of professionals has extensive experience designing and installing landscapes and stormwater systems that provide projects with key LEED credits.

REDUCE OPERATIONAL COSTS AND LONG-TERM MAINTENANCE

Once established, native plants require little to no use of chemical fertilizers, herbicides, or pesticides, minimal watering and weeding, and less frequent mowing than traditional turf grass, reducing long-run maintenance costs.

ACHIEVING ENVIRONMENTAL, SOCIAL, AND GOVERNANCE GOALS

At Stantec, sustainability is key to our purpose, promise. We envision a world where infrastructure has a positive outcome for everyone, water is protected, natural systems are valued, biodiversity is prioritized, economies are circular, nothing gets wasted, development is responsible, everyone can access renewable energy, and society is just. Our native plant nursery is committed to helping you achieve your sustainability (Environmental, Social, and Governance [ESG]) goals. Whether it be reducing greenhouse gas emissions, improving biodiversity and water quality, or creating beautiful community spaces, native plants can help! Reach out to our team to learn more.



Determine budget and resources

Most projects have limited access to funds, equipment, and other needed resources. To help avoid delays and cost increases, determine the project budget early in the process. In addition to materials and installation, funds are needed for maintenance after installation. While native landscapes have lower long-term maintenance needs, they need to be monitored and maintained during establishment to ensure long-term success.

Assess site conditions

For any potential project, understanding the site's natural features is imperative to determining if the project goals can feasibly be achieved. Site conditions also dictate species likely to thrive there. Before selecting plant species, be sure to have a solid understanding of your site's soils, hydrology, topography, and solar exposure.

When creating a native landscape, there are additional existing conditions that need to be understood during the project planning stage, including the vegetation already present on the site, adjacent land uses and conditions, sensitive natural resources, and access to the site.

VEGETATION

Vegetative cover and the site's seed bank, which includes seed dropped from existing vegetation and any sub-surface dormant seed, can have a significant impact on a native landscape's success. Understanding the existing vegetation, including the presence of invasive species and the previous land use, will help define site

preparation needs. Also, existing species on a site often reveal clues about soil fertility and hydrologic conditions. This information can be used to determine which other species will perform well after installation. Stantec can assist with site assessment and invasive species control.

ADJACENT LAND USES AND CONDITIONS

Landscapes do not necessarily respect property boundaries. Vegetative cover on adjacent sites can have a significant impact on a native landscape's success. Poorly managed adjacent properties can negatively impact the success of a site's management plan. If it is possible, managing unwanted plants on adjacent sites will help with long-term site establishment and maintenance. In addition, understanding adjacent land uses will help ensure that the plant species selected will be able to withstand any externalities.

SENSITIVE NATURAL AND CULTURAL RESOURCES

It is also important to determine whether a site has any sensitive natural resources, such as wetlands, streams, or other water sources; any RTE species and their habitats; or historically or culturally significant resources. Protecting natural and cultural resources on a site can significantly affect planning, design, construction, management, and overall project costs. Understanding permitting and compliance requirements that arise from these site attributes is critical to a successful project.

SITE ACCESS

Some sites are in remote or difficult-to-reach locations. Design your project with any such limitations in mind, and make sure that appropriate equipment can be used during both installation and maintenance. Keep in mind that specialized equipment will likely be required for maintaining larger-scale wetland or aquatic projects. Stantec can perform a detailed site assessment and create custom recommendations for your project.

Select plant species

Project objectives, budget, and site conditions present factors that will influence the range of species best suited for a project. In addition, project expectations, aesthetics, and availability are also key factors for selecting plant species.

SHORT-AND LONG-TERM EXPECTATIONS

It usually takes two to three full growing seasons for native seeding to reach maturity, with some species not appearing until after five years or more. Budget parameters and your choice of using seed versus plants have a significant impact on the rate of establishment and appearance of the project.

Using native seed is more economical than live plants; however, it will take longer to establish. If you need to see progress quickly, include species in the seed mix that will germinate and bloom in the first year. For even more immediate results, install plugs or larger established plants.

For long-term projects, it may be best to stagger installation over several years, planting early successional species first to develop a stable native matrix and then adding species that are more conservative in later years.

AESTHETIC ELEMENTS

Expectations are often connected to the aesthetic elements of a project. When thinking about the visual impact of species selection, consider what the site requires regarding:

- Bloom time and color throughout the season
- Plant form and growth habit
- Height at maturation, relationship to other plants, and overall sight lines
- Spread and coverage rate
- Functional attributes such as pollinator and habitat enhancement

AVAILABILITY

Not all species or quantities are available at all times. Before specifying a species for a project, determine if the plant is readily available or if it needs to be custom grown. If species with a specific local genotype are required, collecting and growing these species will likely need to occur a year or more before the planned installation date. Contact Stantec to discuss specific plant or seed availability and contract collection and growing options.



8 weeks



1 year



3 years

Determine seed and plant quantities

Choosing the quantity and stock type is just as important as selecting plant species. This decision will greatly affect project establishment. It is influenced by overall project goals, budget, and time frame.

SEED QUANTITIES

When using native seed, we recommend calculating the amount of seed needed for a particular species by estimating the quantity of native seed of that species to apply per square foot or per acre. Native seeds vary greatly in size and shape, depending upon the species you are using. A species with a high seed count per ounce will require much less seed to cover a given area than another species with a lower seed count.

For example, one ounce of broad-leaved purple coneflower (*Echinacea purpurea*) contains 6,600 seeds. In contrast, one ounce of foxglove beard tongue (*Penstemon digitalis*) contains 115,000 seeds. To provide the same coverage per acre, you need approximately 17 times as much *Echinacea purpurea* as *Penstemon digitalis*.

Determining how many total seeds per square foot are enough for a site depends upon project goals, budget, and resources. Stantec native seed mixes are designed with an application rate of 50 to 95 native seeds per square foot, depending on the mix. Acceptable results can be achieved by using an approximate seeding rate of 20 to 30 seeds per square foot, including grasses and forbs.

Note that some species are early successional, or “pioneers,” meaning they are dominant early on in project establishment. Others are more conservative and do not establish readily from seed. These more conservative species might be more suitable to be included as plugs or larger container sizes. Stantec’s nursery team can discuss these options with you.

PLANT QUANTITIES

The size of the live plant to use will depend on budget and project expectations. Plugs are less expensive than quart or gallon-sized stock, but they will be less showy after planting. After a full year in the ground, it is difficult to distinguish a planting installed with plugs versus gallons. However, because gallon stock is larger at installation, they are typically second-year plants, meaning they will be more likely to bloom during the year following installation.

When estimating the number of plants, keep in mind plant size at maturity. Many native species are at least three feet tall and one or more feet wide at maturity. While a planting density of one foot on center will look great during the first year, the plants will be very crowded once they mature. Spacing larger plants 18 or 24 inches on center will be less costly and just as aesthetically pleasing in the end.

Prepare site for installation

Prior to installing native seed or plants, the site needs to be prepared properly, which involves identifying existing native plants, removing unwanted vegetation, stabilizing erodible areas, and preparing the plant and seed beds. Before making modifications to a site, however, be sure to obtain any required permits and put proper erosion control measures in place. Stantec can assist with your permitting and erosion control needs.

Before installing a native landscape, a site may need to be prepared over one or more growing seasons. The effort required depends on current site conditions, in particular the number of non-native plants in the seed bank and invasive species onsite. Stantec can provide the professional assistance needed to evaluate site preparation needs.

IDENTIFY ANY EXISTING NATIVE VEGETATION

Some projects may have areas of “remnant” habitat present. Protecting these species onsite or temporarily relocating and using them later as part of the installation can be key to a project’s success. Cataloging which species are present within these areas can also be highly valuable for developing a planting plan, because the remnant habitat will contain species that have adapted to survive at that particular site. These remnants can also serve as seed sources for plant material if preserving local genotype is a goal of the project.

REMOVE UNWANTED VEGETATION

Be sure to remove any weeds and existing vegetation that could out-compete native species. Besides the usual aggressive invasive species, such as purple loosestrife, reed canary grass, and honeysuckle, some of the more problematic competitors include cool-season grasses, such as brome, clover, tall fescue, and other turf grasses. If your site has a significant unwanted plant seed bank, it will likely require ongoing control and maintenance to ensure unwanted vegetation does not re-establish.

Several techniques can be used to remove undesirable vegetation. Hand weeding can be done if a site is small or if there are a limited number of plants to be removed. However, for most sites, either a more aggressive approach or a combination of approaches is typically needed. A trained and licensed native landscape professional should perform these activities.

STABILIZE ERODIBLE AREAS

Many native plant installations are located along streambanks, shorelines, and other sloped areas that have a tendency to erode. Before planting occurs on these sites, the surrounding soils need to be stabilized. Structures such as silt fences, erosion control blankets, straw mulch, and straw bale dams can be installed to control erosion and siltation. As a site becomes stable, seeding with permanent native species helps with optimal long-term erosion control. Stantec provides various bioengineering materials for erosion control.



Effective vegetation removal techniques

Herbicide application: Works for large sites or sites with little or no native vegetation. Selective use of herbicide is especially effective for aggressive non-natives. The number of treatments depends upon site conditions, species present, and the presence of a seed bank within the soil. Repeat applications may be required for persistent perennial weeds.

Smothering: Works for smaller sites when chemical use is not desirable. Landscaping fabric, dense compost, or grass clippings cover existing vegetation and are left in place for a full growing season.

Cultivation: Involves tilling an area regularly from spring to fall, to between four and five inches deep, to destroy weed root systems. Because tilling can also bring up weed seeds, cultivation needs to occur at regular intervals, between two and three weeks, to ensure undesirable perennials do not re-sprout. This has the highest risk of soil loss from erosion. Plants with deep root systems may need supplemental herbicide application.

Prescribed burning: Can be used to prepare a site, but it is most commonly used to maintain a prairie landscape. See the section on maintenance for more information on prescribed burning.

PREPARE PLANTING AND SEED BEDS

To prepare the soil and create optimal plant conditions before disturbing any ground:

- Call 811 before you dig
- Clear area of debris that would interfere with planting
- Mow any excess existing vegetation growth
- Apply broad-spectrum or targeted herbicide, depending on species present
- De-compact any areas of special concern
 - Lightly de-compact tilled or loose soil with a roller, cultipacker, or similar equipment. If using a no-till seed drill, tilling can be omitted.
 - If ground is wet, tilling should not occur until the soil dries enough to break apart when tilled.

AMEND SOILS

For stormwater applications like rain gardens and bioswales, soil can be amended to create appropriate growing conditions for wetland plants and for drainage required to allow these features to function properly. These areas often have the native soil removed and have a combination of compost and sand applied to achieve this objective.

Follow appropriate timing

Seed: The optimal time to install seed is from the fall (September 1) to late spring (June 15). Avoid mid-to-late summer seeding, because of limited soil moisture and rainfall. Native seed mixes can be installed in the fall when temperatures are cooler and rains are more frequent. Many native species require the cold stratification of winter to break dormancy. When conditions are right in the spring, the seed will be in place to germinate.

Seeding a wetland in the winter is often easier, because the site is frozen and equipment can more easily access the site. Broadcast the seed when the evening temperatures drop below freezing. Use appropriate erosion control measures, because the seed is not likely to germinate and provide stabilization until the following growing season.

Live plants: Live plants, including plugs, container stock, and bare-root herbaceous plants, are best planted during the growing season, which in the Midwest is between May 1 and October 15. Spring plantings are usually more successful, because the plants have sufficient time to develop a deep-root system to withstand summer droughts. If planting needs to occur in the middle of summer, irrigation is recommended. If plants are installed in late fall (after October 15) after going dormant, care should be taken to anchor plants in loose soil to prevent frost heaving. Wet soils are more prone to frost heaving.

Dormant woody materials: Bare-root trees and shrubs, live stakes, fascines, and brush layering are all dormant when sold and are best planted during their dormant season (December 1 through April 15). Planting during this time reduces transplant shock and allows the plants to develop a root system when moisture is readily available. Fall availability of bare-root trees and shrubs is weather dependent, and winter weather can eliminate fall harvest opportunities.

Install seed and plant material

SEED INSTALLATION TECHNIQUES

Stantec's native plant experts recommend using specific techniques to successfully install native seed.

Broadcasting: For small (typically two acres or less) or irregularly shaped areas, seed can be planted by hand broadcasting. To aid seed distribution, combine the seed mix with filler materials, such as dry sawdust, sand, or vermiculite. Mix the material evenly into the filler material, which should be dry so that the seed flows through the broadcaster. If not already included in the seed mix, plant a temporary cover crop along with the seed, to stabilize the soil while the permanent native species germinate and become established, especially

Plant & Seed Material	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Container Plants												
Bare-root Aquatic Plants												
BR Trees & Live Stakes												
Seed Mixes												
Vegetated Coir Products												



in highly erodible areas. Do not use a heavy amount of cover crop seed, which could smother the native seed and inhibit germination.

Using a hand-crank or tow-behind broadcaster, start with half of the seed and try to cover the entire area with that amount of seed. Take the remaining half of the seed, go to the opposite end of the site and cover it again. This approach helps prevent running out of seed, a common occurrence. After broadcasting is complete, it is important to use a cultipacker or roller over the area to ensure good seed-to-soil contact. If a roller is not available, tractor tires can be used instead. Do not cover seed more than 0.25 inch deep.

No-till drill: For larger areas and sites with existing vegetation, use a no-till seed drill, which does not require the soil to be tilled before planting, resulting in minimal soil disturbance. No-till drills plant seed in rows by opening slits in the soil into which seed is deposited. Several brands of no-till drills are available to plant prairie forbs and grasses. If using a no-till drill, Stantec recommends following the specific manufacturer's recommendations. Because the diversity of seed sizes makes drill calibration a challenge, perform a few tests first to help prevent running out of seed.

NATIVE PLANT INSTALLATION

Prior to installation:

- After delivery, remove plants immediately from packaging and set them in a cool, semi-shaded area until you are ready to plant.
- If the soil around the plant roots is dry, irrigate to keep the roots moist, but not saturated.

- If watered properly and protected from extreme conditions, such as excessive heat, sun, strong winds, or frost or freezing conditions, plants should be fine in their original pots or plug trays for up to several weeks.
- Onsite, it may be helpful to stage plants near the areas where they will be installed, to save time. During the planting process, protect bare-root trees, shrubs, and aquatic plants from heat, sun, and wind, to prevent the roots from drying out.

Upland plant installation: Install upland plants as you would any landscape materials. Because many native plants have an extensive taproot, take care during installation not to damage the roots.

For large-scale plantings, a gas-powered auger greatly speeds up the planting process. Select an auger bit slightly wider than the diameter of the container being planted, and pre-drill the planting holes at the recommended spacing. A field crew can then follow behind and install plants.

Wetland plant installation: In many wetlands, the plant installation process is the same as for an upland area, but the process may be slower due to softer soils and the slower speed of planting. When planting in submerged areas, the most difficult aspect of installation is getting the plants to stay in place. If possible, use a pump or water control structure to lower the water level during installation and let the water level rise slowly.

If planting below the waterline or in areas submerged due to water fluctuations, planting holes often

immediately refill with water, causing soil and plants to float to the surface after planting. In these instances, after installing the plant under the soil surface, use stones, small wood stakes, steel turf staples, or similar mechanical means to anchor the plant in place. Take care not to crush or puncture the plant or root with any anchoring techniques. If the plants have leafy stems or foliage, ensure foliage will stand above the water level after installation.

Bare-root aquatic or emergent species like lilies, pickerel weed, and common arrowhead are supplied in the early spring in bare-root format with little to no foliage. When planting bare-root plants, submerge the entire root to the appropriate depth and anchor it below the soil surface. A technique that can be used with bare-root tubers is to put them in a small, weighted, biodegradable mesh sack and submerge them at an appropriate depth. The sack will keep the tuber from floating to the surface, and by the time the plants have rooted into the soil, the sack will have biodegraded. Other techniques can be used to anchor plants, such as using small piles of loose gravel, or planters. Contact Stantec for additional advice on wetland plant installation.

Post-planting protection: Plantings may need to be protected after installation. Use physical barriers such as chicken wire, netting, or twine obstacles to keep out geese, muskrats, deer, and other animals. Various repellants can also be applied directly to the plants, but they often need to be re-applied periodically.



Specific wetland conditions

If wetland is temporarily dry:

- Scarify soil surface through shallow tilling or raking. If tilling adjacent to a wet area, assess the potential for erosion and runoff when disturbing the soil.
- In lower elevations, where water levels are deeper, sow seed that is packaged wet. Sow dry-packaged seed on the higher elevations; this seed can overlap into wet-seed areas.
- Press seed firmly into soil using a roller, cultipacker, or similar equipment. Light raking is an acceptable alternative, but be careful not to cover seed more than 0.25 inch deep.
- Install erosion fabric over areas where water is likely to flow and displace seed.
- Slowly restore water level or wait for rainfall to bring water level up after seeding. If feasible, use outlet controls to maintain water level depths between 0.5 inch and 6 inches until seed germinates and wetland vegetation is well established.

If wetland is permanently wet:

- Mix seed with damp clay pellets in a container, such as a 5-gallon bucket. Clay pellets should be small (approximately 0.5 inch in diameter) and placed in optimal areas for germination.
- Sow dry-packaged seed in areas at and above the waterline. If soil moisture conditions permit, press seed firmly into soil using a roller, cultipacker, or similar equipment. Do not cover seed more than 0.25 inch deep.
- Permanently wet areas can also be seeded by broadcasting when the ground is frozen.



TIPS FOR BARE-ROOT TREE AND SHRUB INSTALLATION

- After delivery, remove plants immediately from box and store upright to prevent mold growth.
- Keep roots moist until plants are installed. They may be held in buckets or containers of water on site; Do not keep in standing water if plant material will not be installed for a week or longer.
- Keep plants in a cold, dark place to prevent them from breaking dormancy until ready to plant. Bare root trees and shrubs can be stored this way for several days. Check frequently for signs of mold and to ensure they are adequately watered.

TIPS FOR BARE-ROOT AQUATIC AND EMERGENT SPECIES INSTALLATION

- Because they do not remain viable for long after harvesting, schedule shipment to arrive as close to the planting date as possible.
- Take plants out of the packaging, place upright in a container, and keep in fresh water until planting (similar to fresh-cut flowers).
- Plant roots must remain submerged until just before planting, even when staging at the planting site.
- Change water every few days if unable to plant immediately.

Monitor and maintain site

To help ensure success, projects need a maintenance and management plan that is flexible and supports site development goals. While native plants tend to germinate and develop at a slower rate than ornamental perennials or turf grass, regular maintenance during the establishment period greatly improves project success. Regular maintenance and monitoring helps control invasive species, ensures optimal moisture levels are present, and identifies other necessary management actions.

The maintenance of a native landscape can include many different actions, such as:

- Regular site inspection and monitoring
- Mowing
- Selective herbicide application
- Overseeding and supplemental planting
- Water control and temporary irrigation
- Prescribed burning

Selection of maintenance methods partly depends upon timing, but other factors such as aesthetic goals, project size, and budget also help determine what techniques will work best. For example, for small areas or sites where chemical applications are not feasible, target species may be removed by hand.

SEED INSTALLATION TECHNIQUES

During the first 6 to 12 months of a seeding project, it may be difficult to differentiate between the germinated native seed and undesirable weeds. Although some wildflower and grass species will be recognizable within the first year, it may take two to four years before the

native plant community is sufficiently established to be recognized by most people. During this establishment period, address any invasive species that subsequently appear onsite, to prevent them from becoming a larger problem later. Stantec inspects project areas throughout each growing season to gauge native plant density and composition and manage undesirable weeds.

MOWING

During the establishment period, native plants concentrate their energy toward expanding their root systems. Mowing can suppress non-native annual plants without negatively affecting natives. Mowing also thins out the canopy, allowing more light to reach new seedlings. Because most weed competition comes from fast-growing annuals, mowing needs to occur to keep these species from re-seeding. Stantec recommends mowing to between 8 and 10 inches high. Avoid mowing or burning during critical nesting or breeding periods of any critical faunal species that may be on the site. During the first growing season, our team performs one to three mowing events, depending on the height and growth of the vegetation. If weed pressure is high, more mowing events may be needed.

SELECTIVE HERBICIDE APPLICATION

Many perennial weed species are best controlled through chemical applications. Stantec's trained herbicide application staff uses caution when applying these chemicals, to minimize collateral damage to desirable plant species. Stantec staff has the qualifications to ensure chemical selection, rates, and application methods are legal and appropriate.

OVERSEEDING AND SUPPLEMENTAL PLANTING

Most native species grow slowly from seed, making it difficult to assess the development of a recently seeded site. Supplemental plantings are often used to increase diversity or to introduce conservative species to an established planting. Stantec can determine the need for overseeding or supplemental planting, typically by the second growing season following installation.

WATER CONTROL AND TEMPORARY IRRIGATION

In periods of drought, small native areas will benefit from irrigation, especially during the first growing season. Typically, one inch of water per week is sufficient to encourage proper germination and growth. Weed pressure will increase with supplemental watering, which may then require more frequent mowing or herbicide application.

PRESCRIBED BURNING

Controlled burns can be important to long-term prairie maintenance. Burning simulates historical processes that once maintained prairies. It greatly reduces the number of woody species and enhances the health of herbaceous species. It also clears thatch, making way for new growth in the spring. The black, burned surface absorbs and retains heat, giving natives an early start in the spring. Stantec has a team of personnel trained in fire management techniques and safety, ready with the proper equipment to conduct burns.



to remain healthy. Planting or maintaining a mixture of native plants that will have different species flowering continually from early spring until late fall is ideal. [See the Plant Material chart starting on page 25](#) with species information, including flowering times.

Pollinator landscapes

Aesthetics are an important factor when choosing native plants for a site. Not all native plant species fit every landscape. Follow these simple fundamentals:

- Include plants of varying heights and arrange them so that taller species are isolated for easy access by butterfly species.
- Stagger bloom times, and plant the same species in groups.
- Use live plants for planting beds smaller than 1,000 square feet.
- On sites greater than one acre, planting seed mixes can be more effective in establishing native species. Seeding instructions are on [page 6](#).

NATIVE LANDSCAPE PLANTS FOR POLLINATORS

Forbs:

- *Asclepias tuberosa*
- *Baptisia australis*
- *Coreopsis lanceolata*
- *Coreopsis palmata*
- *Dalea purpurea*
- *Dalea candida*
- *Echinacea purpurea*
- *Eryngium yuccifolium*
- *Eurybia macrophylla*
- *Filipendula rubra*
- *Liatris spp.*
- *Lobelia spp.*
- *Monarda fistulosa*
- *Oligoneuron rigidum*
- *Penstemon spp.*
- *Pycnanthemum spp.*
- *Rudbeckia fulgida*
- *Rudbeckia subtomentosa*
- *Zizia aurea*

Grasses:

- *Carex spp.*
- *Chasmanthium latifolium*
- *Juncus effusus*
- *Koeleria pyramidata*
- *Schizachyrium scoparium*
- *Sporobolus heterolepis*



Supporting Pollinators

Native pollinators play a key role in supporting the health and sustainability of native ecosystems as well as providing valuable crop fertilization services. Insects, such as bees, moths, and butterflies, make up the majority of pollinator species in the US. There is evidence of a decline in pollinator populations due to a number of factors, including loss of habitat. We offer several native pollinator seed mixes and plant species that support the conservation and restoration of native habitat.

Importance of native plant communities

Many native plant species, including trees and shrubs, have been negatively impacted by development, herbicide and pesticide use, invasive species, and non-native landscaping practices. Planting or retaining native species for pollinator habitat and food sources helps preserve and restore the ecosystem benefits for more than just the pollinator species. Many birds and mammals require a diet of berries, fruits, and seeds from insect-pollinated plants, and the adult and larvae of insect pollinators are fed upon by many birds, bats, other insects, and mammals. Native plants also rely on insects for their pollination to continue to support the health of the ecosystem.

Habitat needs of insect pollinators

Pollinator species have a range of needs given their large number and diversity so plant variety is important. Pollinators need a diversity of flowering species with a succession of bloom times to provide a source of nectar throughout the year. They also need a variety of native plants to provide shelter and nesting sites. Species may select single plant species as host plants for their larvae to feed upon. For example, monarch butterflies only lay their eggs on milkweed species (*Asclepias spp.*). Loss of milkweed in the environment due to increased herbicide use and land development has been cited by many research articles as a primary cause in the decline of monarch populations. It is critical to have enough of the appropriate habitat within the flight range of pollinators to support a healthy population.

Supporting crop fertilization

Native pollinators provide a substantial benefit for crop production. According to a wide range of research, insect pollination is responsible for the fertilization of at least 75% of flowering plants and crops. The role of insects in moving pollen from the stamen (male part of the flower) to the stigma (female part of the flower) leads to fertilization that produces fruit and seeds for a wide variety of crops. Honeybees provide the bulk of crop pollination in the US, but native bees also make significant contributions to pollination estimated in billions of dollars annually.

Native plants that support pollinators

Homeowners, farmers and landowners, public entities, and private businesses can support pollinators by including a diverse selection of native plants in projects. Native plant diversity and pollinators have a positive impact in various conditions, including:

- Agriculture
- Corporate campuses
- Erosion control
- Landfills
- Landscape design
- Mitigation
- Parks and golf courses
- Roadsides
- Stormwater control
- Utility corridors
- Wetlands
- Wildlife habitat
- Windbreaks

Native plant diversity is a primary component of a healthy native ecosystem. Native plants are superior to exotic/non-native ornamentals and hybridized native varieties because they flower during the natural time of the season and offer pollinators the nutrition they need

Project Experience



LICK RUN VALLEY CONVEYANCE SEWER SEPARATION

Ohio

The City of Cincinnati's Lick Run Valley sewer system was experiencing significant flooding during high rainfall events. To address this, Stantec provided native landscape installation along the one-mile-long urban bio-engineered waterway as well as several bio-infiltration basins and pond features. In total, approximately 12.1 acres were seeded with native riparian and upland seed mixes from our native plant nursery. We also provided stormwater management materials (TRM/coir matting and coconut fiber erosion control matting) to protect the native plants during significant rainfall. Additionally, more than 92,000 plugs of native species were installed along the stream corridor, in bio-infiltration basins, and along pond margins. These plugs include species adapted for wetland and riparian conditions as well as native prairie species and will provide native habitat, particularly for pollinators. All the plugs for the project were grown specifically by our native plant nursery. Our team also provided maintenance for one-year after the final installation.



CHARLES B. HAYES FAMILY SCULPTURE PARK

Indiana

Located on the University of Notre Dame campus, this seven-acre park is an extension of the university's Snite Museum of Art and recreates a natural northern Indiana landscape that existed around the time the university was founded. Stantec has assisted the museum with multiple phases of the project since its inception. We provided and installed custom native seed mixes among a diversity of interesting sculptures strategically placed along winding paths. We also installed and maintained aquatic native vegetation over the course of three growing seasons to enhance a pond water feature located in the center of the park. Currently, our implementation team performs delicate, comprehensive annual vegetative maintenance. Situated on the south end of campus, surrounded by Eddy Street Commons, the Irish Green lawn space, Notre Dame Stadium, and Compton Family Ice Arena, the meandering paved paths throughout the park are frequently traveled and enjoyed by residents and visitors alike.



BEVERLEY SHORES LAKEFRONT STABILIZATION

Indiana

High lake levels and a series of extreme winter storms severely eroded much of the beach frontage along Lakeview Drive in the Town of Beverly Shores, threatening infrastructure and adjacent homes. Stantec stabilized and vegetated approximately 4.5 acres of sand that was replaced as part of the revetment project. We provided and installed a custom Great Lakes native seed mix, secured the bare soil with biodegradable erosion control fabric, and planted approximately 197,000 marram grass (*Ammophila breviligulata*) plants throughout the project area. We performed inspections, monitoring, and maintenance throughout 2022.



LOWER MUSKEGON RIVER RESTORATION

Michigan

Historically, this site was used for celery farming and was separated from the Muskegon River by constructed dikes and pumps. As part of a National Oceanic and Atmospheric Administration's Great Lakes Commission Regional Partnership, Stantec helped reconnect the wetlands with the Muskegon River and restore fish passage and habitat for a variety of native fish and wildlife. We provided native plant materials and implementation services following the excavation, including installation of 54,714 native wetland plants, 6,855 native shrubs and trees, 36.10 acres of native seed, and 10,600 square yards of erosion control materials. The project has restored 2,739 feet of shoreline and 53 acres of wetlands and removed an earthen dike to reconnect Muskegon River with its restored wetland floodplain.

For more information:
[Ecosystem Restoration](#)
[Nature-based Solutions](#)



ECOSYSTEM RESTORATION SERVICES

We work collaboratively to understand the drivers and develop achievable and functional objectives, regardless of project type or size. The services we can provide during a general lifecycle of a restoration project are outlined below:

- Carbon sequestration
- Coastal/shoreline restoration
- Construction services (administration, management, observation, and monitoring)
- Dam removal
- Endangered resources review
- Environmental DNA
- Environmental permitting
- Fish passage
- GIS and quantitative analysis
- Grant writing
- Hydrology and vegetation monitoring
- Implementation services
- Lakeshore restoration
- Prairie restoration
- Remote sensing
- Site assessment and restoration planning
- Stream restoration
- Watersheds assessment and planning
- Wetland delineation and functional value assessments
- Wetland restoration
- Wildlife planning
- Woodland restoration

Professional Restoration Services

Uplifting and revitalizing ecosystems using [Nature-based Solutions](#).

For more than 30 years, Stantec has grown to become a global leader in designing and implementing ecosystem restoration projects. Our large, multi-disciplinary team is here to serve as your trusted technical advisor, helping achieve your restoration goal—at nearly any scale or location in the landscape. Whether the need is mitigation; carbon sequestration; achieving Environmental, Social, and Governance (ESG) and biodiversity goals; or increasing resiliency to protect valuable infrastructure and minimize interruptions of daily operations, we've got ecosystem restoration down to a science.

Wetland Restoration

Wetlands play a key role in providing floodwater protection, water quality, and wildlife habitat. In addition to completing wetland delineations and assessments, we provide restoration design, monitoring, and implementation when these important natural resources are damaged or impaired by natural or human activities. When a project has unavoidable impacts to a wetland, Stantec can also provide compensatory wetland mitigation services.

Coastal Restoration

Working in coastal environments requires a unique understanding of marine habitats, their underlying biological, physical, and chemical processes, and how these systems react to climate change. We have decades of experience restoring a variety of coastal habitats including saltmarshes, mangroves, coastal fringes, and dunes. We also have experience with seagrass restoration and have pioneered the use of innovative seagrass restoration/analysis techniques.

Forest, Prairie, and Grassland Restoration

Forests, prairies, and grasslands provide diverse habitats for many species. Unfortunately, they are being overrun by invasive species, degraded by human development, and sometimes listed as threatened or endangered due to lack of suitable habitat. Our forestry, grassland, and prairie specialists are well-versed in the biological and ecological aspects of these terrestrial habitats and can provide you with a tailored strategy to achieve your restoration goals.

River and Stream Restoration

When restoring streams and rivers, we don't simply design a solution for an isolated issue. We examine the entire watershed to understand the overall causes of ecosystem disturbances. We combine our expertise in engineering, geomorphology, biology, and hydrology to identify and apply appropriate restoration techniques to create resilient, functioning streams and rivers that are characterized by natural processes.

Dam Removals

As dams across North America reach the end of their service life, communities are seeking to remove them and restore their waterways to enhance fish passage, provide recreational value, and improve water quality. Our multi-disciplinary team, including engineers, permitting specialists, community development designers, landscape architects, and stream restoration specialists can quickly determine the benefits and feasibility of removal or modification ranging from large earthen or concrete dams to smaller low-head structures.

We support the



Stantec becomes a UN Decade partner

The United Nations (UN) believes it's time to prioritize ecosystem restoration. A growing global population, combined with climate change and biodiversity loss, is driving the critical need for this work—which is why we're partnering with the UN for the Decade on Ecosystem Restoration (2021-2030). Like the UN, we believe healthy ecosystems enhance people's livelihoods, counteract climate change, and stop the collapse of biodiversity.



Communities are fundamental. Whether around the corner or across the globe, they provide a foundation, a sense of place and of belonging. That's why at Stantec, we always design with community in mind.

We care about the communities we serve—because they're our communities too. This allows us to assess what's needed and connect our expertise, to appreciate nuances and envision what's never been considered, to bring together diverse perspectives so we can collaborate toward a shared success.

We're designers, engineers, scientists, and project managers, innovating together at the intersection of community, creativity, and client relationships. Balancing these priorities results in projects that advance the quality of life in communities across the globe.

Stantec trades on the TSX and the NYSE under the symbol STN. Visit us at stantec.com or find us on social media.

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Design with community in mind