

# Native Seeds Work

## Why Use Native Plants?

Native plants are sustainable, low maintenance, and create a beautiful habitat for insects and pollinators.

Grasses such as smooth brome, crested wheatgrass, and intermediate wheat are exotic plants. They are aggressive, form monocultures, and don't provide good habitat to native pollinators and other wildlife.

The City of Fort Collins Natural Areas Department has 15 years of experience developing and testing a variety of native seed mixes. Many of these species have been used in successful large-scale restoration projects. These mixes are carefully planned to provide landscapers, contractors, and private citizens grasses and wildflowers that thrive in our climate. The mixes are custom blended for the Fort Collins Growth Management Area at elevations of 4,800—5,660 feet.

## What to Expect

These native prairie plants are adapted to conditions in this area:

- The seeds will germinate and establish in 1–3 growing seasons. If they do not, reseed the area. Get a head start on establishing your native seed. If there are areas that won't be re-disturbed during construction, go ahead and seed it.
- Expect some bare soil between plants.
- Expect plants to go dormant in hot, dry conditions—they will turn brown but are still alive.
- Expect diversity in your plantings. The different native plants will grow commingled, instead of in isolated pockets of the same species grouped together.
- Excessive grazing or continual disturbance will not allow plants to establish.

## Top Tips for Success

- ✓ Plant during recommended dates.
- ✓ Do not use fertilizer.
- ✓ Plant at proper depth.
- ✓ Do not irrigate.
- ✓ Carefully monitor use of herbicides.
- ✓ Do not mow during hot, dry conditions.

## CUSTOM NATIVE SEED MIXES

Native wildflowers and grasses provide larval food, nesting sites, pollen, and nectar for our native pollinators. Many of our native bee populations are declining. Each of these seed mixes was created with native pollinators in mind.

### UPLAND MIX

- All soil types
  - Area is dry majority of growing season
- \$154-\$204/ac.

### MESIC MIX

- All soil types
  - Area is periodically moist during growing season
- \$220-\$360/ac.

### WETLAND MIX

- All soil types
  - Area is saturated to 6 inches of standing water for the majority of the growing season
- \$345-\$685/ac.

### ALKALINE MIX

- Soils with a presence of white mineral deposits on surface or in proximity
  - Area dry to saturated for the majority of the growing season
- \$200-\$270/ac.

### DETENTION BASIN MIX

- All soil types (blend of Upland and Mesic)
  - Low height requires less mowing
- \$145-\$225/ac.

Prices may vary due to availability.

# How to Establish Native Seeds

## 1 SELECT NATIVE SEED MIX

Choose a pre-formulated native seed mix (see previous page) based on your site conditions.

## 2 MEASURE, CALCULATE, AND ORDER

Measure the square footage and calculate how much seed you need to purchase. Select a native seed company and let them know which of these native seed mixes you require. They may be able to assist with calculating how much seed you need.

## 3 PREPARE SEED BED

It's important for seeds to have good contact with the soil. Eliminate weeds or other vegetation that might impede soil contact. The soil should be firm. Compacted soil doesn't allow the seed to be placed into the soil; fluffy soil may allow the seed to be planted too deep. There is no need to fertilize. Native plants have evolved with our low-nutrient soils. Fertilizer will benefit non-native weeds more than native plants.

## 4 SEEDING

Plant seed on dry, bare ground from late October through early May. Seeds may be planted using a rangeland seed drill or by hand-broadcasting. If using a seed drill, it is best to plant perpendicular on slopes. This will aid in erosion control. Make sure the top inch of soil is not frozen. Plant seed between ¼ - ½ inch deep. Native plants need sunlight to germinate, so planting deeper may inhibit growth. If using the broadcast method, lightly rake the area, evenly spread the seed, and lightly rake the seed in. You want to ensure good seed-to-soil contact, so be careful not to bury the seed or cluster it into uneven patterns.

## 5 MAINTENANCE

Depending on your site requirements, you may need mulch, hydromulch, or an erosion control mat. Most sites will benefit when protected by placement of one of these.

There is no need to irrigate. Native plants have evolved with our precipitation events. Irrigation will benefit non-native weeds more than native plants and will set back the establishment period of native seeds.

Weed control, especially noxious weeds, is important during establishment. Hand pull or spot spray weeds with an herbicide. This helps to limit the amount of herbicide put into the environment and allows the native wildflowers to establish.

Mowing can be beneficial to the establishment of your native seed. Make sure not to mow when conditions are dry and hot. Try not to mow more than once or twice a growing season; any more may stress plants that are trying to establish. It will benefit your project if you allow the plants to flower and seed prior to mowing.

## Seed Companies

Arkansas Valley (Denver)  
[www.avseeds.com/](http://www.avseeds.com/)  
1-877-907-3337

Granite Seed (Denver)  
[www.graniteseed.com/](http://www.graniteseed.com/)  
1-888-577-5650

Pawnee Buttes Seed  
(Greeley)  
[www.pawneebutteseed.com/](http://www.pawneebutteseed.com/)  
1-800-782-5947

Western Native Seed (Salida)  
[www.westernnativeseed.com/](http://www.westernnativeseed.com/)  
(719) 942-3935

Sharp Bros. Seed (Greeley)  
[www.sharpseed.com/](http://www.sharpseed.com/)  
(970) 356-4710

## Seed Installation

Custom Services of Colorado  
[markbuckley5619@gmail.com](mailto:markbuckley5619@gmail.com)  
(303) 775-0505

Native Seeders  
[kate@nativeseederscompany.com](mailto:kate@nativeseederscompany.com)  
(970) 686-5121, c (970)217-9390

Habitat Management Inc.  
[habitatmanagementinc.com/](http://habitatmanagementinc.com/)  
(303) 770-9788

Larimer County Contractor list  
[larimer.org/weeds/commapplicators.htm](http://larimer.org/weeds/commapplicators.htm)

*For more information:*

**Native Plant Revegetation  
Guide for Colorado:**  
[https://cpw.state.co.us/Documents/  
CNAP/RevegetationGuide.pdf](https://cpw.state.co.us/Documents/CNAP/RevegetationGuide.pdf)

# Native Seed Mixes

UPLAND MIX			
	Common Name	Scientific Name	lbs/PLS/Acre
Wildflowers	Plains coreopsis	<i>Coreopsis tinctoria</i>	0.17
	Purple prairie clover	<i>Dalea purpurea</i>	0.81
	Indian blanketflower	<i>Gaillardia aristata</i>	1.85
	Rocky. Mtn. penstemon	<i>Penstemon strictus</i>	0.35
	Mexican hat	<i>Ratibida columnifera</i>	0.2
Grasses	Indian ricegrass	<i>Achnatherum hymenoides</i>	1.13
	Sideoats grama	<i>Bouteloua curtipendula</i>	1.15
	Buffalograss	<i>Bouteloua dactyloides</i>	3.27
	Blue grama	<i>Bouteloua gracilis</i>	0.25
	Bottlebrush squirreltail	<i>Elymus elymoides</i>	0.95
	Prairie Junegrass	<i>Koeleria macrantha</i>	0.08
	Green needlegrass	<i>Nassella viridula</i>	1.01
	Switchgrass	<i>Panicum virgatum</i>	0.71
	Western wheat	<i>Pascopyrum smithii</i>	1.61
	Sand dropseed	<i>Sporobolus cryptandrus</i>	0.04
		<b>Total for Upland Mix</b>	<b>13.58 lbs/PLS/Acre</b>
Substitutes	<b>ACCEPTABLE SUBSTITUTES FOR WILDFLOWERS</b>		
	Fringed sage ( <i>Artemisia frigida</i> ) 0.03 lbs/PLS/Acre		
	Blue flax ( <i>Linum lewisii</i> ) 0.41 lbs/PLS/Acre		
	Prairie aster ( <i>Machaeranthera tanacetifolia</i> ) 0.25 lbs/PLS/Acre		
	<b>ACCEPTABLE SUBSTITUTES FOR GRASSES</b>		
	Canada wildrye ( <i>Elymus canadensis</i> ) 1.59 lbs/PLS/Acre		
	Inland saltgrass ( <i>Distichlis stricta</i> ) 0.35 lbs/PLS/Acre		
	Mountain muhly ( <i>Muhlenbergia montana</i> ) 0.11 lbs/PLS/Acre		
Requirements	<p>*Contractor is responsible for locating and purchasing all species listed in mix. If a species can't be located, contractor must replace each missing species with the acceptable substitutions (listed above). Contractor is responsible for providing seed tags to appropriate City staff, if required for project. This mix is based on 70 seeds/ square foot and is only calculated for one acre. This mix is based on the contractor using a drill seed application. Mix should be doubled if hand broadcasted. Contractor is responsible for calculating the appropriate seed amounts to purchase. Please note that the pounds per acre are in PLS (Pure Live Seed) and must be ordered that way. All materials furnished shall be free of Colorado State noxious weeds as defined in Article III, Section 21-40 of the Code of the City of Fort Collins.</p>		

# Native Seed Mixes

## MESIC MIX

	Common Name	Scientific Name	lbs/PLS/ Acre
Wildflowers	Smooth aster	<i>Aster laevis</i>	0.19
	White prairie clover	<i>Dalea candida</i>	0.65
	Purple prairie clover	<i>Dalea purpurea</i>	0.81
	Indian blanketflower	<i>Gaillardia aristata</i>	1.85
	Black-eyed Susan	<i>Rudbeckia hirta</i>	0.14
Grasses	Big bluestem	<i>Andropogon gerardii</i>	1.3
	Salt and pepper grass	<i>Deschampsia caespitosa</i>	0.07
	Inland saltgrass	<i>Distichlis stricta</i>	0.35
	Streambank wheatgrass	<i>Elymus lanceolatus ssp. lanceolatus</i>	1.36
	Switchgrass	<i>Panicum virgatum</i>	0.71
	Western wheatgrass	<i>Pascopyrum smithii</i>	1.61
	Fowl bluegrass	<i>Poa palustris</i>	0.18
	Little bluestem	<i>Schizachyrium scoparium</i>	0.7
	Yellow Indiangrass	<i>Sorghastrum nutans</i>	1.38
Prairie cordgrass	<i>Spartina pectinata</i>	1	
	<b>Total for Mesic Mix</b>		<b>12.31 lbs/PLS/Acre</b>
Substitutes	ACCEPTABLE SUBSTITUTIONS FOR WILDFLOWERS		
	Mexican hat ( <i>Ratibida columnifera</i> ) 0.10 lbs/PLS/Acre		
	Marsh sunflower ( <i>Helianthus nuttallii</i> ) 0.56 lbs/PLS/Acre		
	Beebalm ( <i>Monarda fistulosa</i> var. <i>menthifolia</i> ) 0.09 lbs/PLS/Acre		
	ACCEPTABLE SUBSTITUTIONS FOR GRASSES		
	American sloughgrass ( <i>Beckmannia syzigachne</i> ) 0.20 lbs/PLS/Acre		
	Alkali sacaton ( <i>Sporobolus airoides</i> ) 0.11 lbs/PLS/Acre		
	Prairie sandreed ( <i>Calamovilfa longifolia</i> ) 0.67 lbs/PLS/Acre		
Requirements	<p>*Contractor is responsible for locating and purchasing all species listed in mix. If a species can't be located, contractor must replace each missing species with the acceptable substitutions (listed above). Contractor is responsible for providing seed tags to appropriate City staff, if required for project. This mix is based on 70 seeds/ square foot and is only calculated for one acre. This mix is based on the contractor using a drill seed application. Mix should be doubled if hand broadcasted. Contractor is responsible for calculating the appropriate seed amounts to purchase. Please note that the pounds per acre are in PLS (Pure Live Seed) and must be ordered that way. All materials furnished shall be free of Colorado State noxious weeds as defined in Article III, Section 21-40 of the Code of the City of Fort Collins.</p>		

# Native Seed Mixes

## WETLAND MIX

	Common Name	Scientific Name	lbs/PLS/ Acre
Wildflowers	Marsh sunflower	<i>Helianthus nuttallii</i>	1.51
	Pennsylvania smartweed	<i>Polygonum pennsylvanicum (Persicaria pennsylvanica)</i>	3.13
	Goldenglow daisy	<i>Rudbeckia ampla</i>	1.36
	Blue verbena	<i>Verbena hastata</i>	0.2
Grasses	American sloughgrass	<i>Beckmannia syzigachne</i>	0.39
	Inland saltgrass	<i>Distichlis stricta</i>	0.67
	Giant mannagrass	<i>Glyceria grandis</i>	0.27
	Fowl bluegrass	<i>Poa palustris</i>	0.35
	Prairie cordgrass	<i>Spartina pectinata</i>	1.9
Wet Species	Spikerush	<i>Eleocharis palustris</i>	0.42
	Arctic rush	<i>Juncus balticus (J. arcticus)</i>	0.03
	Hardstem bulrush	<i>Schoenoplectus acutus</i>	0.65
	Alkali bulrush	<i>Scirpus maritimus (Bolboschoenus maritimus)</i>	1.14
	Common three-square	<i>Schoenoplectus pungens</i>	0.65
		<b>Total for Wetland Mix</b>	<b>12.68 lbs/PLS/Acre</b>
Substitutes	ACCEPTABLE SUBSTITUTES FOR WILDFLOWERS		
	Black-eyed Susan ( <i>Rudbeckia hirta</i> ) 0.19 lbs/PLS/Acre		
	Beebalm ( <i>Monarda fistulosa</i> var. <i>mentifolia</i> ) 0.23 lbs/PLS/Acre		
	If one or more species is unavailable, double the quantity of an available wildflower (In mix above).		
	ACCEPTABLE SUBSTITUTES FOR GRASSES		
	Salt and pepper grass ( <i>Deschampsia caespitosa</i> ) 0.14 lbs/PLS/Acre		
	Switchgrass ( <i>Panicum virgatum</i> ) 1.35 lbs/PLS/Acre		
	Alkali sacaton ( <i>Sporobolus airoides</i> ) 0.20 lbs/PLS/Acre		
	ACCEPTABLE SUBSTITUTES FOR WET SPECIES		
If one or more species is unavailable, double the quantity of an available wet species (In mix above).			
Requirements	<p>*Contractor is responsible for locating and purchasing all species listed in mix. If a species can't be located, contractor must replace each missing species with the acceptable substitutions (listed above). Contractor is responsible for providing seed tags to appropriate City staff, if required for project. This mix is based on 100 seeds/ square foot and is only calculated for one acre. This mix is based on the contractor using a broadcast seed application. Contractor is responsible for calculating the appropriate seed amounts to purchase. Please note that the pounds per acre are in PLS (Pure Live Seed) and must be ordered that way. All materials furnished shall be free of Colorado State noxious weeds as defined in Article III, Section 21-40 of the Code of the City of Fort Collins.</p>		

# Native Seed Mixes

ALKALINE MIX			
	Common Name	Scientific Name	lbs/PLS/ Acre
Wildflowers	Fringed sage	<i>Artemisia frigida</i>	0.05
	Purple prairie clover	<i>Dalea purpurea</i>	0.81
	Annual sunflower	<i>Helianthus annuus</i>	4.13
	Blue flax	<i>Linum lewisii</i>	0.83
	Mexican hat	<i>Ratibida columnifera</i>	0.2
Grasses	Sideoats grama	<i>Bouteloua curtipendula</i>	1.15
	Buffalograss	<i>Bouteloua dactyloides</i>	3.27
	Blue grama	<i>Bouteloua gracilis</i>	0.25
	Inland saltgrass	<i>Distichlis stricta</i>	0.35
	Bottlebrush squirreltail	<i>Elymus elymoides</i>	0.95
	Slender wheatgrass	<i>Elymus trachycaulus</i>	1.36
	Giant mannagrass	<i>Glyceria grandis</i>	0.14
	Switchgrass	<i>Panicum virgatum</i>	0.71
	Western wheatgrass	<i>Pascopyrum smithii</i>	1.61
	Alkali sacaton	<i>Sporobolus airoides</i>	0.11
		<b>Total for Alkaline Mix</b>	<b>15.92 lbs/PLS/Acre</b>
Substitutes	<b>ACCEPTABLE SUBSTITUTES FOR WILDFLOWERS</b>		
	Indian blanketflower ( <i>Gaillardia aristata</i> ) 1.85 lbs/PLS/Acre		
	Prairie aster ( <i>Machaeranthera tanacetifolia</i> ) 0.49 lbs/PLS/Acre		
	Scarlet globemallow ( <i>Sphaeralcea coccinea</i> ) 0.61 lbs/PLS/Acre		
	<b>ACCEPTABLE SUBSTITUTES FOR GRASSES</b>		
	Canada wildrye ( <i>Elymus canadensis</i> ) 1.60 lbs/PLS/Acre		
	Nuttall's alkaligrass ( <i>Puccinellia airoides</i> ) 0.15 lbs/PLS/Acre		
	Prairie cordgrass ( <i>Spartina pectinata</i> ) 1.00 lbs/PLS/Acre		
Requirements	<p>*Contractor is responsible for locating and purchasing all species listed in mix. If a species can't be located, contractor must replace each missing species with the acceptable substitutions (listed above). Contractor is responsible for providing seed tags to appropriate City staff, if required for project. This mix is based on 70 seeds/ square foot and is only calculated for one acre. This mix is based on the contractor using a drill seed application. Mix should be doubled if hand broadcasted. Contractor is responsible for calculating the appropriate seed amounts to purchase. Please note that the pounds per acre are in PLS (Pure Live Seed) and must be ordered that way. All materials furnished shall be free of Colorado State noxious weeds as defined in Article III, Section 21-40 of the Code of the City of Fort Collins.</p>		

# Native Seed Mixes

DETENTION BASIN MIX			
	Common Name	Scientific Name	lbs/PLS/ Acre
Wildflowers	Plains coreopsis	<i>Coreopsis tinctoria</i>	0.17
	White prairie clover	<i>Dalea candida</i>	0.65
	Purple Prairie clover	<i>Dalea purpurea</i>	0.81
	Indian blanketflower	<i>Gaillardia aristata</i>	1.85
	Mexican hat	<i>Ratibida columnifera</i>	0.2
Grasses	Indian ricegrass	<i>Achnatherum hymenoides</i>	1.13
	Sideoats grama	<i>Bouteloua curtipendula</i>	1.15
	Buffalograss	<i>Bouteloua dactyloides</i>	3.27
	Blue grama	<i>Bouteloua gracilis</i>	0.25
	Inland saltgrass	<i>Distichlis stricta</i>	0.35
	Bottlebrush squirreltail	<i>Elymus elymoides</i>	0.95
	Streambank wheatgrass	<i>Elymus lanceolatus ssp. lanceolatus</i>	1.36
	Prairie Junegrass	<i>Koeleria macrantha</i>	0.08
	Western wheatgrass	<i>Pascopyrum smithii</i>	1.61
	Little bluestem	<i>Schizachyrium scoparium</i>	0.7
		<b>Total for Detention Basin Mix</b>	<b>14.54 lbs/PLS/Acre</b>
Substitutes	<b>ACCEPTABLE SUBSTITUTES FOR WILDFLOWERS</b>		
	Blue flax ( <i>Linum lewisii</i> ) 0.83 lbs/PLS/Acre		
	Black-eyed Susan ( <i>Rudbeckia hirta</i> ) 0.14 lbs/PLS/Acre		
	Prairie aster ( <i>Machaeranthera tanacetifolia</i> ) 0.49 lbs/PLS/Acre		
	<b>ACCEPTABLE SUBSTITUTES FOR GRASSES</b>		
	Salt and pepper grass ( <i>Deschampsia caespitosa</i> ) 0.07 lbs/PLS/Acre		
	Six weeks fescue ( <i>Vulpia octoflora</i> ) 0.19 lbs/PLS/Acre		
Slender wheatgrass ( <i>Elymus trachycaulus</i> ) 1.36 lbs/PLS/Acre			
Requirements	<p>*Contractor is responsible for locating and purchasing all species listed in mix. If a species can't be located, contractor must replace each missing species with the acceptable substitutions (listed above). Contractor is responsible for providing seed tags to appropriate City staff, if required for project. This mix is based on 70 seeds/ square foot and is only calculated for one acre. This mix is based on the contractor using a drill seed application. Mix should be doubled if hand broadcasted. Contractor is responsible for calculating the appropriate seed amounts to purchase. Please note that the pounds per acre are in PLS (Pure Live Seed) and must be ordered that way. All materials furnished shall be free of Colorado State noxious weeds as defined in Article III, Section 21-40 of the Code of the City of Fort Collins.</p>		