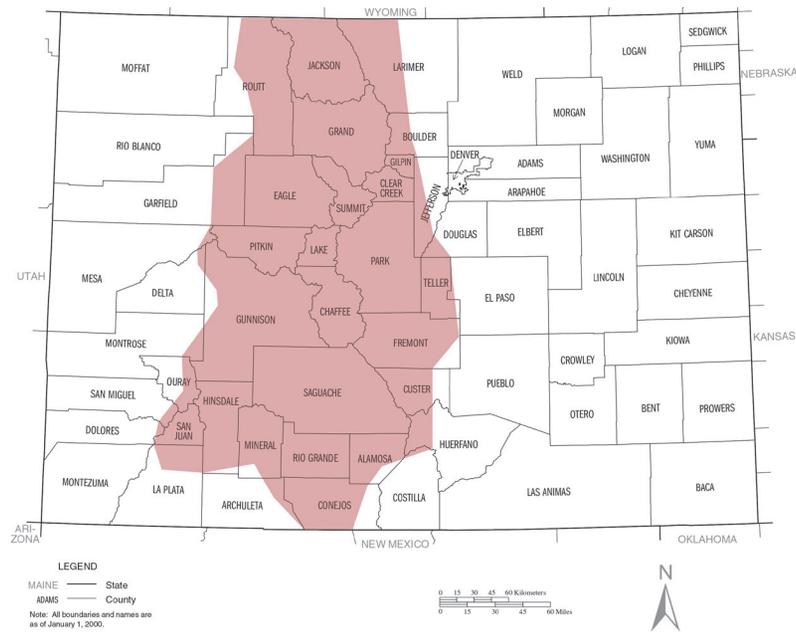


Low-Water Native Plants for Colorado Gardens: *Mountains 7,500' and Above*

Published by the Colorado Native Plant Society

Mountains 7,500' and Above Region



This range map is approximate. Please be familiar with your area to know which booklet is most appropriate for your landscape.

The Colorado native plant gardening guides cover these 5 regions:

- Plains/Prairie
- Front Range/Foothills
- Southeastern Colorado
- Mountains above 7,500 feet
- Lower Elevation Western Slope

This publication was written by the Colorado Native Plant Society Gardening Guide Committee: Irene Shonle, Director, CSU Extension, Gilpin County; Nick Daniel, Horticulturist, Denver Botanic Gardens; Deryn Davidson, Horticulture Agent, CSU Extension, Boulder County; Susan Crick, Front Range Chapter, Wild Ones; Jim Tolstrup, Executive Director, High Plains Environmental Center (HPEC); Jan Loechell Turner, Colorado Native Plant Society (CoNPS); Amy Yarger, Director of Horticulture, Butterfly Pavilion. Scientific names are from the *Flora of North America*.

Photo credits: Gardening Guide Committee members or otherwise listed.
Map: U.S. Census Bureau, Census 2000

Front Cover (Silvery Lupine) and **Back Cover** (Prairie Smoke) **Photos**© Jane Hendrix



Terrace Garden - Wallflowers and Blue Mist Penstemons
Photo by Irene Shonle

Introduction

This is one in a series of regional native planting guides that are a collaboration of the Colorado Native Plant Society, CSU Extension, Front Range Wild Ones, the High Plains Environmental Center, Butterfly Pavilion and the Denver Botanic Gardens.

Many people have an interest in landscaping with native plants, and the purpose of this booklet is to help people make the most successful choices. We have divided the state into 5 different regions that reflect different growing conditions and life zones. These are: the plains/prairie, Southeastern Colorado, the Front Range/foothills, the mountains above 7,500', and lower elevation Western Slope. Find the area that most closely resembles your proposed garden site for the best gardening recommendations.

Why Native?

There are many benefits to using Colorado native plants for home and commercial landscapes. They are naturally adapted to Colorado's climates, soils and environmental conditions. This means that by choosing native plants gardeners can work with nature, rather than trying to grow plants that are not suited to our local conditions and may prove to be difficult to work with.

When correctly sited, natives make ideal plants for a sustainable landscape. Native species require less external inputs such as water and fertilizer, and are more resistant to pests and disease when the planting site mimics the plant's native habitat. Landscape water use accounts for about 55 percent of the residential water used across the state of Colorado, most of which is used on turf. Planting less-thirsty natives could lessen the burden on our water systems.

Another great reason to go native is to restore habitat. Rapid urbanization in the state is reducing biodiversity (the number of different species found in a given area) as habitat is removed for building and road construction. Research has shown that landscaping with natives on a large or small scale, helps maintain biodiversity that otherwise would be lost to development. Thousands or millions of gardens planted with natives, even in urban areas can provide food, shelter and other important resources for wildlife, including mammals, birds and native pollinators.

Growing native plants does not exclude using adapted non-native plants. There are many non-native plants that are adapted to Colorado's climate and can be used in a native landscape as long as moisture, light and soil requirements are similar. Even if a site has a non-native landscape that requires additional inputs (such as an irrigated landscape on the plains), dry-land native plants can be used in non-irrigated pockets within the non-native landscape. These native "pocket gardens" can be located in areas such as median strips and next to hardscapes that are difficult to irrigate. Note that in years with less than normal rainfall, non-irrigated landscapes may suffer in appearance without supplemental water.

Gardening with native plants also prevents the introduction and spread of noxious weeds. Many noxious weeds were intentionally introduced as garden plants that belatedly were found to escape the confines of the garden and crowd out native plants.

Some communities regulate landscape appearance or the type of plants which may be used. Before initiating any new landscape design, check with local municipalities and/or homeowners' associations to discover any regulations that may affect your design.

Finally, using native plants in landscapes helps provide a special sense of place, celebrating Colorado's uniqueness and beauty, rather than a generic landscape. A garden with native plants feels more harmonious

with its surroundings than a landscape transplanted from another locale.

Native Plant Gardening in Colorado's Mountains

The mountain region is characterized by short growing seasons, cool nights, strong sunlight, and high winds. The soils tend to be low in organic matter, and often are formed from decomposed granite. They are usually very well-drained. Precipitation is typically higher in the mountains than in other areas of the state, which can make it easier to establish plants and will reduce water needs. Riparian areas and wetlands support a different suite of plants.



Betty Ford Alpine Gardens: Prairie Smoke and Redtwig Dogwood
Photo by Irene Shonle

Many mountain areas are covered with dense evergreens (lodgepole, spruce/fir). If nothing is already growing under the dense trees, it is probably because the trees are out-competing all other plants. If your goal is to plant herbaceous perennials, you may need to clear trees before planting, in order to reduce competition for light and shade.

Desirable wildlife include numerous butterflies, bumblebees, hummingbirds and songbirds. Deer, elk, moose, pocket gophers, voles, and rabbits are potential problems for gardens.

Culture and Maintenance

Soils

Colorado mountain soils, on average, are fairly low in organic matter. The good news is that native plants usually can be successfully grown in unamended soils. This is because natives do not require nutrient rich, high organic content soil, and can often become overgrown or short lived in such soils. To amend excessively well-drained sandy or rocky soils, add 3 percent compost by volume. It may be beneficial to test the soil before planting, especially on a larger project. Soil testing kits are available at your local CSU Extension office.

Maintenance

Native plants often do not need much maintenance; just the usual pruning of dead or diseased material, and cutting back perennials in the spring. Leaving seed heads on the plants in the fall will not only provide a feast for birds, and protect caterpillar eggs and chrysalises, but will increase plant hardiness and winter interest. Native plants typically do not require fertilizer. Some tasks, such as weeding and deadheading, require the same time investment for native plant gardens as for gardens with non-natives.

Watering

Plants will need to be watered for at least the first season, with the most critical time being the first three weeks after planting. Once they are established, water can be cut back gradually. After establishment, some natives can be taken off irrigation completely.

Place plants that have higher water needs nearer the house or other highly used areas. These plants can also be planted in swales (lower areas), or near downspouts for passive water harvesting.

Limiting/reclaiming turf areas

Although grass lawns are popular, they generally use more resources like water, fertilizers, pesticides, and maintenance (mowing) than a landscape of native plants. Lawns also provide no habitat for pollinators and birds. Native landscapes, on the other hand, are less resource intensive, provide habitat and provide more interest and color. Consider either limiting grass lawns to play, pet, or entertaining areas, or replacing lawns altogether if these spaces are not needed.

To reclaim a space formerly devoted to a lawn, spend some time eradicating all grasses and weeds. Grass is easier to kill when it is green

and actively growing in the spring or fall. There are a few options for this. One is to use a glyphosate-based herbicide, another is to cut out all the sod, and a third is to solarize the area. Solarization works best in the heat of the summer in full-sun areas.

Mow the area and remove the clippings, water, place clear plastic on top (burying the edges with soil) and leave it for 4-6 weeks. A final option is to sheet mulch. Cover the area with sheets of cardboard or 12 layers of newspapers. Overlap these materials at least 6 inches so no light penetrates and wet them down to keep them in place. Place 1 inch of compost on top of the barrier layer. Add at least 6 inches more of mulch or compost (grass clippings, straw or leaves). As these materials break down, they will create a rich humus layer while keeping weeds down. Allow at least 4-6 weeks.



This lawn is being smothered by layers of newspapers covered with several inches of mulch (created from a dead tree that was ground up). Photo by Jan Turner

Wildlife & Pollinators

Providing habitat for songbirds and pollinators is one of the great pleasures of gardening with native plants. To maximize habitat for pollinators, plant a diversity of plants, and aim to provide the longest possible season of bloom.



Butterfly on Rocky Mountain bee plant (*Cleome serrulata*). Photo by Jan Turner.

Many plants will provide nectar for adult insects, but consider the larval stage in planting too. Most native insects have specialized relationships with native plants, and require specific plants to grow from egg to adult. As an example, many butterflies will sip nectar from non-natives, but the eggs need to be laid on specific plants or the caterpillars won't recognize the plant as food.

Purchase pesticide-free plants. There has been recent concern that neonicotinoids are harmful to bees, so look for neonic-free plants.

Birds use native plants for food and shelter, but insects are an overlooked and crucial part of many bird's diets. Far more insects will develop on native plants than exotics, providing food for birds during the critical nesting season. Consider planting a 'thicket' of berry-producing shrubs. If planted in the direction of the prevailing wind, this thicket can also provide a space of calm air for butterflies.

Inventory Your Yard & Microclimates

For the best garden, spend some time in the planning stage. Identify where you would like to create a new bed, or replant an existing one. Inventory the areas in your yard for sun and shade, and for areas where



CSU Extension Gilpin County Garden in Blackhawk at 9,300'. Photo by Irene Shonle

moisture accumulates. Consider what areas have easiest access from the house, and if there are views you would like to enhance or block. All of these factors create what are known as *microclimates* or small, but potentially significant changes in the immediate environment that will affect your plants.

Knowing these ahead of time will help you make the most of your site and can guide your plant choices.

Design for Low Maintenance

Native plants can be used to accomplish just about any design style you're looking for using the elements and principles of good design: color, texture, balance, unity, variety, rhythm, line, form, scale. They can be used for anything from formal designs to the more informal naturalistic plantings that most people think of when they think native.

Choose species based on the soil, light and water conditions of your site and for the size, shape, texture, and color desired. For a more natural, successful and easily maintained landscape, group species

that grow together naturally and have the same cultural requirements. This will improve plant health and appearance and will minimize maintenance.

South-facing areas with reflected heat, will do best with dryland or desert plants. North-facing areas are cooler, moister and shadier, and will do better with forest-edge type plants. West-facing areas are more similar to south-facing, even if they only get a half day of sun, so this is a good spot for dryland, prairie, or chaparral plants. The east-facing side is usually the most benign, and can grow a wide variety of plants.

Plants that have higher water needs should be placed near the house for easier watering, or near downspouts or in low-lying areas where they will get extra water.

Be sure to be vigilant for weeds, especially in the first few years of planting, so they don't take over the desirable vegetation. Plant thickly enough that the plants become a living mulch.



Showy Goldeneye (in front of rock), Tansy Aster (*Dieteria bigelovii* syn. *Macheranthera bigelovii* and *Aster bigelovii*) behind the rock, Black-eyed Susan on either side of rock. Photo by Irene Shonle

Suggested Reading

- Busco*, Janice and Nancy Morin. 2010. *Native Plants for High Elevation Western Gardens*. Fulcrum Publishing.
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- "Gardening with Native Plants." 2016. Colorado Native Plant Society. <https://conps.org/gardening-with-native-plants/>
- Hayes*, Rhona Fleming. 2015. *Pollinator Friendly Gardening: Gardening for Bees, Butterflies and Other Pollinators*. Voyageur Press.
- Nold, Robert. 2008. *High and Dry: Gardening with Cold-Hardy Dryland Plants*. Timber Press.
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- Tallamy*, Douglas. 2009. *Bringing Nature Home*. Timber Press.
- Xerces Society*. 2011. *Attracting Native Pollinators*. Storey

*Items available from the CoNPS Store at the time this booklet was published are marked with an asterisk. Others may be out-of-print and can be obtained from Amazon or the public library.

Plant List

The plants for each of these guides were selected by experienced gardeners, with further input from members of the Colorado Native Plant Society. We aimed to choose plants that would be relatively easy to find in nurseries and seed catalogs. The scientific names are from Jennifer Ackerfield's *Flora of Colorado* (Britt Press, 2015); synonyms are in parentheses. For a listing of nurseries and seed companies that carry native plants, look for the "Native Plant Vendors" list on the Colorado Native Plant Society (CoNPS) website at <http://conps.org/gardening-with-native-plants/> or consider attending the native plant sales held by CoNPS. When you go to a nursery, be sure to have the scientific name with you to make sure you are purchasing the correct species. Don't forget to ask for pesticide-free plants so pollinators won't be harmed.

Colorado Native Plant Society Mission Statement

The Colorado Native Plant Society is dedicated to furthering the knowledge, appreciation and conservation of native plants and habitats of Colorado through education, stewardship and advocacy.

Visit CoNPS website at <http://www.conps.org>



Key to Chart

The chart on the following pages contains a list of plants, *listed alphabetically by scientific name (column 2 of the chart)*, that are native to Colorado and do well in high elevation gardens. The scientific names are from *Flora of Colorado* by Jennifer Ackerfield. Not all plants illustrated in this guide are listed in the chart, but the scientific names are given so you can find them in a nursery. If you have questions, contact CoNPS or one of the other organizations that collaborated to produce this guide.

frt/birds, wl = fruit for birds and wildlife

hp = host plant

hp/hm = host plant for hawk moth

np/bee, btf = nectar and pollen for bees and butterflies

np/bee, btf, o = nectar and pollen for bees, butterflies, and other pollinators

n/hb = nectar for hummingbirds

n/hm = nectar for hawkmoths

p/bees = pollen for bees

ss/birds = seeds and shelter for birds

s/birds = seeds for birds

Bloom Time:

spring = SP

summer = S

fall = F

Common Name	Scientific Name	Mature Size		Water	Exposure	Flower Color	Bloom Time	Wildlife Value
GROUNDCOVERS								
Pussytoes	<i>Antennaria</i> spp.	6" x 18"		low	sun/part shade	cream/pink	SP-S	np/bee, btf, o
Kinnikinnick	<i>Arctostaphylos uva-ursi</i>	12" x 24"		low	sun/ part shade	pink	SP-S	np/bee, btf; frt/birds, wl
Sulfur Buckwheat	<i>Eriogonum umbellatum</i>	10" x 12"		low	sun/part shade	yellow	S	np/bee, btf
PERENNIALS								
Common Yarrow	<i>Achillea millefolium (lantana)</i>	18" x 18"		low-med	sun	white	S	np/bee, btf, o
Pearly Everlasting	<i>Anaphalis margaritacea</i>	18" x 18"		low	sun	white	S	np/bee, btf, o
Rocky Mountain Columbine	<i>Aquilegia caerulea</i>	24" x 12"		med	sun/part shade	blue	S	np/bee, btf; n/hummb
Harebell	<i>Campanula rotundifolia</i>	8" x 15"		low	sun/part shade	purple	S	np/bee
Scott's Sugarbowls	<i>Clematis scottii (hirsutissima var. scottii)</i>	12" x 18"		low	sun/part shade	purple	SP-S	np/bee, btf
Rocky Mountain Bee Plant (Annual)	<i>Cleome (Peritoma) serrulata</i>	3-6' x 3-6'		low	sun	pale purple	S	np/bee, btf; n/hummb
Showy Fleabane	<i>Erigeron speciosus</i>	18" x 12"		low	sun/part shade	lavender/blue	S	np/bee, btf, o
Wallflower	<i>Erysimum capitatum</i>	18" x 18"		low	sun/part shade	yellow/orange	S	np/bee, btf
Blanketflower	<i>Gaillardia aristata</i>	12" x 12"		med	sun	yellow/red	S-F	np/bee, btf
Richardson's Geranium	<i>Geranium richardsonii</i>	12" x 12"		med	sun/part shade	white		
Sticky Geranium	<i>Geranium viscosissimum</i>	12" x 18"		med	sun/part shade	pink/rose	S-F	np/bee, btf, o
Prairie Smoke	<i>Geum triflorum</i>	6" x 12"		med	sun/part shade	cream/pink	S	np/bee, btf, o
Sneezeweed	<i>Helenium (Hymonoxys) hoopesii</i>	24" x 18"		med	sun/part shade	yellow/orange	S	np/bee, btf
Showy Goldeneye	<i>Heliomeris (Viguera) multiflora</i>	48" x 48"		low	sun	yellow	S	np/bee, btf
Scarlet Gilia	<i>Ipomopsis aggregata</i>	12" x 12"		low	sun/part shade	red/pink	S-F	n/hummb
Silvery Lupine	<i>Lupinus argenteus</i>	24" x 12"		low	sun	purple/white	S	np/bee, btf, o
Bee Balm/Horsemint	<i>Monarda fistulosa</i>	24" x 24"		low-med	sun/part shade	pink/lavender	S	np/bee, btf; n/hummb
Showy Locoweed	<i>Oxytropis lambertii</i>	12" x 12"		low	sun	pink	S	np/bee, btf
Rocky Mountain Penstemon	<i>Penstemon strictus</i>	30" x 24"		low	sun/part shade	blue/purple	S	np/bee, btf; n/hummb
Blue Mist Penstemon	<i>Penstemon virens</i>	12" x 12"		low	sun/part shade	blue/purple	SP-S	np/bee, btf; n/hummb
Whipple's Penstemon	<i>Penstemon whippleanus</i>	24" x 12"		low-med	sun/part shade	wine purple	S	np/bee, btf; n/hummb
Silky Phacelia	<i>Phacelia sericea</i>	16" x 12"		low	sun	purple	S	np/bee, btf; n/hummb
Jacob's Ladder	<i>Polemonium viscosissimum</i>	18" x 12"		med	sun/part shade	blue	S	np/bee, btf
Pasque Flower	<i>Pulsatilla (Anemone) patens</i>	6" x 6"		low	sun	lavender	SP-S	np/bee
Black-eyed Susan	<i>Rudbeckia hirta</i>	24" x 12"		low	sun/part shade	yellow	S	np/bee, btf; s/birds
Golden Banner	<i>Thermopsis divaricarpa</i>	18" x 24"		low	sun/part shade	yellow	S	np/bee, btf

Common Name	Scientific Name	Mature Size		Water	Exposure	Flower Color	Bloom Time	Wildlife Value
GRASSES								
Indian Ricegrass	<i>Achnatherum (Oryzopsis) hymenoides</i>	24" x 12"		low	sun		S	s/birds
Junegrass	<i>Koeleria macrantha</i>	18" x 18"		low	sun		SP	s/birds
SHRUBS								
Western Serviceberry	<i>Amelanchier alnifolia</i>	12' x 6'		low-med	sun/part shade	white	SP	frt/birds
Redtwig Dogwood	<i>Cornus sericea</i>	5' x 5'		med-high	sun/part shade	white	S	np/bee, btf, o
Mountain Spray	<i>Holodiscus dumosus</i>	7' x 3'		low	part shade	pink/white	S	np/bee, btf
Shrubby Cinquefoil	<i>Potentilla fruticosa</i>	3' x 3'		low	sun	yellow	S-F	np/bee, btf, o
Chokecherry	<i>Prunus virginiana</i>	15' x 8'		low	sun/part shade	white	SP	np/bee, btf; frt/birds, wl
Golden Currant	<i>Ribes aureum (Ribes odoratum)</i>	5' x 4'		low	sun/part shade	yellow	SP	np/bee, btf; frt/birds
Wax Currant	<i>Ribes cereum</i>	4' x 3'		low	sun/part shade	pink/white	SP	np/bee, btf; frt/birds
Western Wild Rose	<i>Rosa woodsii</i>	3' x 4'		low-med	sun/part shade	pink	SP-S	np/bees; frt/birds
Boulder Raspberry	<i>Rubus (Oreobatus) deliciosus</i>	4' x 4'		low	sun/part shade	white	S	np/bee, btf/frt/birds
TREES								
Colorado Blue Spruce	<i>Picea pungens</i>	45' x 15'		med-high	sun/part shade			seeds/birds, wl
Quaking Aspen	<i>Populus tremuloides</i>	60' x 25'		med	sun			shelter/birds

CSU Extension, Gilpin County Garden in Blackhawk at 9,300'



Blanketflower,
Rocky Mountain
Penstemon, Sticky
Geranium, Shrubby
Cinquefoil
Photo by Irene
Shonle



Hummingbird and
Rocky Mountain
Bee Plant
Photo by Charlie
Turner



Rocky Mountain
Bee Plant, Black-
Eyed Susan,
Blanketflower
Photo by Irene
Shonle

Landscape Design #1

This garden is designed to provide season-long nectar sources for native bees and butterflies, as well as a summer of beauty for the gardener. Placing the shrubs in the direction of the prevailing wind will provide a natural windbreak, which is especially important for butterflies. *Garden design by Irene Shonle*



1. Chokecherry
Prunus virginiana



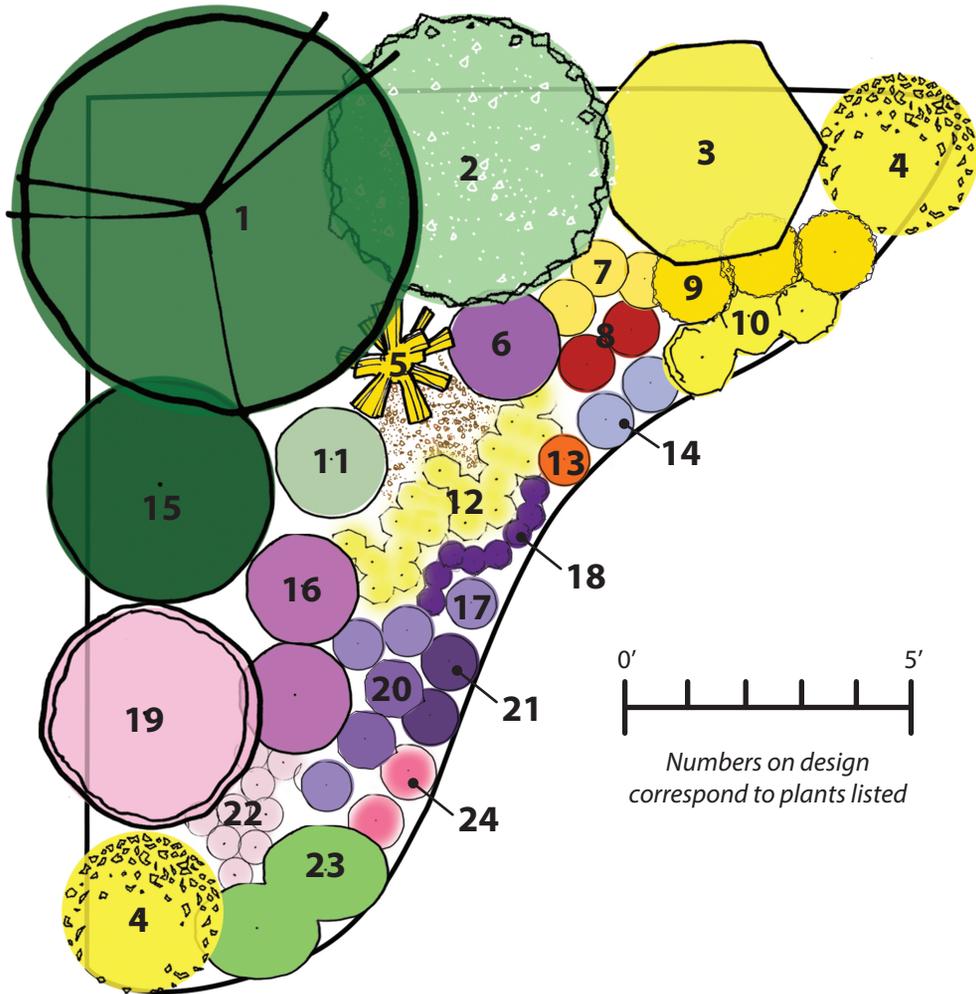
2. Mountain Spray
Holodiscus dumosus



3. Golden Currant
Ribes aureum



4. Shrubby Cinquefoil
Potentilla fruticosa



5. Sneezeweed
Hymenoxys hoopesii



6. Silvery Lupine
Lupinus argenteus



7. Black-Eyed Susan
Rudbeckia hirta



8. Blanketflower
Gaillardia aristata



9. Showy Goldeneye
Heliomeris multiflora



10. Golden Banner
Thermopsis divaricarpa



11. Pearly Everlasting
Anaphalis margaritacea



12. Sulphur Buckwheat
Eriogonum umbellatum



13. Wallflower
Erysimum capitatum



14. Blue Mist Penstemon
Penstemon virens



15. Boulder Raspberry
Rubus deliciosus



16. Beebalm
Monarda fistulosa



17. Harebell
Campanula rotundifolia



18. Pasque flower
Pulsatilla patens



19. Wild Rose
Rosa woodsii



20. Scott's Sugarbowl
Clematis scottii



21. Silky Phacelia
Phacelia sericea



22. Showy Fleabane
Erigeron speciosus



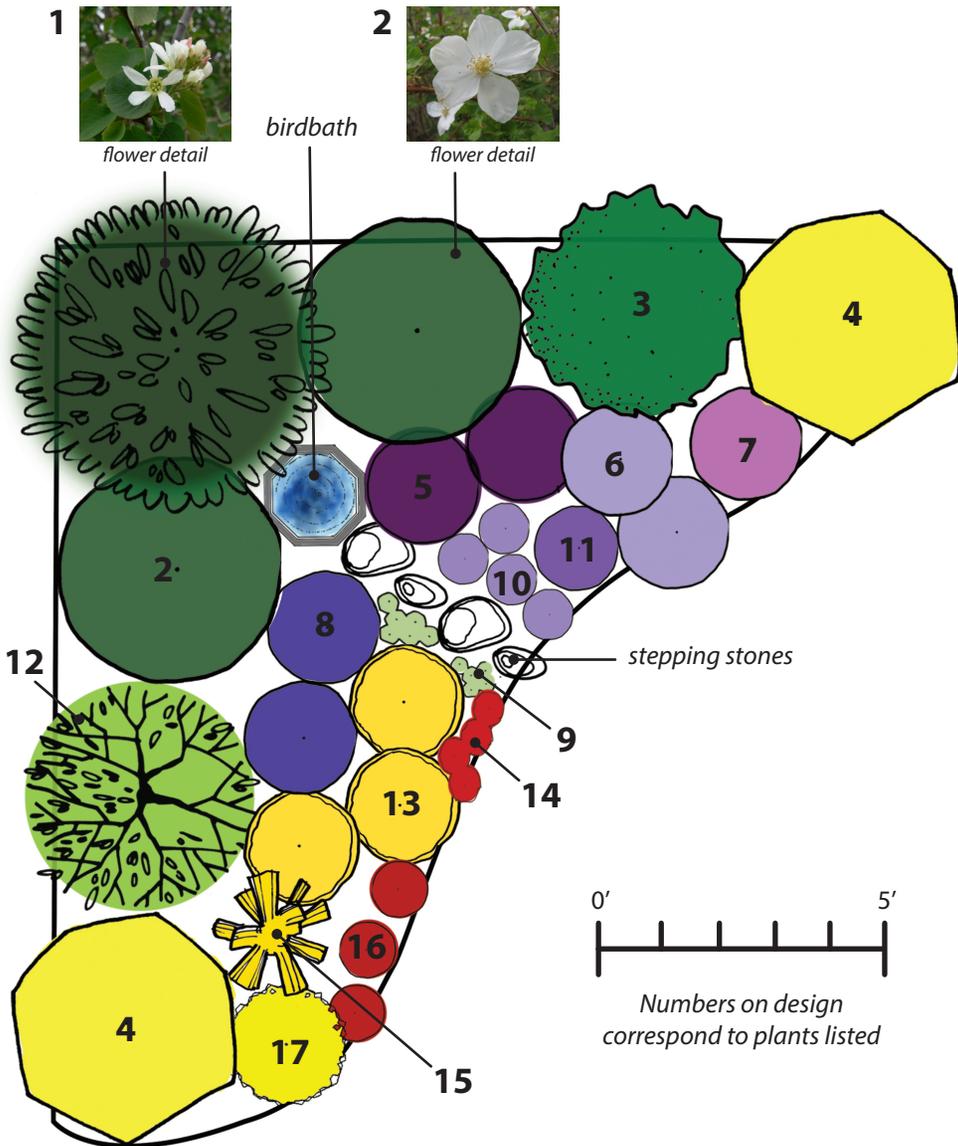
23. Common Yarrow
Achillea millefolium



24. Prairie Smoke
Geum triflorum

Landscape Design #2

This garden is anchored by shrubs that will produce berries for songbirds and early nectar for hummingbirds. The Boulder raspberry and red-twig dogwood also provide winter interest. Placing the shrubs in the direction of the prevailing wind will provide a natural windbreak. The flowering perennials have been selected for color and to attract hummingbirds during the summer or provide seeds for seed-eating birds in the fall. Garden design by Irene Shonle.



1. Western Serviceberry
Amelanchier alnifolia



2. Boulder Raspberry
Rubus deliciosus



3. Wax Currant
Ribes cereum



4. Golden Currant
Ribes aureum



5. Whipples Penstemon
Penstemon whippleanus



6. Rky Mtn Columbine
Aquilegia caerulea



7. Beebalm
Monarda fistulosa



8. Rky Mtn Penstemon
Penstemon strictus



9. Pussytoes
Antennaria spp.



10. Harebell
Campanula rotundifolia



11. Silvery Lupine
Lupinus argenteus



12. Redtwig Dogwood
Cornus sericea



13. Black-Eyed Susan
Rudbeckia hirta



14. Scarlet Gilia
Ipomopsis aggregata



15. Sneezeweed
Hymenoxys hoopesii



16. Blanketflower
Gaillardia aristata



17. Showy Goldeneye
Heliomeris multiflora

PHOTO GALLERY OF LANDSCAPE IDEAS

Jane & Klaus Hendrix's Garden in Breckenridge at 10,000'

Photos by Jane Hendrix

Silvery Lupine and Paintbrush (the red *Castilleja miniata* and pale yellow *Castilleja sulphurea*) are plentiful in Klaus's wildflower garden, which is part of Mountain View Experimental Gardens (the Hendrix's personal gardens at home). Cookie, a local fox, enjoys visiting the wildflower garden.



Helpful hint from Jane: "Gardeners who want to employ Colorado native species in their gardens should be made aware that not all native wildflowers are suitable for a garden with defined borders. We have a lot of rhizomatous species that are beautiful in bloom but will run rampant in a confined garden and overrun shorter species with taproots or a non-spreading root system. After finding this out the hard way, I now always test a new species in a "semi-wild" area before deciding whether to place it in one of my rock gardens."



Irene Shonle's Yard in Rollinsville at 8,700'

Photos by Irene Shonle



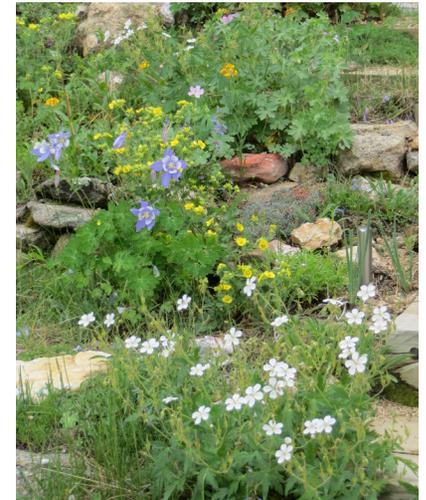
Boulder Raspberry



Sneezeweed



Rocky Mountain Penstemon
and Big Sagebrush



Geranium and Rocky Mountain
Columbine



Junegrass and Sneezeweed

Notes

Notes



DENVER BOTANIC
GARDENS



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