

Rocky Mountains



# *Native Plant* GARDENING FOR BIRDS, BEES & BUTTERFLIES



George Oxford Miller

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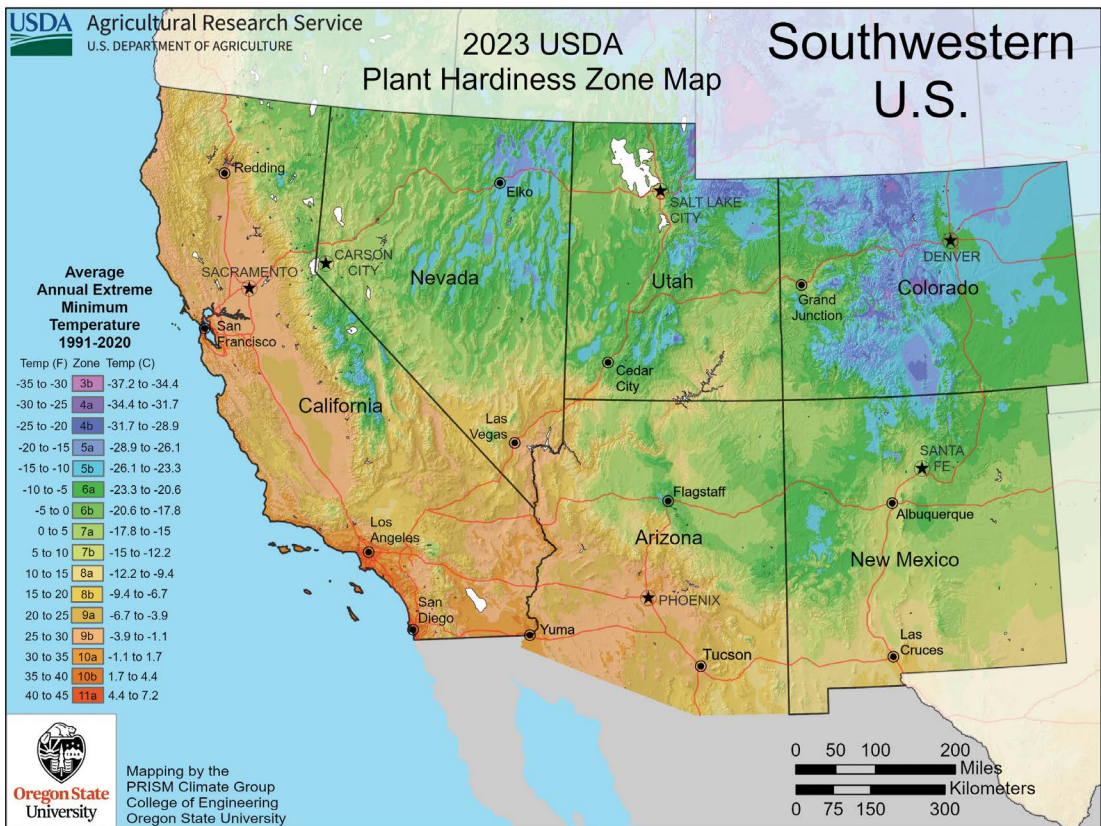
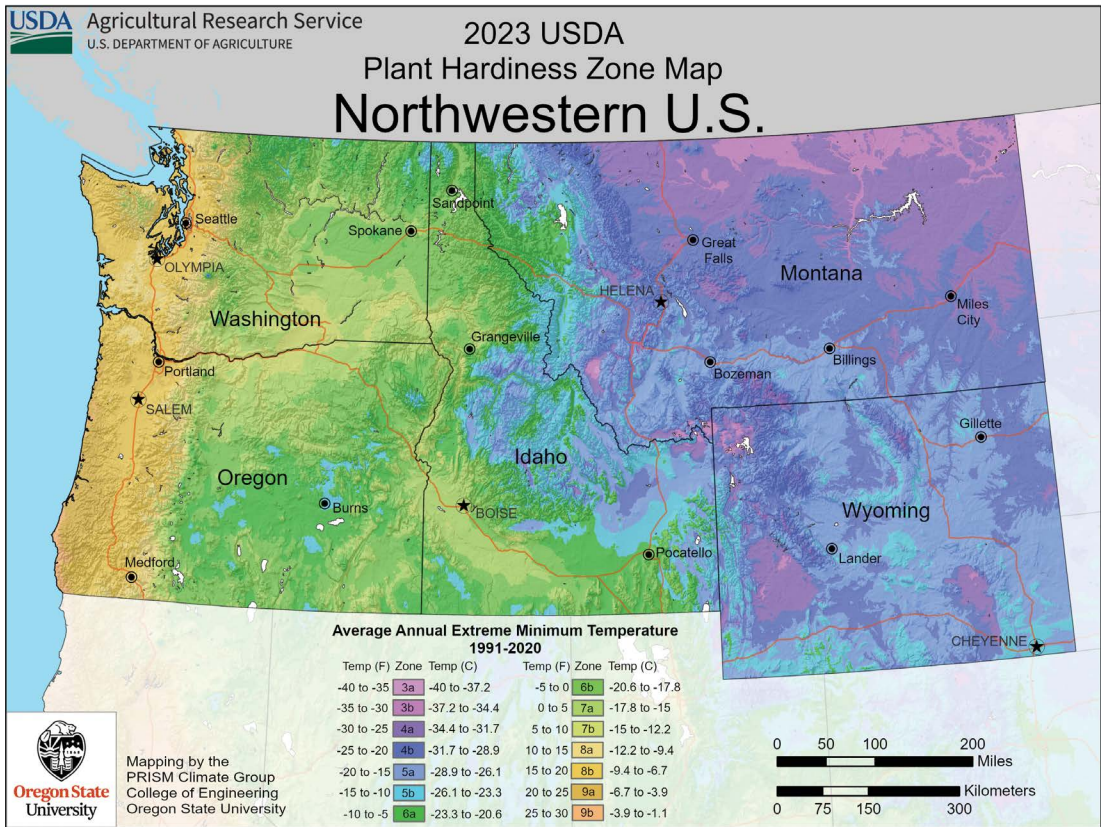
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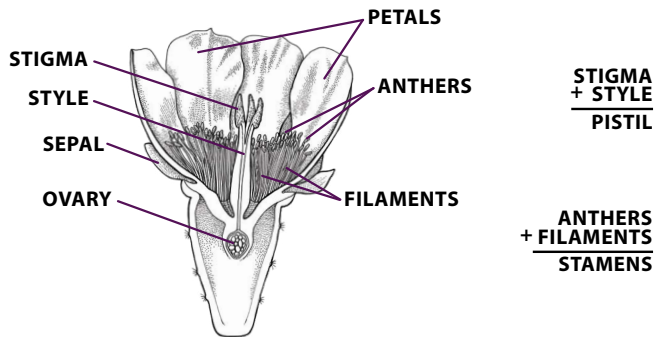




Credit: *USDA Plant Hardiness Zone Map for Northwestern US and Southwestern US, 2023*. Agricultural Research Service, US Department of Agriculture. Accessed from [planthardiness.ars.usda.gov](http://planthardiness.ars.usda.gov).

# The Basics of Plant Anatomy

## PARTS OF A FLOWER



Flower anatomy has diverged radically among plant species to attract a diversity of pollinators with the twin rewards of protein-rich pollen and energy-rich nectar. From thorny cacti to flamboyant lupines, sunflowers, and penstemons, the various parts of a plant are basically the same. Yet plants have modified and perfected every anatomical feature to not only attract pollinators but also survive in the most hostile of environments.

Flowers serve one obvious purpose: to produce seeds for the continued survival of the plant. Many trees, grasses, and weedy plants eschew dependence on animal pollinators and produce nondescript flowers that scatter copious amounts of pollen to the winds. The windborne misery of hay fever victims creates a booming industry for allergy doctors and medication. Conversely, the beauty of a colorful flower inspires poetry, romance, and a wonder for the majesty of nature.

## FLOWERS

The taxonomy of a flower defines the plant's species, groups it in a genus of similar plants, and assigns it to a family with broadly related features. The flower itself is a collection of modified leaves. Leaflike bracts grow on the stem beneath the flower. They are typically green, but some flowers, like paintbrushes, have bracts that are showier than the petals. **Sepals** surround and protect the bud and clasp the bottom of the flower. **Petals** are usually the showy feature and are colored and marked to attract specific pollinators. They may spread open widely or be united to form a narrow tube that opens with lobes. **Stamens**, the male feature, are thin filaments topped with pollen-covered **anthers**. The **pistil**, the female feature, consists of a tubular style, containing the ovaries, topped with a **stigma** with lobes that receive the pollen. The shape of the stamen and stigma are often highly specialized to fit certain pollinators.

## FLOWER CLUSTERS

To increase pollination efficiency, flowers make gathering pollen and nectar as efficient as possible for the pollinator. Flying from flower to flower takes considerable energy, so plants with single flowers on a stem, especially annuals, are often synchronized to bloom



# Rocky Mountain Plants at a Glance

	COMMON NAME	SCIENTIFIC NAME	ROCKY MOUNTAIN HARDINESS ZONES
<b>TREES</b>			
	<b>Colorado Blue Spruce</b> pg. 41	<i>Picea pungens</i>	2a–8a
	<b>Gambel's Oak</b> pg. 43	<i>Quercus gambelii</i>	4a–7b
	<b>Pinyon Pine</b> pg. 45	<i>Pinus edulis</i>	5a–7b
	<b>Ponderosa Pine</b> pg. 47	<i>Pinus ponderosa</i>	3a–7b
	<b>Quaking Aspen</b> pg. 49	<i>Populus tremuloides</i>	1a–6b
	<b>Rocky Mountain Maple</b> pg. 51	<i>Acer glabrum</i>	4a–8b
<b>SHRUBS</b>			
	<b>Alderleaf Mountain Mahogany</b> , pg. 55	<i>Cercocarpus montanus</i>	5a–9b
	<b>Antelope Bitterbush</b> pg. 57	<i>Purshia tridentata</i> var. <i>tridentata</i>	5b–10a
	<b>Blue Elderberry</b> pg. 59	<i>Sambucus nigra</i> ssp. <i>cerulea</i>	6a–10b
	<b>Chokecherry</b> pg. 61	<i>Prunus virginiana</i>	5a–10b
	<b>Ciffbush</b> pg. 63	<i>Jamesia americana</i>	3a–8b
	<b>Cliff Fendlerbush</b> pg. 65	<i>Fendlera rupicola</i>	4a–7b
	<b>Common Snowberry</b> pg. 67	<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	5a–9b
	<b>Fragrant Sumac</b> pg. 69	<i>Rhus aromatica</i> ( <i>tribolata</i> )	5a–10b
	<b>Golden Currant</b> pg. 71	<i>Ribes aureum</i>	5a–10b; cold hardy to -38°F
	<b>Gooseberry Currant</b> pg. 73	<i>Ribes montigenum</i>	4a–7a
	<b>Leadplant</b> pg. 75	<i>Amorpha canescens</i>	4a–7b



Rocky Mountain Maple

# Trees



Colorado Blue Spruce



Pinyon Pine





**Quaking Aspen**

Forests in the Rocky Mountains vary from foothill woodlands to mid-elevation montane forests to high-altitude subalpine forests. A large canopy tree requires 35 or more inches of annual precipitation. Many smaller trees favor riparian habitats with dependable water, while others thrive in the arid foothills. Many yards can easily duplicate these natural conditions with roof runoff or drip irrigation. Several small trees will provide food and shelter for birds and insect pollinators and host plants for butterflies and moths.



**Gambel's Oak**









# Colorado Blue Spruce

**Scientific Name** *Picea pungens*

**Family** Pine (Pinaceae)

**Plant Characteristics** Evergreen pyramidal conifer reaching 10–40 feet tall in landscapes; leaves short, needlelike, blue-green; flowers wind-pollinated catkins; fruit slender cones. Deer, rabbit resistant.

**USDA Hardiness Zones** 2a–8a

**Bloom Period** Spring (April–May)

**Growing Conditions** Full sun to partial shade; rich, well-draining, regularly moist soil.

With its classic pyramidal shape and ornate blue-green foliage, Colorado blue spruce is one of the most beloved landscape trees of the Rocky Mountain region, and far beyond. More than 35 cultivars of varying size and colors ideal for specimen, screen, and windbreak plantings have been developed. But more than a landscape standout, it's an important all-around habitat tree. As a wind-pollinated conifer, it doesn't produce nectar to attract pollinators, but it is an important shelter tree. Most birds avoid perching in the open to evade predators, so they huddle in the shade and shelter of leafy shrubs and trees. A shelter tree near a bird feeder will significantly increase chickadee, goldfinch, kinglet, junco, and sparrow activity. Insects also seek shelter in trees. Caterpillars and pupating larva hide in the bark, leaves, and leaf litter, which supplies a major food source for birds, both while nesting and throughout the winter. Native to montane and subalpine forests, blue spruce typically needs extra water or the top 2 inches of soil will dry out.

*Seed and shelter for birds, squirrels, and small mammals; larval host for up to 25 likely moth species fed upon by birds.*









# Gambel's Oak

**Scientific Name** *Quercus gambelii*

**Family** Beech (Fagaceae)

**Plant Characteristics** Deciduous, multi-trunked, thicket-forming shrub to small tree 12–25 feet tall; leaves deeply lobed, 2–7 inches long, turn red to yellow in fall; flowers wind-pollinated catkins 1½ inches long; acorns ¾ inch long. Foliage browsed by deer, rabbits.

**USDA Hardiness Zones** 4a–7b

**Bloom Period** Spring (March–April)

**Growing Conditions** Full sun; well-draining soil, drought tolerant once established.

Native to foothills into montane forests, this oak covers dry, fire-damaged slopes with dense thickets of head-high shrubby growth. With moderate water, like a garden setting, it develops into a handsome tree with a rounded crown. As a midsize specimen planting, Gambel's oak adds a dramatic accent to a front or backyard area. It provides summer shade and shelter for birds and butterflies, a crop of acorns for turkeys and other birds and many mammals, as well as caterpillars on the leaves and pupae in the furrowed bark that become bird food. Moth caterpillars on oaks are tremendously important as food for nestling songbirds. Prune young oaks to create a single trunk and rounded canopy, or let the root shoots spread into a bushy screen that presents a wall of brilliant fall colors. For a mixed woodland setting, pair with serviceberry, chokecherry, and snowberry.

*Provides food, shelter, and nesting sites for birds; food for squirrels, chipmunks, and many small mammals; larval host for many moth species.*





Leadplant



Blue Elderberry

# Shrubs



Shrubby Cinquefoil



Smooth Sumac

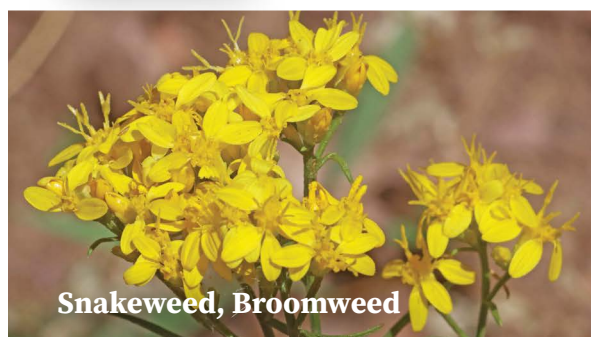


Common Snowberry



A close-up photograph of a cluster of small, white, five-petaled flowers with prominent yellow stamens, identified as Chokecherry.

**Chokecherry**

A close-up photograph of a cluster of small, bright yellow, five-petaled flowers with prominent yellow stamens, identified as Snakeweed or Broomweed.

**Snakeweed, Broomweed**

A close-up photograph of a single, large, pink, five-petaled flower with a prominent yellow center, identified as Woods' Rose.

**Woods' Rose**

As one of the dominant plant types of most mountain ecosystems, shrubs should be a must for your pollinator garden. As woody perennials, they burst into bloom when the soil warms early in the spring. Shrubs provide early-season pollen and nectar for emerging insects, host plants for butterfly and moth larvae, and shelter and fruit for birds. As a bonus, many bloom off and on for three seasons, especially with periodic irrigation.

A close-up photograph of several large, pink, five-petaled flowers with prominent yellow stamens, identified as Gooseberry Currant.

**Gooseberry Currant**

A photograph of a dense, bushy plant covered in numerous small, bright yellow flowers, identified as Rubber Rabbitbush.

**Rubber Rabbitbush**









# Golden Currant

**Scientific Name** *Ribes aureum*

**Family** Gooseberry (Grossulariaceae)

**Plant Characteristics** Winter deciduous shrub  
3–6 feet tall and wide with multiple, thornless stems from base; leaves pale-green, rounded with 3 lobes; flowers yellow, tubular, clustered in leaf axils along branches; berries red, orange, or black. Deer resistant.

**USDA Hardiness Zones** 5a–10b; cold hardy to -38° F.

**Bloom Period** April–June

**Growing Conditions** Full sun to part shade; fine-to-coarse, loamy, well-draining soil; water 1–2x/month in summer.

With fragrant, golden-yellow, early spring flowers and abundant summer berries, this plant has exceptionally high wildlife value, especially for hummingbirds, songbirds, and monarch butterflies. Add its ornate, lobed leaves that turn hues of burgundy in the fall and you have a premier plant for your pollinator garden. Currants spread by rhizomes and can form a thick background against a wall, along a border, or as an understory fill-in or groundcover. They accent an oval garden or courtyard, or they can be trimmed into a well-foliated container plant. They naturally occur along streams from plains to mid-elevation woodlands, so summer water keeps them robust, and fall pruning maintains the desired size and dense branching. Nurseries carry several varieties and cultivars.

*Attracts hummingbirds, butterflies, bumblebees, long-tongued bees; birds eat the berries; larval host for up to 80 butterflies and moth species.*





Pearly Everlasting



Scarlet Globemallow



Whipple's Penstemon

# Wildflowers



Dwarf Larkspur



Showy Fleabane





**Black-eyed Susan**



**Cutleaf Anemone**

Choosing wildflowers for your pollinator garden is where you can let your imagination and creativity run wild. Their beauty and diversity can bring joy with every new bud that pops open and every butterfly and bee that stops by for a sip of nectar. Select perennials for dependable year-after-year blooms, but don't neglect of annuals. In a rush to bloom and set seed with the spring rains, they can blanket your garden with a riot of color. Consider color and size combinations, coordinated bloom times, and mass or fill-in plantings.



**Narrow Bluebells**



**Butterfly Milkweed**



**Showy Milkweed**









# Blanket Flower

**Scientific Name** *Gaillardia aristata*

**Family** Aster (Asteraceae)

**Plant Characteristics** Upright herbaceous annual 1–2 feet tall; leafy rosettes and scattered stem leaves are lance-shaped with edges smooth to lobed or toothed; flower heads 2 inches wide, rays vary from solid yellow, yellow with a red base, to bright red with yellow tips; disk maroon to brown. Deer, rabbit resistant.

**USDA Hardiness Zones** 4a–7b

**Bloom Period** Spring–fall (April–October–frost)

**Growing Conditions** Performs best in full sun, tolerates part shade; needs coarse, well-draining soil.

Native from plains to montane forest, this is the flower that keeps on giving. Flush with multicolored red-and-yellow flowers from spring until first frost, it supplies flamboyant color to your garden and your dining-table bouquets, nectar and pollen for pollinators, and seeds for birds. Mass plant it for a naturalized wave of color, in tidy groups for spot color, along borders and medians, as fill-in plants for patio gardens and containers, and accents in oval gardens. In other words, you can't go wrong with this drought-tolerant favorite. This short-lived perennial readily self-seeds. Sow seeds directly in the ground after the last frost or several weeks earlier in starter pots. Deadhead during the spring and summer to prolong blooming, then let them go to seed in the fall for next year's crop. Sow seeds anytime.

*Highly attractive to butterflies, bees, and many other insect pollinators; birds feed on the seeds.*









# Colorado Blue Columbine

**Scientific Name** *Aquilegia coerulea*

**Family** Buttercup (Ranunculaceae)

**Plant Characteristics** Bushy, clump-forming, herbaceous perennial 1–2 feet tall and wide; compound leaves have numerous fan-shaped leaflets; masses of showy, 3-inch-wide, blue-and-white bicolored flowers have wide-spreading sepals and long, backward-pointing spurs that contain the nectar glands. Deer, rabbit resistant.

**USDA Hardiness Zones** 3a–7b

**Bloom Period** April–May

**Growing Conditions** Moderate sun to part shade; rich, moist, well-draining soils.

Adapted to a broad range of habitats from montane to subalpine forests and meadows, this state flower of Colorado has a variety of richly colored cultivars in the nursery trade. Tipped with exotic-looking flowers, the numerous stems rise above rounded clumps of fern-like basal leaves. The textured leaves and gorgeous flowers create a show-stopper accent for garden foregrounds, borders, entryways, and containers. Deadhead the spent flowers to encourage additional flowering. When the leaves fade, trim to the ground.

*Attracts hummingbirds, butterflies, and bumblebees.*





Switchgrass

# Grasses



Indian Ricegrass





**Alkali Sacaton**

Many bunchgrasses have highly ornamental qualities and are ideally suited for borders, pattern plantings, garden backdrops, group mixes or mass plantings, corner fill-ins, or as stand-alone accents. Native grasses are quick growing, deep-rooted and drought-tolerant, and low maintenance with no need for fertilizers. Grasses provide food, shelter, and nesting sites. They build soil and prevent erosion. In early spring, rejuvenate bunchgrass by sheering clumps to near ground level. The Xerces Society recommends at least two clumps of native grass in a pollinator garden.



**Purple Three-awn**









# Indian Ricegrass

**Scientific Name** *Achnatherum hymenoides*

**Family** Grass (Poaceae)

**Plant Characteristics** Herbaceous perennial, cool-season bunchgrass 1–2 feet tall and wide; basal tuft and stem leaves are narrow, wiry; nondescript flowers grow in dense spikes and mature with nutritious seeds. Highly palatable to deer and rabbits.

**USDA Hardiness Zones** 4a–7b

**Bloom Period** Summer (July–September)

**Growing Conditions** Performs best in full sun; needs natural, sandy, coarse, well-draining soil.

Native from desert scrub to grasslands and ponderosa forests, this drought-tolerant bunchgrass starts the spring with a dense tuft of green leaves and soon develops ornate seed heads. By midsummer, the dormant leaves turn golden brown and the lacy seed heads dominate with clusters of zigzag branches tipped with nuggets of ivory-colored seeds. Small mammals feast on the nutritious seeds, butterflies and moths lay their eggs on the leaves, and bees use the dense basal clump as nesting and overwintering sites. As a small-scale garden accent, Indian ricegrass adds texture to borders, rock gardens, and mixed container plantings. Combines well with snakeweed, scarlet globemallow, and groundplum milkvetch. Thrives with 8–14 inches of annual rain, so in arid sites a few deep drinks in the spring will help it develop. Seed coat and embryo dormancies inhibit germination; seeds should be planted ½–1 inch deep in fine soils and 1–3 inches deep in coarse soils.

*Provides seeds for birds and small mammals, nesting and overwinter habitat for bees; larval host for grass skipper butterfly species (Hesperiidae).*



# Garden Plants for Butterflies

## SHRUBS

- 1 **Antelope Bitterbrush** (*Purshia tridentata* var. *tridentata*), pg. 57
- 2 **Chokecherry** (*Prunus virginiana*), pg. 61
- 3 **Leadplant** (*Amorpha canescens*), pg. 75
- 4 **Lewis Mock Orange** (*Philadelphus lewisii*), pg. 77
- 5 **Mountain Ninebark** (*Physocarpus monogynus*), pg. 79
- 6 **Mountainspray** (*Holodiscus discolor*), pg. 81
- 7 **Rubber Rabbitbrush** (*Ericameria nauseosa*), pg. 87
- 8 **White Spirea** (*Spiraea betulifolia*), pg. 103

## WILDFLOWERS

- 9 **Fireweed** (*Chamerion angustifolium*), pg. 131
- 10 **Gayfeather** (*Liatris punctata*), pg. 133
- 11 **Heartleaf Arnica** (*Arnica cordifolia*), pg. 147
- 12 **Milkweeds** (*Asclepias* spp.), pg. 115, 197
- 13 **Nettleleaf Giant Hyssop** (*Agastache urticifolia*), pg. 157
- 14 **Prairie Coneflower** (*Ratibida columnifera*), pg. 165
- 15 **Purple Aster** (*Dieteria canescens*), pg. 169
- 16 **Three-nerved Goldenrod** (*Solidago velutina*), pg. 213
- 17 **Western Wallflower** (*Erysimum capitatum*), pg. 221
- 18 **Wild Bergamot** (*Monarda fistulosa*), pg. 229







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# Plan Your Landscape or Garden to Help Pollinators



## THE PRESENCE OF BIRDS, BEES, AND BUTTERFLIES

suggests a healthy, Earth-friendly place. Turn your yard into a perfect habitat that attracts pollinators and helps them thrive. Learn how to landscape and create pollinator gardens with widely available perennials that are easy to care for and provide benefits for wildlife.

### Inside You'll Find

- Overview of native pollinator species in the Rocky Mountains
- Field guide to 106 native plants, organized by types of plants, such as shrubs, trees, and wildflowers.
- Quick-reference chart to plants, blooming periods, and what animals each plant attracts
- Hardiness zone information, weed control tips, and more
- **BONUS:** Garden plans that can be customized to suit your specific interests



**Plan, plant, and grow your beautiful garden.  
Then watch and enjoy your favorite backyard guests.**



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