



**Boulder County
Land Use Department
Publications**

Revegetation

Land Use Department

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Office Hours:

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Revegetation

Assuring the proper revegetation of disturbed areas is an integral part of many Boulder County reviews. Successful revegetation is essential to slow soil erosion, repair scarring from cut and fill slopes, and to help deter noxious weeds. This handout is meant to guide you through some common requirements placed on projects in the county.

The Revegetation Plan

Use a copy of your site plan to delineate the areas you expect to be disturbed by construction (see example). Common disturbances include areas around the house, along the driveway, utility corridors, septic system, and staging/construction parking areas. The locations of silt fences and straw-bale barriers, if necessary, must also be shown. Each of the disturbed areas must show the method of revegetation including:

Seed List

In the Revegetation Plan, attach a list containing each type of seed and where it is to be used.

- Boulder County always encourages the use of native vegetation, and mountain projects above 5500 feet are required to use native grasses. Depending on location, some plains projects will also be required to use native grasses. This list must include seed application rates.
- Please refer to the attached recommended seed mixes and the document, "*Suggested Native Plants for Horticultural Use on the Front Range of Colorado*" as a guide. Some sources for plant material are included. Boulder County will not accept any seeds from the section titled, "*Plant Species Not to Use....*"

Slope and Revegetation

The degree of attention needed to successfully revegetate the site depends greatly on the steepness of slopes. This table shows which measures, in addition to seeding, should be included in the Revegetation Plan. Tractors, drill seeders, and mowers can operate on slopes of 3:1 or flatter, which makes such grades optimal for seedbed preparation, planting and maintenance.

Degree of Slope*	Soil Prep	Topsoil/ Stockpile	Mulch	Matting/ Hydromulch
Level to 3:1	✓	✓		
3:1 to 2:1	✓	✓	✓	
2:1 to 1.5:1	✓	✓	✓	✓

* See Determining Steepness of Grade section on page 3 for degree of slope.



Topsoil/Stockpile

Stockpiling entails scraping off the topsoil — or the uppermost, fertile layer of the soil — and setting it aside until needed. After construction, this topsoil should be spread out to a depth of 3" or more on all surfaces that are to be seeded. The addition of fertilizer is usually unnecessary for native grasses, and it can promote the growth of annual weeds.

Soil Preparation

A good seedbed is crucial to successful revegetation. Slopes should be graded to avoid concentrated water flow and subsequent erosion. If possible, any areas severely compacted by machinery and equipment during construction should be ripped by tractor or backhoe to loosen soils and allow for water infiltration and root growth. Clods larger than 3" should be broken, and any weeds controlled by tilling the soil.

Seeding

Seeding can take place from the fall until spring, including the winter months as long as the soil is workable. Many native seeds require a period of cold to germinate and are not harmed by being in the soil over winter. The best time window for seeding on the plains is November 1 to March 31. At higher elevations, seeding can be done later into the spring and early summer.

If possible, drill seeding will be the best seeding method. If the area is too small or steep for a tractor to operate, broadcasting the seed by hand or with a mechanical spreader is acceptable. Boulder County does not recommend hydroseeding; it does not work in our arid climate. In contrast, hydromulching after seeding is fine. Pay close attention to the recommended rates of seed application. Broadcast seed needs to be applied at double the rate of drilled seed. After broadcasting, seed needs to be raked in lightly by hand to provide better soil contact. Not all the seed needs to be buried; it is fine if some is still visible.

Mulch

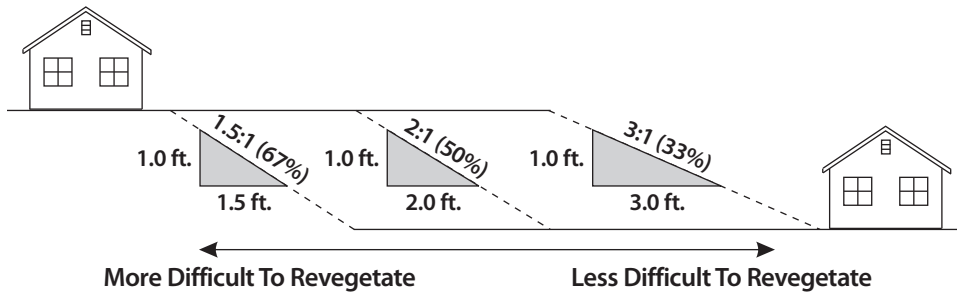
For steeper slopes, a mulch is necessary to keep the seed and topsoil in place. Mulch also provides shade to the seedlings and helps to retain soil moisture. On slopes of 3:1 or less, the mulch can be weed-free straw. The straw should be applied at 1.5 to 2 tons per acre. This is roughly one standard straw bale per 650 square feet. Do not mulch too thickly; some of the soil should still be visible to allow solar warming. If a tractor is available the straw can be "crimped" into the soil with a crimping tool. Crimping orients some of the straw vertically and keeps it in place, minimizing wind erosion. This can be simulated by hand using a shovel and jabbing the straw into the ground. Hydromulching is another option for larger areas. For small areas in the mountains, spreading pine needles over raked-in seed is acceptable.

Erosion Matting

Slopes steeper than 2:1 require erosion matting. Common types of matting include coir (coconut or jute fiber), straw, aspen fibers, or a blend of these. Steeper slopes will require more durable blankets. Talk to a vender about which product will work for your situation. When possible, specify biodegradable netting since this breaks down more quickly and is less of a hazard to wildlife.

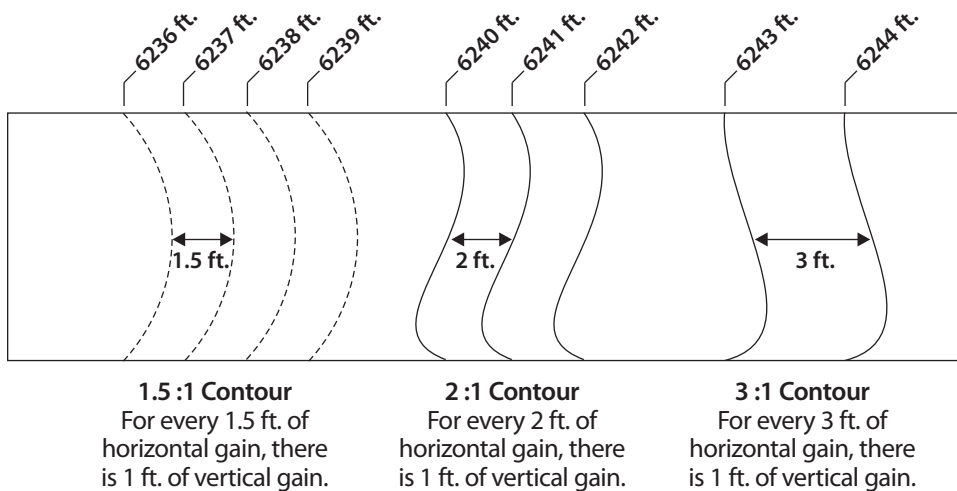
Determining Steepness of Grade

From Cross Sections:



From Topographic Contours:

The top numbers represent the elevation above sea level (starting with 6,236 feet). Intervals between contours represent the slope's steepness, in other words the closer the lines the steeper the slope. Contours can also be shown in 2 foot and 5 foot intervals.



Important Information on Grass and Rocky Terrain

The most common reason Final Inspections and Certificates of Occupancy are delayed by this office is because of insufficient progress of revegetation.

A common misconception is that establishing grass on a rocky, high-altitude site constitutes an alteration to the natural state of the land. Significant alteration to the ecosystem comes when trees, soil, and humus (even very thin layers of the latter two) are disturbed through construction. When this happens, something must be put in its place to prevent erosion and noxious weed infestation. Grass has the advantage of establishing quickly and is cheaper and less risky than trees and shrubs. Furthermore, in mountain ecosystems, grasses are commonly the first vegetation to establish and lead to the establishment of other plants.

Installation of Matting

Installation procedure:

1. Remove any material larger than 3" in diameter.
2. At the top of the slope, dig a trench the width of the blanket, about 6" deep. Fold over the edge of the blanket and secure in the trench with landscape staples. Place soil back into trench and compact.
3. Roll out matting downhill, keeping it straight and fairly tight but not so tight that it is lifted over any low spots. Fasten with landscape staples every 3' on the edges and across the middle. Follow manufacturer's directions if provided.
4. At the end of a roll of matting, dig another trench and fasten the end of the blanket as you did the top edge, including staples.
5. Overlap side-by-side blankets by 12" minimum, and staple.

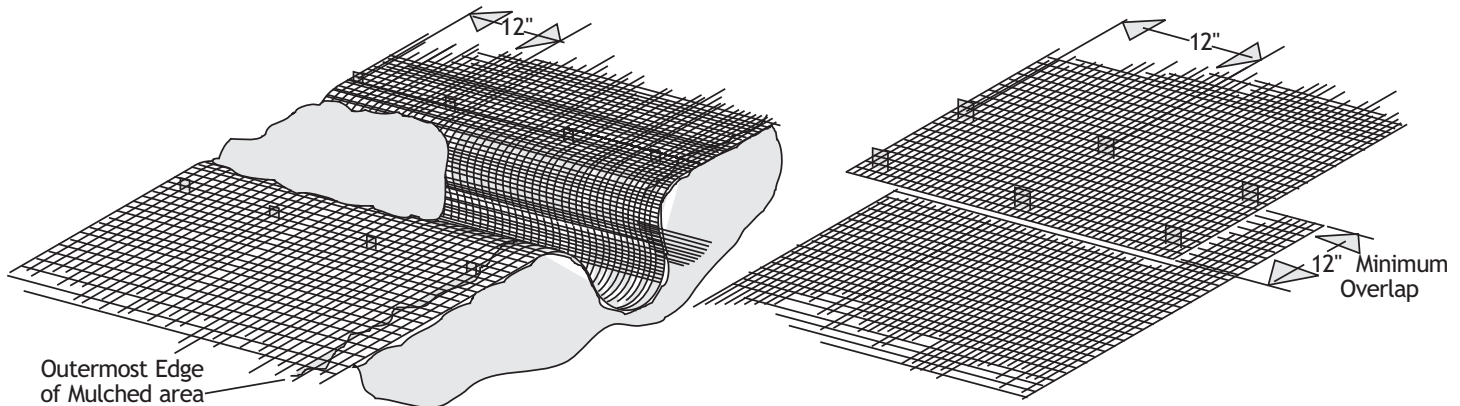


Diagram of Matting Installation.

- **Irrigation** – If you have seeded at the correct time of the year, and there is normal precipitation, then supplemental irrigation is not necessary. However, if it is a dry spring, irrigating seeds the first year will improve success.
- **Weeds** – Weeds will likely appear along with, or before, grass seedlings. There are weed seeds in the soil waiting for a disturbance that allows them to grow. If weeds are so thick that they are out-competing grasses, they can be mowed to a height of 8". Do not mow them close to the ground since this can harm the new grasses.
- **Time** – Be patient. Native grasses expend a lot of energy the first year in putting down roots. Because of this, the plants may look small after one year of growth. This is normal. It may take two growing seasons and good moisture before adequate results are seen.

Site Disturbance

The best Revegetation Plan is thoughtful about altering as little of the site as possible. Fewer disturbances translate into less time and money for revegetation. The foremost consideration in this regard is the selected project location on the site. Level building sites require less alteration to the topography. Also, it is helpful to show on the Revegetation Plan which areas are targeted for specific preservation (such as clarifying which trees will not be cut), and what measures will be taken to limit disturbances from construction (such as erecting construction fences to keep machinery away from sensitive areas).



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Suggested Native Plants for Horticultural Use on the Front Range of Colorado

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Suggested Native Plants for Horticultural Use on the Front Range of Colorado

Data Prepared by the Colorado Native Plant Society¹
Horticulture and Restoration Committee
PO Box 200 • Fort Collins • Colorado • 80522

Colorado has a wealth of native plants, colorful wildflowers, grasses, shrubs, and trees that are well adapted to our variable climate, soils, temperatures, and elevations. The Colorado Native Plant Society (CoNPS) recommends the use of native plants in landscaping, both because of their adaptability and because Colorado has a unique regional horticulture worth promoting and protecting. Native plants, especially local ecotypes, contain the "history" of the area in their genes and will survive that especially cold, wet spring or unusually hot, dry year. Local ecotypes, from near the area to be planted, will also maintain more "natural" sources of food for local wildlife and insect species. There are several display gardens on the Front Range that feature plants native to Colorado. Please check in your area and visit them for ideas.

Guidelines for Obtaining Native Species:

- Check with local nature centers or experts for recommendations.
- Buy from reputable nurseries. Ask about the origin of the seeds/plants you buy.
- Seed/plant gathering from public lands is typically prohibited (this includes the National Park Service). Special use permits are available from the US Forest Service.
- Read labels on "wildflower" mixes to verify they don't include noxious weed species. A complete list of the noxious weeds of Colorado can be found at www.colorado.gov.
- Ask for plants by their scientific name since common names may vary.

The species list that follows is primarily for landscaping along the Front Range, east of the Continental Divide. Included are recommended and generally available wildflowers, grasses, shrubs, and trees as well as some basic habitat information. For sources of container-grown plants, check Colorado nurseries.

A list of Colorado plant vendors can be found on the Colorado Native Plant Society web page: http://conps.org/horticulture_and_restoration.html. More natives are being grown all the time and as the demand increases, so will the supply. If you don't see something you want, ask for it.

The Colorado Native Plant Society's Horticulture and Restoration Committee welcomes additional information regarding the use of natives. Please send your comments to Horticulture and Restoration Committee, CoNPS, P.O. Box 200, Fort Collins, CO 80522. For more information, please visit our webpage at <http://conps.org>.

Retail Vendors of Native Seed for Boulder County

Arkansas Valley Seed 4333 Hwy. 66 Longmont, CO 80504 (877) 907-3337 www.avseeds.com	Pawnee Buttes Seed 605 25th St. Greeley, CO 80632 (800) 782-5947 www.pawneebuttesseed.com	Western Native Seed P.O. Box 188 Coaldale, CO 81222 (719) 942-3935 www.westernnativeseed.com
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Retail vendors excerpt updated: 2008

Suggested Wildflowers for the Front Range of Colorado

Common Name	Latin Name (Weber)	Preferred Environment	Life Zone	Comments
Aspen daisy (showy daisy)	<i>Erigeron speciosus</i>	Part sun, Dry/Moist	F, M	Abundant
Black-eyed Susan	<i>Rudbeckia hirta</i>	Part sun, Dry/Moist	F, M	Frequent in dry mountain meadows
Blanket flower	<i>Gaillardia aristata</i>	Sun, Dry	P, F, M	Verify source of commercial varieties, many are hybrids; common midsummer in lower montane
Blue flax	<i>Adenolinum (Linum) lewisii</i>	Sun, Dry	P, F	Watch for native, interbreeds freely
Blue vervain	<i>Verbena hastata</i>	Sun, Moist	P	Usually many spikes, available by seed
Broom snakeweed	<i>Gutierrezia sarothrae</i>	Sun, Dry	P, F	Flowers late summer
Bush sunflower	<i>Helianthus pumilus</i>	Sun, Dry	P, F	Perennial
Colorado columbine	<i>Aquilegia coerulea</i>	Sun/Shade, Moist	F, M, S	Colorado state flower
Fringed sage	<i>Artemisia frigida</i>	Dry	P, F, M	Woody perennial with fragrant, silver-gray foliage
Golden banner	<i>Thermopsis divaricarpa</i>	Part sun, Moist	F, M, S	Perennial, rhizomes
Goldenrod	<i>Solidago spp.</i>	Sun, Dry/Moist	P	Many and varied species
Greenleaf penstemon (blue mist)	<i>Penstemon virens</i>	Part sun, Dry	P, F, M, S	Forms dense clumps, available by seed
Harebell (bluebells)	<i>Campanula rotundifolia</i>	Part sun, Moist	F, M, S	Perennial
Lupine (silvery)	<i>Lupinus argenteus</i>	Sun, Dry/Moist	P, F, M, S	Abundant
Nelson's larkspur	<i>Delphinium nelsonii</i>	Sun, Dry	F, M	Perennial
One-sided penstemon	<i>Penstemon secundiflorus</i>	Part sun, Dry	P, F	Attractive light blue-green leaves
Prairie clover	<i>Dalea purpurea</i>	Sun, Dry	P, F	Perennial, blooms midsummer, available by seed
Prairie coneflower	<i>Ratibida columnifera</i>	Sun, Dry	P, F	Perennial
Prairie sage (sagewort)	<i>Artemisia ludoviciana</i>	Dry	P	Perennial, fragrant silvery-white/greenish foliage
Prickly pear cactus	<i>Opuntia macrorhiza (compressa)</i>	Sun, Dry	P	Sparse spines
Prickly pear cactus	<i>Opuntia polyacantha</i>	Sun, Dry	P	Very spiny
Pussytoes	<i>Antennaria parvifolia</i>	Dry	P, F, M, S	Perennial, forms large mats
Rocky Mountain beeplant	<i>Cleome serrulata</i>	Sun, Dry	P, F	Abundant, midsummer along roadsides
Rocky Mountain iris	<i>Iris missouriensis</i>	Part sun, Moist	F, M, S	Perennial
Scarlet globe mallow	<i>Sphaeralcea coccinea</i>	Sun, Dry	P, F	Perennial, rhizomes, drought tolerant
Showy milkweed	<i>Asclepias speciosa</i>	Sun, Moist	P, F	Common on roadsides, fields
Spiderwort	<i>Tradescantia occidentalis</i>	Sun, Dry/Moist	P, F	Perennial
Spiny goldenweed	<i>Machaeranthera pinnatifida</i>	Sun, Dry	F	Common perennial, available by seed
Spotted gayfeather (dotted gayfeather)	<i>Liatris punctata</i>	Sun, Dry	P, F	Perennial, flower late summer; available by seed

Suggested Wildflowers for the Front Range of Colorado

Common Name	Latin Name (Weber)	Preferred Environment	Life Zone	Comments
Sulphur flower	<i>Eriogonum umbellatum</i>	Sun, Dry	F, M	Floral bracts turn a rich russet color with age
Swamp milkweed	<i>Asclepias incarnata</i>	Sun, Moist	P, F	Available by seed
Tall beard-tongue	<i>Penstemon virgatus</i>	Part sun, Dry/Moist	F, M	Flowers numerous
Western wallflower	<i>Erysimum asperum</i> ; <i>E. capitatum</i>	Sun, Dry	P, F	Watch for native species; biennial or perennial; flowers late spring to early summer
Whipple's penstemon	<i>Penstemon whippleanus</i>	Part sun, Dry	M, S	Common in dry forests
White evening primrose	<i>Oenothera caespitosa</i>	Sun, Dry	P, F, M	Perennial, blooms in early evening
Wild bergamot (horsemint or beebalm)	<i>Monarda fistulosa</i>	Part sun, Dry/Moist	P, F	Large flowers; aromatic foliage
Wild geranium (pineywoods geranium)	<i>Geranium caespitosum</i>	Part sun, Moist	F	Perennial
Wild verbena	<i>Glandularia (Verbena) bipinnatifida</i>	Sun, Dry	P, F	Can grow taller with extra water
Yellow stemless evening primrose	<i>Oenothera howardii (brachycarpa)</i>	Sun, Dry	P	Perennial, blooms in early evening, common along Front Range

Suggested Native Grasses for Colorado

Common Name	Latin Name (Weber)	Preferred Environment	Life Zone	Comments
Alkali sacaton	<i>Sporobolus airoides</i>	Moist	P, F	Damp, alkaline
Big bluestem	<i>Andropogon gerardii</i>	Dry	P, F	Showy summer and fall
Blue grama	<i>Chondrosium gracile (Bouteloua gracilis)</i>	Dry	P, F, M	Prefers sandy or gravelly soils; State grass
Buffalograss	<i>Buchloe dactyloides</i>	Dry	P	Prefers full sun, tolerates clay
Canada wildrye	<i>Elymus canadensis</i>	Dry	P, F	Disturbed sites
Green needlegrass	<i>Stipa (Nassella) viridula</i>	Dry	P, F	Roadsides
Indian grass	<i>Sorghastrum avenaceum (nutans)</i>	Dry-moist	P, F	Prairies, bottomlands, open woods, meadows
Indian ricegrass	<i>Achnatherum (Orzyopsis) hymenoides</i>	Dry	P, F, M	Sandy plains, mesas
Junegrass	<i>Koeleria macrantha</i>	Dry	P, F, M	Prairies, open woods
Little bluestem	<i>Schizachyrium scoparium</i>	Dry	P, F, M	Prairies, open woods, dry hills; plants turn copper-red in fall
Mountain muhly	<i>Muhlenbergia montana</i>	Dry	F, M	Open woodlands, hillsides; may only be available by seed
Needle-and-thread	<i>Hesperostipa (Stipa) comata</i>	Dry	P, F, M	Plains, dry hills, sandy
New Mexico feathergrass	<i>Hesperostipa (Stipa) neomexicana</i>	Dry	P, F	Mesas, canyons, rocky slopes
Prairie cordgrass	<i>Spartina pectinata</i>	Moist	P, F	Marshes, wet meadows
Prairie dropseed	<i>Sporobolus heterolepis</i>	Dry	F	Pine forests
Prairie sandreed	<i>Calamovilfa longifolia</i>	Dry	P, F	Sandy prairies, hills; may only be available by seed

Suggested Native Grasses for Colorado

Common Name	Latin Name (Weber)	Preferred Environment	Life Zone	Comments
Sand dropseed	<i>Sporobolus cryptandrus</i>	Dry	P, F	Sandy or loam
Sandberg's bluegrass	<i>Poa secunda</i>	Dry	F, M	Meadows
Side-oats grama	<i>Bouteloua curtipendula</i>	Dry	P, F	Prairies, rocky hills
Slender wheatgrass	<i>Elymus trachycaulus</i>	Moist	M	Meadows
Switchgrass	<i>Panicum virgatum</i>	Dry-moist	P, F	Marshes, prairies, foothills
Thickspike wheatgrass	<i>Elymus lanceolatus</i>	Dry-moist	F, M	Rocky slopes
Tufted hairgrass	<i>Deschampsia cespitosa</i>	Moist	F, M	Wet meadows, streambanks
Western wheatgrass	<i>Pascopyrum (Agropyron) smithii</i>	Dry-moist	P, F, M	Adaptable to variety of habitats

Suggested Native Small/Medium Shrubs for the Front Range of Colorado

Common Name	Latin Name (Weber)	Preferred Environment	Life Zone	Comments
Antelope bitterbush	<i>Purshia tridentata</i>	South-facing slopes, dry well-drained soils	P, F	Attractive, birds eat the seeds
Boulder raspberry	<i>Oreobatus (Rubus) deliciosus</i>	Rocky ground, foothills and canyons	P, F, M	Attractive; wildlife eats the fruits
Buckbrush	<i>Ceanothus fendleri</i>	Open valleys, hillsides & woods; gravelly soil	P, F, M	Spiny
Common juniper	<i>Juniperus communis ssp. alpina</i>	Coniferous forest understory	P, F	Attractive, broad evergreen shrub
False indigo (leadplant)	<i>Amorpha fruticosa</i>	Streamsides	F	Attractive
Four-winged saltbush	<i>Atriplex canescens</i>	Alkali flats, grassy uplands, sandy soils	P, F	Birds eat the seeds
Golden currant	<i>Ribes aureum</i>	Plains to foothills, along roadsides and streams	P, F	Flowers sometimes have a clove scent
Kinnikinnick	<i>Arctostaphylos uva-ursi</i>	Semi-dry areas; needs acidic, well-drained soil	P, F	Attractive, waxy leaves and red berries; ground cover. Browsed by a wide variety of wildlife.
Mountain ninebark	<i>Physocarpus monogynus</i>	Rocky canyon sides, outer foothills	P, F, M	Attractive, showy flowers; birds eat the seeds
Narrow-leaf or plains yucca	<i>Yucca glauca</i>	Rocky areas, plains to foothills	P, F, M	Sharp foliage
Oregon-grape, holly-grape	<i>Mahonia repens</i>	Dry slopes	F, M	Holly-like leaves; attractive ground cover. Birds eat the fruits.
Rabbitbrush	<i>Chrysothamnus nauseosus</i>	Dry hills, plains to subalpine	P, F, M	Several subspecies of <i>C. nauseosus</i> are native to a wide variety of habitats
Rabbitbrush - dwarf blue	<i>Chrysothamnus nauseosus ssp. nauseosus</i>	Plains, foothill mesas	P, F, M	1-4 feet tall
Rabbitbrush - tall green	<i>Chrysothamnus nauseosus ssp. graveolens</i>	Plains; deep soils, arroyos	P, F, M	2-6 feet tall
Red-berried elder	<i>Sambucus microbotrys (racemosa)</i>	Along streams and moist slopes	F, M, S	Attractive dark green compound leaves and red berries

Suggested Native Small/Medium Shrubs for the Front Range of Colorado

Common Name	Latin Name (Weber)	Preferred Environment	Life Zone	Comments
Red osier dogwood	<i>Swida sericea</i> (<i>Cornus stolonifera</i>)	Streamsides and canyon bottoms	P, F, M	Attractive glossy leaves and red bark
Sand cherry	<i>Cerasus</i> (<i>Prunus</i>) <i>pumila</i> ssp. <i>besseyi</i>	Sandy or gravelly prairie hillsides	P, F	Purplish-black fruits are sweet and edible; Leaves turn reddish in fall
Shrubby cinquefoil	<i>Pentaphylloides floribunda</i> (<i>Potentilla fruticosa</i>)	Variety of habitats	F, M, S	Often cultivated as an ornamental
Snowberry	<i>Symphoricarpos occidentalis</i>	Plains, moist, open, grassy sites	P, F	Reddish stems, white berries
Thimbleberry	<i>Rubacer parviflorus</i>	Moist, shaded forests	F, M	Wildlife eats the fruits
Three-leaved sumac or skunkbrush	<i>Rhus aromatica</i> ssp. <i>trilobata</i>	Dry hillsides, canyons, valleys, and plains	P, F, M	Wildlife eats the red-yellow fruits
Twinberry honeysuckle	<i>Distegia</i> (<i>Lonicera</i>) <i>involuta</i>	Moist soils; forests, streamsides	F, M, S	Birds eat the fruits; hummingbirds attracted to the tubular flowers
Wax currant	<i>Ribes cereum</i>	Dry rocky open slopes; hills and ridges	P, F, M	Not spiny; wildlife eats the fruits
Waxflower	<i>Jamesia americana</i>	Cliffs and cliff bases	P, F, M	Aromatic
Wild rose or Wood's rose	<i>Rosa woodsii</i>	Streambanks, prairies, forest edges	P, F, M	Thorny; wildlife eat the fruits
Winterfat	<i>Krascheninnikovia</i> (<i>Ceratoides</i>) <i>lanata</i>	Sandy alkaline soils	P, F	Flower clusters become fluffy, resembling lambs' tails

Suggested Native Large Shrubs/Small Trees for the Front Range of Colorado

Common Name	Latin Name (Weber)	Preferred Environment	Life Zone	Comments
Box-elder	<i>Negundo aceroides</i> (<i>Acer negundo</i>)	Stream banks	P, F	Leaves yellow in fall
Chokecherry	<i>Padus</i> (<i>Prunus</i>) <i>virginiana</i> ssp. <i>melanocarpa</i>	Hillsides, gulches, canyons & streamsides	P, F, M	Red to purple fruits a favorite of bears
Netleaf hackberry	<i>Celtis reticulata</i>	Dry rocky hillsides and ravine banks	P, F	Birds eat the small reddish-brown fruits
Mountain-ash	<i>Sorbus scopulina</i>	Rocky canyons and ravines	F, M	Orange berries produced in fall
Mountain-mahogany	<i>Cercocarpus montanus</i>	Open rocky woods and stony soils	P, F	Sometimes evergreen
Rocky Mountain juniper	<i>Sabina</i> (<i>Juniperus</i>) <i>scopulorum</i>	Dry, rocky hillsides; also along streams	P, F, M	Birds eat the fruits
Rocky Mountain maple	<i>Acer glabrum</i>	Moist sites, streams, and canyons	F, M, S	Attractive red stems. Birds eat the seeds, buds, and flowers.
Serviceberry	<i>Amelanchier alnifolia</i>	Dry, rocky slopes to moist, fertile soils	F, M, S	Wildlife eat the foliage & fruits
Smooth sumac	<i>Rhus glabra</i>	Slopes and canyon sides	P, F	Similar to staghorn sumac (not native), but grows shorter and without velvety branches. Leaves turn crimson in autumn.

Suggested Native Large Shrubs/Small Trees for the Front Range of Colorado

Common Name	Latin Name (Weber)	Preferred Environment	Life Zone	Comments
Thinleaf alder	<i>Alnus incana</i> ssp. <i>tenuifolia</i>	Swampy ground or sandy soil; montane streambanks and pond borders	P, F, M	Female catkins are cone-like and persist through winter
Wild plum	<i>Prunus americana</i>	Gulches, outwash mesas; moist soil along streambanks	P, F, M	Often forms thickets; yellow to red fruits are edible

Suggested Native Large Trees for the Front Range of Colorado

Common Name	Latin Name (Weber)	Preferred Environment	Life Zone	Comments
Lanceleaf cottonwood	<i>Populus x. acuminata</i>	Streambanks and valleys	P, F	First generation sterile hybrid between <i>P. deltoides</i> and <i>P. angustifolia</i> ; leaf-shape is indicative of this cross
Narrowleaf cottonwood	<i>Populus angustifolia</i>	Streambanks and valleys	P, F	Long, narrow, willow-like leaves turn yellow in fall. Available as a graft onto <i>P. x acuminata</i> rootstock which should reduce suckering.
Plains cottonwood	<i>Populus deltoides</i> ssp. <i>monilifera</i>	Moist soils; floodplains, riparian areas and valley bottoms	P, F	Nursery stock should be male and therefore "cottonless"; broad leaves turn yellow-gold in fall
Ponderosa pine	<i>Pinus ponderosa</i> ssp. <i>scopulorum</i>	Variety of habitats — adaptable	P, F, M	Tall evergreen grows to 150'. Birds and small mammals eat the seeds.

Life Zones: P = Plains 4,000-6,000 ft.; F = Foothills 6,000-8,000 ft.; M = Montane 8,000-10,000 ft.; and S = Sub-alpine 10,000-11,500 ft. (or timberline).

Plant Species Not to Use in Gardening or Revegetation

Prepared by the Colorado Native Plant Society, Boulder Chapter.¹

Correspondence may be sent to: CONPS; P.O. Box 200; Fort Collins, CO 80522

The plants listed below are weedy, invasive species which threaten or potentially threaten natural areas, agricultural lands and gardens. A (*) by a plant name indicates that the species is considered a critical problem for habitat(s) in Colorado, and/or is well established as a habitat generalist. This is a preliminary list of species which have escaped from landscaping, reclamation projects and agricultural activity. All problem plants may not be included. If you are unsure about introducing a new plant into your garden or revegetation plans, maintain a conservative approach. Try to research a new plant thoroughly before using it, or omit it from your plans.

Forbs/Flowers Not to Use:

Common Name	Latin Name	Problem	Habitat
purple loosestrife* (morden's pink, rose queen, the rocket, purple spire, etc.)	<i>Lythrum salicaria</i>	Escapes gardens; displaces native vegetation; threatens cattail marshes and other wetlands	Wetlands; uplands (i.e., gardens)
Mediterranean sage	<i>Salvia aethiopis</i>	Escapes gardens; forms monoculture; outcompetes natives	Grasslands, pastures, meadows, range lands
myrtle spurge/Mercer's spurge	<i>Tithymalus myrsinites</i> (<i>Euphorbia myrsinites</i>)	Escapes gardens; displaces native vegetation; poisonous to touch (for some people) and if ingested	Plains, foothills
Cypress spurge	<i>Tithymalus cyparissias</i> (<i>Euphorbia cyparissias</i>)	Escapes gardens	Populated areas
dalmation toadflax *	<i>Linaria genistifolia</i> ssp. <i>dalmatica</i> (<i>Linaria dalmatica</i>)	Escapes gardens; displaces native vegetation; spreads easily from seed or stolon	Disturbed, open areas (roadsides, trails); plains, foothills, mountains
yellow toadflax/ butter & eggs*	<i>Linaria vulgaris</i>	Escapes gardens and displaces native vegetation	Like dalmation toadflax, but reaches higher elevations
ox-eye daisy	<i>Leucanthemum vulgare</i> (<i>Chrysanthemum leucanthemum</i>)	Escapes gardens; displaces native vegetation; well established	Habitat generalist: found from plains to alpine
perennial sweetpea	<i>Lathyrus latifolius</i>	Escapes gardens and displaces native vegetation	Common on urban fringes
dame's rocket/sweet rocket	<i>Hesperis matronalis</i>	Escapes gardens and displaces native vegetation	Riparian, wet meadows
soapwort/bouncing bet	<i>Saponaria officinalis</i>	Escapes gardens and displaces native vegetation	Roadsides, trails, homestead sites; mesas and foothills
bighead knapweed	<i>Grossheimia macrocephala</i> (<i>Centaurea macrocephala</i>)	Escapes gardens and displaces native vegetation	Plains, foothills, mountains
sulphur cinquefoil	<i>Potentilla recta</i>	Displaces native vegetation	Foothills
creeping/Denver bellflower	<i>Campanula rapunculoides</i>	Escapes gardens and displaces native vegetation	Foothills, plains, esp. shady places
St. Johnswort/Klamath weed	<i>Hypericum perforatum</i>	Displaces native vegetation; poisonous to some animals	Open areas in foothills
Japanese knotweed/ Japanese buckwheat	<i>Reynoutria japonica</i> (<i>Polygonum cuspidatum</i>)	Escapes gardens and displaces native vegetation	Populated areas at base of foothills
scentless chamomile	<i>Matricaria perforata</i>	Adventive; competes with native vegetation	Mountain roadsides, pastures, and town sites
sweet-clover (white and yellow)	<i>Melilorus alba</i> (<i>Melilotus officinalis</i>)	Reclamation escapee	Roadsides, trails
chicory	<i>Cichorium intybus</i>	Adventive; competes with native vegetation	Roadsides, trails, open areas

Forbs/Flowers Not to Use:

Common Name	Latin Name	Problem	Habitat
oriental virgin's bower	<i>Viticella orientalis (Clematis orientalis)</i>	Adventive; competes with native vegetation	Foothills, mountains
wild carrot/Queen Anne's lace	<i>Daucus carota</i>	Garden escapee; competes with native vegetation	Roadsides, plains, foothills

Grasses Not to Use:

Common Name	Species Name	Problem	Habitat
thread grass	<i>Stipa tenuifolia</i>	Becoming a popular xeriscape plant, volunteers readily; potential weed of the future	Foothills, grasslands
smooth brome	<i>Bromopsis inermis (Bromus inermis)</i>	Reclamation, pasture grass; competes with native vegetation via extensive underground roots	Plains, foothills, mountains
crested wheatgrass	<i>Agropyron cristatum</i>	Reclamation grass, persistent	Roadsides, trails
timothy	<i>Phleum pratense</i>	Pasture escapee; competes with native vegetation	Dry to wet, habitat generalist
orchardgrass	<i>Dactylis glomerata</i>	Pasture escapee; competes with native vegetation	Dry to wet, habitat generalist

Shrubs Not to Use:

Common Name	Species Name	Problem	Habitat
scotch broom	<i>Cytisus scoparius</i>	Escapes gardens and displaces native vegetation	A problem on the west coast of U.S.A.
glossy or alder buckthorn	<i>Frangula alnus (Rhamnus frangula)</i>	Garden escapee; competes with native vegetation	Riparian, plains, urban

Trees Not to Use:

Common Name	Species Name	Problem	Habitat
Russian-olive *	<i>Eleagnus angustifolia</i>	escapes and displaces native vegetation; seed commonly dispersed by birds	riparian corridors
tamarisk * (salt-cedar)	<i>Tamarix ramosissima</i>	escapes and displaces native vegetation; uses large amounts of water	riparian corridors
crack willow	<i>Salix fragilis</i>	originally cultivated along streams; established and displaces native willow, cottonwood, etc.	riparian corridors, plains, cultivated valleys
white willow	<i>Salix alba var. Vitellina</i>	originally cultivated along streams; established and displaces native willow, cottonwood, etc.	riparian corridors, plains, cultivated valleys

¹ Lists modified by Boulder County, 2008.



**Boulder
County**

**Boulder County
Land Use Department
Publications**

Native Seed Mixes

Land Use Department
Courthouse Annex Building
2045 13th Street
PO Box 471
Boulder, CO 80302

Planning Division:
Phone: 303-441-3930
Fax: 303-441-4856
Email: planner@bouldercounty.org
<http://www.bouldercounty.org/lu/>

Office Hours:
Monday — Friday 8:00 AM to 4:30 PM

Native Seed Mixes

Samples for Boulder County.

Plains Seed Mix

Below 5,500 Feet Elevation

Common Name	Species Name	Variety	% of Mix	#PLS/ Acre
Side Oats Grama	<i>Bouteloua curtipendula</i>	Vaughn	15%	2.74
Blue Grama	<i>Bouteloua gracilis</i>	Native, Alma, or Hachita	20%	0.84
Buffalograss	<i>Buchloe dactyloides</i>	Native	15%	9.33
Western Wheatgrass	<i>Pascopyrum smithii</i>	Arriba	12.5%	3.96
Western Wheatgrass	<i>Pascopyrum smithii</i>	Native	12.5%	3.96
Little Bluestem	<i>Schizachyrium scoparium</i>	Cimarron or Pastura	13%	1.74
Green Needlegrass	<i>Stipa viridula</i>	Lodorm or Native	12%	2.31
Totals:			100%	24.88

Foothills Seed Mix

5,500 Feet to 7,000 Feet Elevation

Common Name	Species Name	Variety	% of Mix	#PLS/ Acre
Side Oats Grama	<i>Bouteloua curtipendula</i>	Vaughn	10%	1.82
Blue Grama	<i>Bouteloua gracilis</i>	Native, Alma, or Hachita	15%	0.63
Slender Wheatgrass	<i>Elymus trachycaulus</i>	San Luis	20%	4.38
Junegrass	<i>Koeleria macrantha</i>	Native	10%	0.15
Western Wheatgrass	<i>Pascopyrum smithii</i>	Arriba	10%	3.17
Western Wheatgrass	<i>Pascopyrum smithii</i>	Native	10%	3.17
Switchgrass	<i>Panicum virgatum</i>	Blackwell or Nebraska 28	7%	0.63
Little Bluestem	<i>Schizachyrium scoparium</i>	Cimarron or Pastura	8%	1.07
Green Needlegrass	<i>Stipa viridula</i>	Lodorm or Native	10%	1.93
Totals:			100%	16.95

Mountain Seed Mix

7,000 Feet and Above Elevation

Common Name	Species Name	Variety	% of Mix	#PLS/ Acre
Blue Grama	<i>Bouteloua gracilis</i>	Native, Alma, or Hachita	20%	0.84
Canada Wildrye	<i>Elymus canadensis</i>	Native	10%	3.03
Thickspike Wheatgrass	<i>Elymus lanceolatus</i>	Critana	25%	5.58
Slender Wheatgrass	<i>Elymus trachycaulus</i>	San Luis	25%	5.48
Junegrass	<i>Koeleria macrantha</i>	Native	10%	0.15
Sandberg's Bluegrass	<i>Poa secunda</i>	Native	10%	0.38
Totals:			100%	15.46

Rates are for broadcast seeding. If using a seed drill, reduce rates by half.
PLS = Pure Live Seed.