

APPENDIX K

SEED MIXES

Life History Codes used in Seed Mixes

NPF = Native Perennial Forb (e.g., insect pollinated wildflower). NBF - Native biennial forb. NAF = Native annual forb. NPG-L = Native perennial grass or grass-like plant

Larimer County Bureau of Reclamations Bioswale Seed Mix

Scientific Name	Common Name (USDA)	Cultivar or Ecotype	Life History	% mix	Pounds PLS Needed	
		<u>Variety</u>		<u>% of Species in mixture</u>	<u>Required PLS rates Per acre (100%)</u>	<u>PLS Seeding Rate per species/Ac</u>
<i>Sporobolus airoides</i>	Alkali sacaton	VNS	NPG-L	10.00%	0.75	0.075
<i>Verbena hastata</i>	Blue vervain	VNS	NPF	10.00%	1	0.1
<i>Rhudebeckia hirta</i>	Blackeyed Susan	VNS	NPF	12.00%	1	0.12
<i>Glyceria striata</i>	Fowl mannagrass	VNS	NPG-L	10.00%	1	0.1
<i>Nassella viridula</i>	Green Needlegrass	Lodorm	NPG-L	7.00%	7	0.49
<i>Distichlis spicata</i>	Inland saltgrass	VNS	NPG-L	6.00%	3	0.18
<i>Helianthus nuttallii</i>	Nuttal's sunflower	VNS	NPF	12.00%	12	1.44
<i>Dalea purpurea</i>	Purple prairie clover	VNS	NPF	21.00%	4	0.84
<i>Triticum aestivum x Secale cereale</i>	Quickguard	Quickguard	cover crop	45.00%	15	6.75
<i>Elymus trachycaulus ssp. Trachycaulus</i>	Slender wheatgrass	San Louis	NPG-L	5.00%	11	0.55
<i>Elymus trachycaulus</i>	Slender wheatgrass	First strike	NPG-L	5.00%	11	0.55
<i>Panicum Virgatum</i>	Switchgrass	Neb. 28, Blackwell	NPG-L	10.00%	2.5	0.25
<i>monarda fistulosa</i>	Wild bergamot	VNS	NPF	14.00%	1	0.14
<i>Achillea millefolium</i>	Yarrow	Occidentalis	NPF	7.00%	1	0.07
				174.00%	71.25	11.655
						PLS #s/Acre

*If broadcasting use 2X seeding rate

**All substitutions must be approved in writing by Bureau of Reclamation and Larimer County Natural Resources Staff

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Seed mix from the Larimer County Natural Resource Department Guidance for Cameron Peak Fire recovery sites

Grassland Mix: < 6,000 feet a.s.l.					
Scientific Name	Common Name (USDA)	Cultivar or Ecotype	Life History	% mix	Pounds PLS Needed
<i>Pascopyrum smithii</i>	Western wheatgrass	Arriba	NPG-L	5.00%	0.8
<i>Bouteloua barbata</i>	Sideoats grama	Vaughn	NPG-L	5.50%	0.495
<i>Bouteloua gracilis</i>	Blue grama	Lovington	NPG-L	2.00%	0.06
<i>Nassella viridula</i>	Green needlegrass	Lodorm	NPG-L	7.50%	0.75
<i>Panicum Virgatum</i>	Switchgrass	Neb. 28, Blackwell	NPG-L	6.00%	0.15
<i>Andropogon gerardii</i>	Big bluestem	Kaw, Bison, Champ	NPG-L	3.00%	0.39
<i>Schizachyrium scoparium</i>	Little bluestem	Pastura, Blaze	NPG-L	5.00%	0.35
<i>Sporobolus cryptandrus</i>	Sand dropseed	Borden	NPG-L	2.50%	0.025
<i>Bouteloua dactyloides</i>	Buffalograss	Sharps, Cody, Bowie	NPG-L	5.00%	1
<i>Sporobolus airoides</i>	Alkali sacaton	Salado	NPG-L	4.00%	0.04
<i>Elymus trachycaulus</i> ssp. <i>Trachycaulus</i>	Slender wheatgrass	San Louis	NPG-L	8.00%	0.88
<i>Achillea millefolium</i>	Yarrow	Occidentalis	NPF	3.00%	0.03
<i>Dalea purpurea</i>	Purple prairie clover	Kanab	NPF	5.00%	0.4
<i>Gaillardia aristata</i>	Blanket flower	Meriwether	NPF	4.00%	0.4
<i>Ratiba columnifera</i>	Prairie coneflower	Stillwater	NPF	6.00%	0.06
<i>Linum lewisii</i>	Blue flax	Maple Grove	NPF	4.50%	0.27
<i>Cleome serrulata</i>	Rocky Mountain bee plant	Pursh	NPF	4.50%	0.72
<i>Penstemon strictus</i>	Rocky Mountain penstemon	Bandera	NPF	5.00%	0.15
<i>Monarda fistulosa</i>	Wild bergamot	CO Ecotype (or VNS)	NPF	5.00%	0.05
<i>Ratiba columnifer</i>	Mexican hat		NPF	7.00%	0.07
<i>Sphaeralcea coccinea</i>	Scarlet globemallow		NPF	2.50%	0.1
<i>Triticum aestivum</i> x <i>Secale cereale</i>	Quickguard	Quickguard	cover crop	45.00%	15
Total				145.00%	22.19
*Due to low mix weight, buffer with rice hauls					

Seed mix from the the Larimer County Natural Resource Department Guidance for Cameron Peak Fire recovery sites

[Restoration Seed Mixes and BMPs](https://www.larimer.org/naturalresources/weeds) <https://www.larimer.org/naturalresources/weeds>

Life History Codes used in Seed Mixes

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Foothills Mix: 6,000 - 7,500 feet a.s.l.

Scientific Name	Common Name (USDA)	Cultivar or Ecotype	Life History	% mix	Pounds PLS Needed
<i>Bouteloua gracilis</i>	blue grama	Fremont CO ecotype	NPG-L	5	0.32
<i>Cleome serrulata</i>	Rocky Mountain beeplant	CO Ecotype (or VNS)	NAF	2	0.84
<i>Bouteloua curtipendula</i>	sideoats grama	Niner	NPG-L	10	2.52
<i>Coreopsis tinctoria</i>	plains coreopsis	CO Ecotype (or VNS)	NBF	3	0.1
<i>Elymus elymoides</i>	squirreltail	Pueblo or Wapiti	NPG-L	10	2.5
<i>Elymus trachycaulus</i>	slender wheatgrass	Pryor or First Strike or San Luis	NPG-L	14	4.63
<i>Festuca arizonica</i>	Arizona fescue	Redondo	NPG-L	8	0.8
<i>Gaillardia aristata</i>	blanketflower	CO Ecotype (or VNS)	NPF	2	0.51
<i>Helianthus annuus</i>	common sunflower	CO Ecotype (or VNS)	NAF	2	0.83
<i>Monarda fistulosa</i>	wild bergamot	CO Ecotype (or VNS)	NPF	3	0.1
<i>Pascopyrum smithii</i>	western wheatgrass	Arriba	NPG-L	12	5.05
<i>Poa secunda</i>	Sandberg bluegrass	Sims Mesa or High Plains	NPG-L	8	0.37
<i>Pseudoroegneria spicata</i>	bluebunch wheatgrass	Anatone	NPG-L	7	2.87
Quickguard	Quickguard	Quickguard	cover crop	1	3.42
<i>Ratibida columnifera</i>	upright prairie coneflower	CO Ecotype (or VNS)	NPF	3	0.18
<i>Rudbeckia hirta</i>	blackeyed Susan	CO Ecotype (or VNS)	NBF	3	0.09
<i>Schizachyrium scoparium</i> var. <i>scoparium</i>	little bluestem	Camper	NPG-L	7	2.58

27.71

Acceptable Alternatives (Foothills Mix)

Scientific Name	Common Name (USDA)	Cultivar or Ecotype	Life History
<i>Achillea lanulosa</i> var. <i>occidentalis</i>	Western yarrow	Eagle or Yakima	NPF
<i>Achnatherum hymenoides</i>	Indian ricegrass	Paloma	NPG-L
<i>Adenolinum lewisii</i>	Lewis flax	CO ecotype or Maple Grove	NPF
<i>Artemisia frigida</i>	prairie sagewort	CO Ecotype preferred	NPF
<i>Bouteloua curtipendula</i>	sideoats grama	Niner	NPG-L
<i>Dalea candida</i>	white prairie clover	CO Ecotype preferred	NPF
<i>Dalea purpurea</i>	purple prairie clover	Kaneb or Stephanie	NPF
<i>Festuca idahoensis</i>	Idaho fescue	Trident	NPG-L
<i>Helianthus petiolaris</i>	prairie sunflower	CO Ecotype (or VNS)	NAF
<i>Nassella viridula</i>	green needlegrass	Cucharas	NPG-L
<i>Poa fendleriana</i>	muttongrass	Ruin Cyn	NPG-L
Regreen	Regreen	Regreen	cover crop
<i>Symphotrichum laeve</i>	smooth blue aster	CO Ecotype (or VNS)	NPF

Seed mix from the the Larimer County Natural Resource Department Guidance for Cameron Peak Fire recovery sites

[Restoration Seed Mixes and BMPs](#)

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Acres:	1
PLS Seeds per Sq. Ft. (Broadcast):	110

Lower Montane Mix: 7501-8500 ft asl						
Scientific Name	Common Name (USDA)	Cultivar or Ecotype	Life History	% mix	Pounds PLS Needed	
<i>Adenolinum lewisii</i>	Lewis flax	CO Ecotype or Maple Grove	NPF	2	0.32	
<i>Bouteloua gracilis</i>	blue grama	Fremont CO ecotype	NPG-L	8	0.52	
<i>Cleome serrulata</i>	Rocky Mountain beeplant	CO Ecotype (or VNS)	NAF	2	0.84	
<i>Elymus elymoides</i>	squirreltail	Pueblo or Wapiti	NPG-L	10	2.5	
<i>Elymus trachycaulus</i>	slender wheatgrass	Pryor or First Strike or S	NPG-L	14	4.63	
<i>Festuca arizonica</i>	Arizona fescue	Redondo	NPG-L	10	1	
<i>Gaillardia aristata</i>	blanketflower	CO Ecotype	NPF	3	0.77	
<i>Pascopyrum smithii</i>	western wheatgrass	Arriba	NPG-L	14	5.89	
<i>Poa secunda</i>	Sandberg bluegrass	Sims Mesa or High Plains	NPG-L	12	0.55	
<i>Pseudoroegneria spicata</i>	bluebunch wheatgrass	Anatone	NPG-L	8	3.28	
Quickguard	Quickguard	Quickguard	Cover Crop	1	3.42	
<i>Rudbeckia hirta</i>	blackeyed Susan	CO ecotype	NBF	3	0.09	
<i>Bromus marginatus</i>	mountain brome	Cold Springs Ecotype	NPG-L	12	6.85	
<i>Penstemon strictus</i>	Rocky Mountain penstemon	Bandera	NPF	1	0.11	
				100	30.76	

Acceptable Alternatives (Lower Montane Mix)

Scientific Name	Common Name (USDA)	Cultivar or Ecotype	Life History
<i>Elymus lanceolatus ssp. lanceolatus</i>	thickspike wheatgrass	Critana	NPG-L
<i>Achillea lanulosa var occidentalis</i>	Western yarrow	Eagle or yakima	NPF
<i>Achnatherum hymenoides</i>	indian ricegrass	Paloma	NPG-L
<i>Achnatherum robustum</i>	sleepy grass	0	NPG-L
<i>Artemisia frigida</i>	prairie sagewort	CO Ecotype preferred	NPF
<i>Erigeron speciosus</i>	aspen fleabane	CO Ecotype (or VNS)	NPF
<i>Festuca idahoensis</i>	Idaho fescue	Trident	NPG-L
<i>Helianthus petiolaris</i>	prairie sunflower	CO Ecotype (or VNS)	NAF
<i>Heliomeris multiflora</i>	showy goldeneye	CO Ecotype (or VNS)	NPF
<i>Hesperostipa comata</i>	needle-n-thread	CO Ecotype or Bluebuckle	NPG-L
<i>Koeleria macrantha</i>	prairie junegrass	Sims Mesa	NPG-L
<i>Penstemon virgatus</i>	Front Range beardtongue	CO Ecotype (or VNS)	NPF
<i>Poa fendleriana</i>	muttongrass	Ruin Cyn	NPG-L
Regreen	Regreen	Regreen	Cover Crop
<i>Symphotrichum laeve</i>	smooth blue aster	CO Ecotype (or VNS)	NPF
<i>Chamerion angustifolium</i>	fireweed	CO Ecotype (or VNS)	NPF

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Acres:	1
PLS Seeds per Sq. Ft. (Broadcast):	110

Upper Montane Mix: 7501-8500 ft asl

Scientific Name	Common Name (USDA)	Cultivar or Ecotype	Life History	% mix	Pounds PLS Needed
<i>Elymus trachycaulus</i>	slender wheatgrass	Pryor or First Strike or S	NPG-L	16	5.77
<i>Poa secunda</i>	Sandberg bluegrass	Sims Mesa or High Plains	NPG-L	14	0.7
Quickguard	Quickguard	Quickguard	Cover Crop	1	3.73
<i>Bromus marginatus</i>	mountain brome	Cold Springs Ecotype	NPG-L	16	9.96
<i>Deschampsia cespitosa</i>	tufted hairgrass	Peru Creek	NPG-L	14	0.37
<i>Elymu glaucus</i>	blue wildrye	Elkton	NPG-L	10	3.89
<i>Festuca saximontana</i>	Rocky Mountain fescue	CO Ecotype preferred	NPG-L	12	0.52
<i>Trisetum spicatum</i>	spike trisetum	CO Ecotype preferred	NPG-L	12	0.25
<i>Festuca idahoensis</i>	Idaho fescue	Trident	NPG-L	5	0.58
				100	25.77

Acceptable Alternatives (Upper Montane Mix)

Scientific Name	Common Name (USDA)	Cultivar or Ecotype	Life History
<i>Erigeron speciosus</i>	aspen fleabane	CO Ecotype (or VNS)	NPF
<i>Heliomeris multiflora</i>	showy goldeneye	CO Ecotype (or VNS)	NPF
<i>Koeleria macranth</i>	prairie junegrass	Sims Mesa	NPG-L
<i>Poa fendleriana</i>	muttongrass	Ruin Cyn	NPG-L
<i>Regreen</i>	Regreen	Regreen	Cover Crop