COMMON PLANTS OF THE COLORADO FRONT RANGE

MONTANE ZONE

Kaitlyn H. Evensen

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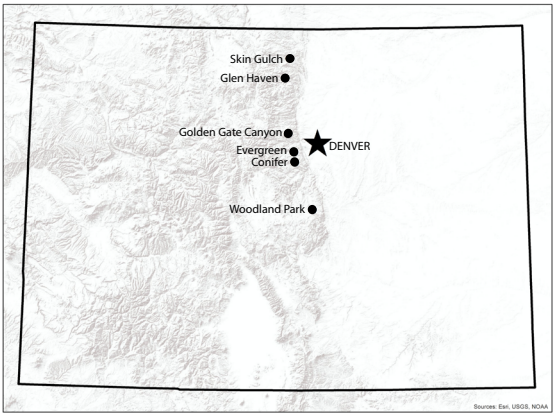
INTRODUCTION

Plant identification is a crucial component of natural resource management. Understanding what plants are growing in an area can tell us about the ecology of the forest, such as nutrient availability, what wildlife may be in the area, and how long it has been since the last disturbance. At the same time, many plant identification books are either highly complex or overly simplified, making botany inaccessible to those working in forest management who could benefit from this information, but lack technical botany skills to collect it. Having worked as a field botanist for three years with the Colorado Forest Restoration Institute, I understand the need for a book that falls in the middle, that refrains from using overly complex terminology, but also provides detailed information regarding the ecology of the plants and what their presence might mean for the ecosystem.

This book compiles information on the identification characteristics, ecological importance, and management considerations of 54 common Colorado Front Range plants that occur in montane forests. The Front Range spans the eastern slope of the Rocky Mountains from the City of Pueblo to the Wyoming border. Six sites were chosen to represent the latitudinal distribution of the Front Range and included areas near Conifer, Evergreen, Glen Haven, Golden Gate Canyon State Park, Skin Gulch, and Woodland Park. I used the Southwest Environmental Information Network (SEINet) virtual platform to compile a list of species presence encompassing a five-mile radius around each designated site. Any species that did not occur in three or more locations was filtered out to find the plants most common across the whole range. The list was then cross



Site locations across the Colorado Front Range

referenced with monitoring data collected by the Colorado Forest Restoration Institute in Front Range montane forests to narrow down the final list.

The plants found on this list occur in the montane zone between 6,000 and 9,000 ft in elevation. This region is dominated by ponderosa pine (*Pinus ponderosa*) and mixed conifer forests. Historical photos and writings, as well as tree ring analyses, suggest that these forests were less dense and experienced frequent low and moderate severity fire before European settlement in the mid 1800s. However, fire suppression, grazing, and early logging practices have created denser and more expansive montane forests along the Front Range. Shade tolerant species, such as Douglas-fir (*Pseudotsuga menziesii*), have grown more abundant in these increasingly closed-canopy forest conditions. Increasing temperatures associated with climate

change have led to an increase in fuel aridity, or the dryness of fuels, and earlier spring snowmelt, exacerbating fire severity and extending the wildfire season. These dense conditions, combined with the impacts of climate change, have led to an increased risk of high severity fire. As more people are moving into and recreating in this region, the need for forest restoration is at a paramount to maintain ecosystem health and human safety.

A major component of determining where plants can grow depends on a species' ability to tolerate shade. Dense forest stands shade out the forest floor, reducing species diversity in the understory. Forest management activities and natural disturbances that create openings and reduce montane forest stand density will allow more light to reach the forest floor, increasing the diversity of shade intolerant species in the understory. Many species occurring in this system exhibit traits of resilience, or the ability to come back after disturbance. These traits can include having rhizomes that help new plants sprout vegetatively, fire activated seeds, the ability to re-sprout from root balls, and long-lived seeds in the seed bank. Forest resilience to climate change in Front Range montane forests is a prevailing management objective as this region experiences rapid population growth and becomes more at risk from drought and severe fire. Managing for a diversity of species adapted to withstand and recover from these conditions may enhance forest resilience to a changing climate. Ecological characteristics outlined in this book describe the level of shade tolerance, and species traits indicating resilience to disturbance.

Grass species can be separated into C3, or cool season grasses, and C4, or warm season

grasses. These distinctions refer to the photosynthetic pathways that are used to acquire carbon dioxide, where the C3 plants create three carbon compounds, and the C4 plants create four carbon compounds. The cool season grasses (C3) are adapted to grow in colder climates and require more water than the warm season grasses. The warm season grasses (C4) are adapted to hotter, drier climates. Both C3 and C4 grasses persist in Colorado and provide important forage for wildlife and livestock species during their respective seasons. As the climate warms, the growing seasons for these different grasses will shift, extending the growing season for C4 grasses, and reducing ideal conditions for C3 grasses.

The lifespand of plants may be annual, biannual, or perennial. Annual plants complete their life cycle in a year, biennial plants in two years, and perennial plants persist for longer than two years and reproduce more than one time. Plant origins are classified as native or introduced. Native species are indigenous plants that have adapted to a region or ecosystem. Introduced species are plants that were brought by humans either intentionally or unintentionally to an area they were not previously found. Nativity and nomenclature for this book follows Jennifer Ackerfield's Flora of Colorado (2015), where species are determined to be native or introduced to the state of Colorado. These native and introduced species are further broken down into naturalized and noxious. A naturalized plant is one that was introduced to an ecosystem and is able to reproduce naturally without human help. Noxious plants are native or introduced plants that could cause harm to crop, livestock, natural resources, or human infrastructure. Noxious plants require

special management and are separated into Lists A, B, and C based off their impacts and management requirements by the United States Department of Agriculture. List A species are not yet widespread and designated for eradication. List B species are becoming more widespread, but plans are created to stop the continued spread. List C species are so widespread it is infeasible to eradicate or stop their continued spread. Instead additional resources surrounding education, research, and control methods are developed. States and counties are responsible for identifying noxious weeds and implementing programs to manage them according to their status. Full lists can be found on the Colorado Department of Agriculture website.

This book is designed for those working in forest management and restoration on the Colorado Front Range who do not have extensive botanical experience. This may include monitoring crews, foresters, and land managers who work in and around the Front Range. The management notes section of each plant describes how biodiversity may be impacted by the presence of each species through wildlife usage, as well as how management practices may impact the abundance of the species. Other information about plant taxonomy, traits, ecology, and management notes are synthesized from sources of published literature and website databases like the Fire Effects Information System, which are listed in the References section. All illustrations are original hand drawings I created for this book. By utilizing bristol board and extremely fine tipped drawing pens I was able to render highly detailed technical drawings that display relevant

identification characteristics for each species. By utilizing this book, it is my hope that you will gain a better understanding of the important role these species play in the ecosystem, as well as how to identify them for yourself.

CONTENTS

SAMPLE PAGE

Scientific Name

Common Name

FAMILY: *Scientific* and (common) name of the plant family

SYNONYMS: Alternate scientific names used by other flora guides.

NATIVITY: Native or introduced to Colorado as well as any special status like noxious or naturalized.

REPRODUCTIVE: A description of the reproductive parts; i.e. flowers, fruits, cones.

VEGETATIVE: A description of the vegetative parts; i.e. leaves, bark, roots.

HABITAT: Elevation range and habitat types the species might grow in according to Ackerfield, Weber and Wittmann, and the CSU extension office.

ECOLOGY: Look alike species, photosynthetic pathway, or how the species interacts with the ecosystem.

MANAGEMENT NOTES: Wildlife or pollinator use of the species, or any management practices with potential to impact a species.

Flowering months are shaded gray

A- Annual
P- Perennial
B- Biennial

Growth form 1

Flowering Time

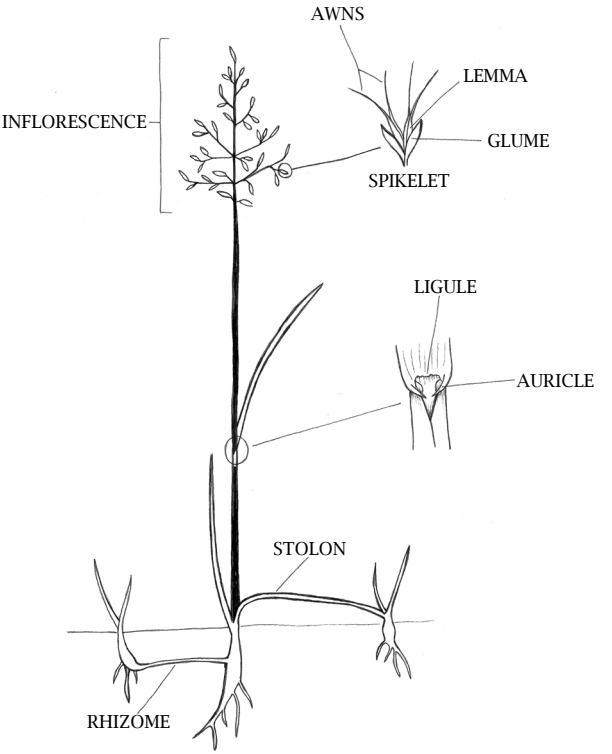
M A M J J A S

USDA plant code

P/A/B

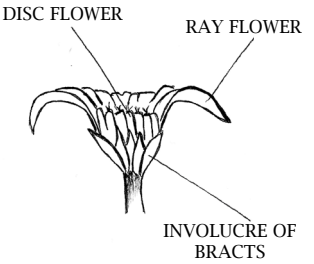
ILLUSTRATED GLOSSARY

PARTS OF A GRASS

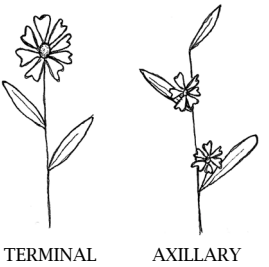


ILLUSTRATED GLOSSARY

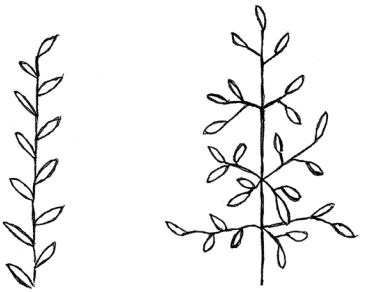
PARTS OF AN ASTER



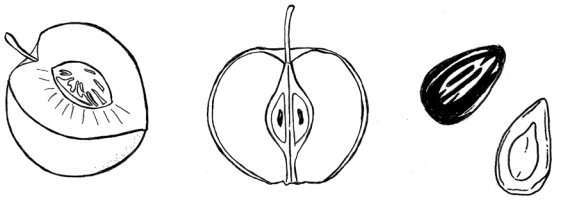
FLOWER ARRANGEMENT



INFLORESCENCE TYPE

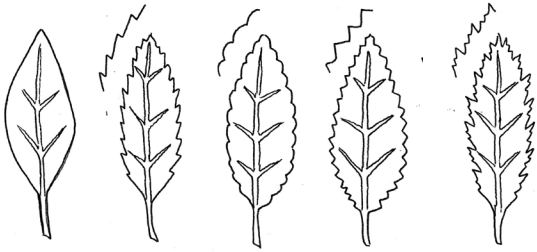


TYPES OF FRUIT

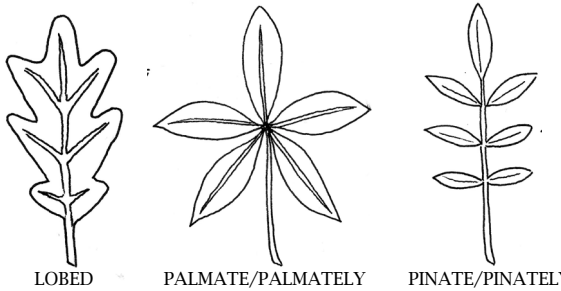


ILLUSTRATED GLOSSARY

LEAF MARGINS AND SHAPES

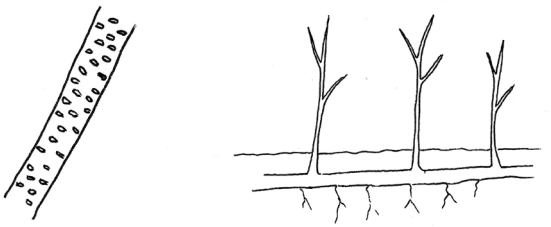


ENTIRE SERRATE CRENATE DENTATE DOUBLE SERRATE



LOBED PALMATE/PALMATELY COMPOUND PINATE/PINATELY COMPOUND

WOODY CHARACTERISTICS



LENTICELS ROOT SUCKERS

Bouteloua curtipendula

sideoats grama

FAMILY: *Poaceae* (grass)

SYNONYMS: None

NATIVITY: Native

REPRODUCTIVE: A panicle with 20 to 80 one-sided branches. The branch base remains on the stalk after the florets fall off.

VEGETATIVE: Rhizomatous. Stalks with purplish joints. Ligule a blunt fringed membrane. Leaves flat or slightly rolled. Long hairs extend from the margins.

HABITAT: Plains and out-wash areas of the Front Range, rocky hills, slopes, dry sandy areas. 3,200-7,400 ft.

ECOLOGY: C_4 warm season grass. Colonizes after fire.

MANAGEMENT NOTES: Valuable food resource for several butterfly species including the Pawnee Montane skipper, a federally listed threatened species. Grazed by livestock and wildlife throughout the year, especially in the spring during wet years when highly desired new growth is produced.

Flowering Time

M A M J J A S

BOCU **P**


8-39 in.

Bouteloua gracilis

blue grama

FAMILY: *Poaceae* (grass)

SYNONYMS: *Chondrosum gracile*

NATIVITY: Native

REPRODUCTIVE: A panicle with 1-3 one-sided branches arranged in spikes. Branches curl at maturity.

VEGETATIVE: Grows in tufts. Stalks often bent below. Ligule a fringed membrane. Leaves flat at the base, sometimes slightly rolled, hairless to slightly hairy.

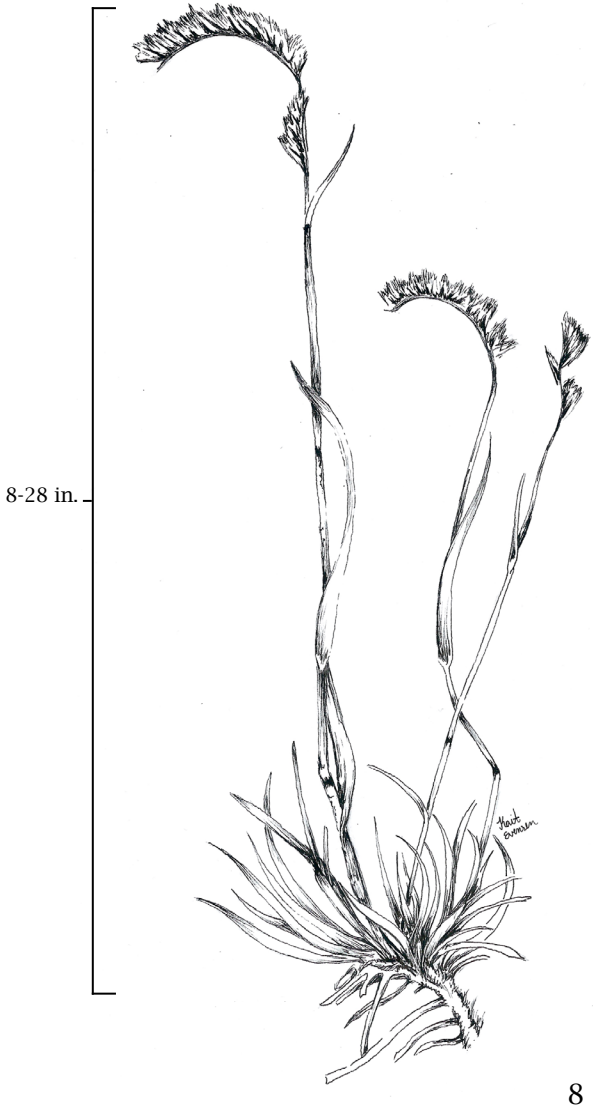
HABITAT: Grasslands and forest openings. 3,500-10,000 ft.

ECOLOGY: C_4 warm season grass**.** Reestablishes slowly after disturbance.

MANAGEMENT NOTES: Blue grama is the larval host plant of the Pawnee Montane Skipper. This species of skipper is federally listed as threatened, and only occurs in the Upper South Platte Watershed of Colorado. Valuable forage, increases in abundance as grazing intensifies. Retains much of its nutritional value in winter.

Flowering Time

BOGR2 **P**


8-28 in.

Bromus inermis

smooth brome

FAMILY: *Poaceae* (grass)

SYNONYMS: None

NATIVITY: Introduced, naturalized

REPRODUCTIVE: Open panicle, not drooping. Spikelets large, brownish or bronze when mature, purplish when young. Awnless, 8-10 florets per spikelet, glumes shorter than the uppermost lemma.

VEGETATIVE: Rhizomatous. Stems straight, ligule membranous. Blades wide, usually with 'M' shape.

HABITAT: Generalist; common in riparian zones, valley bottoms, roadsides, and dry-land sites. 4,000-10,000 ft.

ECOLOGY: C_3, cool season grass. Smooth brome usually invades sites after disturbance and persists. Tolerates full sun to moderate shade.

MANAGEMENT NOTES: One of the most important exotic forage grasses in the United States and Canada. High tolerance to grazing. May crowd out native species.

Flowering Time

BRIN2 **P**


20-51 in.

Bromus tectorum

cheatgrass, downy brome

FAMILY: *Poaceae* (grass)

SYNONYMS: *Anisantha tectorum*

NATIVITY: Introduced, list C noxious weed

REPRODUCTIVE: Panicle drooping, appears one sided. 4-8 florets per spikelet, often turns purple. Lemmas with sharp awns, lance shaped with long soft hairs. Glumes sub-equal.

VEGETATIVE: Stems solitary or in few stem tufts. Ligules short and membranous, leaf sheaths and blades are often densely and softly hairy.

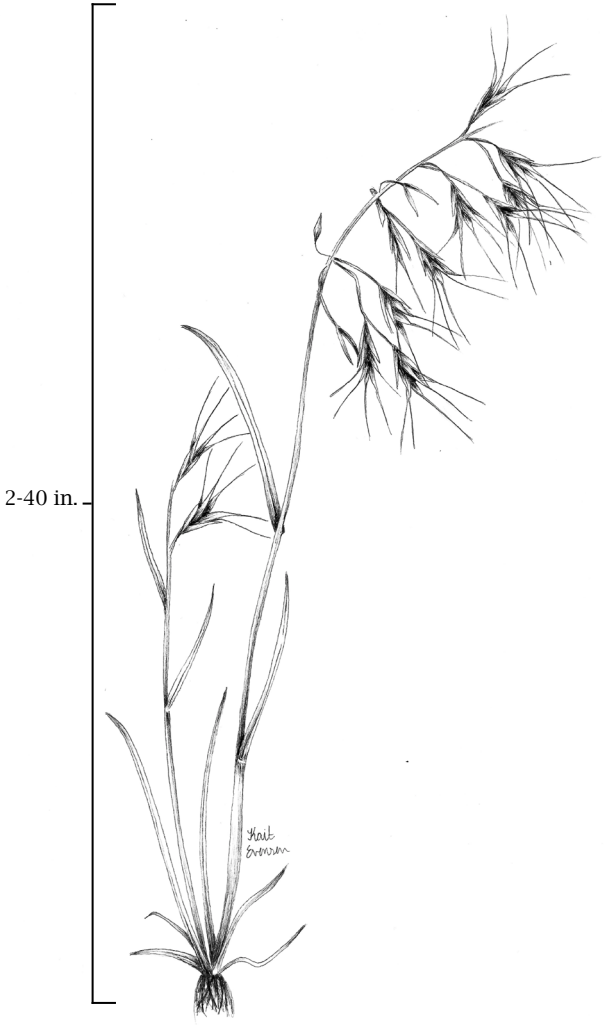
HABITAT: Exists in a wide variety of climate types. Disturbed areas. 3,800-10,500 ft.

ECOLOGY: C_3, cool season grass. Cheatgrass is a winter annual and fills in open space between native plants, increasing fire risk. Cheatgrass is particularly abundant in areas that have recently burned.

MANAGEMENT NOTES: Resistant to many types of control methods. Used as forage for wildlife in the winter. Sharp awns prevent forage after flowering.

Flowering Time

BRTE **A**


2-40 in.

Calamagrostis purpurascens

purple reedgrass

FAMILY: *Poaceae* (grass)

SYNONYMS: None

NATIVITY: Native

REPRODUCTIVE: Narrow, dense, spike-like panicle. Spikelets 1-2 flowered. Lemmas awned.

VEGETATIVE: Rhizomatous. Ligule blunt to round. Leaves usually rolled, leaves and sheaths hairless to roughly hairy.

HABITAT: Dry rocky slopes montane to alpine. 7,500-13,000 ft.

ECOLOGY: C_3, cool season grass. May be confused with *Koeleria macrantha. K. macrantha* lacks awns, and the basal leaves are twisted.

MANAGEMENT NOTES: Readily grazed by livestock at the beginning of the growing season.

Flowering Time

CAPU **P**


1.5-4 in.
8-24 in.

Carex sp.
sedge

FAMILY: *Cyperaceae* (sedge)

SYNONYMS: None

NATIVITY: Variable

REPRODUCTIVE: Spikes found at or near the end of the flowering stalk.

VEGETATIVE: Rhizomatous (*C. geyeri*) or growing in tufts (*C. rossii*). Stalk is triangular in cross section. Leaves grow in bunches of 3 surrounding the flowering stalk.

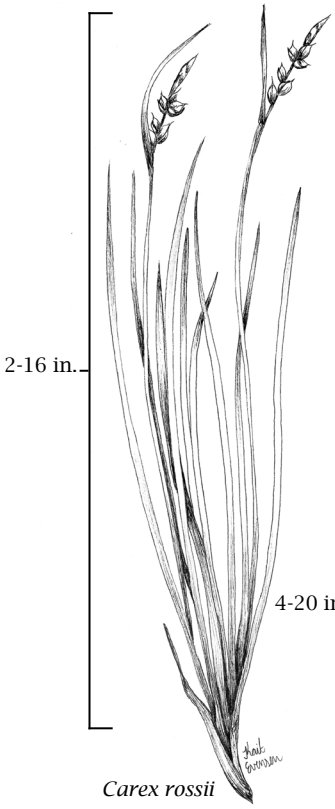
HABITAT: Upland communities with drier soils. 4,000-14,000 ft.

ECOLOGY: Most species grow in full sunlight, some persist in shade. Interlocking roots prevent soil erosion in species where dense stands form.

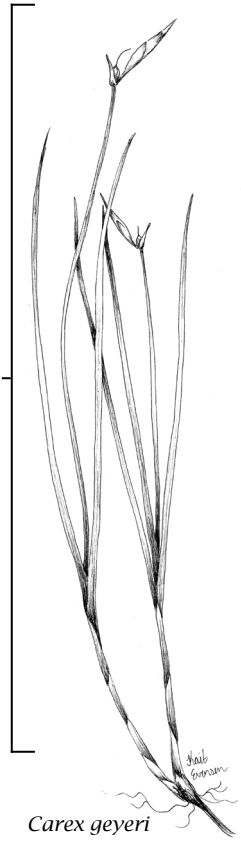
MANAGEMENT NOTES: Utilized by wildlife, particularly elk, throughout the growing season. Many species present, *C. rossii* and *C. geyeri* are the most commonly seen in upland areas.

Flowering Time

CAREX **P**



Carex rossii



Carex geyeri

Elymus elymoides

bottlebrush squirreltail

FAMILY: *Poaceae* (grass)

SYNONYMS: *Sitanion hystrix*

NATIVITY: Native

REPRODUCTIVE: Spike, 2-3 spikelets per node with 2-3 florets. Glumes hard at the base. Lemma with 5-15 mm long awns, often red or purplish, curved near the base.

VEGETATIVE: Bunchgrass. Ligule small. Auricles usually present, purplish. Leaves distributed evenly along the stem, sheath can be hairless or hairy. Leaves often rolled.

HABITAT: Dry hillsides, open woodlands, rocky slopes, disturbed sites. 3,500-11,500 ft.

ECOLOGY: C_3, cool season grass. Re-sprouts from root crowns following fire. Small size, sparse aboveground material, hard stems aid in fire tolerance.

MANAGEMENT NOTES: Forage for several small and large herbivore species. Good winter forage for sheep, large awns reduce palatability when present.

Flowering Time

M A M J J A S

ELEL5 **P**


4-24 in.

Hesperostipa comata

needle-and-thread grass

FAMILY: *Poaceae* (grass)

SYNONYMS: *Stipa comata*

NATIVITY: Native

REPRODUCTIVE: Narrow panicle. Glumes unequal. Lemma hard and fuzzy, with awns up to 23 cm long.

VEGETATIVE: Bunch grass. Ligule up to 6 mm long. Leaves rolled, roughly hairy.

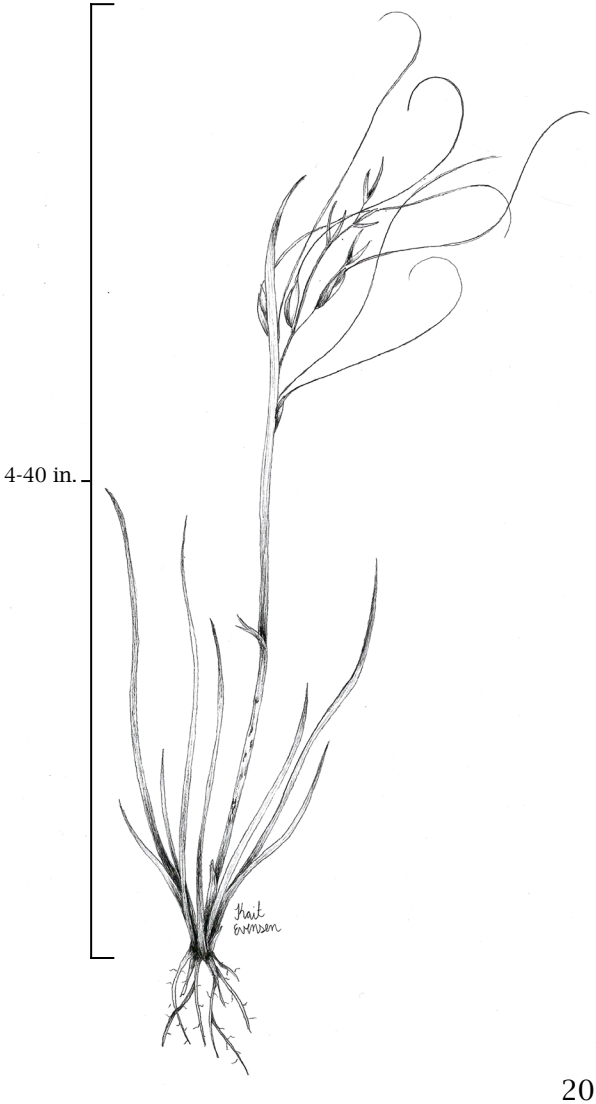
HABITAT: Common on dry hills and plains. 3,500-7,500 ft.

ECOLOGY: C_3, cool season grass. Re-sprouts from root crown after fire. Plant greens in the spring, goes dormant in mid-summer, and will green again in the fall should enough moisture be available.

MANAGEMENT NOTES: Important forage in the earlier part of the growing season before the inflorescence forms. Long awns can injure grazing animals if eaten. Seeds eaten by birds. Host for several butterfly species.

Flowering Time

HECO26 **P**


4-40 in.

Koeleria macrantha

junegrass

FAMILY: *Poaceae* (grass)

SYNONYMS: None

NATIVITY: Native

REPRODUCTIVE: Dense spike-like panicle, pale green or purple. No awns present.

VEGETATIVE: Grows in tufts. Ligule short and blunt. Leaves mostly basal and twisted.

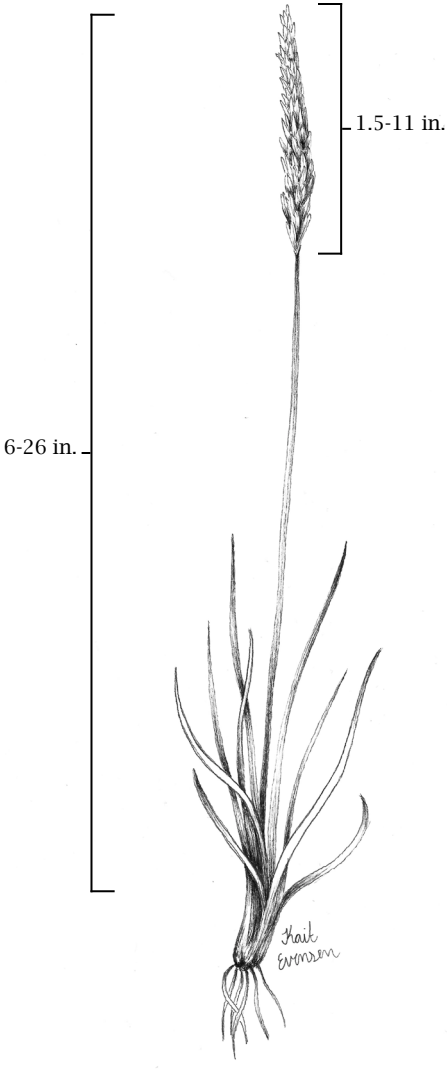
HABITAT: Common in meadows from foothills to alpine. 4,000-12,000 ft.

ECOLOGY: C_3, cool season grass. Sometimes confused with *Calamagrostis purpurascens*. *C. purpurascens* has distinguishable awns, and basal leaves are not twisted.

MANAGEMENT NOTES: Good forage grass, but does not grow in mono-cultures. Provides food and cover for bird and mammal species.

Flowering Time

KOMA **P**


1.5-11 in.
6-26 in.
Hail
Evonsen

Muhlenbergia montana

mountain muhly

FAMILY: *Poaceae* (grass)

SYNONYMS: None

NATIVITY: Native

REPRODUCTIVE: Diffuse panicle, yellow-green to purple tinged. Glumes unequal and shorter than the lemmas. Lemmas with awns.

VEGETATIVE: Caespitose. Ligule is long and pointed, resembling a mule's ear. Leaf blades can be flat or rolled. Older bunches may have dead centers.

HABITAT: Grows in dry or moist sites, but requires excellent drainage. Found on open slopes and in forests. 5,500-10,400 ft.

ECOLOGY: C_4, warm season grass. Generally requires full sun to grow and abundance decreases with litter and shading.

MANAGEMENT NOTES: Provides excellent forage, especially during winter months. Provides cover and food for several bird species. Abundance decreases with heavy grazing or trampling; replaced by species like blue grama and fringed sagebrush.

Flowering Time

MUMO **P**


4-31 in.

Achillea millefolium

Western yarrow

FAMILY: *Asteraceae* (sunflower)

SYNONYMS: None

NATIVITY: Native

REPRODUCTIVE: White to light pink. Many heads in tight clusters.

VEGETATIVE: Leaves both basal and alternate on the stem. Narrow, highly dissected, densely hairy.

HABITAT: Roadsides, prairies, and open slopes and meadows. 4,800-13,200 ft.

ECOLOGY: One of the most widely distributed forbs in the western US. Semi drought tolerant. Does not tend to form dense stands.

MANAGEMENT NOTES: Moderate forage for grazing animals. Flower heads are preferred for forage as the stem becomes woodier throughout the growing season.

Flowering Time

ACMI2 **P**


2-26 in.
Hank Evensen

Allium cernuum
nodding onion

FAMILY: *Alliaceae* (onion)

SYNONYMS: None

NATIVITY: Native

REPRODUCTIVE: Flowers round and pink to white. Inflorescence umbrella-like, nodding,

VEGETATIVE: Basal, linear and fleshy. 3 to 7 per plant. Outer layer of the bulb membranous.

HABITAT: Dry open forests and meadows. 5,500-11,000 ft.

ECOLOGY: Produces many seeds and grows in dense patches when on suitable soil. Sometimes confused with *Allium textile. A. textile* has 2 basal leaves and the outer coat of the bulb is fibrous.

MANAGEMENT NOTES: Utilized by livestock and wildlife for food; elk browse on leaves, and bears dig up bulbs. Pollinated by a variety of native bee and insect species.

Flowering Time

ALCE2 **P**


12-24 in.
Thait Evenson

Antennaria parvifolia

small-leaf pussytoes, Nuttall's pussytoes

FAMILY: *Asteraceae* (sunflower)

SYNONYMS: Antennaria aprica

ORIGIN: Native

REPRODUCTIVE: Flowers white or slightly pink. Closely arranged in a bunch with 2-6 heads. Fruits are small achenes with bristly hairs.

VEGETATIVE: Mat-forming and stoloniferous. Leaves alternate, simple, mostly basal, and silvery-white hairy. Stem leaves smaller towards the top.

HABITAT: Open forests, dry meadows and pastures and along roadsides. 5,000-12,000 ft.

ECOLOGY: Seeds are easily transported by wind and may colonize bare mineral soils.

MANAGEMENT NOTES: May be an indicator of overgrazing in Colorado. Not used as forage, shows increase in cover when grazing becomes intense; can survive trampling. Pollinated by butterflies and bees.

Flowering Time

M A M J J A S

ANPA4 P


0.75-6 in.
Thait
Evenson

Arnica cordifolia

heart-leaved arnica

FAMILY: *Asteraceae* (sunflower)

SYNONYMS: None

NATIVITY: Native

REPRODUCTIVE: Flowers yellow. Ray flowers have toothed tips. 9 - 16 disc florets. Involucre of bracts usually hairy.

VEGETATIVE: Rhizomatous. Basal leaves heart shaped. Stem leaves opposite, dentate to coarsely dentate and hairy. Stalk of the flower is hairy towards the top.

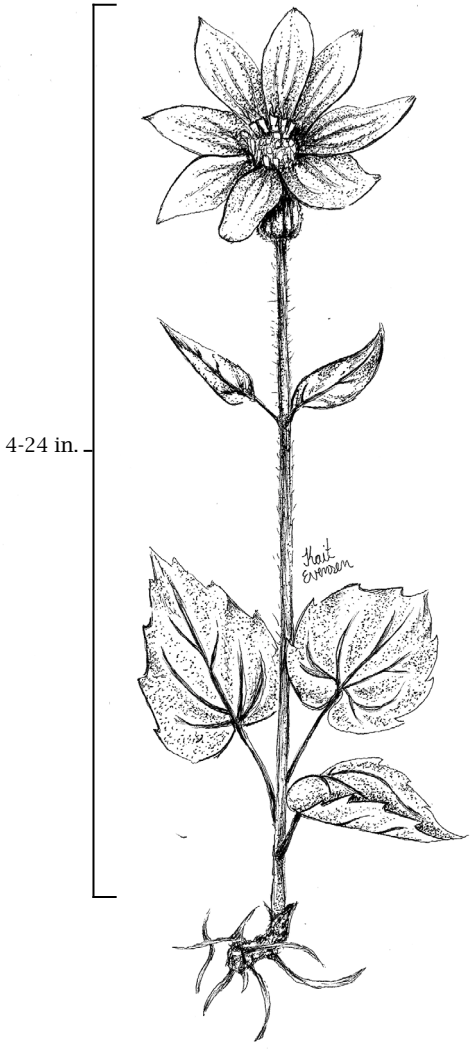
HABITAT: Moist, shaded, coniferous forests and near water. 6,000 to 12,000 ft.

ECOLOGY: Can persist in closed and open canopy communities.

MANAGEMENT NOTES: Abundance increases following disturbance. Pollinated by a wide range of native insect species.

Flowering Time

ARC09 **P**


4-24 in.

Artemisia frigida
fringed sagebrush

FAMILY: *Asteraceae* (sunflower)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Heads arranged in nodding panicles. Leafy bracts gray green in color, densely hairy.

VEGETATIVE: Bases of stem slightly woody. Basal and alternate leaves, dissected into short and narrow lobes. Leaves appear silvery and are closely clustered along the stem. Fragrant.

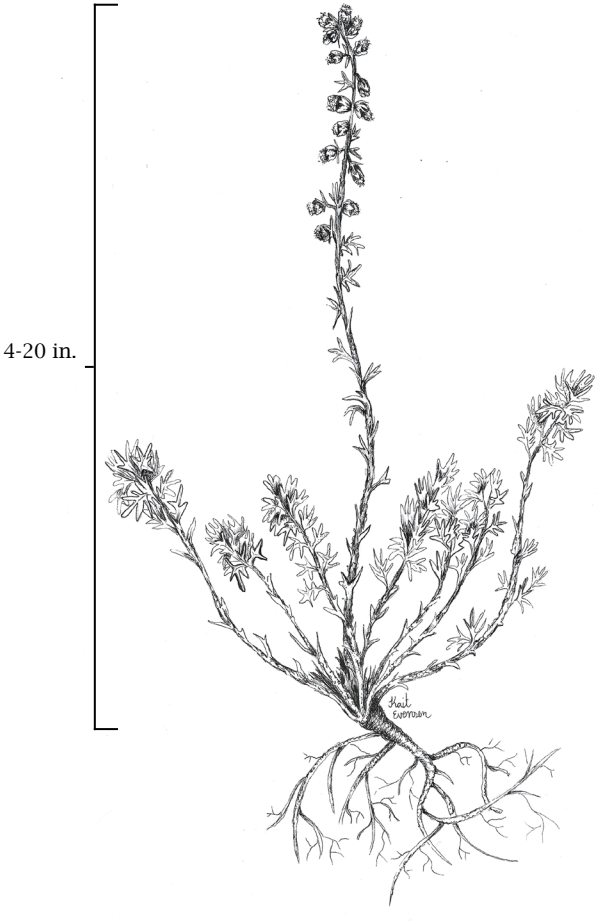
HABITAT: Grasslands, shrub-lands and dry woodlands. 4,500 to 10,000 ft.

ECOLOGY: Drought tolerant. Wind pollinated.

MANAGEMENT NOTES: Valuable browse plant, especially during the winter months. Host plant for the painted lady butterfly.

Flowering Time

ARFR4 | P


4-20 in.

Artemisia ludoviciana

Louisiana sagewort

FAMILY: *Asteraceae* (sunflower)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Many heads arranged in a spike or loose panicle, no ray flowers.

VEGETATIVE: Alternate, entire to lobed, white hairy, or sometimes green on the upper surface of the leaf, fragrant.

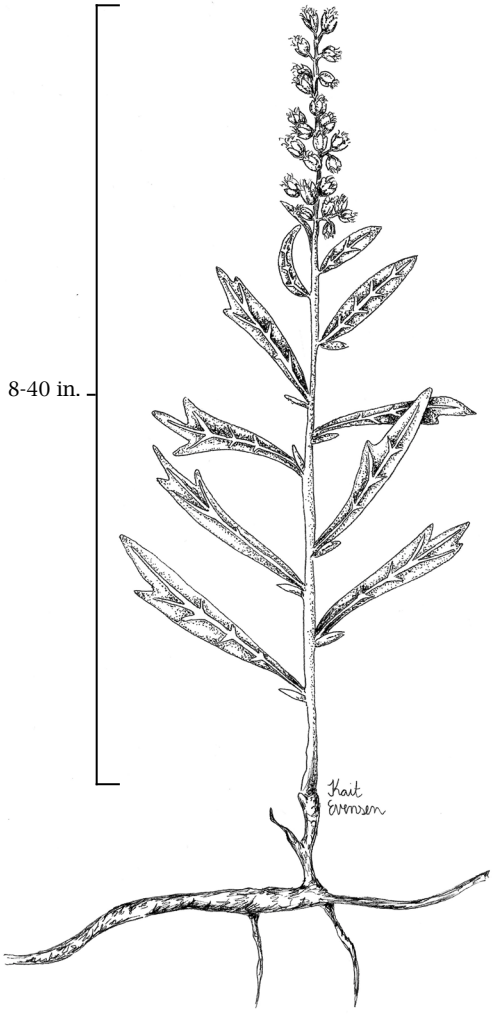
HABITAT: Common in dry, open spaces. 4,000-9,500 ft.

ECOLOGY: Usually grows individually or in small patches. Prefers sunny sites, but also found in shade. Wind pollinated.

MANAGEMENT NOTES: Valuable forage in spring and fall when other plants are not as widely available. Less utilized during the peak of the growing season.

Flowering Time

ARLU **P**


8-40 in.
Kait Evensen

Campanula rotundifolia

harebell, bluebells of Scotland

FAMILY: *Campanulaceae* (bellflower)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Flower blue to purple, bell shaped. Solitary or in a lose raceme.

VEGETATIVE: Basal leaves heart shaped to spatula shaped, dentate. Stem leaves alternate and linear. Milky sap present.

HABITAT: Meadows and slopes with dry soil. 5,000-13,500 ft.

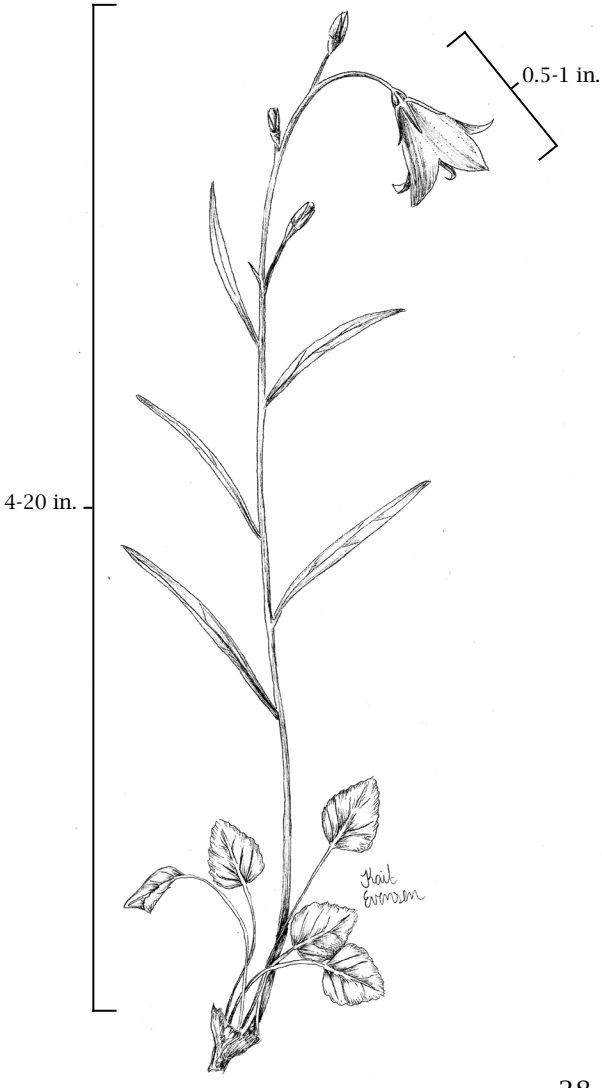
ECOLOGY: Basal leaves can be confused with violet species before the flowing stalk sprouts. Violets do not have milky sap.

MANAGEMENT NOTES: Pollinated by a variety of native bee and butterfly species.

Flowering Time

CAR02

P


0.5-1 in.
4-20 in.

Chamerion angustifolium

fireweed

FAMILY: *Onagraceae* (evening primrose)

SYNONYMS: Epilobium angustifolium

ORIGIN: Native

REPRODUCTIVE: Flowers many, white at first, turns pink over time. Arranged in a nodding spike. Seeds numerous with tufted hair.

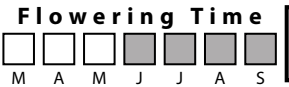
VEGETATIVE: Rhizomatous. Stems are often purplish. Leaves alternate and narrow, leaf veins circular, do not extend to the margin.

HABITAT: Burned areas, roadsides, forest openings. 7,000-11,500 ft.

ECOLOGY: Colonizes after disturbance. Fire kills top growth and seeds, surviving rhizomes re-sprout.

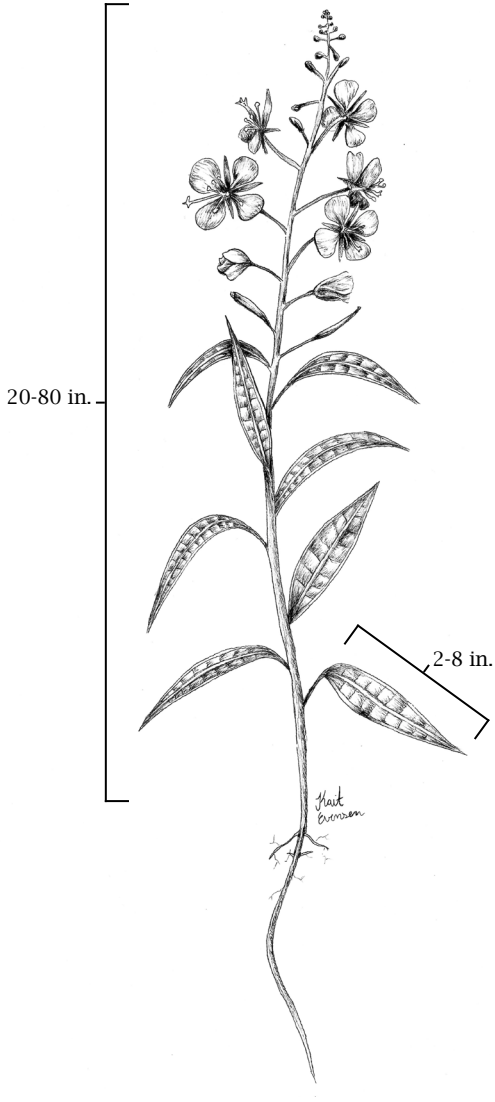
MANAGEMENT NOTES: Fireweed is a preferred grazing species for elk. Can be a host for *Armillaria* fungal species, which cause root rot in lodgepole pines.

Flowering Time



CHAN9

P


20-80 in.
2-8 in.

Cirsium arvense

Canada thistle, California thistle, creeping thistle

FAMILY: *Asteraceae* (sunflower)

SYNONYMS: *Breea arvensis*

NATIVITY: Introduced; List B noxious weed

REPRODUCTIVE: Flowers white to pinkish purple, flat topped. Female flowers are flask shaped and fragrant, male flowers are rounded and not fragrant. Seeds are small and with white to light brown hairs.

VEGETATIVE: Plants are able to sprout vegetatively from an early age. Leaves alternate, dark green, hairless above, short white hairs below. Clasping with prickly margins.

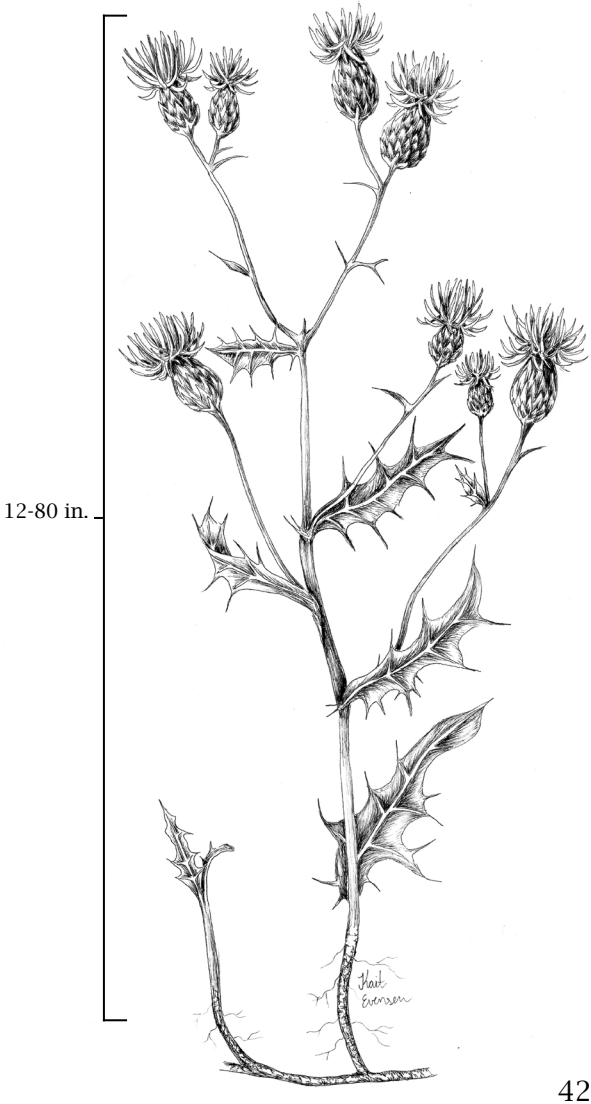
HABITAT: Adapted to a wide range of plant communities. Open fields and along riparian corridors. 4,000-9,500 ft.

ECOLOGY: Thrives in nearly all upland community types, but does particularly well post disturbance. Colonizes landscapes after the canopy is opened up during large scale disturbance events.

MANAGEMENT NOTES: Seeds and roots form quickly. Plants can sprout from roots and root fragments. This makes early detection and timing of control extremely important. Host plant for Painted Lady butterfly.

Flowering Time

CIAR4 **P**


12-80 in.

Dracocephalum parviflorum

American dragonhead

FAMILY: *Lamiaceae* (mint)

SYNONYMS: *Moldavica parviflora*

NATIVITY: Native

REPRODUCTIVE: Flowers purplish in color. Dense terminal or axillary cluster, flower leaves hairy and serrated with red tips. Seeds large nutlets.

VEGETATIVE: Stems can be solitary or multiple, arising from taproots. Leaves opposite, lance shaped to triangular, coarsely serrate. Slightly hairy.

HABITAT: Meadows, burned-over areas, aspen groves. 5,500-10,800 ft.

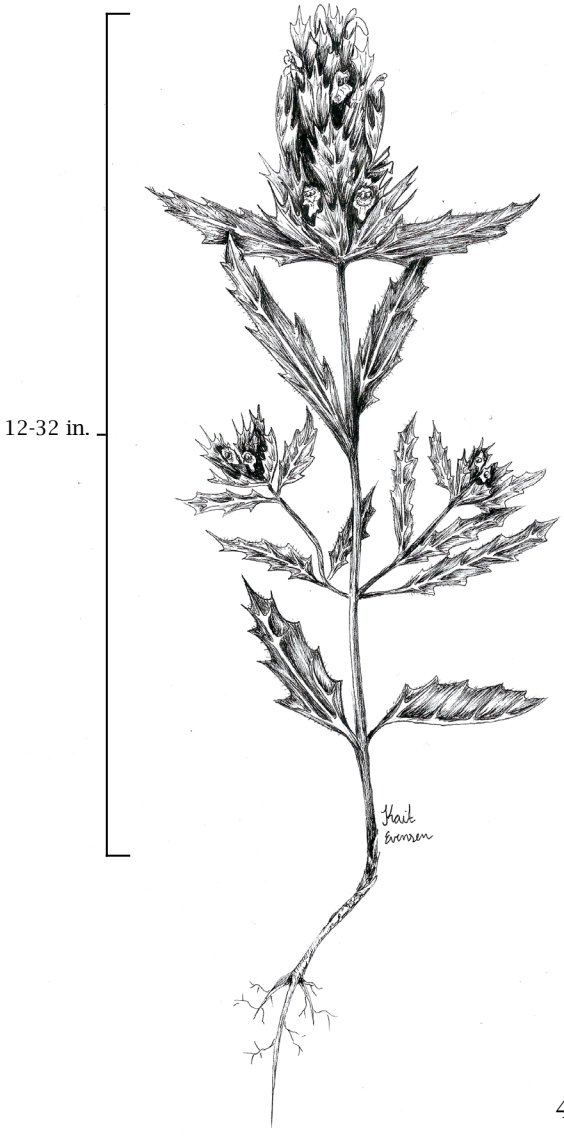
ECOLOGY: Populations decrease as the time between disturbances increase.

MANAGEMENT NOTES: Seeds are fire activated and will remain dormant in the soil until a fire occurs.

Flowering Time

M A M J J A S

DRPA2 **A/B**


12-32 in.

Euphorbia esula

leafy spurge, wolf's milk

FAMILY: *Euphorbiaceae* (spurge)

SYNONYMS: *Tithymalus esula*

NATIVITY: Introduced; List B noxious weed

REPRODUCTIVE: Flowers bright green and hairless, in bell shaped clusters, and have shiny, crescent shaped glands. Male flowers found in five clusters around the stalk. The female flowers are solitary. Fruits are lobed spherical capsules.

VEGETATIVE: Extensive root system. Leaves alternate, narrow, margins entire, not hairy, attach directly to stem. Milky sap present, can cause skin irritation.

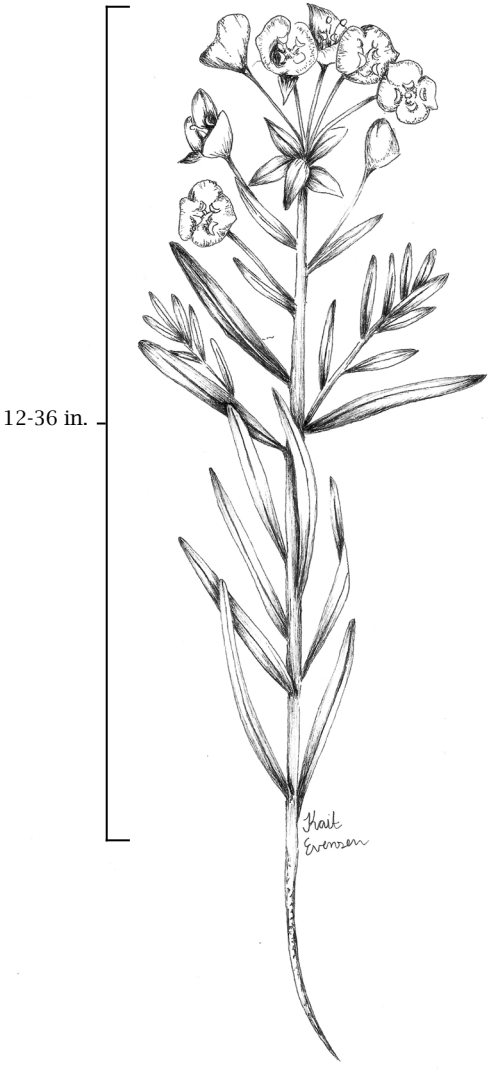
HABITAT: Occurs on a variety of disturbed sites, riparian areas and open woodlands. 5,000-6,500 ft.

ECOLOGY: Abundance may increase post-disturbance.

MANAGEMENT NOTES: Avoided by cattle and horses, while goats and sheep choose to graze it. Sap from broken stems can be harmful to horses. Nectar and pollen desirable to insects, resulting in high rates of pollination. Extensive roots make management difficult; a combination of herbicide and mowing may be effective.

Flowering Time

EUES **P**


12-36 in.

Fragaria virginiana

woodland strawberry, Woods strawberry

FAMILY: *Rosaceae* (rose)

NATIVITY: Native

SYNONYMS: *Fragaria ovalis*

REPRODUCTIVE: Flowers white with 5 petals. Fruit a strawberry.

VEGETATIVE: Short rhizomes and stolons present. Leaves basal, three leaflets per stem, margins serrate and upper surface slightly hairy.

PREFERRED HABITAT: Wooded or forested habitats, or open areas where moisture accumulates; 5,000-9,500 ft.

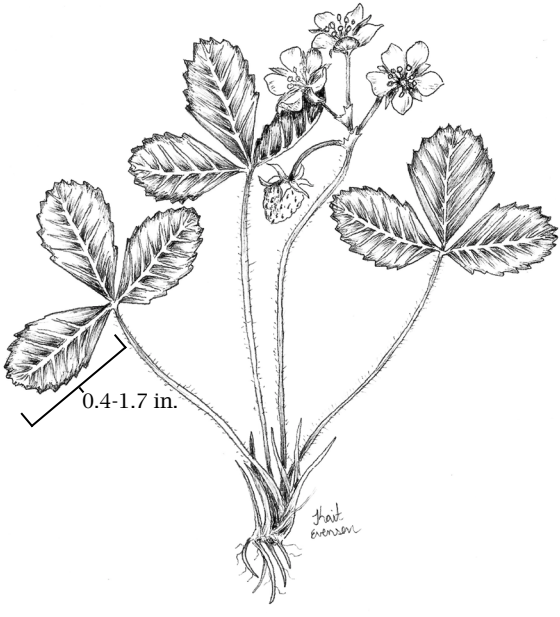
ECOLOGY: Abundance might be positively linked to disturbance, but more research is needed.

MANAGEMENT NOTES: Grazed by many wildlife species including elk, deer, bears, small mammals, and raccoons.

Flowering Time

FRVI

P


0.4-1.7 in.

Geranium sp.
geranium

FAMILY: *Geraniaceae* (geranium)

SYNONYMS: None

NATIVITY: Native

REPRODUCTIVE: Flowers violet, pink, blue, or white, solitary or in loose clusters. Five petaled, often with darker lines. *G. richardsonii* white to light pink, *G. caespitosum* pink to purple.

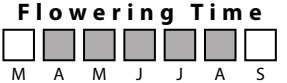
VEGETATIVE: Leaves opposite or basal, palmately lobed with a pair of leaves at the base of the stalk. Sometimes sparsely hairy. Primary divisions are incised, toothed, or lobed. *G. richardsonii* has larger leaves with 5-7 divisions, *G. caespitosum* has smaller leaves with 3-5 divisions.

HABITAT: Most commonly found in moist areas, also grows in forest openings, grasslands, and meadows. 4,000-10,000 ft.

ECOLOGY: Distributes seed through a spring-like mechanism.

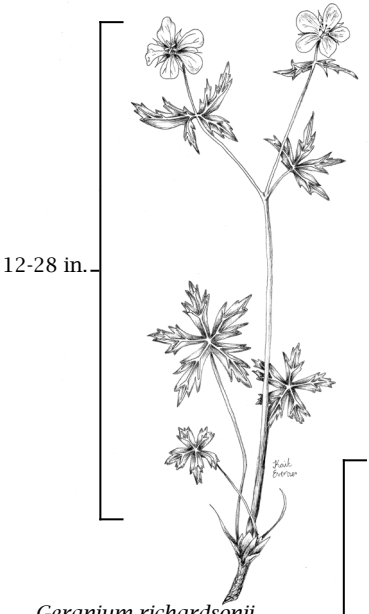
MANAGEMENT NOTES: Considered moderate-quality forage. More readily eaten later in the growing season when the more desirable plants have been consumed. Attracts butterflies; dark lines on petals guide insects to the pollen.

Flowering Time

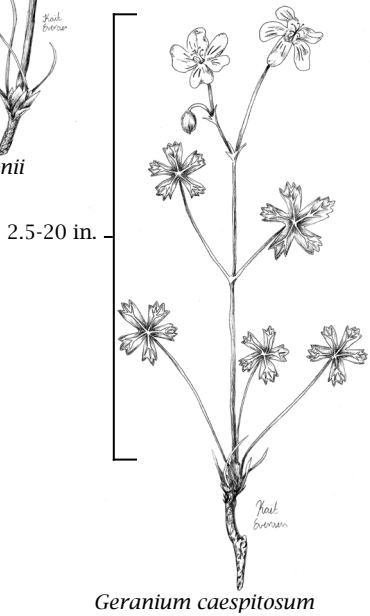


GERI GECA3

P/A/ B



Geranium richardsonii



Geranium caespitosum

Liatris punctata

Dotted gayfeather, blazing star, gayfeather

FAMILY: *Asteraceae* (sunflower)

SYNONYMS: None

NATIVITY: Native

REPRODUCTIVE: Pink to purple in color. Heads tuft-like, small, tubular, and in spike-like clusters. Inflorescence blooms from the top down. Fruits are achenes.

VEGETATIVE: Stems can be singular or sprouting in clusters. Leaves alternate, linear, with fringed margins.

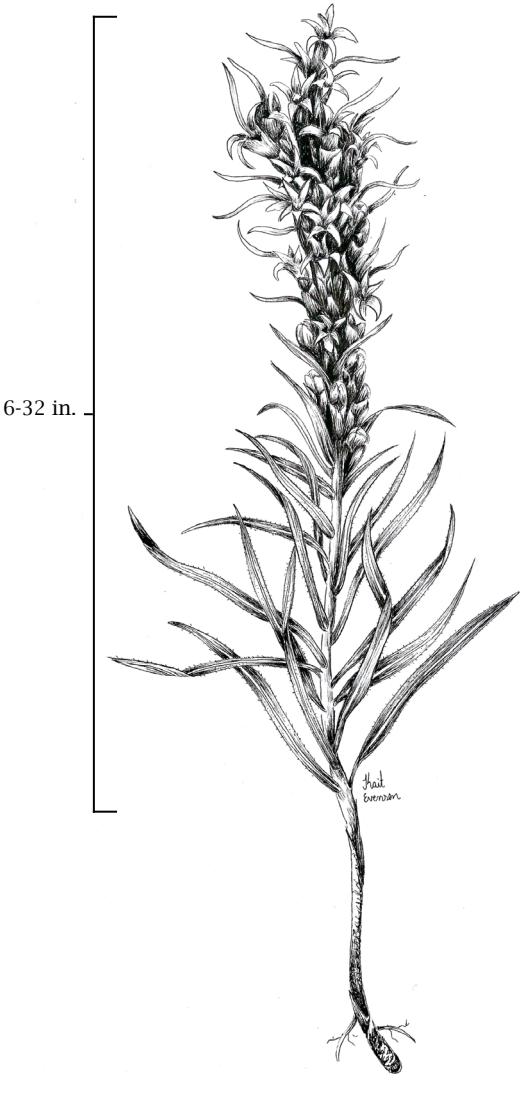
HABITAT: Dry, open, upland sites, especially where sandy soils accumulate. 3,500-8,000 ft.

ECOLOGY: Flourishes in mature prairie communities and decreases in abundance as tree cover increases.

MANAGEMENT NOTES: Important livestock grazing in the spring when plants are young. Elk eat it in the winter. This plant is also an important nectar plant for the Pawnee-Montane Skipper. The distribution of this federally listed species corresponds almost directly with the occurrence of *L. punctata* in the Upper South Platte watershed. Basal rosette of look-alike species, *Boechera* sp. has hairy linear leaves, margins not fringe-haired.

Flowering Time

LIPU **P**


6-32 in.

Linaria vulgaris

Yellow toadflax

FAMILY: *Plantaginaceae* (plantain)

SYNONYMS: None

NATIVITY: Introduced; List B noxious weed

REPRODUCTIVE: Flowers yellow and orange, five lobed and two lipped, the lower lip is larger. Spur as long as flower, extends from the base. Seeds disc shaped with wings.

VEGETATIVE: Tap rooted and rhizomatous. Stems unbranched and hairless. Leaves alternate, soft, narrow, pale green and numerous.

HABITAT: Most commonly found on disturbed sites. 4,000 to 9,400 ft.

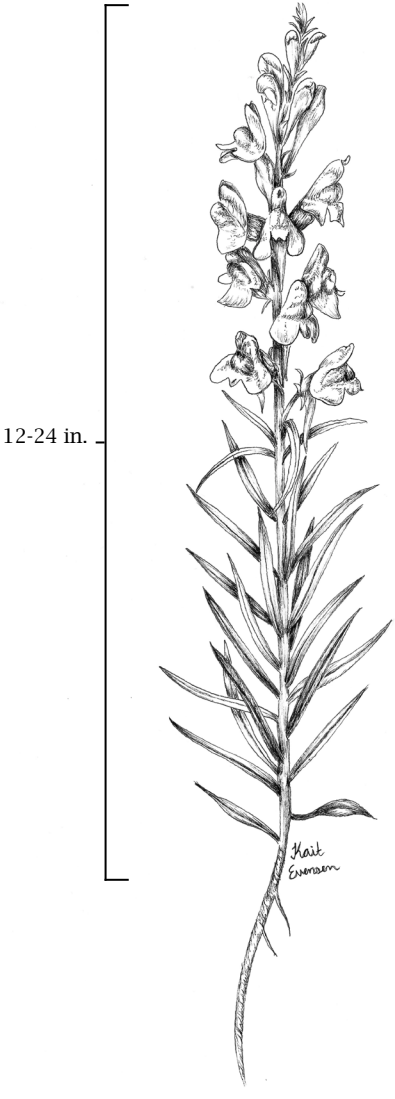
ECOLOGY: Flourishes after disturbance when competition from other plants is reduced. While individual stems are short-lived, patches can persist for upwards of 10 years. Toadflax can re-emerge after several years from dormant seeds or vegetative buds. Deep roots can survive severe fires.

MANAGEMENT NOTES: Not heavily used as forage by native wildlife species, potentially due to presence of secondary compounds, but further research is needed.

Flowering Time

M A M J J A S

LIVU2 **P**


12-24 in.
Kait
Evensen

Mertensia lanceolata

prairie bluebells

FAMILY: *Boraginaceae* (borage)

SYNONYMS: None

NATIVITY: Native

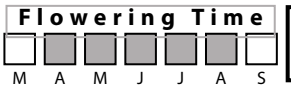
REPRODUCTIVE: Usually blue to purplish-blue, small and bell shaped. Clustered at the end of stalks.

VEGETATIVE: Leaves alternate, narrow, margins entire. Without conspicuous veins. Hairy or not hairy.

HABITAT: Usually in open areas. 5,000-14,000 ft.

ECOLOGY: Sometimes confused with penstemon species; penstemon, however, have opposite leaves and two lipped flowers.

MANAGEMENT NOTES: Not preferred as forage; however, extended periods of overuse will ultimately cause bluebells to disappear, as they mainly reproduce from vegetative sprouts.



MELA3

P


4-18 in.
Thait
Evonsen

Packera fendleri

Fendler's ragwort

FAMILY: *Asteraceae* (sunflower)

SYNONYMS: *Senecio fendleri*

NATIVITY: Native

REPRODUCTIVE: Heads yellow, up to 25 heads per stem. Fruits achenes.

VEGETATIVE: Leaves basal and alternate narrow and hairy. Margins folded and wavy to entire, sometimes with white hairs.

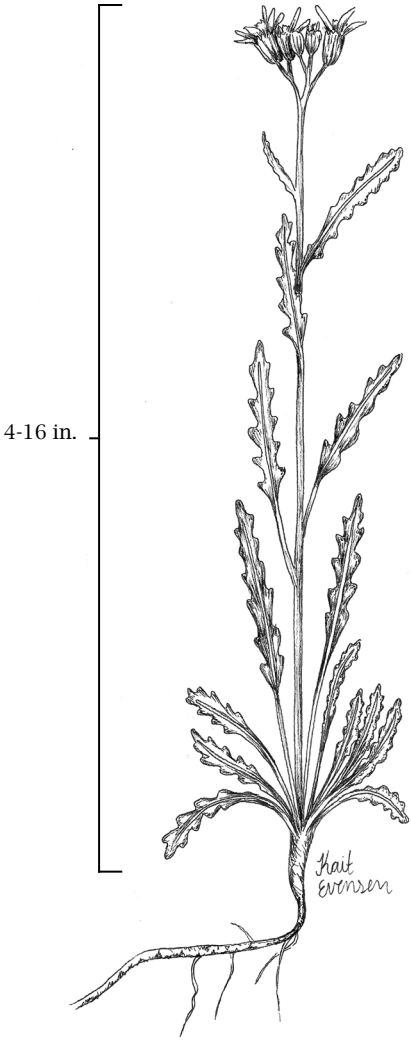
HABITAT: Rocky soils in forest opening and meadows. 5,000-11,500 ft.

ECOLOGY: Grows in full sun to partially shaded systems. May hybridize with other *Packera* species.

Flowering Time

M A M J J A S

PAFE4 | P


4-16 in.
Hart Evensen

Penstemon virens

Front Range beardtongue

FAMILY: *Plantaginaceae* (plantain)

SYNONYMS: None

NATIVITY: Native

REPRODUCTIVE: Pale to dark blue-violet. Two lipped, tubular, and hairy. Multiple flowers grow on each stalk.

VEGETATIVE: Stems may be hairy, leaves not hairy. Basal leaves small and narrow with entire to toothed margins. Stem leaves opposite, narrow, and with entire margins.

HABITAT: Rocky areas and forest openings. 5,300-11,000 ft.

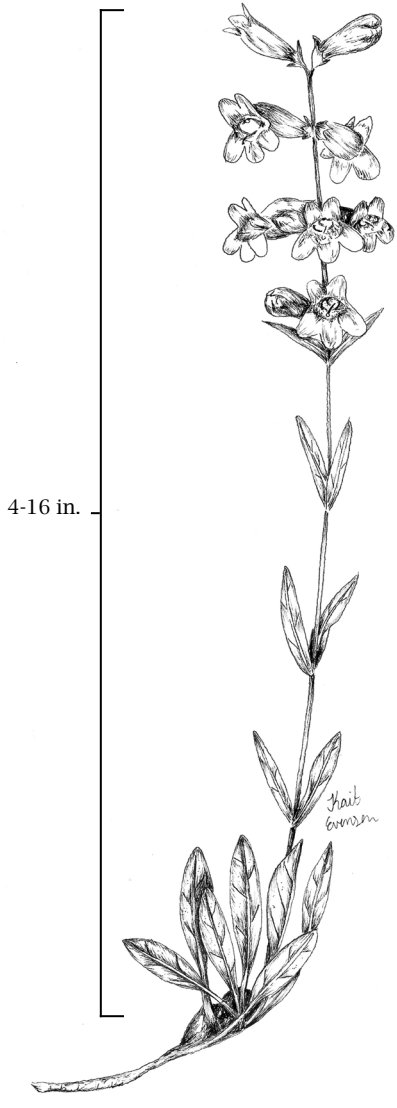
ECOLOGY: Reproduces vegetatively from roots.

MANAGEMENT NOTES: There are many species of *Penstemon* that are hard to distinguish from each other; this is one of the most commonly seen, but other species are present.

Flowering Time

M A M J J A S

PEVI3 **P**


4-16 in.

Potentilla fissa

bigflower cinquefoil

FAMILY: *Rosaceae* (rose)

SYNONYMS: Drymocallis fissa

NATIVITY: Native

REPRODUCTIVE: Flowers yellow with 5 petals, notched or rounded at the tip. Fruits are brownish achenes.

VEGETATIVE: Alternate and basal, pinnately compound with 9 to 13 leaflets. Margins toothed, usually hairy below, sometimes hairy above.

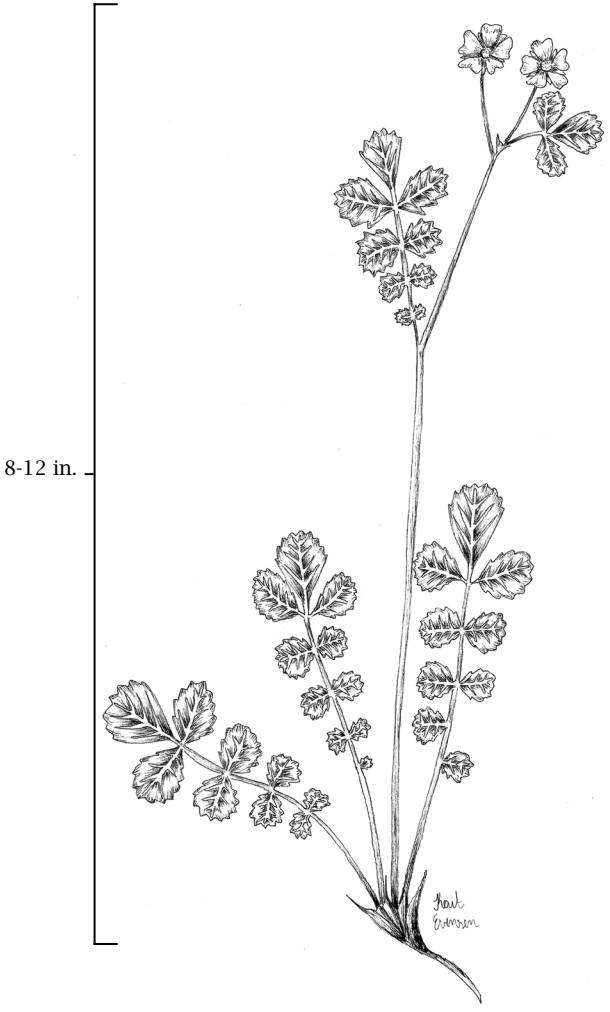
HABITAT: Common in dry or rocky areas. 5,500-10,000 ft.

Flowering Time

M A M J J A S

POFI3

P


8-12 in.

Potentilla hippiana

wooly cinquefoil, woody cinquefoil

FAMILY: *Rosaceae* (rose)

SYNONYMS: None

NATIVITY: Native

REPRODUCTIVE: Flowers yellow, petals are slightly notched or rounded at the tip. Grows in clusters of few to many flowers. Fruits are smooth achenes.

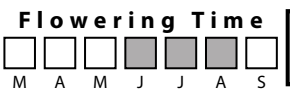
VEGETATIVE: Stems hairy. Leaves mostly basal, alternate on stem, pinnately compound; 5-13 leaflets, narrow, the upper three are the largest. Greenish above, white and densely hairy below. Margins are deeply serrate bases wedge shaped.

HABITAT: Open sites with coarse textured soils. 5,300-12,000 ft.

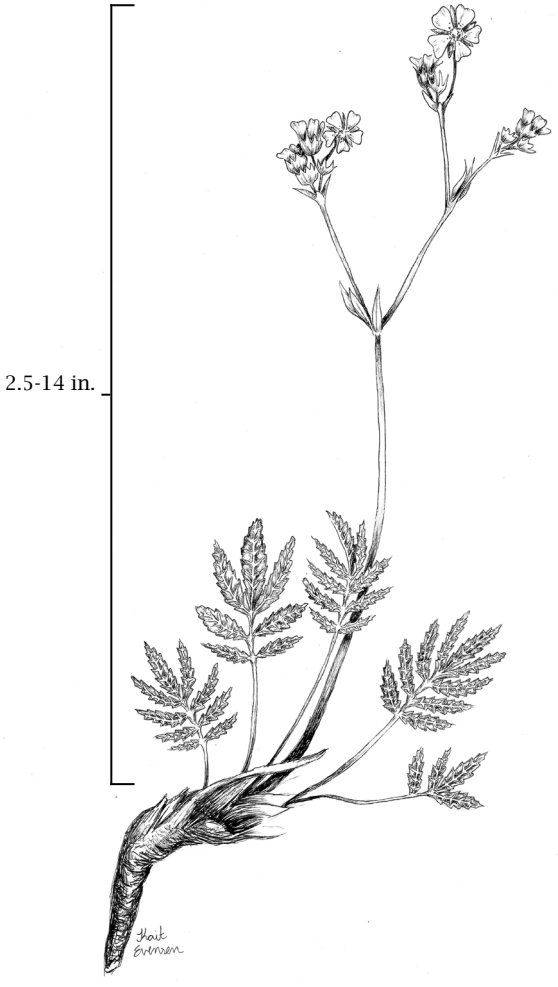
ECOLOGY: Usually appears in more mature, open areas.

MANAGEMENT NOTES: Poor forage quality. Abundance can increase with grazing.

Flowering Time



POHI6 **P**


2.5-14 in.

Pulsatilla patens

Pasque flower

FAMILY: *Ranunculaceae* (buttercup)

SYNONYMS: *Anemone patens*

NATIVITY: Native

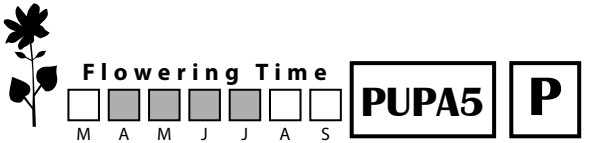
REPRODUCTIVE: Flowers purple to blue-purple, solitary, fuzzy, tulip-like. After losing petals, fluffy, feathery balls containing seeds persist on the stems.

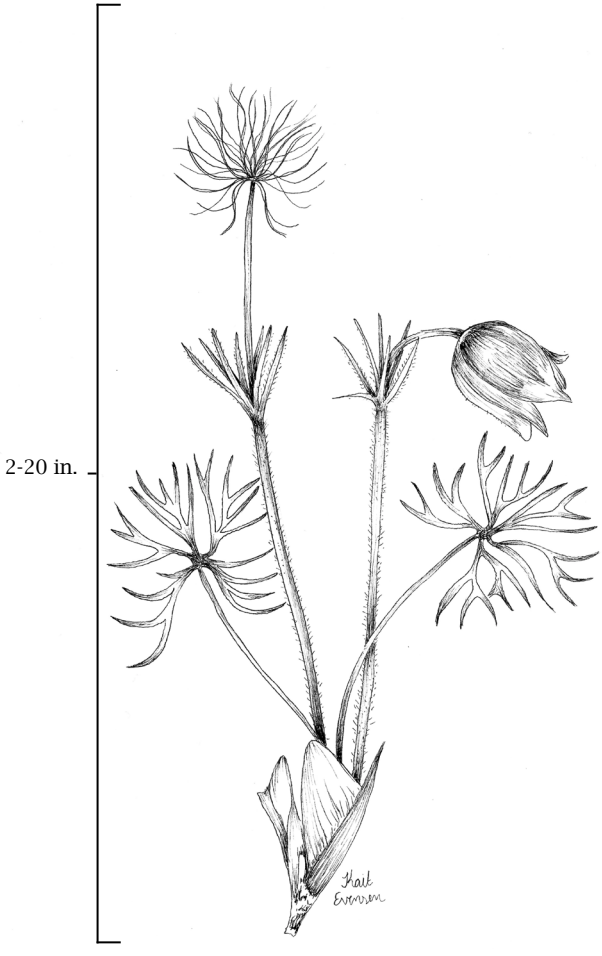
VEGETATIVE: Basal leaves highly dissected into narrow segments, stem leaves narrow and fuzzy. Stems softly fuzzy.

HABITAT: Open areas and forests. 5,400-13,000 ft.

ECOLOGY: One of the first wildflowers to bloom in the spring. May bloom twice during warmer years.

MANAGEMENT NOTES: Contains poisonous compounds, but are not concentrated enough to cause noticeable issues in grazing animals.




2-20 in.
Hart
Emerson

Solidago simplex

Mount Albert goldenrod

FAMILY: *Asteraceae* (sunflower)

SYNONYMS: *Solidago spathulata*

NATIVITY: Native

REPRODUCTIVE: Heads yellow, numerous on the stalk. Fruit an achene.

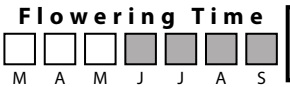
VEGETATIVE: Leaves basal and alternate, wider near the tip, margins entire to toothed on the upper half or third. Not hairy, does not have conspicuous veins.

HABITAT: Forests, meadows, and alpine. 6,000-13,000 ft.

ECOLOGY: Several common species, *S. multiradiata* has leaves with strongly fringed stalks, tip entire to serrate, and *S. missouriensis* has three veined leaves with entire to serrate tips. Mainly seen as a basal cluster of leaves

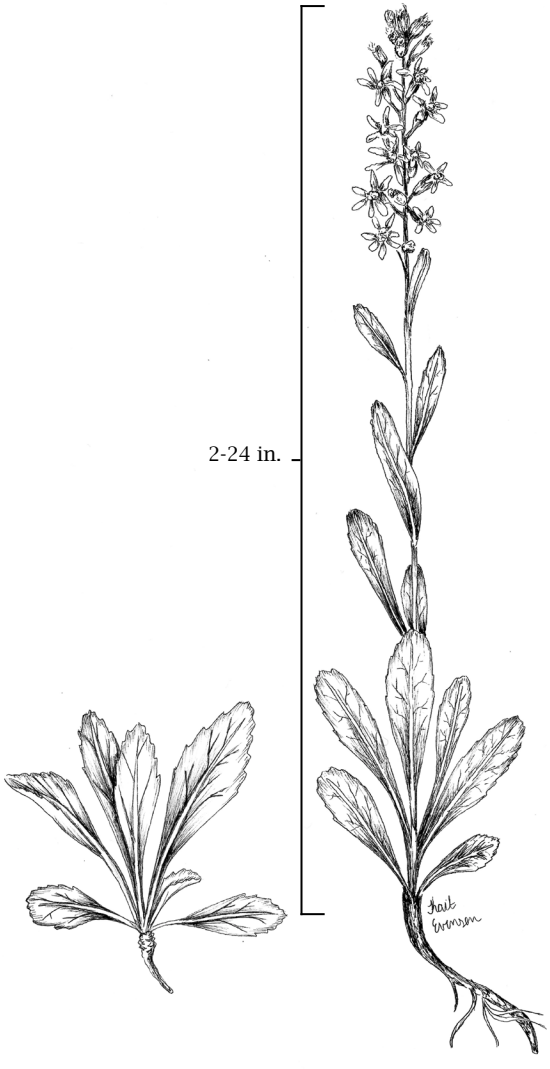
MANAGEMENT NOTES: Poor forage value, but is insect pollinated. Several butterfly species are attracted to it.

Flowering Time



SOSI3

P


2-24 in.

Trifolium sp.

clover

FAMILY: *Fabaceae* (pea)

SYNONYMS: None

NATIVITY: Introduced

REPRODUCTIVE: White, pink, purple, or red, in globose heads.

VEGETATIVE: Leaves basal or alternate with three leaflets, obovate to oval, notched at the tip, may have a light splotch at the base. Leaf stalks hairless.

HABITAT: Meadows, lawns, roadsides, pastures, disturbed places, and stream-banks. 4,100-14,000 ft.

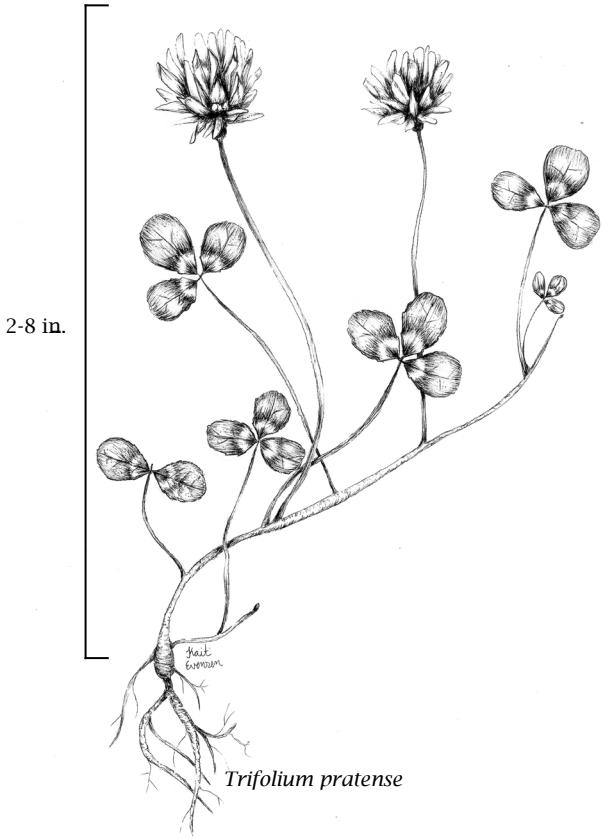
ECOLOGY: Thrives in full sunlight, but also persists in aspen understory. Quick to colonize canopy gaps.

MANAGEMENT NOTES: Important forage for many species. Preferred host plant for the Orange Sulphur Butterfly. Also used by bees to produce honey. Fixes nitrogen.

Flowering Time

TRIFO

P



Trifolium pratense

Verbascum thapsus

Common mullein, flannel plant, great mullein

FAMILY: *Scrophulariaceae* (figwort)

SYNONYMS: None

NATIVITY: Introduced; List C noxious weed

REPRODUCTIVE: Flowers yellow and short lived, only open for pollination for a few hours. Arranged in a dense spike-like bunch on the stalk. Fruits round capsules.

VEGETATIVE: Stalks can be up to 7 feet tall. Large basal rosette of fuzzy leaves is produced in the first year, flowering stalk produced in the second year. Hairs thick and branched on the stem and leaves. Leaves elliptic to oblanceolate and clasping. Margins can be crenate to almost entire.

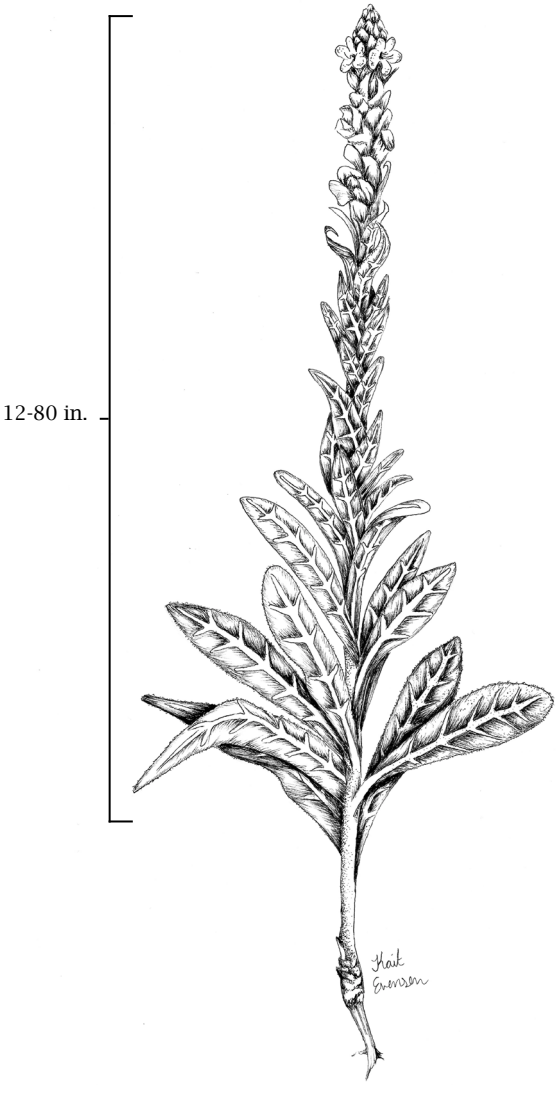
HABITAT: Occupies open sites. 4,500-9,000 ft.

ECOLOGY: Thrives in openings.

MANAGEMENT NOTES: Elk and deer can utilize basal rosettes in the winter. Biennials spread by seed, so mechanical removal before flowering is an effective control method.

Flowering Time

VETH **B**


12-80 in.

Alnus incana

Gray alder, thinleaf alder

FAMILY: *Betulaceae* (birch)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Male and female catkins. Female catkins resemble small pine cones with persistent woody scales.

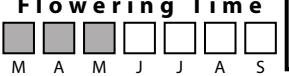
VEGETATIVE: Bark gray to red, lenticels may be present. Young bark smooth, furrowing with age. Leaves alternate, doubly serrate, with larger secondary teeth.

HABITAT: Stream banks and pond borders. 5,000-10,000 ft.

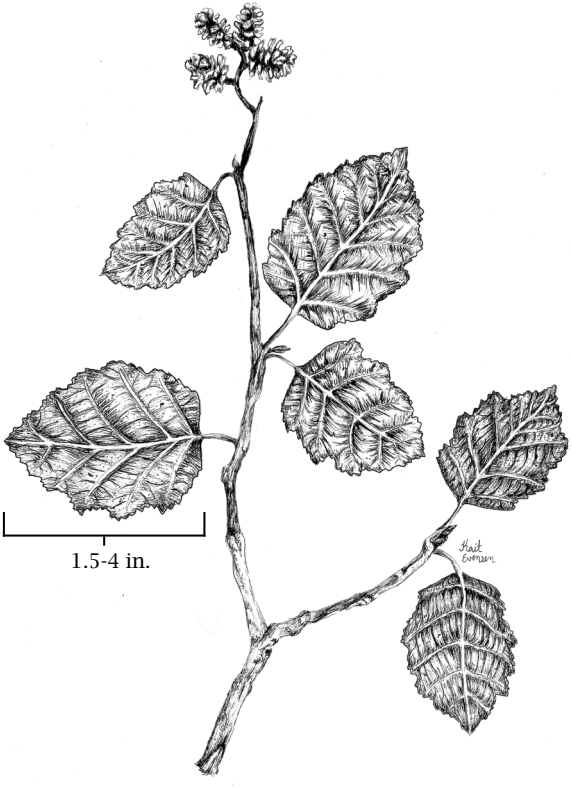
ECOLOGY: Fast-growing and flood tolerant, short-lived, rarely exceeding 40 years. Thicket-forming and provides erosion control.

MANAGEMENT NOTES: Excellent pioneer species, fixes nitrogen. Attracts butterflies.

Flowering Time



ALIN2 **P**


1.5-4 in.

Amelanchier alnifolia

Saskatoon serviceberry

FAMILY: *Rosaceae* (rose)

SYNONYMS: Amelanchier florida

ORIGIN: Native

REPRODUCTIVE: Flowers white to pinkish, in short and erect clusters, 5 to 15 flowers. Fruit a round pome, purple to black purple, usually densely hairy at tip.

VEGETATIVE: Bark smooth, reddish brown when young, grays with maturity. Leaves alternate, simple, oval. Green above, pale below. Base rounded, margin serrated from the middle to the tip.

HABITAT: Common in lower-elevation coniferous forests. 5,000-10,000 ft.

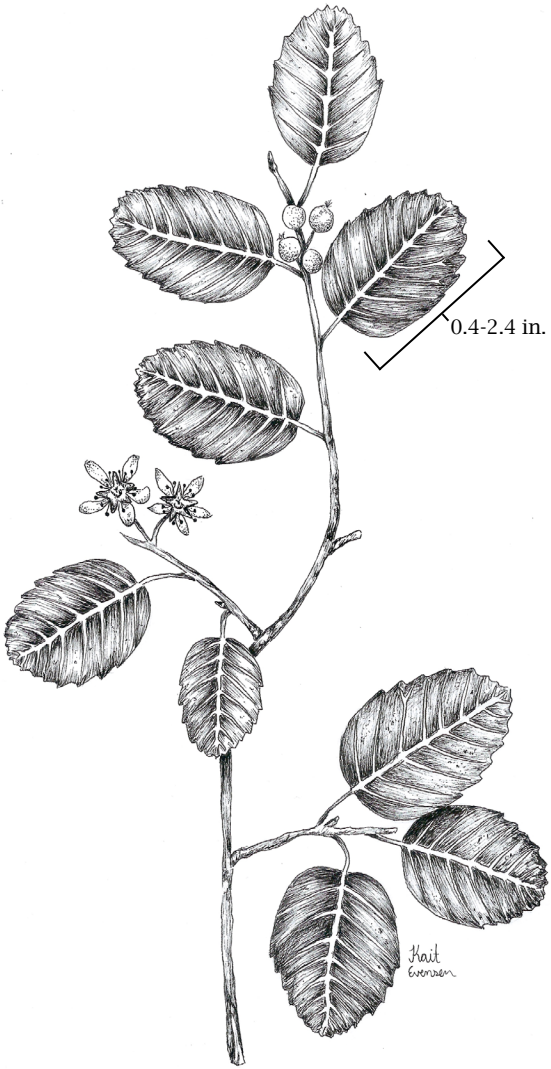
ECOLOGY: Intolerant of deep shade, declines with canopy closure. Common after disturbances like fire or logging.

MANAGEMENT NOTES: Valuable wildlife plant; utilized by a variety of species as a food source. Also provides good cover for small mammals. Useful in a variety of planting scenarios (wildlife, watershed enhancement, and shelterbed).

Flowering Time

M A M J J A S

AMAL2 **P**


0.4-2.4 in.
Kait
Evenson

Arctostaphylos uva-ursi

kinnikinnick, bearberry

FAMILY: *Ericaceae* (heath)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Flowers pink to white, urn shaped. Few flowered racemes. Fruits are berry-like drupes, flattened to round, bright red, not hairy.

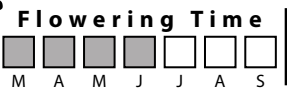
VEGETATIVE: Branches mat-forming, tips usually grow upwards. Bark is thin, dark reddish brown and peeling. Grows prostrate on the ground. Leaves alternate, evergreen and simple. Dark green and shiny above, paler below, not hairy or slightly hairy. Margins entire, often rolled.

HABITAT: Dominant understory shrub in open pine forests. 6,000-11,700 ft.

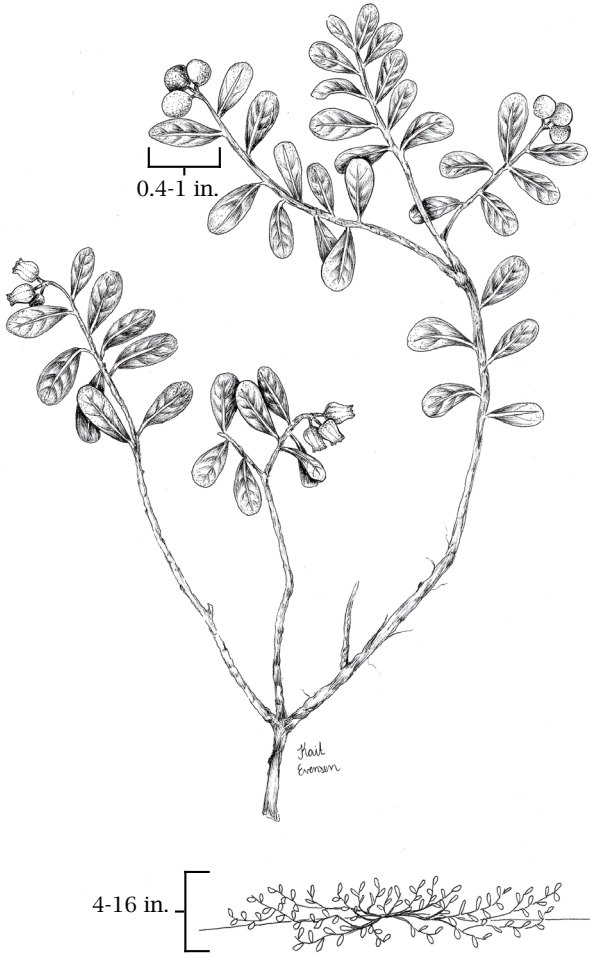
ECOLOGY: Shade intolerant species. Grows best in high light conditions. Usually grows well on disturbed sites unless other shrubs shade the soil.

MANAGEMENT NOTES: Important browse for mule deer. Fruits are eaten by many bird and small mammal species throughout the winter, and by bears in the spring. Offers fair cover to small mammals and birds.

Flowering Time



ARUV **P**


0.4-1 in.
Hart Evensen
4-16 in.

Betula occidentalis

water birch

FAMILY: *Betulaceae* (birch)

SYNONYMS: *Betula fontinalis*

ORIGIN: Native

REPRODUCTIVE: Catkins grow before new leaves each spring, breaks apart during the fall, each scale becomes a winged nutlet.

VEGETATIVE: Bark is dark brown to red, with conspicuous lenticels. Leaves alternate, round with serrate to doubly serrate margins.

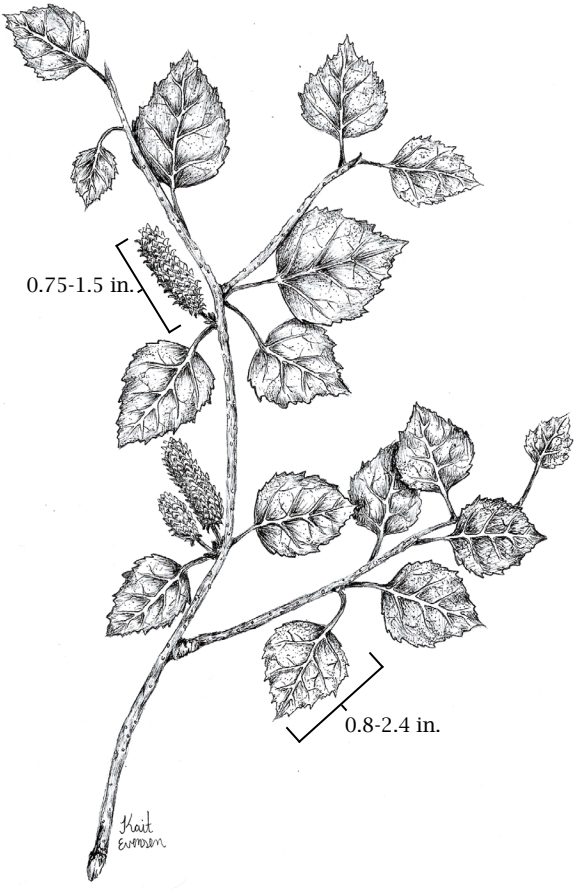
HABITAT: Stream sides, canyon bottoms. 5,000-9,000 ft.

ECOLOGY: Re-establishes following disturbance by re-sprouting. Seeds are short lived.

MANAGEMENT NOTES: Provides habitat for sheep, goats, birds, deer, and beaver. Withstands moderately higher soil pH.

Flowering Time

BEOC2 **P**


0.75-1.5 in.
0.8-2.4 in.
Kait Evenson

Ceanothus fendleri

Fendler's ceanothus, buckbrush

FAMILY: *Rhamnaceae* (buckthorn)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Flowers white, in a panicle or loose cluster; small, and 5 petaled. Fruit a black capsule.

VEGETATIVE: Branches can be thorn-like. Leaves alternate, narrow to oval, entire margins, with three prominent nerves.

HABITAT: Dry slopes. 5,500-9,500 ft.

ECOLOGY: Tends to form patches or small groups, not dense enough to prevent grazing. Most abundant in open ponderosa communities.

MANAGEMENT NOTES: Good forage for livestock and wildlife. Small leaves can lead to over-browsing which can injure or kill the plants. Fixes nitrogen.

Flowering Time

M A M J J A S

CEFE **P**


2-4 in.

Cercocarpus montanus

mountain mahogany

FAMILY: *Rosaceae* (rose)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Flowers cream to pinkish, solitary or in axillary clusters of 2 or 3. Petals absent, hairy. Fruit an achene with a white, hairy, twisted style.

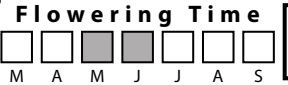
VEGETATIVE: Twigs smooth, pale gray to reddish gray bark. Young twigs can be fuzzy. Older branches develop scales. Leaves alternate, simple, and ovate. Base triangular, serrate above the middle. Upper side of leaf dark green; underside is light and hairy.

HABITAT: Dry slopes, hills, ridges, mesas, desert foothills, and rocky outcrops. 4,000-8,500 ft.

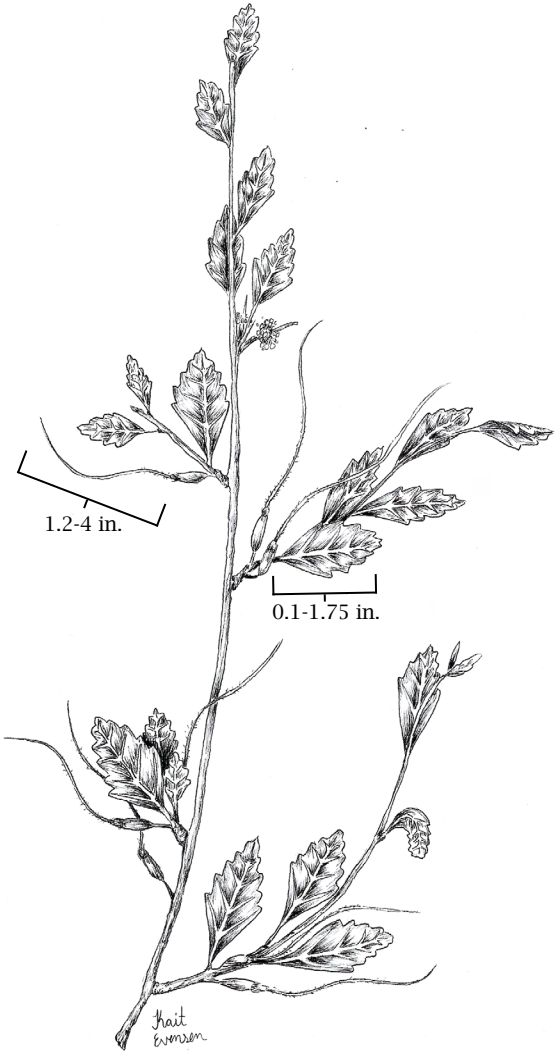
ECOLOGY: Dominant in more mature communities like old growth ponderosa pine. Prefers full sun.

MANAGEMENT NOTES: Important food source for deer, bighorn sheep, elk, and small mammals. Also provides cover for birds and small mammals.

Flowering Time



CEMO2 **P**


1.2-4 in.
0.1-1.75 in.
Hait Evenson

Juniperus communis

common juniper

FAMILY: *Cupressaceae* (cypress)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Female cones berry-like start out green, ripen to a dark blue at maturity. Male cones small and green.

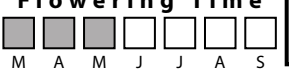
VEGETATIVE: Plant is low and creeping, the stems gnarled, with peeling bark. Leaves in whorls of three, awl shaped and needle-like with a white stripe running down the length.

HABITAT: Coniferous forests. 5,000-11,000 ft.

ECOLOGY: Dominant understory shrub in ponderosa pine, aspen, Douglas-fir, limber pine, lodgepole pine, and other forest types.

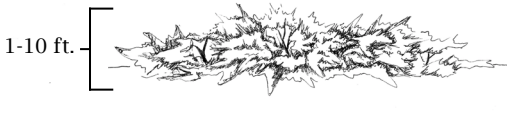
MANAGEMENT NOTES: Useful in long-term restoration; helps prevent soil erosion. Cones are a valuable food source for many small mammal and bird species.

Flowering Time



JUC06 **P**


Kait
Evensen


1-10 ft.

Purshia tridentata

antelope bitterbrush

FAMILY: *Rosaceae* (rose)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Flowers white to yellowish, solitary, 5 petaled. Fruit an achene, outside greenish brown, inside dark red, juice extremely bitter.

VEGETATIVE: Leaves alternate or in bundles, three lobed at the tip, green and sparsely hairy above, white hairy below.

PREFERRED HABITAT: Dry areas, often in pinyon-juniper, or sagebrush; 4,700-9,500 ft.

ECOLOGY: Prefers growing in open areas with sun.

MANAGEMENT NOTES: One of the most important Western browse plants, can withstand heavy browsing.

Flowering Time

M A M J J A S

PUTR2 **P**


0.2-0.8 in.
Kait
Evensen

Quercus gambelii

Gambel oak, scrub oak

FAMILY: *Fagaceae* (beech)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Flowers male or female. Female flowers solitary or in clusters of 2-3. Fruits are small acorns.

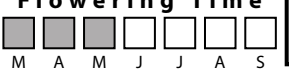
VEGETATIVE: Leaves alternate, elliptic, deeply lobed with 2-4 lobes per side. Leaves fuzzy and strongly veined below, shiny green above.

PREFERRED HABITAT: Found in forests of the Front Range south of I-70, generally with ponderosa pine at higher elevations; 4,000-10,000 ft.

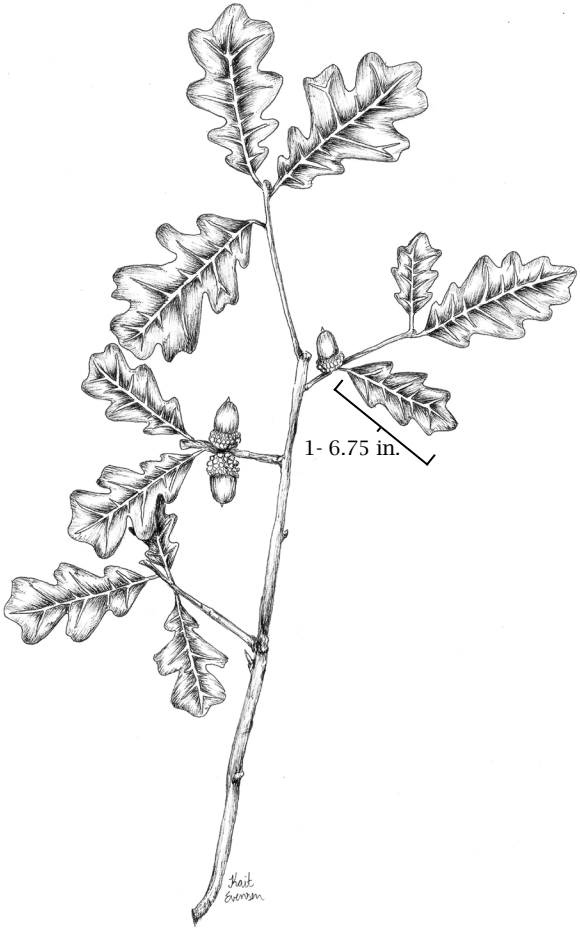
ECOLOGY: Re-sprouts after fire from the base of the trunk.

MANAGEMENT NOTES: Provides food and shelter for many wildlife species. Gambel oak is notably utilized by elk in the winter and bears in the spring. Other mammals, birds, and ungulates utilize the plant for forage.

Flowering Time



QUGA **P**


1- 6.75 in.

Rhus trilobata

skunkbush sumac

FAMILY: *Anacardiaceae* (cashew or sumac)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Flowers pale yellow, small, sepals ovate, pinkish, petals obovate. Fruit a berry, dull orange to dark red, usually with short hairs.

VEGETATIVE: Bark is gray to brown and with lenticels, fuzzy. Leaves alternate with three leaflets, palmately lobed, or simple and unlobed.

HABITAT: Shallow, infertile, rocky soils on dry and excessively drained sites; 3,500-9,000 ft.

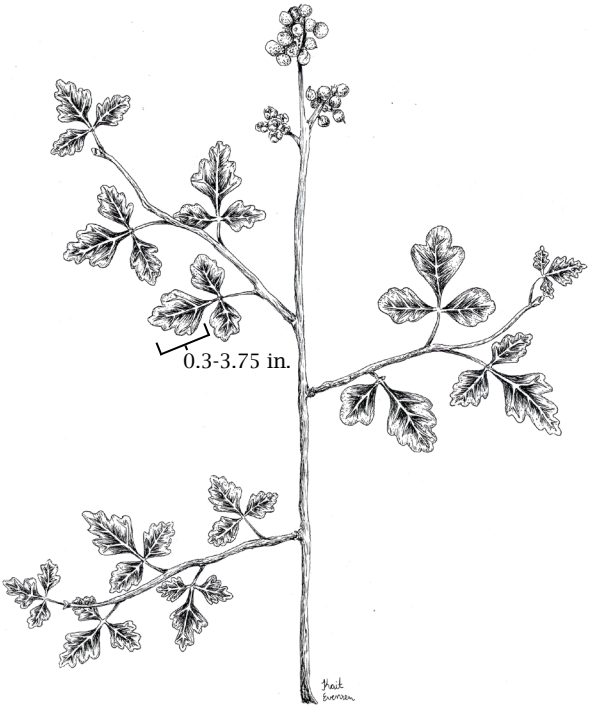
ECOLOGY: Pioneer species. Persists in more mature shrub communities. Considered shade intolerant.

MANAGEMENT NOTES: Utilized by a variety of bird and animal species for food and cover. Valuable for restoration or reclamation of eroded and disturbed soils due to its ability to grow in poor soil conditions.

Flowering Time

M A M J J A S

RHTR **P**


0.3-3.75 in.

Ribes cereum

waxcurrent

FAMILY: *Grossulariaceae* (gooseberry)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Flowers pink and narrowly tubular, grow either solitary or in clusters of up to 8. Berries are ovoid and red to orange; slightly hairy.

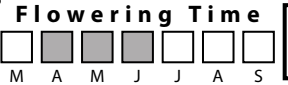
VEGETATIVE: Leaves in bundles, three to five lobed, margins coarsely crenate to dentate. Twigs dark gray, smooth and covered with fine hairs.

HABITAT: Canyon sides and dry gulches. 4,950 to 13,200 ft.

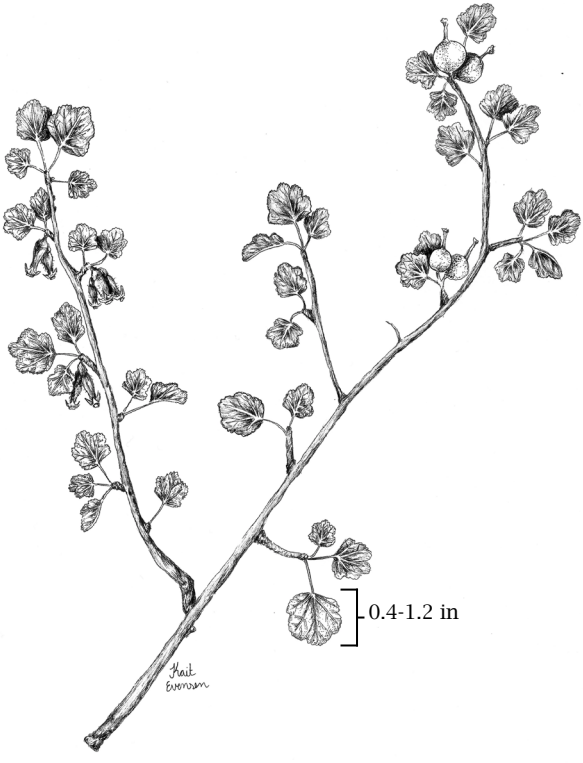
ECOLOGY: Wax current is shade intolerant and grows most vigorously under full sun. Other common *Ribes* species, *R. inerme* has spiny stems.

MANAGEMENT NOTES: Alternative host for the white pine blister rust which attacks, injures, and sometimes kills five-needled pines like the limber pine (*Pinus flexilis*). Provides food and cover for a variety of wildlife species.

Flowering Time



RICE **P**


0.4-1.2 in
Hait
Everson

Rosa woodsii

Wood's rose, mountain rose, interior rose

FAMILY: *Rosaceae* (rose)

SYNONYMS: *Rosa ultramontana, Rosa arizonica, Rosa fendleri, Rosa neomexicana*

ORIGIN: Native

REPRODUCTIVE: Flowers light pink to deep rose, occasionally white, and five petaled. Few flowered to solitary, arranged in clusters at the ends of branches. Fruits red-orange to purple to black rose hips.

VEGETATIVE: Rhizomatous. Stems brown to gray, with straight or curved prickles. Leaves alternate and pinnate with usually 5 to 7 leaflets. Leaflets are oval with serrate margins, usually hairless.

HABITAT: Along streams, or in moist areas and open ponderosa forests. 3,500-9,000 ft.

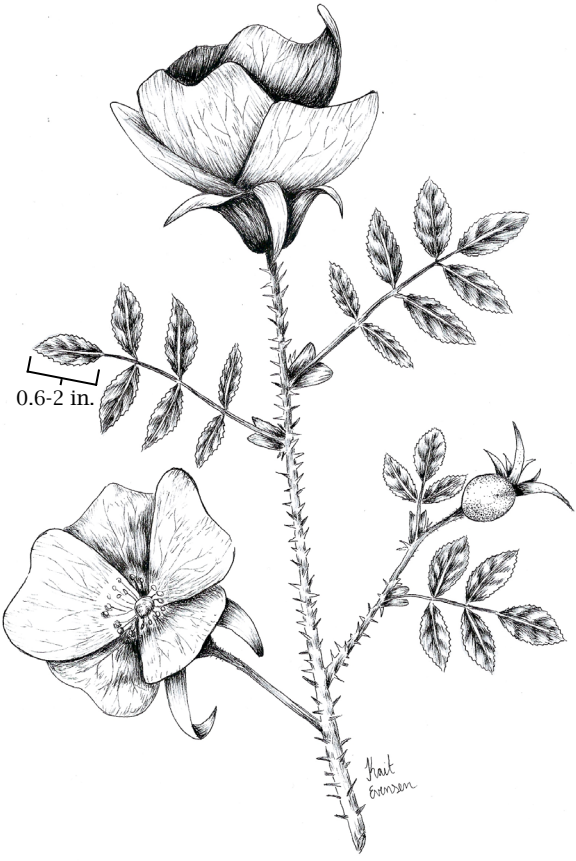
ECOLOGY: Does not tolerate full shade. May persist even after disturbance events.

MANAGEMENT NOTES: Provides important forage of leaves and berries for small and large mammals, birds, and ungulates. Serves as a cover plant for birds and small mammals.

Flowering Time

M A M J J A S

ROWO **P**


0.6-2 in.

Rubus idaeus

Red raspberry, American red raspberry

FAMILY: *Rosaceae* (rose)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Flowers white, five petaled, in clusters of 1 to 4. May arise from the axils of leaves, or at the end of branches. Fruit a raspberry.

VEGETATIVE: Rhizomatous with suckering roots. Branches with slender, straight prickles, yellowish to brown, bark exfoliating on older stems. Leaves alternate and pinnately compound, green and sometimes hairy above, gray or white-hairy below. Leaves narrow, 3-9 leaflets, margins serrate.

HABITAT: Moist forests and slopes, high elevation talus and scree fields. 6,500 to 11,700 ft.

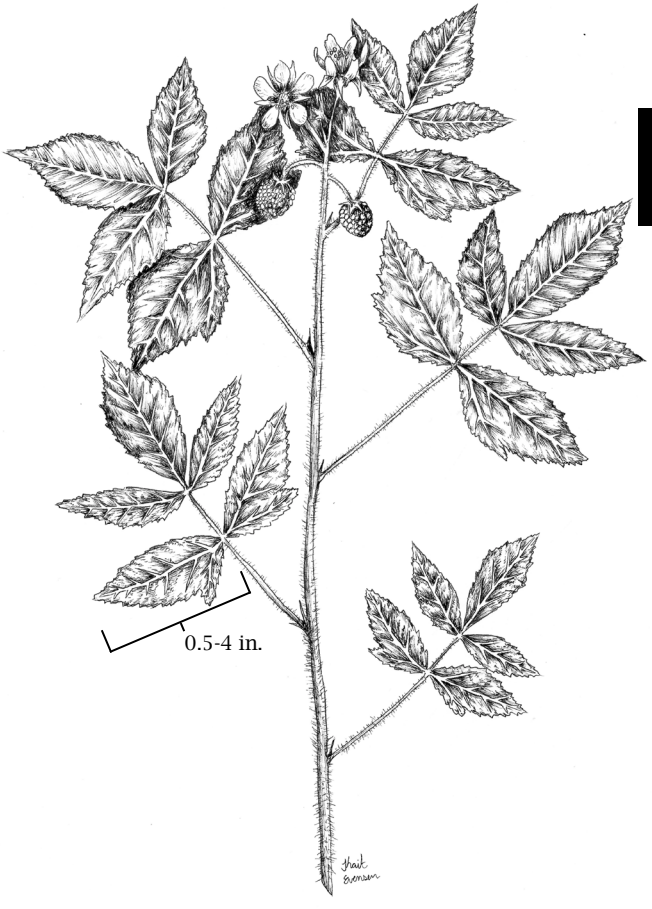
ECOLOGY: Pioneer species. Shade intolerant. Seeds survive in the seedbank for up to 60 years. Re-sprouts from rhizomes and suckers following disturbances like fire.

MANAGEMENT NOTES: Provides food and cover for a large range of wildlife species. Favorable nesting habitat for smaller birds.

Flowering Time

M A M J J A S

RUID **P**


0.5-4 in.

Shepherdia canadensis

russet buffaloberry, buffalo-berry, soopolallie

FAMILY: *Elaeagnaceae* (oleaster)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Male and female plants. Flower's outer surface brown, inner surface a light greenish yellow, found in the axils of leaves. Fruits are round and drupe-like, yellowish-red and juicy.

VEGETATIVE: Twigs brownish and scaly. Leaves opposite, simple, and oval. Green above, silvery and rust-spotted bellow. Margins entire.

HABITAT: Pine forests, rocky slopes, and shaded areas. 7,500-11,600 ft.

ECOLOGY: Resprouts from surviving roots following disturbance events and can persist in shaded environments.

MANAGEMENT NOTES: Moderate forage for wildlife, utilized in the fall by black bears and grouse. Provides cover for some small mammal and bird species. Nitrogen fixer.

Flowering Time

SHCA **P**


0.1-1.2 in.

Symphoricarpos occidentalis

Western snowberry

FAMILY: *Caprifoliaceae* (honeysuckle)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Flowers pale pink and urn shaped ,stalkless in dense short spikes. Berry-like drupes white to greenish white.

VEGETATIVE: Rhizomatous. New twigs slightly hairy, rough bark forms on older branches. Leaves opposite, egg shaped, margins have coarse round teeth. Leaves thick and leathery.

HABITAT: Common in a variety of habitats including riparian, grassland, and forested communities. 3,500-8,500 ft.

ECOLOGY: Thrives following many types of disturbance including fire and logging.

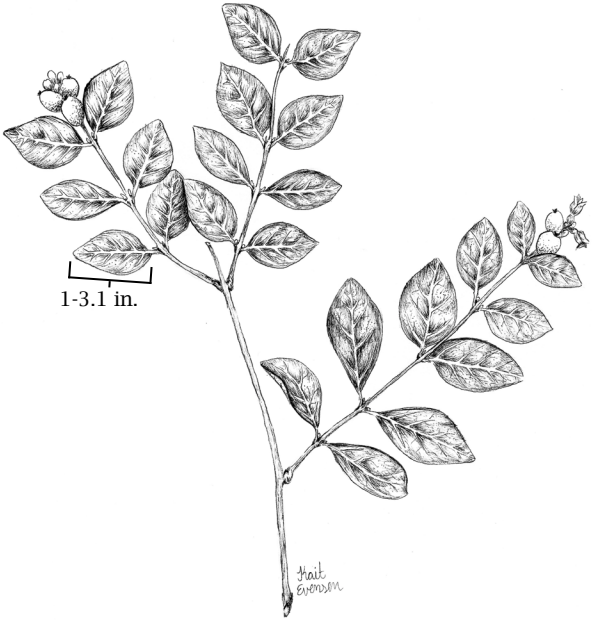
MANAGEMENT NOTES: Extensive rhizomes forms dense colonies; beneficial in preventing erosion. Provides cover for several small mammal and bird species.

Flowering Time

M A M J J A S

SYOC

P


1-3.1 in.
Hait Evenson

Populus tremuloides

quaking aspen

FAMILY: *Salicaceae* (willow)

SYNONYMS: None

ORIGIN: Native

FLOWERS/FRUIT: Catkins long and densely flowered, floral bracts exhibit large cuts. Fruits are ovoid capsules, two-valved and smooth.

LEAVES/BARK: Bark green to yellow, turning white with dark brown furrows with age. Leaves alternate, light green beneath, dark green above. Round to ovoid with a pointed tip, margins are toothed. Stalks flattened and perpendicularly attached. Leaf buds have overlapping scales.

HABITAT: Moist upland woods, mesas, avalanche chutes, talus, near valley bottoms, and many other locations. 6,000-11,700 ft.

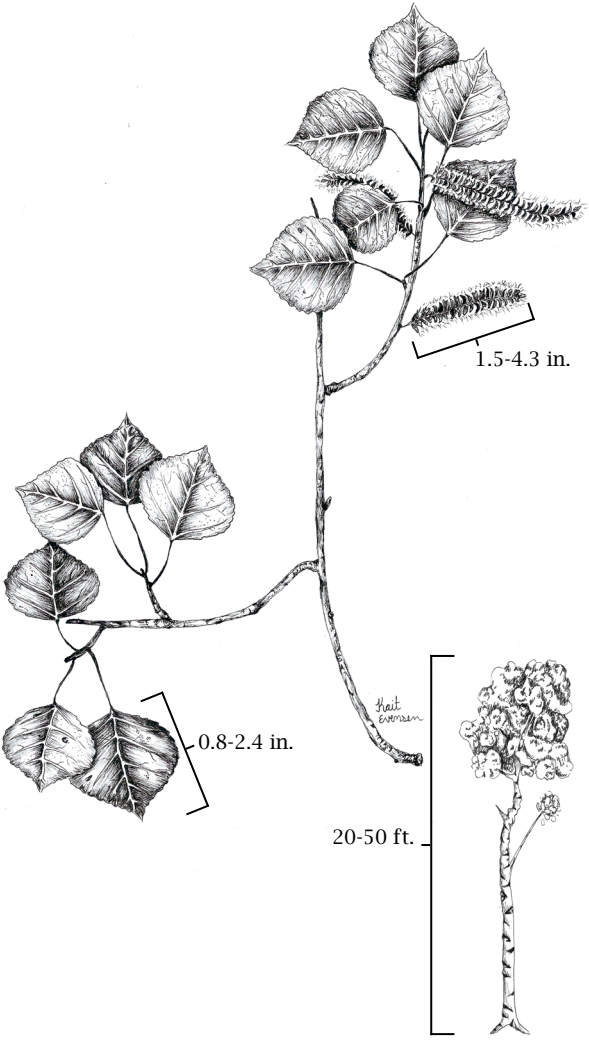
ECOLOGY: Abundance declines with conifer encroachment. Regenerates after fire from suckers or seeds.

MANAGEMENT NOTES: Important habitat for many species. Provides forage throughout the year from the browsing of saplings to the chewing of bark on mature trees during the winter. Critical species for beaver. Leaf litter provides more nutrient input to the soil than other hardwoods.

Flowering Time

M A M J J A S

POTR5 **P**


1.5-4.3 in.
0.8-2.4 in.
20-50 ft.

Juniperus scopulorum

Rocky Mountain juniper, mountain red cedar

FAMILY: *Cupressaceae* (cypress)

SYNONYMS: None

ORIGIN: Native

REPRODUCTIVE: Male cones green, small, oblong. Female cones slightly larger and round. Ripens to blue-black color, sometimes with a waxy white finish.

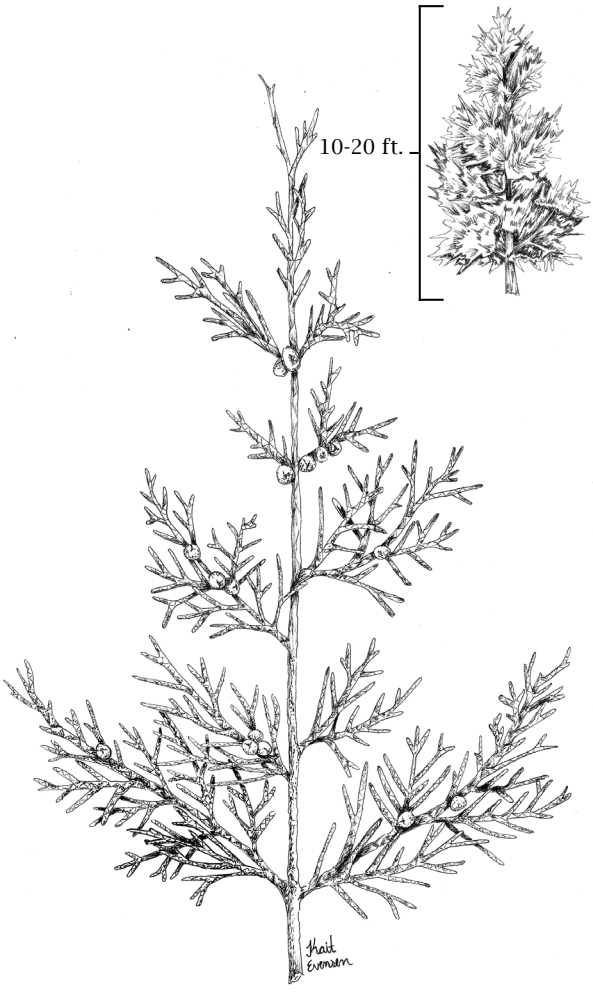
VEGETATIVE: Bark is a dark red-brown turning gray and furrowed to scaly with age; sometimes exfoliates. Needles are scale-like and closely pressed to the stem. Margins entire under magnification.

HABITAT: Dry, clay, rocky, or sandy slopes, canyons and wash areas. May grow on moist sites. 4,000-8,500 ft.

ECOLOGY: Occurs in Gambel oak, ponderosa pine, and pinyon pine communities. Drought tolerant.

MANAGEMENT NOTES: Important forage for many species, big part of winter forage for mule deer. Provides nesting habitat, migratory corridors, and food and cover for many birds and small mammals.

JUSC2 P


10-20 ft.
Thait Evernden

Pinus contorta

Rocky Mountain lodgepole pine

FAMILY: *Pinaceae* (pine)

SYNONYMS: *Pinus contorta var. latifolia*

ORIGIN: Native

REPRODUCTIVE: Seed cones strongly asymmetric, mostly recurved. Mid and lower cone scales dome-shaped, some closed and coated in resin.

VEGETATIVE: Bark thin, gray to red-brown, separated into loose plates. Leaves yellow-green in bundles of two.

HABITAT: Dominant tree species in upper montane regions. 7,000-11,500 ft.

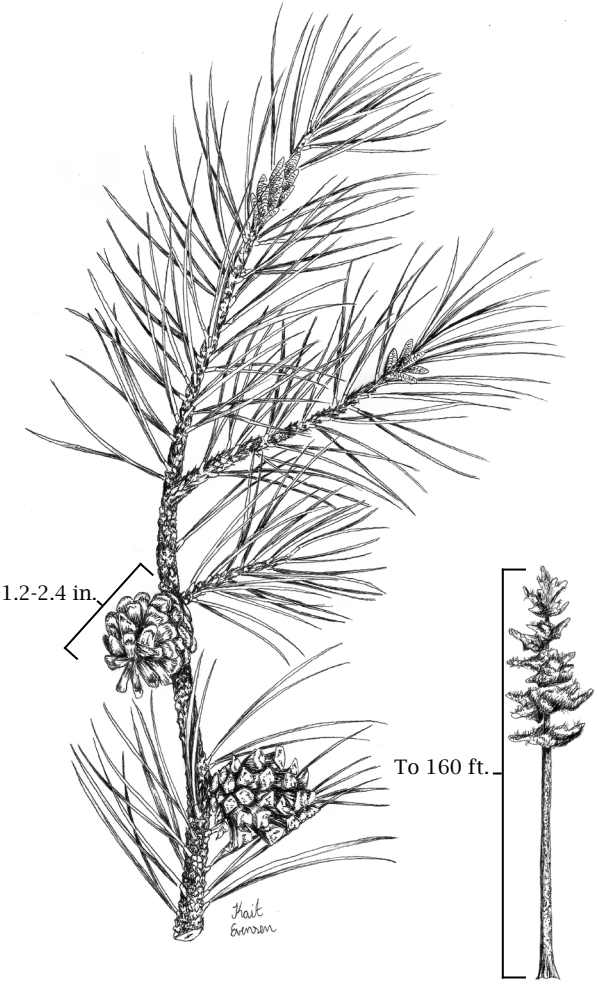
ECOLOGY: Aggressive pioneer species on disturbed sites, occurrence largely due to stand replacing fire or clear cuts. Stands can regenerate post fire from the closed cones that open after heating. Abundance has increased over the past century.

MANAGEMENT NOTES: Mule deer, moose, and elk may browse lodgepole, usually when other food sources are scarce. Provides cover for a variety of animals. Larger trees are more susceptible to mountain pine beetle and pine engraver beetle invasion. Pitch tubes and boring dust are signs of invasion. Both utilize slash to reproduce, proper slash management can reduce population size.

Flowering Time

M A M J J A S

PICO **P**


1.2-2.4 in.
To 160 ft.

Pinus ponderosa

Rocky Mountain ponderosa pine

FAMILY: *Pinaceae* (pine)

SYNONYMS: *Pinus ponderosa var. scopulorum*

ORIGIN: Native

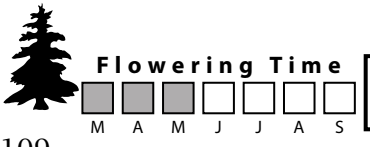
REPRODUCTIVE: Male cones yellow or red, narrow, oval shaped. Female cones solitary or in pairs. Narrow before opening, rounder after. Scales armed with prickles

VEGETATIVE: Bark reddish brown, yellows with age and forms big scales, sometimes smells like vanilla. Needles deep yellow-green, in bundles of 2-3, and twisted. Buds red-brown, resinous, margins white and fringed.

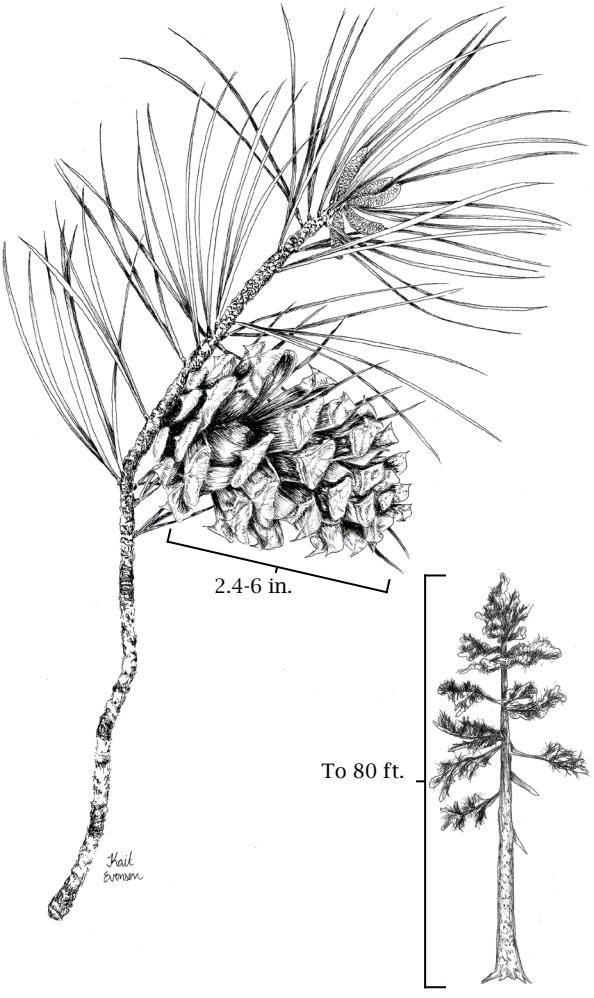
PREFERRED HABITAT: Occupies relatively dry, nutrient poor sites. Exposed hillsides, mesas, and south-facing slopes; 6,360-9,500 ft.

ECOLOGY: Light and drought tolerance allows it to be the first conifer to establish after disturbance. Thick bark and self-pruning allows tree to resist impacts from fire. may be completely replaced by other more shade tolerant species after several decades without disturbance.

MANAGEMENT NOTES: Many animals utilize the trees and surrounding habitat for food and cover.



PIPO P


2.4-6 in.
To 80 ft.
Hail Evenson

Pseudotsuga menziesii

Rocky Mountain Douglas-fir

FAMILY: *Pinaceae* (pine)

SYNONYMS: *Pseudotsuga menziesii var. glauca*

ORIGIN: Native

REPRODUCTIVE: Cones reddish brown with three-toothed bracts that extend beyond the cone scales, the middle tooth is the longest. Cones hang downward.

VEGETATIVE: Bark dark brown to grayish brown. Deeply furrowed. Needles yellow-green to dark blue-green, solitary, linear, short stalked, and hockey stick shaped. Oval leaf scars left on the twigs.

HABITAT: Mountain slopes, moist canyon walls; 6,000-8,000 ft.

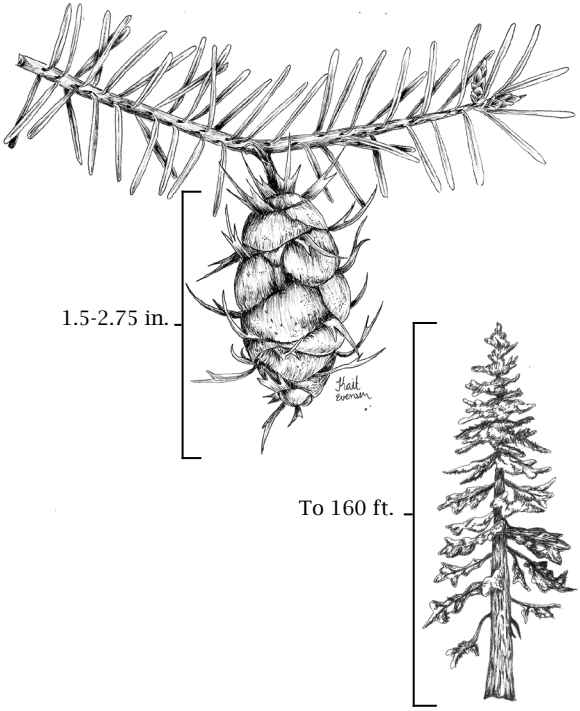
ECOLOGY: Shade tolerant in dry to moist low and mid elevation forests. Shade intolerant in wetter forests. Important co-dominant species in many forest types. Without disturbance it tends to encroach on ponderosa pine, lodgepole pine, limber pine, and quaking aspen.

MANAGEMENT NOTES: Important forage for small mammals and birds. Birds feed on the insects that attack the tree. The Douglas-fir tussock moth and Western spruce budworm eat new growth, increasing tree mortality in years with outbreaks.

Flowering Time

M A M J J A S

PSME **P**


1.5-2.75 in.
To 160 ft.

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By Common Name

About the Author

I grew up Littleton, Colorado, making frequent trips to the mountains and exploring my perceptions of the world through art. In May of 2018 I received my undergraduate degree from Colorado State University in Natural Resource Management with a minor in Ecological Restoration. During my senior year I was given the Department of Forest and Rangeland Stewardship Professional Undergraduate Experience Award which allowed me to create this book for the Colorado Forest Restoration Institute.

I love to draw, paint, be outside, and travel. I hope to combine my love of the natural world with my love of art to enhance visual communication about environmental issuses. To see more of my arrtwork you can visit my website at: https://kaitevensen.wixsite.com/website