

# A Field Guide to Plants of the Boise Foothills





# Acknowledgements

This field guide evolved through discussions of its need and usefulness with members of the Healthy Hills Initiative. It quickly developed into a group effort. Special thanks go to the following entities:

## **Ada Soil and Water Conservation District**

[www.AdaSWCD.org](http://www.AdaSWCD.org)

## **Healthy Hills Initiative**

[www.HealthyHills.org](http://www.HealthyHills.org)

## **Southwest Idaho Resource Conservation and Development Council**

[www.IdahoRCD.org](http://www.IdahoRCD.org)

## **Boise State University**

[www.BoiseState.edu](http://www.BoiseState.edu)

## **Bureau of Land Management: Idaho State Office**

[www.blm.gov/id/st/en.html](http://www.blm.gov/id/st/en.html)

Cover and title page photo generously donated by Michael Lanza, The Big Outside.

[www.TheBigOutside.com](http://www.TheBigOutside.com)

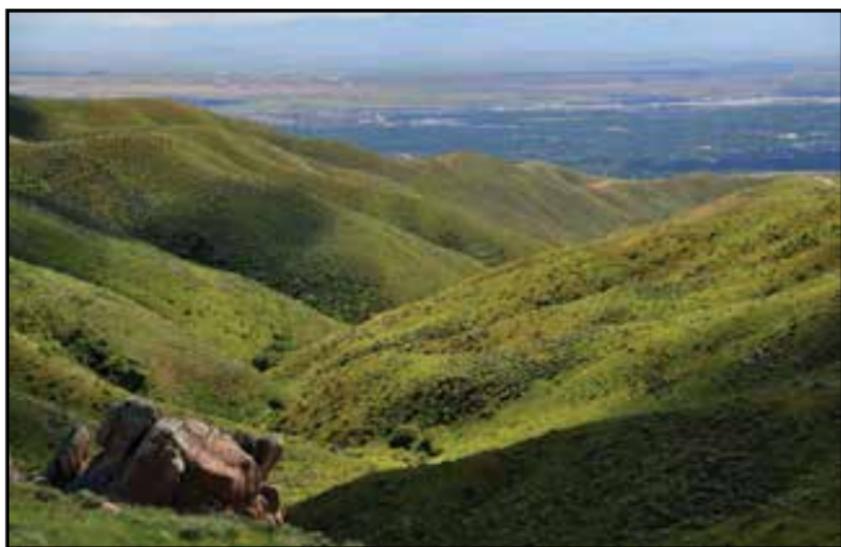
The authors of this field guide would like to thank the following people for kindly offering their professional advice: Nancy Cole, Antonia Hedrick, Scott Koberg, Bill Moore, Nancy Shaw, Roger Rosentreter, and Brett VanPaepeghem.

Thanks to following people who contributed outstanding plant photographs: Matt Fisk, Matt Lavin, Ian Robertson, and Clinton Shock.

# A Field Guide to Plants of the Boise Foothills

Jamie Utz  
Michael Pellant  
Jessica Gardetto

Edited by Corey Gucker



First edition, 2013

# Contents

<b>Introduction to the foothills .....</b>	<b>6 - 9</b>
<b>How to use this field guide .....</b>	<b>10</b>
<b>Key to symbols .....</b>	<b>11</b>
<b>Plant profiles .....</b>	<b>12 - 159</b>
<b>Shrubs/Trees .....</b>	<b>12 - 23</b>
<b>Forbs .....</b>	<b>24 - 121</b>
<b>Grasses .....</b>	<b>122 - 159</b>
<b>Glossary .....</b>	<b>160 - 162</b>
<b>References .....</b>	<b>163 - 164</b>
<b>Index .....</b>	<b>165 - 169</b>
<i>by common name.....</i>	<i>165 - 167</i>
<i>by scientific name.....</i>	<i>168 - 169</i>

# Introduction to the Boise Foothills

## *Location*

The foothills north of Boise, Garden City, and Eagle make a beautiful backdrop for the urban areas below. This ecosystem provides city residents unparalleled recreational opportunities, serves as important wildlife habitat, provides clean water to residents, and supports the local economy. The foothills are also home to a wide variety of plants that have important ecological and economic roles. Native plants have naturally evolved with and adapted to the local foothills climate and soils. Nonnative plants are species that were introduced (accidentally or purposefully) to the foothills ecosystem. Both types of plants are important to understanding and appreciating the foothills. This guide provides the user with a tool to identify some of the more common native and nonnative plants found in the lower portion of the Boise Foothills (Figure 1).



**Figure 1.** The blue line on the map above indicates a general boundary that was used to select the plants featured in this field guide.

## *Environment*

Vegetation in the foothills is a product of the soils, slope, aspect, elevation, and the local climate. Soils are important because their texture, depth, nutrients, and other characteristics govern the types of plants found in this ecosystem. Additionally, aspect (i.e. the direction the slope of a hill faces), elevation, and precipitation are all factors that influence the presence and proportions of foothills plants. Disturbances such as wildfires and off-road vehicle or off-trail use can negatively affect this environment by reducing native plants and encouraging the entry or increase of nonnative invasive plants.

## *Native Plants*

Plants native to the foothills evolved to withstand hot and dry summers, cold winters, periodic droughts, and infrequent wildfires. A healthy native foothills plant community is dominated by big sagebrush and bitterbrush with a diverse understory of grasses, forbs (wildflowers), lichens, and mosses (Figure 2). Foothills plant communities also contain several rare native plants, which are sparsely distributed and adapted to unique habitats.



**Figure 2.** A healthy foothills plant community is a diverse mixture of shrubs, forbs, and grasses. Healthy native plant communities are resilient to natural disturbances and provide good watershed protection and wildlife habitat.

### *Nonnative Plants*

Most of the nonnative plants found in the Boise Foothills are of European or Asian origin. Some nonnative plants have desirable characteristics and were purposefully planted to meet land management objectives. However, other undesirable nonnative invasive plants have spread accidentally into the foothills, causing ecological and economic damage. These invasive plants compete with native plants for space, water, and nutrients. Several invasive grasses, exemplified by cheatgrass (Figure 3), increase the frequency and size of wildfires in the foothills, threatening homes and intact native plant communities. The negative impacts of some invasive plants are so severe that they are assigned the classification of noxious weed. A noxious weed is designated by the state of Idaho as any plant having the potential to cause injury to public health, livestock, crops, or other land or property.



**Figure 3.** This photo shows cheatgrass dominating the landscape after a 2009 wildfire at the Eagle Sports Complex. Dominance by this invasive annual grass has reduced the abundance of native plants and increased the potential for future wildfires.

## *Field Guide Contents*

This guide was developed to assist foothills users and residents to identify the more common native and nonnative plants in this area. It does not include all of the plant species found in the foothills, and it does not include plants growing along streams or in wetland areas. Foothills plants outside of the area shown in Figure 1 are not well represented in this guide. A digital version of the field guide is available on the Healthy Hills Initiative website, along with information on additional Boise Foothills plants, methods to control invasive plants, fire effects on plants, and methods to restore native plant communities (Figure 4). Scan the QR code below with your smartphone to access the Healthy Hills Initiative website.



**Figure 4.** Restoring the Boise Foothills ecosystem is a worthwhile cause that has many benefits including increasing plant diversity, attracting a variety of wildlife species, enhancing recreational activities, and reducing the risk of wildfire.

[www.HealthyHills.org](http://www.HealthyHills.org)



# How to use this field guide

This field guide is designed to facilitate accurate identification of native and nonnative foothills plants.

- Color-coded bars across the top of each page indicate plant life form: green for trees or shrubs, pink for forbs, and blue for grasses.
- The typical life cycle of each plant is given at the top right of each page: annuals are plants that complete their life cycle in a single year, biennials are plants that require two years to complete their life cycle, and perennials are plants that live for more than two years. Some plants naturally have more than one life cycle classification, and some plant life cycle classifications can vary according to regional growing conditions.
- Widely used common names of plants are listed at the top of each page, and alternative common names (if applicable) are listed in parentheses below.
- Currently recognized scientific names (as of 2013) are listed beneath the common names; nomenclature follows the NRCS PLANTS database (USDA, NRCS 2013: <http://plants.usda.gov>).
- The description section includes plant characteristics most useful for identification.
- The interesting facts section includes information about plant natural history, importance to wildlife, and cultural uses. This section may include information from regions beyond the plant's Boise Foothills range.
- Symbols at the bottom of each page allow for at-a-glance comprehension of certain plant features; the key on the following page lists these symbols and their meanings.
- Color photos of each plant are provided; photos lacking credits are courtesy of the BLM.
- Measurements of plant attributes are given in abbreviated English units (inches: in, feet: ft), except for extremely small measurements, which are given in millimeters (mm).
- Definitions of botanical terms can be found in the glossary at the end of the field guide.
- Selected references are listed at the end of the field guide.

# Key to symbols

The symbols below represent certain key plant characteristics.



Native to Idaho



Introduced to Idaho



Important to wildlife



Attracts pollinating insects



Rare plant



Considered moderately to highly flammable



A nonnative plant designated by the state of Idaho as a noxious weed that is injurious to public health, agriculture, recreation, wildlife, or property

# Antelope bitterbrush

*Purshia tridentata*

## Description

- Height of mature plants is 5 to 8 ft, and width is typically 4 to 6 ft
- Trunk is thick and extensively branched
- Leaves are bright to olive green and wedge-shaped with 3 terminal lobes
- Leaf surfaces are hairless and smooth, while leaf undersides are covered in soft white hairs
- Flowers are small, bright yellow, fragrant, and appear singly in the leaf axils in late spring

## Interesting facts

Antelope bitterbrush is common in the Boise Foothills. It is a relatively long-lived shrub; in California, 128 year-old plants have been reported.

Antelope bitterbrush sometimes resprouts after fire, but in areas with frequent fires, other fire-tolerant plants or weeds may replace it.

Many herbivores native to the foothills rely on this shrub as a critical food source, especially during harsh winters.

Native Americans used antelope bitterbrush in poultices for rashes, in teas to treat colds or pneumonia, and as a laxative.

Seeds have a very bitter flavor, hence the name 'bitterbrush'.





Top and middle photos courtesy of M. Lavin

# Basin big sagebrush

*Artemisia tridentata* subsp. *tridentata*

## Description

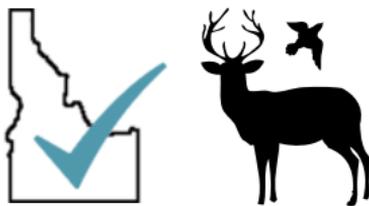
- Height is 3 to 5 ft on average, but may reach 10 ft on deep soil sites; shape is rounded to spreading irregular
- Main trunk is short and divides into several longer branches that tend to grow up rather than out; bark is stringy
- Leaves are pale green to gray-blue, 0.75 to 1.25 in long, coated with fine silver hairs, and have 3 lobes at the tips
- Flowers are small, dark yellow, and appear on upright, uneven stems above the leafy crown
- Flowers appear in September

## Interesting facts

Basin big sagebrush is the most common sagebrush in the lower Boise Foothills, whereas a similar subspecies called Wyoming big sagebrush (*A. t. subsp. wyomingensis*) is found in the southern plains surrounding Boise.

Like many sagebrush species, basin big sagebrush produces two types of leaves: deciduous leaves that are produced each spring and are shed in the fall, and persistent leaves that remain on the shrub throughout the year. Deciduous leaves have long bases and bell-shaped lobes, while persistent leaves have short bases and three-lobed tips.

Essential oil glands in the leaves give many sagebrush plants (*Artemisia* spp.) a fragrant, turpentine-like smell. This feature may reduce its palatability to some herbivores; however, sagebrush-dependent wildlife like pygmy rabbits and Greater Sage-grouse often depend on it as a staple food source.





Photos courtesy of M. Lavin

# Foothills sagebrush

(Xeric big sagebrush)

*Artemisia tridentata* subsp. *xericensis*

## Description

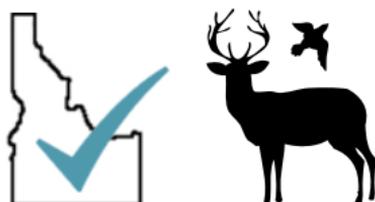
- Height of mature plants usually exceeds 3 ft
- Branches typically radiate from a single trunk in a classic tree shape; bark is stringy and ranges from brown to gray-green in color
- Persistent leaves are short, wedge-shaped, and widest just beneath the 3-lobed tips; deciduous leaves are 0.75 to 1 in long with leaf margins that curve outward (*For a discussion on the two types of leaves produced by big sagebrush species, see basin big sagebrush*)
- Flowers are small, dark yellow, and appear in September; flowering stems are produced on most branches and appear unevenly above the crown

## Interesting facts

This subspecies is a naturally occurring hybrid between basin big sagebrush and mountain big sagebrush.

Like all subspecies of big sagebrush, foothills sagebrush provides food and cover for mammals and birds including pronghorn and Greater Sage-grouse.

Some species of sagebrush are fluorescent when submerged in water or alcohol and exposed to a black light, a method sometimes used to distinguish between species and subspecies. Foothills sagebrush glows a creamy blue color during this test, while basin big sagebrush does not glow at all.





# Gray rabbitbrush

(Rubber rabbitbrush)

*Ericameria nauseosa*

## Description

- Height ranges from 2 to 7 ft, and width ranges from 1 to 4 ft
- Leaves and fine stems are dusty green to gray due to the presence of white to gray hairs
- Leaves are narrow, linear, and measure 1 to 3 in long; leaves grow straight without twisting
- Flowers are dark yellow, densely-packed, and bloom in late summer or early fall

## Interesting facts

Small mammals and birds utilize gray rabbitbrush as a food source and as habitat.

Native Americans used gray rabbitbrush to treat coughs and colds. Topical application of the plant eased itching, and chewing on the plant reduced thirst.

Stems and leaves of gray rabbitbrush produce a sticky latex gum that can be used to create a high quality rubber. This feature drew the interest of scientists during the rubber shortages of World War II, but rubber from gray rabbitbrush could not be produced economically.

Due to its high flammability, gray rabbitbrush may need special management in the wildland/urban interface.





# Green rabbitbrush

(Yellow rabbitbrush, Douglas rabbitbrush)

*Chrysothamnus viscidiflorus*

## Description

- Height reaches up to 3 ft, and width is typically 1 to 2 ft
- Stems branch near ground level and give the shrub a rounded or domed shape
- Leaves are 0.5 to 2 in long, linear, and light to dark green with a distinctive lengthwise twist
- Flowers are bright yellow, occur in flat-topped clusters, and appear in late summer

## Interesting facts

Green rabbitbrush is a relatively short-lived shrub that vigorously resprouts after fire.

Green rabbitbrush has a pungent smell and sticky texture, which explains the Latin species name *viscidiflorus*, meaning “sticky flower”.

As the common name suggests, green rabbitbrush is highly palatable to rabbits.

Native Americans utilized green rabbitbrush to treat skin ailments, colds, coughs, and in the making of orange and yellow dyes.

Due to its high flammability, green rabbitbrush may need special management in the wildland/urban interface.





Photos courtesy of M. Lavin

# Netleaf hackberry

(Western hackberry, bastard elm)

*Celtis laevigata* var. *reticulata*

## Description

- Mature plant height ranges from 10 to 30 ft, and width ranges from 5 to 10 ft; may look more like a large shrub than a small tree when immature
- Trunk is short and crooked with gray or reddish brown, warty bark
- Limbs are numerous and scraggly but strong
- Leaves are dense, emerge in late spring, and can have slightly toothed margins; undersides have distinct, net-like venation
- Berries are reddish-orange, sweet, and edible; berries appear in the fall and contain a hard, cream-colored seed

## Interesting facts

Netleaf hackberry is slow growing and long-lived. Trees may live 200 years or more.

Netleaf hackberry attracts many wildlife species because it is often the only foothills tree capable of growing in very dry sites. Netleaf hackberry fruits are consumed in large quantities by small mammals and birds, and the strong branches make for popular perch or roost sites for even the heaviest predatory birds, like the great horned owl.

Early homesteaders used netleaf hackberry wood in the construction of shelters and furniture.





Bottom photo courtesy of M. Lavin

# Aase's onion

(South Idaho onion)

*Allium aaseae*

## Description

- Height may reach 2 in when plants are in flower
- Flowering stems are smooth, green, leafless, and white at the base
- Leaves are grass-like, about twice the length of non-flowering stems, and often found lying on the ground
- Flowers occur close to the ground and are clustered in dome- or sphere-like inflorescences
- Flowers have 6 pink to purple petals with deep pointed lobes; petals fuse and form a visible tube, which surrounds the pistils and stamens
- Flowers appear in March or April

## Interesting facts

Aase's onion is a rare species, found only in southwestern Idaho. It prefers low-elevation sites with deep, sandy soils.

In 2006, several Aase's onion plants were salvaged from Ada County lands that were going to be developed as part of a landfill expansion. The "rescued" specimens were replanted and can be observed growing at the Idaho Botanical Garden.

Aase's onion looks very much like dwarf onion (*A. simillimum*) and was only recently recognized as genetically distinct.





# Annual sunflower

(Common sunflower)

*Helianthus annuus*

## Description

- Height ranges from 1 to 6 ft
- Leaves are broad, roughly heart-shaped, and covered with bristles; leaf margins are toothed
- Stems are coated with stiff bristles and range from unbranched to highly branched
- Flowers have long, narrow, yellow petals that surround a dull reddish-brown center, which resembles a pin cushion
- Blooming occurs from July to September

## Interesting facts

Annual sunflowers commonly grow along roads and in other disturbed areas. Seed-eating birds, especially mourning doves, tend to congregate in areas with sunflowers during the fall.

The majority of sunflowers (*Helianthus* spp.) are the product of centuries of domestication and selection by Native Americans. The Paiute used a root extraction from annual sunflowers to alleviate rheumatism. Other tribes used various plant parts as an appetite stimulant, to make dyes, and as a source of fiber for rope, paper, and fabric. Sunflower seeds were also ground into a flour to make bread or cakes that could be stored for later use.





Photos courtesy of M. Lavin

# Arrowleaf balsamroot

## *Balsamorhiza sagittata*

### Description

- Height ranges from 1 to 2 ft, and width is generally about 18 in
- Leaves are large, dusty green, arrowhead-shaped, and emerge in the spring
- Leaves and stems are both covered with silvery soft hairs
- Flowers are large and sunflower-like with bright yellow petals surrounding a textured, darker golden center
- Flowering occurs from April to May

### Interesting facts

Arrowleaf balsamroot produces very large taproots. Post-fire sprouting is common, and fire tolerance is considered high.

Arrowleaf balsamroot is a high-protein, highly palatable forage that is important to deer and elk, especially in winter and spring. Seeds are eaten by birds and small mammals.

Many Native American tribes used arrowleaf balsamroot as a food and medicine. Young stalks, roots, and seeds were eaten raw or cooked. Recent research has established that arrowleaf balsamroot contains antibacterial compounds.





Photos courtesy of M. Lavin

# Bachelor's button

(Garden cornflower)

*Centaurea cyanus*

## Description

- Height may reach 3 ft
- Leaves are generally gray-green, several inches long, and linear with smooth margins; edges of the basal leaves may be toothed or lobed
- Stems are slightly hairy and arise from the base of the plant
- Flower heads are 1 to 2 in wide with showy, trumpet-like, white to purple petals with 3 deep lobes at the tips
- Flowering occurs from summer through fall

## Interesting facts

Bachelor's button is native to the Mediterranean region of Europe but has been cultivated as an ornamental plant for hundreds of years in much of North America. It has escaped cultivation and can now be found on disturbed soils in the foothills.

Birds, butterflies, moths, and bees are attracted to bachelor's button.

Young shoots and flowers are edible and have been used to flavor teas. Early European medicinal uses included the treatment of conjunctivitis, constipation, ulcers, and bleeding gums.





Top photo courtesy of Jean Pawek

# Ballhead gilia

*Ipomopsis congesta* subsp. *congesta*

## Description

- Growth form is variable in the Boise Foothills, ranging from a low-growing mat only a few inches tall to an erect form up to 2 ft tall
- Leaves are small, linear, may have soft silvery hairs, and generally decrease in size from the base to the top of the plant
- Individual white to pink flowers are crowded into a ball-shaped inflorescence at the tips of unbranched stems
- Flowers have 5 separate flared petals; blooms appear in early or midsummer

## Interesting facts

Ballhead gilia often occupies disturbed, sandy soils in the Boise Foothills.

The *Ipomopsis* genus name is derived from the Greek words *ipo* meaning “to strike” and *opsis* meaning “appearance”, which indicates the plant’s striking appearance. The species name *congesta* is Latin for “crowded” or “closely arranged”, which aptly describes ballhead gilia flower heads.





Photos courtesy of M. Lavin

# Bastard toadflax

*Comandra umbellata*

## Description

- Height ranges from 2 to 12 in
- Leaves are numerous and linear with pointed tips and bases that clasp the stems; leaves are rarely longer than 1.5 in
- Leaves are thick and sometimes bluish with a somewhat rough texture
- Leaves have a prominent central vein but no other obvious venation
- Flowers are small, star-shaped, and occur in clusters at the top 6 to 10 in of main stems; flower petal color ranges from white to green, pink, or pale purple
- Flowering occurs in spring or summer

## Interesting facts

Bastard toadflax can spread by prolific root growth. Roots can also rob the nutrients of neighboring plants.

Small, oily fruits produced by bastard toadflax are likely eaten by birds and small mammals.

The roots of bastard toadflax stain blue when cut, a feature exploited by Native Americans to make blue dyes. Extracts from leaves were used to treat lung pains and labored breathing associated with colds and other respiratory ailments. The sap of bastard toadflax was used externally to treat skin cuts and sores.





Photos courtesy of M. Lavin

# Blue Mountain buckwheat

## *Eriogonum strictum*

### Description

- Height may reach 2 ft when in flower but is typically much shorter when not in flower; often found as a low-growing mat up to 15 in wide
- Leaves are all basal, small, woolly, and paddle- to spade-shaped
- Flowers grow in tight, terminal, globular clusters that range from white or pale yellow to orange or rose
- Stamens often extend beyond the flowers
- Flowers appear in the summer months

### Interesting facts

This species is slow growing, long-lived, and common in rocky soils and habitats.

The palatability of Blue Mountain buckwheat is thought to be low for most herbivores.

This plant and other closely related species are an important source of nectar for Bauer's dotted-blue butterfly, an extremely rare species in the Intermountain West.





Photos courtesy of M. Fisk

# Bur buttercup

(Curveseed butterwort)

*Ceratocephala testiculata*

## Description

- Height is typically 2 to 4 in; plants often occur in dense mats and can cover a large area
- Leaves are gray-green, very small, thick, and covered with fine hairs; leaf tips are forked in a way that resembles a bird's foot
- Flowers are produced on leafless stems; flowers measure less than 0.25 in across and have 5 bright to dull yellow petals
- Flowers develop into many horned seed heads that form a spiky bur-like unit that becomes dry and hard
- Blooming occurs in early- or mid-spring, and seed heads appear in late spring

## Interesting facts

Bur buttercup is one of the first plants to produce seeds in the foothills.

Tough burs formed at the end of the bur buttercup life cycle are easily attached to and transported by fur or clothing. Burs contain 5 to 80 seeds.

Bur buttercup contains a toxic compound, which can cause serious health problems for livestock.

Sap from green plants can irritate the skin.





Bottom photo courtesy of M. Fisk

# Desert madwort

(Yellow alyssum)

*Alyssum desertorum*

## Description

- Height ranges from 3 to 10 in; growth forms can range from prostrate to erect as the plant matures
- Stems are simple, range from few to many, and arise from the base; leaves and stems are pale green or grayish due to a layer of silvery hairs
- Leaves are small, linear, generally less than 1 in long, and taper to a point where they attach to the stem
- Flowers are pale yellow and appear along the upper 4 in of stems; flower stalks typically produce 30 to 40 flowers, which are less than 0.1 in across
- Flowers first bloom at the bottom of the stalk and last at the top; flowering occurs in late spring to early summer
- Seed pods are very small, flattened, and shaped like table tennis paddles

## Interesting facts

When magnified, the fine hairs present on the stems and leaves of desert madwort appear star-shaped. This distinctive botanical characteristic is referred to as a stellate hair pattern in many plant identification keys.





Photos courtesy of M. Fisk

# False yarrow

(Douglas' dustymaiden)

*Chaenactis douglasii*

## Description

- Height of mature plants ranges from 8 to 24 in
- Stems are simple and arise from the base; flowering stems and leaves are covered with cobwebby hairs, but hairiness may decrease as plants mature
- Leaves are often sparse and found primarily low on the stems; leaves are gray-green and highly dissected, appearing lacy or fern-like
- Flowers are typically white to pale pink and tubular with forked styles that extend beyond the curled petals
- Flowers occur in groups of 2 to more than 25 in crowded flat- to round-topped inflorescences at the ends of stems
- Blooming occurs from May to June

## Interesting facts

False yarrow pollen and nectar are attractive to numerous pollinators and other insects. The insects associated with this species are important to Greater Sage-grouse chicks. False yarrow is also utilized by other birds and small mammals.

Native Americans used false yarrow to treat chapped hands, insect bites, boils, and swellings.





Photos courtesy of M. Lavin

# Fiddleneck

(Devil's lettuce, bristly fiddleneck)

*Amsinckia tessellata*

## Description

- Height ranges from 6 to 24 in
- Stems are weak, erect, and branch infrequently
- Leaves are narrow and elongate, measuring up to 5 in long and 0.4 in wide
- Basal leaves are numerous and crowded, while stem leaves become sparser and smaller near the top of the plant; ends of leaves can appear crimped or coiled
- Leaves and stems are heavily covered with dense, stiff, long bristles
- Flowers line the flowering stalks and uncoil upward as blooming occurs from the bottom to the top of stems; the coiled end of a flowering stem resembles the neck of a fiddle
- Flowers are yellow or orange and have 5 petals; blooms appear in late spring

## Interesting facts

Fiddleneck is common on dry, sandy, disturbed sites.

Seeds produced by fiddleneck are spiny and easily attach to fur and clothing, suggesting that animals as well as humans can promote long-distance seed dispersal.

The distinctive bristles covering fiddleneck plants can cause skin irritations.





Bottom photos courtesy of M. Lavin

# Gairdner's beardtongue

(Rock penstemon)

*Penstemon gairdneri*

## Description

- Height ranges from 12 to 24 in
- Stems are numerous, sometimes reddish, and emerge from a somewhat woody base
- Leaves are narrow, elongate, coated with fine hairs, and present in large numbers all along the stems
- Leaves near the top of the plant are pointed, while those near the base are more rounded
- Flowers are 5-lobed, lavender to pink, and tubular; flower petals flare to form a flat face, and floral tubes are typically 0.5 to 0.75 in long and whitish on the inside
- Flowers may have sparse short, sticky hairs; flowering occurs in late spring

## Interesting facts

Although penstemons (*Penstemon* spp.) are not commonly grazed by mammalian wildlife species, their showy flowers do attract many bees, hummingbirds, and moths.





# Gray's biscuitroot

(Gray's desert parsley)

*Lomatium grayi*

## Description

- Height may reach 2 ft
- Leaves are highly dissected and fern-like and have a pungent smell when rubbed or crushed
- Flowering stems are leafless and have many groups of tightly clustered, small, bright yellow flowers that radiate out from a single point
- Blooming occurs in April or May; flowers may fade to white after the peak flowering period

## Interesting facts

In early spring, Gray's biscuitroot is among the first plants to green up and flower, making it important to early spring pollinators including some rare butterflies. Gray's biscuitroot is valuable in Greater Sage-grouse habitat because it attracts insects, which are important to chick development.

The Paiute readily ate young Gray's biscuitroot stems, but the taproot was considered a starvation food and only eaten when other tastier foods were scarce.





Photos courtesy of M. Fisk

# Hoary tansyaster

(Purple aster)

*Machaeranthera canescens*

## Description

- Height is generally 12 to 30 in
- Stems are spreading to erect, highly branched, and have a covering of dense, sticky hairs
- Leaves are narrow, linear, and up to 2 in long; leaves may have minutely or finely toothed edges
- Flower heads are daisy-like with yellow centers surrounded by pale to dark purple petals
- A green structure occurs beneath and clasps the flower head; it has short modified leaves that curl outward
- Flowering occurs in late summer or early fall

## Interesting facts

Hoary tansyaster often appears soon after fire or other soil disturbances.

Numerous pollinators and other insects are attracted to this forb. Hoary tansyaster attracts insects that are important in the diets of Greater Sage-grouse chicks.

Some Native American groups used hoary tansyaster to treat nose and throat problems.





# Hood's phlox

(Showy phlox)

*Phlox hoodii*

## Description

- Height is generally less than 4 in, but width can be 12 in; often found growing as a dense mat or mound
- Stems are stiff, somewhat woody, covered by tiny, ridged, linear leaves, and branch from the base
- Leaves typically have sharp points and rarely measure longer than 0.5 in; basal leaves are covered by cobwebby hairs
- Flowers are commonly white to purple or blue; 5-lobed, flared petals fuse into a floral tube that is about 10 mm long
- Flowering occurs in early spring before most other foothills wildflowers

## Interesting facts

Hood's phlox grows in a dense mat, whereas longleaf phlox (page 58) often grows more upright. Leaves at the base of Hood's phlox are usually quite hairy, while longleaf phlox leaves have few or no hairs.

Aboveground portions of the plant emerge from a coarse woody taproot, which may extend several feet deep. Hood's phlox resprouts from this taproot soon after fire.

The Blackfoot people used Hood's phlox as a mild laxative for children, to alleviate chest pains, and to make a yellow dye.





Photos courtesy of M. Lavin

# Jim Hill mustard

(Tall tumbled mustard)

*Sisymbrium altissimum*

## Description

- Height of mature plants ranges from 2 to 5 ft; immature plants lack erect stems and exist only as a leafy rosette in late winter or very early spring
- Stems are highly branched at the top third of the plant, giving this plant a bushy appearance
- Basal leaves are highly dissected, can reach 8 in long and 3 in wide, and look like narrow dandelion leaves; upper leaves are deeply dissected into very fine, thin, linear lobes
- Flowers have 4 pale yellow petals; stamens and styles often extend beyond the petals
- Flowering occurs in late spring and early summer; seed pods are conspicuous, linear, and measure up to 5 in long

## Interesting facts

Dried plants are easily blown by the wind, and seeds are dispersed as it tumbles. A single seed pod can contain 120 seeds.

This species was thought to have spread across the United States along railroads and thus is named after a Canadian-American railroad executive, James Hill.

New shoots and leaves have a hot, spicy flavor; ground seeds can be used as a seasoning.





Photos courtesy of M. Lavin

# Leafy spurge

*Euphorbia esula*

## Description

- Height is up to 3 ft; plants are often found in clumps and/or large colonies
- Stems are simple, almost woody, and arise from the base
- Leaves are linear, narrow, 1 to 4 in long, and have an obvious central vein
- Flowers are minute and lack true petals, but unique, heart-shaped, yellow-green structures beneath the flowers are easily recognizable
- Flowering generally begins in late spring
- All plant parts contain a milky sap

## Interesting facts

This noxious weed occurs in nearly every county in Idaho and is especially difficult to control. Plants burned by fire almost always resprout.

Spread occurs vegetatively and by seed. More than 400 seeds can be produced on a single stem. Deer, game birds, ants, and livestock consume and can disperse leafy spurge seeds. Root pieces measuring just half an inch long can produce a whole new plant.

When the capsules that house leafy spurge seeds mature, they can 'explode' and eject seeds distances of up to 15 ft.





Photos courtesy of M. Lavin

# Longleaf phlox

*Phlox longifolia*

## Description

- Height is 4 to 12 in; stems are weak and sometimes found being supported by neighboring plants
- Stems are numerous from the often woody base
- Leaves are linear and longer than those of Hood's phlox, measuring 1 to 3 in; leaf tips are pointed but not sharp
- Flowers are sweet-scented, generally measure less than 1 in across, and have white, pink, or purple petals, which may have notched or irregular edges
- Flowers are supported by characteristic striped, vase-like structures, which surround the base of the floral tube
- Flowering occurs from April to May

## Interesting facts

Longleaf phlox often grows more upright, whereas Hood's phlox (page 52) grows in a dense mat. Longleaf phlox leaves have few or no hairs, while leaves at the base of Hood's phlox are usually quite hairy.

Pollinators including nocturnal moths visit longleaf phlox and other phlox (*Phlox* spp.) flowers.

Western Native Americans used an extract from longleaf phlox roots to treat body aches, stomach aches, diarrhea, and venereal diseases. Root extracts were also used as an eyewash, and an extract from leaves was used to treat boils. Most of these uses were reported for Shoshoni and Paiute tribes.





White flower photos courtesy of M. Lavin

# Low pussytoes

## *Antennaria dimorpha*

### Description

- Height only 1 to 2 in; growth form is a low-growing mat that may spread over several square feet
- Leaves are tiny (10 mm long), tend to be cupped or creased around the midvein, and appear silver-green because of a covering of long, gray, matted hairs
- Flowers are dull white, numerous, barely exceed the height of the leaves, and are attached to a brown papery base
- Flowers occur in the spring
- Seeds are attached to silky hairs that aid wind dispersal

### Interesting facts

Spread occurs through the growth of low, rooting stems and not roots or rhizomes. Low pussytoes has a taproot.

The abundance of hairs on plant leaves may discourage herbivory.

Low pussytoes plants are either male or female, and this characteristic is the reason for its Greek scientific species name. *Di* means “two” or “separate”, and *morpha* means “parts” or “forms”.





Photos courtesy of M. Lavin

# Lupine

*Lupinus* spp.

## Description

- Height ranges from 18 to 30 in; base of the plant is woody
- Leaves are oval, sometimes creased down the middle, and radiate out from a central point, appearing hand-like
- Stems and leaves are often covered with soft silver hairs
- Pea-like flowers can be white, pale yellow, or blue and grow in a dense cone at the terminal ends of stems; purple flowers are most common in the foothills
- Flowering occurs in late spring

## Interesting facts

The most common lupine species in the Boise Foothills are longspur lupine (*L. arbustus*) and tailcup lupine (*L. caudatus*). Perennial lupine species can be difficult to distinguish.

Lupine commonly resprouts after fire.

Elk, deer, pronghorn, and small mammals utilize lupine when plants are young. However, it is often avoided when seed pods mature and alkaloid levels are high. Alkaloids produced in lupine seeds can be toxic to livestock, especially sheep and pregnant cows.





Middle and bottom photos courtesy of M. Lavin

# Maiden blue-eyed Mary

*Collinsia parviflora*

## Description

- Height is less than 4 in for this erect to semi-creeping plant
- Stems are spindly, round, have short hairs, and are often reddish
- Leaves are light to dark green with obvious midveins and reddish undersides
- Lower leaves are generally oval, while upper leaves are narrower, more linear, have blunt tips, and often occur in whorls of 3 to 5
- Flowers are tiny, only 6 mm across; they are snapdragon- or pea-like with 5 lobes; upper petal lobes are usually pale blue to white, and lower petal lobes are usually blue
- Flowers appear very early in the spring

## Interesting facts

The *parviflora* species name is Latin for “small flowered”.

The Utes fed Maiden blue-eyed Mary to horses to make them fast, and the Navajo used it topically to treat sores.





# Meadow deathcamas

## *Zigadenus venenosus*

### Description

- Height of the main stalk may reach 2 ft when in flower
- Stems and leaves emerge from underground bulbs
- Leaves are grass-like, mostly basal, and measure 5 to 6 in long
- Flowers are pale yellow or cream colored and densely clustered in elongate cones at the ends of unbranched stems
- Flowers appear in May or June

### Interesting facts

As the common name suggests, all parts of this plant are poisonous to livestock, wildlife, and humans. Sheep may be most vulnerable because they tend to select forbs early in the spring before large quantities of grass are available. Even some pollinating insects can be poisoned.

Other similar looking camas plants (*Camassia* spp.) have edible bulbs, so careful and accurate identification is very important.

Blackfoot, Chehalis, and Squaxin tribes used meadow deathcamas externally to treat boils and alleviate symptoms associated with rheumatism. Meadow deathcamas was also used to induce vomiting.





# Mulford's milkvetch

## *Astragalus mulfordiae*

### Description

- Height may reach 7 in; stems generally sprawling from a woody base
- Leaves are very slender, 1 to 4 in long, and sparse along the thin stems; most leaves are nearly folded in half lengthwise
- Leaves and stems are lightly coated with white hairs
- Flowers are small, pea- or snapdragon-like with layered petals, which begin as white with occasional blue or purple outlines but become yellow with age
- Seeds are produced in papery inflated pods, which have nearly triangular cross sections

### Interesting facts

Mulford's milkvetch is a rare plant with a range limited to about a 100-square mile area of the western Snake River Plains in southwestern Idaho and Oregon. Less than 100 populations of the species are known, and a large percentage of these occur on private lands.

In the Boise Foothills, Mulford's milkvetch is typically found in sandy soils on moderate to steep, south- to west-facing slopes.

Mulford's milkvetch is likely long-lived and reproduces only by seed.





# Munro's globemallow

(Orange globemallow, desert mallow)

*Sphaeralcea munroana*

## Description

- Height ranges from 8 to 32 in; plants are erect with open branching
- Stems and leaves are pale green and slightly rough to the touch due to a dense covering of stiff hairs
- Leaves measure 0.5 to 2 in long and range from triangular to 5-lobed; leaf edges have rounded teeth and resemble those of geraniums
- Flowers are quite showy with 5 red to orange petals that overlap slightly to form a bowl that surrounds bright yellow stamens, which are clustered in a cone shape
- Flowers are crowded high on leafless stems; flowering occurs in late spring

## Interesting facts

When magnified, the hairs on Munro's globemallow stems and leaves appear star-shaped.

Thick woody taproots promote resprouting after fire, and hard seed coats promote establishment of new plants after fire.

Globemallows (*Sphaeralcea* spp.) are highly palatable and important forage for many wildlife species. Many insects are attracted to and pollinate this plant.

Native Americans made paint from the colorful petals, which they used to decorate pottery.





Photos courtesy of M. Lavin

# Nineleaf biscuitroot

*Lomatium triternatum*

## Description

- Height may reach 2 ft when the plant is in flower; plants are erect to spreading
- Leaves are comprised of 9 to 21 slender leaflets that are 0.4 to 5 in long
- Flowering stems are nearly leafless and end in a whorl of smaller stems (4-20), which are topped with clusters of small, bright yellow flowers
- Flowering occurs in the spring

## Interesting facts

A deep taproot allows nineleaf biscuitroot to survive soil heating from fires and produce aboveground sprouts on recently burned sites.

Nineleaf biscuitroot begins growth in early spring, providing critical early spring forage for elk, deer, pronghorn, and livestock. It is also important to early-spring pollinators and other insects.

The Blackfoot people ate most parts of nineleaf biscuitroot, including roots which were ground into flour for breads. Long-distance runners chewed on fruits to avoid side aches, and seeds kept in a preserved porcupine foot were thought to bring good luck.

The species name *triternatum* is Latin for “split in threes”, which reflects the division of nineleaf biscuitroot leaves.





Photos courtesy of M. Lavin

# Pale evening primrose

(White-stemmed evening primrose)

*Oenothera pallida*

## Description

- Height can reach 18 in; forms range from erect to spreading with plant widths of up to 3 ft
- Leaves are narrow, elongate, and generally less than 2 in long
- Leaf margins may be toothed, and leaves near the base of the plant are typically smaller than those farther up the stems
- Flowers have 4 white petals, which turn pink as the flowers dry; stamens are numerous and long
- Flowering occurs in late spring and summer

## Interesting facts

Pale evening primrose spreads vegetatively from shallow underground stems (rhizomes) that spread parallel to the soil surface. New shoots emerge from these structures, not far from the parent plant.

Flowers are in bloom both at night and during the day. Nocturnal moths visit and pollinate the flowers.

This plant was used by Native Americans to treat sore throats and kidney diseases.





Bottom photo courtesy of M. Lavin

# Prickly lettuce

(Compass plant)

*Lactuca serriola*

## Description

- Plant height is generally 1 to 5 ft; it often overwinters as a leafy rosette
- Stems are singular, have bristles, and are unbranched except when flowers are produced; stems and leaves have a milky sap
- Leaves are usually blue-green and deeply lobed with bristles along the margins and midveins; leaf bases appear to clasp the stems
- Leaf size decreases from the bottom to top of the plant
- Flowers are abundant (13-27 per stem) near the top of the plant; flower heads are pale yellow
- Flowering occurs in summer and early fall; a single plant may flower for more than a month

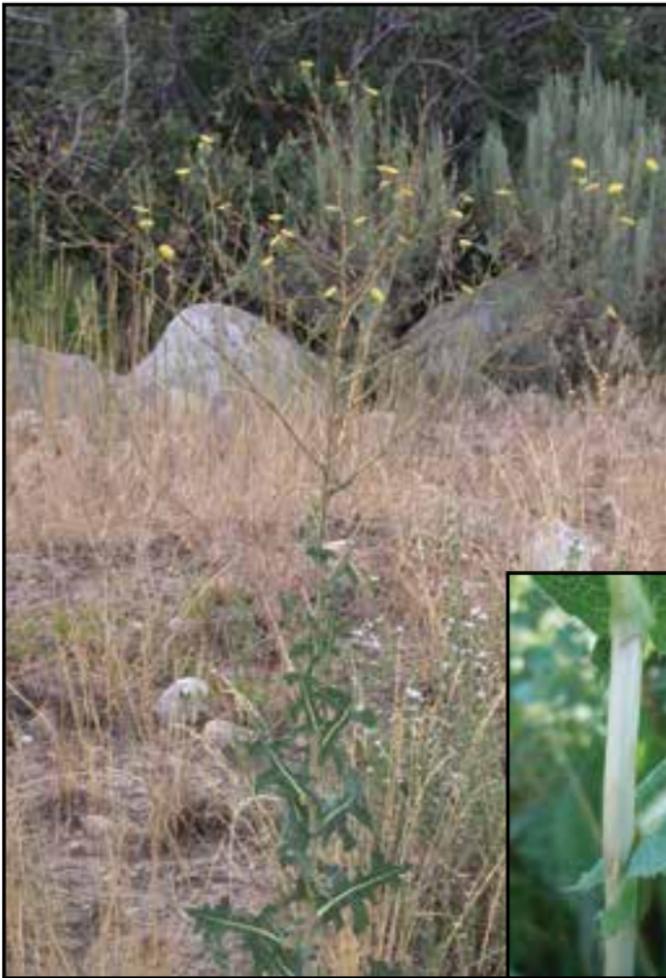
## Interesting facts

Prickly lettuce spreads by seeds, which have feathery appendages that allow for easy wind dispersal. Plants may produce up to 27,000 seeds under ideal growing conditions.

When growing in open conditions, prickly lettuce leaves grow vertically, pointing north and south. This leaf arrangement minimizes water loss during photosynthesis.

Prickly lettuce is native to Eurasia and has been used to treat insomnia, anxiety, hyperactivity, and coughs.





Top photo courtesy of Mary Ellen (Mel) Harte, Bugwood.org  
Flower and small photos courtesy of M. Lavin

# Puncturevine

(Goathead, tackweed)

*Tribulus terrestris*

## Description

- Height is generally less than 5 in, but diameter of this mat-forming plant may be 3 ft or more
- Stems are green to red-brown, hairy, multibranched, and radiate from the base
- Leaves are comprised of 3 to 8 short leaflets that are oval-shaped and arranged opposite one another
- Flowers have 5 bright yellow petals, measure 0.3 to 0.5 in across, and occur singly where the stem and leaf stalks meet
- Flowering occurs from summer to fall
- Seeds are enclosed in hard, small fruits with 2 to 3 stout spines

## Interesting facts

Puncturevine is a prolific seed producer, capable of producing 200 to 5,000 seeds per plant.

The sharp, tough seeds are easily attached to animals, tires, and shoes, providing for efficient long-distance seed dispersal.

Puncturevine is often found along trails and roads in the Boise Foothills, much to the dismay of bicyclists.

The genus name comes from the Latin term *tribo*, which means “to tear”.





Top and middle photos courtesy of Clinton Shock, Oregon State University  
Bottom photo courtesy of M. Fisk

# Pursh's milkvetch

(Woollypod locoweed, woolly milkvetch)

*Astragalus purshii*

## Description

- Height is less than 6 in; plant is low-growing and sometimes mounded in shape
- Stems are decumbent from a woody base
- Leaves are comprised of many small leaflets (2 to 14 mm long) arranged opposite of each other; leaves are gray-green with woolly white hairs
- Flowers are conspicuous, pea-like with white to purple petals and measure 10 to 20 mm long; they occur in clusters of up to 11
- Flowering occurs in the spring; fruit pods with dense white hairs that resemble cotton balls develop after flowering

## Interesting facts

Pursh's milkvetch is among the earliest plants to bloom in the Boise Foothills.

All *Astragalus* species are legumes and capable of fixing nitrogen in the soil that is usable by the individual plant and other neighboring plants.

Some *Astragalus* species can be toxic if consumed in large quantities by livestock.

Northwestern tribes used Pursh's milkvetch to treat menstrual pains, for purification, in bathing, and to improve hunting luck.





# Redstem stork's bill

(Redstem filaree)

*Erodium cicutarium*

## Description

- Height ranges from 1 to 6 in, and plants may grow in dense patches, measuring up to 2 ft in diameter
- Stems are thin, reddish, and typically multibranched
- Leaves are fine, carrot-like, and comprised of 3 to 9 extremely dissected leaflets
- Leaves and stems are hairy and sticky
- Flowers have 5 pink to purple petals with dark spots at their bases; flowers are produced on long stalks in loose clusters of 2 to 8
- Flowering occurs in early spring and sometimes again in the fall
- Seed pods are long, thin, and resemble a stork's bill

## Interesting facts

Redstem stork's bill flowers may close in the afternoon when temperatures are extremely high but typically reopen the following day.

A single plant can produce up to 9,900 seeds, which can be launched more than a foot from the parent plant when fruits dry and break open. Seeds can remain viable for decades, and seed banks can be abundant.

Seeds are collected and/or eaten by harvester ants, birds, and rodents.





Photos courtesy of M. Lavin

# Rush skeletonweed

*Chondrilla juncea*

## Description

- Height at maturity is generally 1 to 3 ft
- Stems have coarse, downward-pointing hairs near their bases but are relatively smooth above; stems typically have many branches and few, tiny, inconspicuous leaves
- Basal leaves resemble a dandelion-like rosette; sharply toothed leaves are hairless, 1.5 to 2.5 in long, and 0.5 to 2 in wide
- Flower heads occur singly or in groups of up to 5 along branches and at branch tips; heads are comprised of 7 to 15 individual, bright yellow florets that look like lobed-tipped petals
- Flowering occurs throughout the summer
- Seeds are ribbed and have a “parachute” of fine white hairs, which aid wind dispersal

## Interesting facts

Rush skeletonweed was likely present in southern Idaho by the early 1960s.

This weed is very common in the Boise Foothills, especially after soil is disturbed. It spreads by seed and from root sprouts.

Rush skeletonweed is palatable to sheep and goats in the spring and is visited by honey bees when flowering.

Several species of insects, also known as biocontrols, are being used to help control this weed.





Top and bottom photos courtesy of M. Lavin

# Russian thistle

(Tumbleweed)

*Salsola tragus*

## Description

- Height can range from 0.5 to 3 ft, and width is similar; plants have a bushy round shape
- Stems are rigid, erect, and curving with red to purple stripes
- Leaves at the base of stems are long, soft, and linear, while leaves nearer to the stem tips are short, leathery, and spine-tipped
- Leaves are generally blue-green but may turn reddish in late summer or fall
- Flowers are inconspicuous with greenish to pink papery petals; flowers occur singly along the branches where leaves attach
- Flowers appear in summer or fall; after flowering, the plant dries and breaks from its roots as a tumbleweed

## Interesting facts

A large Russian thistle plant can produce 200,000 seeds. Seeds can be dispersed long distances when the dried plant is blown in the wind.

Russian thistle can germinate on bare ground making it an early colonizer on recently burned or disturbed sites. Build-up or large collections of these dried-out plants can be a fire hazard.

Russian thistle has served as an emergency food for livestock when other forage was not available.





Top and bottom left photos courtesy of M. Lavin

Middle and bottom right photos courtesy of Clinton Shock, Oregon State University

# Sagebrush buttercup

*Ranunculus glaberrimus*

## Description

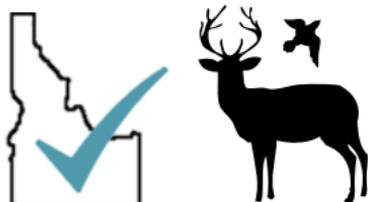
- Height is generally 2 to 6 in
- Stems are frequently branched and range from erect to spreading
- Leaves are dark green, fleshy, and mostly basal with smooth to 1- to 3-lobed edges
- Flowers have 4 to 10 glossy yellow petals and 40 to 80 stamens; there are generally 1 to 4 flowers per stem
- Flowers bloom very early in the spring

## Interesting facts

Sagebrush buttercup can be found blooming when patches of snow are still on the ground in late winter or early spring.

Plants and seeds are eaten by Greater Sage-grouse, other birds, and small mammals. Deer will also eat sagebrush buttercup in early spring.

Sagebrush buttercup was used by the Okanagan-Colville Tribe to treat aches and pains, and Thompson Tribes of British Columbia used it to poison the tips of arrows.





Bottom photo courtesy of M. Lavin

# Sand fringe pod

*Thysanocarpus curvipes*

## Description

- Plant is typically slight and frail, although it can reach heights of up to 2.5 ft
- Stems are branched or unbranched with hairs on the lower sections
- Leaves are usually small and oval-shaped with short stalks
- Flowers are numerous and small (6 mm) with white or purple, cross-shaped petals; flowering occurs in spring
- Seed pods are the most conspicuous part of this plant; pods are flat, almost circular with a bulging seed center and thin, papery edges

## Interesting facts

This species was eaten and used to treat stomachaches by western Native Americans.

Sand fringe pod is considered a good source of vitamins A, B, and C.





# Scarlet gilia

(Skyrocket, skunk flower)

*Ipomopsis aggregata*

## Description

- Height is generally 1 to 2 ft; stems are thin and hairy
- Leaves are thin, bright green, and deeply lobed into almost pine needle-like segments
- Leaves are larger and more abundant at the base and smaller and sparser near the top of the plant
- Flowers are trumpet-shaped with 5-lobed petals and transition from a tubular base to a star-shaped tip
- Petals are typically bright red and less commonly pink or white
- Flowers appear in May or June

## Interesting facts

Flowers are visited by a variety of hummingbirds, moths, butterflies, wasps, and bees.

Leaves of scarlet gilia have a skunk-like odor, which attracts certain kinds of moths.

The Shoshoni used scarlet gilia externally to treat rheumatism and itching and internally to treat blood diseases.





# Scotch thistle

(Cotton thistle)

*Onopordum acanthium*

## Description

- Plant grows as a large rosette of spiny leaves in the first year and produces a flowering stem of up to 10 ft in the second year
- Stems on second-year plants often have vertically oriented, broad, spiny wings and are branched most near the top of the plant
- Leaves can be up to 1 ft wide, are deeply lobed, have stiff spines, and are covered with gray woolly hairs, which are especially dense on the undersides
- Flowers are globe-shaped, lavender to dark pink with spiny bases, which are nearly as broad as the flower head
- Flowers bloom from late spring to summer; flower buds and blooms are produced from the top to the bottom of branched stems

## Interesting facts

This species is highly undesirable. A single plant can produce 40,000 dandelion-like seeds that are readily dispersed by the wind.

Scotch thistle is easily distinguished from Canada thistle (*Cirsium arvense*), another Idaho noxious weed. Canada thistle has more slender stems, smaller leaves, smaller spineless flowers, and rarely exceeds a maximum height of five feet.





Photos courtesy of Clinton Shock, Oregon State University

# Sego lily

*Calochortus nuttallii*

## Description

- Height can reach 20 in; plants reach maximum height when in flower
- Stems are typically straight and unbranched
- Leaves are few, fleshy, linear, blue-green, and measure 7 to 10 in long; leaves are deeply grooved and U-shaped with tips that usually curve outward
- Flowers can measure 1 in across; they have 3 wide, white petals that taper to a blunt point
- Inner petals have a dark purple crescent that surrounds yellow hairs and 6 stamens
- Stems and flowers emerge from underground bulbs; flowering occurs early in the spring

## Interesting facts

Although sego lily is palatable, its small size and sparse stands makes it relatively unimportant as forage for herbivores. However, bulbs are eaten by gophers and other small mammals.

Sego lily bulbs were regarded as a delicacy by many western Native Americans. In the mid-1800s, Native Americans taught starving Mormon settlers how to identify and harvest sego lily bulbs for food. This is why the sego lily was designated as Utah's state flower.





Photos courtesy of M. Lavin

# Silverleaf phacelia

(White-leaf phacelia)

*Phacelia hastata*

## Description

- Height is variable, ranging from 6 to 24 in, and plant form ranges from erect to decumbent
- Stems are several to many and are often branched; stems and leaves are silver in color because of a dense covering of short hairs
- Basal leaves are soft and narrow with prominent nearly parallel veins; leaves near the top of the plant look similar but are smaller
- Flowers are bell-shaped with fused white petals that end in 5 lobes; stamens extend well beyond the petals
- Individual flowers occur in groups of 5 to 50 in tightly clustered coils
- Flowers appear in the spring or early summer

## Interesting facts

Silverleaf phacelia is commonly found on dry open sites with sandy to rocky soils.

Pollinators are attracted to the flowers.

Thompson Tribes used silverleaf phacelia to ease pains associated with menstruation.





Photos courtesy of M. Lavin

# Slickspot peppergrass

(Idaho pepperweed)

*Lepidium papilliferum*

## Description

- Height is typically 2 to 8 in but may reach 12 in with good spring growing conditions
- Stems and branches are many, forming a delicate low-growing and tightly clumped plant
- Leaves and stems are covered in fine soft hairs; leaves are divided into tiny linear segments
- Flowers are numerous, small (<2.5 mm in diameter), and have 4 white petals; flowering occurs in late April or May

## Interesting facts

Slickspot peppergrass is a rare species occurring locally in southwestern Idaho. It occupies distinct microsites referred to as slick spots, which are small (10-20 square ft), shallow depressions composed of silty clay soils. Other associated plants are not adapted to this environment, so slick spots are mostly barren.

Annual forms of slickspot peppergrass produce few stems, flowers, and seeds. Biennial forms produce multiple stems and numerous flowers and seeds.

Slickspot peppergrass plants are visited by a diversity of insect species.





Photos courtesy of I. Robertson

# Small burnet

*Sanguisorba minor*

## Description

- Height is generally 6 to 18 in but may be taller on well watered sites
- Stems are multibranched and sometimes reddish
- Leaves are evergreen, up to 4 in long, and have 7 to 9 oval-shaped leaflets with evenly toothed edges; leaflets appear in a zigzag pattern along stems
- Flowers have 4 red to pink petals and occur in tight, ball-like clusters on stems extending above the leafy portions of plants
- Flowers bloom in late spring and summer

## Interesting facts

Because small burnet stays green throughout most of the year, it is an excellent forage plant for wildlife and livestock. It was introduced in North America as a pasture and wildlife forage species but rarely spreads far from where it was planted.

Small burnet is relatively long-lived (20 years or more) and produces seeds that may persist up to 30 years in the soil. It typically resprouts after a fire.





Middle and bottom left photos courtesy of L. Rignanes  
Bottom right photo courtesy of K. Morse

# Smoothstem blazingstar

## *Mentzelia laevicaulis*

### Description

- Height may reach 3 ft
- Stems are whitish, hairy, solitary, and branching at the top
- Leaves are generally long (up to 6 in) and brittle with sharply barbed lobes
- Flowers have 5 linear, pointed, yellow petals surrounding densely clustered stamens
- Flowers bloom throughout the summer

### Interesting facts

Smoothstem blazingstar grows well on harsh, rocky sites.

Although smoothstem blazingstar is not highly preferred as a forage species for livestock or wildlife, it is attractive to bees, butterflies, and moths.

Several Native American tribes used smoothstem blazingstar to treat mumps, measles, smallpox, swellings, skin diseases, and stomach aches. It was also used to prevent thirst. The Paiute cooked seeds in water to make gravy.





Photos courtesy of M. Lavin

# Spring draba

(Whitlow grass)

*Draba verna*

## Description

- Height is 3 to 6 in at the flowering stage; width of this tiny plant is rarely more than 1 in
- Stems are leafless, hairless, and function only to produce flowers and seeds
- Leaves are small, shiny, green to purplish, covered with sparse stiff hairs, and occur in clusters at the base of the plant
- Flowers have 4 small (2.5 mm long) petals that look like 8 petals because of very deep lobes; 3 to 20 flowers are clustered at stem ends
- Flowers bloom early in the spring; seed pods are small and football-shaped

## Interesting facts

Spring draba is native to both North America and Europe.

This plant completes its entire life cycle in the spring, so it can be hard to identify in the summer.

Although small in size, this annual plant can be an important early spring food source for some wildlife species.

*Draba* is Greek for “sharp” or “bitter”, which likely describes the taste of the leaves. *Verna* comes from the Latin word *vernus*, which means “spring”.





Photos courtesy of Clinton Shock, Oregon State University

# (Common) St. Johnswort

## *Hypericum perforatum*

### Description

- Height is commonly 1 to 3 ft
- Stems numbering 1 to 30 grow from a partially woody base and are much branched at the upper half of the plant
- Leaves are oval and 0.5 to 1 in long; undersides of leaves have prominent, cream-colored veins and tiny transparent dots, which appear when held up to the light
- Flowers are numerous, measure about 0.75 in wide, and have 5 bright yellow petals and abundant stamens; flower petals often have black dots along the edges
- There are 25 to 100 flowers per stem, which are arranged in flat-topped clusters and appear in early summer

### Interesting facts

St. Johnswort was likely introduced to the United States on several occasions and was found in the West by the early 1900s.

Seed production can be prolific, up to 23,000 seeds per plant. Heat can stimulate seed germination, and sprouting from the extensive root system is likely after fires.

St. Johnswort contains hypericin, which causes photosensitization that can be damaging or deadly to white-haired or light-skinned animals.

St. Johnswort has a number of medicinal uses including the treatment of burns, skin disorders, and depression.





Photos courtesy of M. Lavin

# Tapertip hawksbeard

*Crepis acuminata*

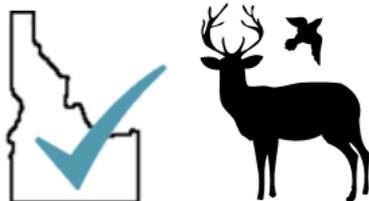
## Description

- Height is generally 8 to 20 in
- Stems (1-5) emerge from a woody base, and branching occurs mostly above stem midpoints
- Basal leaves are 4 to 16 in long and similar to those of a dandelion; leaves become fewer and smaller toward stem tips
- Stems and leaves excrete a milky juice when broken
- Flower heads measure 0.5 to 1 in wide and are comprised of 5 to 10, small, yellow flowers; there can be 20 to more than 100 flower heads per plant
- Flowers bloom in early summer

## Interesting facts

Tapertip hawksbeard is a valuable food source for a variety of wildlife species including elk, deer, and pronghorn. Greater Sage-grouse feed on the leaves of and the insects attracted to tapertip hawksbeard. It is also preferred forage for livestock, especially domestic sheep.

The Shoshoni people used tapertip hawksbeard seeds or plants externally to induce milk flow after child birth. They used roots to make a powder, which was used to treat eye problems.





Photos courtesy of M. Lavin

# Tapertip onion

*Allium acuminatum*

## Description

- Height can reach 14 in when the plant is in flower
- Leaves are all basal, thin, linear, channeled or slightly V-shaped and begin to dry when flowering begins
- Flowers are bell-shaped with 3 inner, shorter petals and 3 outer, longer petals, which are rose to purple colored and have flared, pointed tips
- Flowers occur in groups of 10 to 40 together in loosely clustered, ball-shaped heads
- Flowering occurs in the spring; bulb-like fruits are produced soon after the flowers

## Interesting facts

This plant has a round- to oval-shaped bulb about 1 to 4 in below the soil surface.

Tapertip onion is palatable to sheep and cattle.

Tapertip onion leaves and bulbs were eaten by the Ute, Paiute, Gosiute, and likely many other western Native American tribes.

*Allium* species have a strong onion smell in the spring.





Photos courtesy of M. Lavin

# Western tansymustard

(Pinnate tansymustard)

*Descurainia pinnata*

## Description

- Height at maturity is generally 1 to 3 ft
- Stems are coarse and branched near the tips
- Leaves are comprised of many deeply lobed, carrot-like leaflets; leaves decrease in size from the bottom to the top of stems
- Stems and leaves may be covered in soft hairs
- Flowers are tiny, have 4 yellow petals, and occur in clusters at stem ends
- Flowering occurs in spring or early summer
- Seed pods are narrow, long, and sticky when green

## Interesting facts

Western tansymustard is common on recently burned sites or other disturbed areas.

Leaves take on a bitter flavor with age but are salty when young. Seeds have a flavor similar to that of commercial black mustard.

Native Americans used this plant in a variety of foods, including gruels, breads, and drinks. They also used it medicinally to treat stomachaches, toothaches, and sores.





Photos courtesy of M. Lavin

# Western yarrow

*Achillea millefolium* var. *occidentalis*

## Description

- Height ranges from 1 to 3 ft, and width may reach 1 ft
- Stems are often several and mostly erect
- Leaves are evenly distributed along the stems, highly dissected, fuzzy, and fern-like
- Leaves at the bottom and middle of the stems are largest; leaves smell minty when crushed
- Flowers are white, clustered in groups of 10 to 20 in flat-topped flower heads, which occur at the ends of long stems
- Flowering occurs from May through June

## Interesting facts

Western yarrow produces an extensive network of underground stems or rhizomes that sprout and increase plant size and area occupied. New plants have emerged from rhizome fragments buried beneath up to a foot of soil.

The Blackfoot people used western yarrow to treat inflammation of the gastrointestinal tract, swellings, sore throats, and labor pains. Pawnee and Chippewa tribes used it to treat various pains and headaches.

The genus name, *Achillea*, is derived from the name of the Greek hero, Achilles, who reportedly used yarrow species to treat wounded soldiers during the battle of Troy.





Top photo courtesy of Clinton Shock, Oregon State University  
Bottom photos courtesy of M. Lavin

# Woodland star

*Lithophragma glabrum*

## Description

- Height may reach 10 in; plants are fragile looking and may be found as scattered stems or growing in small patches
- Stems are delicate and reddish
- Leaves are dark green to purple; basal leaves are smooth with long stalks and 1 to 3 finger-like lobes
- Stem leaves are smaller and fewer when present but otherwise similar to basal leaves
- Flowers have 4 to 5 whitish-pink petals that are deeply lobed into 3, 4, or 5 sharp thin blades; flowers are only about 7 mm long and occur sparsely along and at the tops of stems
- Flowers bloom from March to April

## Interesting facts

Woodland star produces unique, tiny bulbs where leaves and stems meet. These bulbs are reproductive structures that develop without pollination. When the bulbs fall from the parent plant, they develop into new plants that are genetically identical to the parent.





Photos courtesy of M. Lavin

# Yellow salsify

(Western salsify, goat's beard)

*Tragopogon dubius*

## Description

- Height ranges from 1 to 3 ft
- Stems are hollow, mostly erect, and typically branched; stems and leaves have a milky sap when broken
- Leaves are narrow, up to 12 in long, and grass-like but broad; young leaves may have hairs, but mature leaves are waxy; leaves have a deep fold along the central vein
- Flower heads appear as numerous petals increasing in length from the center outward and occur atop swollen stems
- Flower heads have green, pointy, leaf-like structures beneath and extending beyond the longest petals
- Seeds are wind-borne and resemble those of dandelions but are much larger
- Flowering occurs from summer through fall

## Interesting facts

Yellow salsify was likely introduced in North America as an ornamental plant in the early 1900s.

Flowers open early in the day and close by early afternoon but may not open at all on cloudy, rainy days.

Yellow salsify often grows in disturbed areas and is palatable to many wildlife species.





Photos courtesy of M. Lavin

# Basin wildrye

*Leymus cinereus*

## Description

- Height ranges from 6 to 10 ft; plants grow as large, robust clumps of up to 3 ft in diameter
- Leaf blades are typically flat, moderately to heavily ribbed, and measure 15 to 25 in long and 0.75 in wide
- Seeds are produced at the tops of strongly erect stems that extend beyond the main leaf clump; seed heads are dense and 6 to 10 in long

## Interesting facts

Basin wildrye is the tallest cool season bunchgrass in the foothills. It has an extensive, soil-binding, fibrous root system making it useful for erosion control.

Due to its impressive height, basin wildrye provides excellent nesting cover, calving cover, and thermal protection for wildlife species. It is also protein-rich and highly palatable forage, especially in the spring. It remains available to livestock and wildlife in deep snow, when most other forage is inaccessible.

The Blackfoot people used basin wildrye leaves for bedding when on war parties.





Bottom photos courtesy of M. Lavin

# Bluebunch wheatgrass

*Pseudoroegneria spicata*

## Description

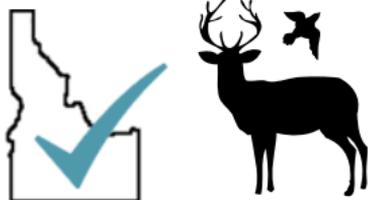
- Height ranges from 1 to 2 ft; stems and leaves occur in clumps
- Leaves are blue-green in color, densely packed, and flat to in-rolled; leaves are usually hairless and rarely wider than 0.25 in
- Seeds are arranged in a nearly zigzag-patterned spike; seed heads measure about 3 to 5 in long
- Seeds are mostly without awns

## Interesting facts

Bluebunch wheatgrass was one of the most common grasses in the Boise Foothills. However, historic livestock grazing levels, more frequent wildfires, and increases in invasive species have contributed to decreases in bluebunch wheatgrass abundance over large areas of the foothills.

Protein content of bluebunch wheatgrass may reach 20%, making it valuable forage for livestock and wildlife. This grass is preferred by elk, deer, pronghorn, and sheep in the spring and is utilized by cattle year-round.

An extract from this grass was used by the Okanagan-Colville Tribe to ease the pain and soreness associated with arthritis.





Bottom photo courtesy of M. Lavin

# Bottlebrush squirreltail

*Elymus elymoides*

## Description

- Height of this tufted bunchgrass ranges from 4 to 16 in
- Leaves are long, thin, and flat to rolled; hairs are usually present on all plant parts
- Seed heads, when young, resemble a squirrel's tail and when mature, spread out to resemble a bottlebrush
- Awns are long (up to 4 in) and give seed heads their straight shapes; awns are often purplish when the grass is actively growing
- Awns are flexible when seeds are immature but become brittle and bent at near right angles as seeds mature

## Interesting facts

This grass is fairly common in the Boise Foothills and can be abundant on recently burned sites.

Bottlebrush squirreltail germinates in late fall or early spring, making it a good choice for revegetation of disturbed areas.

Wildlife and livestock avoid this grass when mature seeds and awns are present.

Bottlebrush squirreltail may be confused with medusahead. Bottlebrush squirreltail seed heads break apart and fall away from the plant, whereas medusahead seed heads remain attached to the plant until winter.





Bottom photos courtesy of M. Lavin

# Bulbous bluegrass

*Poa bulbosa*

## Description

- Height is generally 6 to 24 in
- Leaves are narrow and flat or loosely rolled
- Flowers are modified into bulblets, which are the most identifiable characteristic for this grass
- Bulblets are tiny, pear-shaped units with dark purple bases that occur where flowers would in a typical inflorescence
- Bulblets appear in early May

## Interesting facts

Bulbous bluegrass is the only Boise Foothills grass that emerges from true underground bulbs. The bulbs occur just beneath the soil surface.

This grass is short-lived and most common at moist sites.

Bulbous bluegrass bulblets often lay dormant for months to years before sprouting new plants, which are genetically identical to their parents.

As forage, bulbous bluegrass bulblets have high levels of starches and fats and are consumed by small mammals and birds.





Photos courtesy of M. Lavin

# Cereal rye

(Common rye)

*Secale cereale*

## Description

- Height ranges from 1.5 to 4 ft, but width is generally just 4 in; plants are often found in dense stands
- Leaf blades are flat, rough, blue-green, and less than 0.5 in wide
- Seeds are dense in flattened wheat-like heads; seeds have short rigid awns
- Individual seeds are about 0.5 in long

## Interesting facts

Cereal rye has been planted after wildfires or other soil disturbances in the Boise Foothills to provide vegetative cover on denuded sites. Cereal rye makes a good cover crop because of its early growth in the spring and development of an extensive, soil-holding root system. Cereal rye can spread from the original seeding area and has become somewhat invasive in moist foothills habitats.

Cereal rye is closely related to barley and wheat and can be used to make breads, rye beer, and liquor.





Bottom photo courtesy of M. Lavin

# Cheatgrass

(Downy bromegrass)

*Bromus tectorum*

## Description

- Height can be 4 to 30 in; plant size depends on the amount and timing of spring precipitation
- Leaves are narrow and covered in short downy hairs; leaf lengths vary from 1 to 10 in
- Seed heads are droopy, large (1-6 in long), and green to purple colored when young and straw colored when mature
- Seeds are sharp, have barbs and short awns, and are dispersed in late spring or early summer

## Interesting facts

Cheatgrass was introduced in Idaho around 1900. Originally from Eurasia, cheatgrass seeds came to the United States as contaminants in imported grains and livestock feed. It quickly established and spread in heavily grazed sites.

Seeds easily attach to and are transported by equipment, animals, and clothing (especially socks).

Cheatgrass is highly invasive and capable of drastically altering native ecosystems by replacing native species and increasing the size and frequency of wildfires.

Cheatgrass ignites easily, and fire spreads rapidly through dense stands of this fine fuel.





Photos courtesy of M. Lavin

# Crested wheatgrass

*Agropyron cristatum*

## Description

- Height ranges from 1 to 2.5 ft; stems are straight, erect, and densely bunched
- Leaves are flat, narrow (2-6 mm wide), and mostly smooth, although lower leaves may have some hairs
- Seeds are arranged in flat, linear to rounded rows at the top 1.5 to 3 in of stems
- Seed heads have a herringbone or fishbone appearance

## Interesting facts

Crested wheatgrass was introduced from Asia to the United States in the early 1900s as a forage plant for livestock and for erosion control on abandoned croplands. Today it is often seeded on recently burned rangelands where cheatgrass and other weeds are likely to increase.

Several crested wheatgrass varieties with slightly different characteristics have been planted in the foothills.

Crested wheatgrass is palatable to livestock and deer in the spring, and birds and small mammals feed on its seeds in the summer. However, wildlife biodiversity is often lower in stands of crested wheatgrass than in diverse native plant communities.





Middle and bottom photos courtesy of M. Lavin

# Idaho fescue

*Festuca idahoensis*

## Description

- Height ranges from 1 to 2 ft, and width may reach 8 in
- Stems and leaves are blue-green and clumped
- Leaves are narrow and typically 2 to 10 in long with margins that are slightly rough to the touch
- Seeds are produced along the top 3 to 6 in of stems; seeds are pointed and about 0.5 in long
- Roots are black; dark root color is a diagnostic characteristic for this grass

## Interesting facts

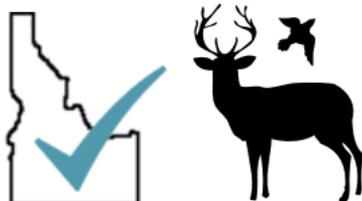
In the foothills, this grass is commonly found on north- and east-facing slopes, which have tend to have deeper, loamy soils.

Idaho fescue has a deep, extensive root system, making it well suited for erosion control.

Seeds are normally produced in all but the driest years.

Idaho fescue is a valuable forage species for livestock and wildlife (elk, pronghorn, and mule deer). This grass dries up later than most other associated grasses, providing for extended summer grazing.

This is not the state grass of Idaho, even though its name suggests it could be (Idaho has not named an official state grass).





Photos courtesy of M. Lavin

# Indian ricegrass

*Achnatherum hymenoides*

## Description

- Height ranges from 12 to 24 in, and width ranges from 8 to 12 in; stems and leaves are tightly bunched
- Leaves are abundant, slender, tightly rolled, and wiry
- Seed heads are wide spreading on delicate hair-like branches; they are attractive and almost bubble-like
- Seeds are brown, round, and hard

## Interesting facts

This species is often used in the revegetation of erodible sandy soils.

Not all Indian ricegrass seeds germinate in the first year after being produced. Some seeds remain dormant and germinate several years later.

Indian ricegrass is highly palatable forage. Seeds have high protein and fat levels and are an excellent food source for a variety of birds and small mammals.

Indian ricegrass seeds were a staple in the diets of many Native Americans. Seeds were often ground into flour.

Indian ricegrass is the officially designated state grass for both Nevada and Utah.





Top two photos courtesy of M. Lavin

Bottom photo courtesy of Clinton Shock, Oregon State University

# Intermediate wheatgrass

## *Thinopyrum intermedium*

### Description

- Height is typically 3 to 4 ft; plants form a sod or dense stands through spread by underground stems or rhizomes
- Leaves are bluish green, flat, up to 6 in long and 0.4 in wide, and sometimes droopy
- Leaves and stems are usually smooth, although there may be tiny hairs at the leaf margins
- Seed heads range from 4 to 8 in long, occur at the ends of stiff erect stalks, and may or may not be covered in fine hairs

### Interesting facts

Intermediate wheatgrass was introduced from Eurasia in the 1930s. It has been used for erosion control and as a pasture and hay crop.

Intermediate wheatgrass is grazed in the spring, early summer, and fall. This grass can provide good nesting cover for some birds.

Although the extensive, fibrous root system of intermediate wheatgrass makes it ideal for soil stabilization, this species may spread beyond the initial seeding site and adversely affect native plant communities.





Photos courtesy of M. Lavin



# Jointed goatgrass

*Aegilops cylindrica*

## Description

- Height is generally 5 to 20 in; stems are few to many, erect to slightly decumbent from the base, and look similar to wheat
- Leaves are typically 2 to 6 in long and less than 0.25 in wide with fine hairs where the stems and leaves meet
- Seed heads are 3 to 5 in long, slender, cylindrical, segmented or jointed, and red to yellow colored
- Seeds have stiff awns

## Interesting facts

Jointed goatgrass is native to the Mediterranean area and central Asia. It was introduced to North America in the 1800s.

It is a major problem in winter wheat crops and can reduce crop yields by up to 50%. Control is difficult because jointed goatgrass and winter wheat are closely related species. Chemicals that kill jointed goatgrass would likely also kill winter wheat.

The genus name *Aegilops* comes from an ancient Greek word meaning “an herb of which goats are fond.” This word is also unique in that all eight letters are in alphabetical order.





Photos courtesy of M. Lavin

# Medusahead

(Medusahead wildrye)

*Taeniatherum caput-medusae*

## Description

- Height ranges from 6 to 20 in, depending on the amount and timing of spring precipitation
- Leaves are bright green and delicate in appearance
- Seed heads are bristly because each seed has 2, stiff, twisted awns; one awn is long and upright, and the other is shorter and perpendicular

## Interesting facts

Medusahead is a Eurasian species that was first reported in North America in the 1880s.

This grass usually stays green two to three weeks after cheatgrass, making it easy to spot in late spring when cheatgrass is dry.

Leaves and stems are high in silica, which greatly reduces its palatability to livestock and wildlife and decreases the rate at which it decomposes. Slow decomposition, coupled with a tendency to dry early in the growing season, makes medusahead a persistent and highly flammable fuel. Infestations of medusahead can lead to increased fire spread, size, and frequency.

Areas with large medusahead populations typically have low plant diversity and wildlife habitat value.





Photos courtesy of M. Lavin

# Needle and thread

## *Hesperostipa comata*

### Description

- Height may reach 1 to 3 ft, but the base of the plant often has a diameter of just 3 to 6 in
- Leaves are smooth, flat, and 8 to 12 in long
- Seeds have characteristic sharply barbed awns; awns are twisted, long (5 to 8 in), and look like a short needle with a long thread

### Interesting facts

The awns of needle and thread are hygroscopic, meaning they twist with changes in moisture and humidity levels. Through the gain and loss of water and twisting of awns, seeds can be drilled into the soil.

Needle and thread is valuable forage in the spring before seed development and in the fall after seed drop. This grass is avoided by many herbivores when seeds and awns are present.

This grass has a similar appearance to Thurber's needlegrass, but some important distinctions exist. Needle and thread awns are longer than those of Thurber's needlegrass, and needle and thread leaves are smoother than Thurber's needlegrass leaves.





Photos courtesy of M. Lavin

# Red threeawn

*Aristida purpurea* var. *longiseta*

## Description

- Height of this densely tufted bunchgrass is 6 to 18 in
- Leaves are 2 to 6 in long and usually in-rolled
- Stems producing flowers and seeds are thin
- Seeds have 3-parted, red to purple awns that measure 1 to 3 in long; awns become bent and nearly perpendicular to the stems at maturity

## Interesting facts

This grass is one of the most common in the Boise Foothills. Red threeawn is a warm season grass. It differs from the majority of grasses growing in the Boise Foothills, which are cool season grasses, by growing well into the warmer summer months.

Red threeawn is generally avoided by herbivores when other forage is available because the awns can cause irritation and abscesses in the eyes, mouths, and nostrils.

The stems and leaves of red threeawn were used by southwestern Native American tribes to make brooms and brushes.





Top and middle photos courtesy of M. Lavin

# Sand dropseed

*Sporobolus cryptandrus*

## Description

- Height may reach 30 in; plants are typically erect and small in diameter
- Leaves are about 3 to 10 in long and 0.1 in wide, tapered at the tips, and slightly in-rolled toward the ends
- Tufts of short, white hairs occur where leaves clasp the stems
- Seed heads are long and narrow but become finely branched and pyramidal in shape as the seeds mature; seeds are purple or dark gray when ripe

## Interesting facts

Sand dropseed is a warm season grass. It differs from the majority of grasses growing in the Boise Foothills, which are cool season grasses, by growing well into the warmer summer months.

Sand dropseed is most common on sandy sites. Because of its extensive fibrous root system, this grass is useful in the revegetation of hillsides and sites with erodible sandy soils.

In times of extreme drought, leaves curl inward to reduce surface area and water loss.

Seeds have a hard coat and likely persist in the soil for years.

Southwestern Native American tribes ate sand dropseed seeds and used a plant infusion to treat sores and bruises on the legs of their horses.





Bottom photo courtesy of M. Lavin

# Sandberg bluegrass

*Poa secunda*

## Description

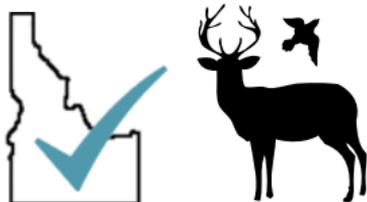
- Height is commonly 6 in or less but may reach 1 ft in wet springs; stems and leaves are tightly bunched, and maximum height is reached when flowers and seeds are produced
- Leaves are all basal, soft, fine, slender, and usually 1 to 3 in long; tips of leaves are folded into points that resemble the keel of a boat
- Seed heads are mostly green, may have a purplish hue, and are elevated above the leaves
- Leaves and stems become a pale gold color when dormant in the late spring or early summer but can green up again during wet autumns or even mild winters

## Interesting facts

Sandberg bluegrass produces a shallow yet dense fibrous root system, which may reduce the establishment and persistence of undesirable nonnative grasses like cheatgrass and medusahead.

Many wildlife species, especially mule deer, whitetail deer, and pronghorn, feed on Sandberg bluegrass in the spring, since it is among the earliest growing native grasses. Birds and small mammals eat Sandberg bluegrass seeds.

The Gosiute people gathered and ate Sandberg bluegrass seeds.





Top two photos courtesy of M. Lavin

# Sixweeks fescue

*Vulpia octoflora*

## Description

- Height ranges from 3 to 18 in; grasses typically occur in loose, sparse tufts
- Leaves measure 0.8 to 4 in long and 1 to 2 mm wide
- Leaf form and texture are variable, ranging from flat to rolled and smooth to hairy; leaves are most common on upper stem portions
- Seeds have awns that rarely exceed 0.5 in long

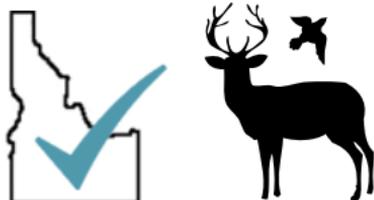
## Interesting facts

This is the most common native annual grass in the Boise Foothills. It can be locally abundant in some years.

Sixweeks fescue is named for its rapid life cycle, which can be complete in 6 weeks or even less during dry years.

Pronghorn and deer graze sixweeks fescue in the spring. Small mammals and birds utilize sixweeks fescue's herbaceous material in the spring and seeds in the summer.

The Gosiute people roasted and consumed sixweeks fescue seeds.





Photos courtesy of M. Lavin

# Thurber's needlegrass

*Achnatherum thurberianum*

## Description

- Height of this compact bunchgrass is generally less than 2 ft with the majority of the height being the seed stalks
- Leaves are narrow, in-rolled, 6 to 10 in long, and feel like sand paper when rubbed from tip to base
- Seed heads are slightly purple and 3 to 4 in long
- Seeds are about 0.25 in long with sharp points and long, fuzzy, twice-bent awns

## Interesting facts

The awns of Thurber's needlegrass are hygroscopic, meaning they twist with changes in moisture and humidity levels. Through the gain and loss of water and twisting of awns, seeds can be drilled into the soil.

This grass is excellent forage for elk, deer, pronghorn, and livestock in the spring until the sharp awns develop. Seeds are eaten by small mammals and birds.

Thurber's needlegrass appears similar to needle and thread, but some important distinctions exist. Thurber's needlegrass has rough, hairy leaves, while needle and thread has smooth leaves. Awns produced by Thurber's needlegrass are much shorter than those produced by needle and thread.





# Ventenata wiregrass

(African wiregrass)

*Ventenata dubia*

## Description

- Height ranges from 4 to 12 in; stems are slim, erect, and loosely gathered
- Leaves are narrow (0.75-2.5 in long), have smooth upper surfaces and rough lower surfaces, and are flat when young but become in-rolled with age
- Stems have dark reddish to black joints in the spring
- Seed heads occur in open, airy, pyramidal shapes that are up to 8 in long and have a shiny golden appearance; seed heads branch into distinct right angles
- Seeds have 2 types of awns: one is short (about 0.2 in long) and straight, and the other is long (0.4-1 in long), twisted, and abruptly bent

## Interesting facts

Ventenata wiregrass is a relative newcomer to the Boise Foothills with the potential to expand and become a serious problem for land managers.

This grass has minimal forage value for livestock and wildlife.

Ventenata wiregrass infestations in hay crops or pastures can reduce yields by 50% or more.





Photos courtesy of M. Lavin

# Glossary

**Annual:** A plant that germinates from a seed, grows, flowers, produces seeds, and then dies within the span of a single year.

**Awn:** A terminal, usually slender bristle on an organ or seed. Awns are often associated with grasses.

**Axil:** The upper angle formed by the junction of a leaf or similar organ with the stem.

**Basal:** Referring to the bottom.

**Biennial:** A plant that lives for two years. Vegetative growth is produced during the first year, usually followed by flowering, fruit production, and death in the second year.

**Cool season (grasses):** Plants that grow during cooler, wetter months. Cool season grasses go dormant and usually become brown or tan during warm months.

**Decumbent:** Stems or other plant parts lying along the ground or along a surface, with the extremity curving upward.

**Forb:** Vascular plant without significant woody tissue above or at the ground. Forbs or herbs may be annual, biennial, or perennial. Wildflowers are forbs.

**Floret:** The individual flowers of the sunflower and grass families. Individual florets make up the inflorescences of species in these families.

**Grass:** Grasses are flowering plants that form the large Poaceae family. They generally have long, narrow, parallel-veined leaves arranged in two vertical rows along a round stem. The inconspicuous flowers usually develop on spikelets.

**Herbivore:** An animal whose primary source of food consists of plants.

**Inflorescence:** A group or cluster of flowers arranged on a stem that is composed of a main branch or a complicated arrangement of branches.

**Invasive:** A species whose introduction does or is likely to cause harm to economies, environments, or human health.

**Leaflet:** Divided segments of a compound leaf. For example, several leaflets segments make up the compound structure of a hemp leaf.

**Linear:** Describing leaves, such as those of grasses that are elongated with parallel venation for much of their length.

**Midrib:** The vein running down the middle of a leaf from the leaf base to the leaf tip, often dividing the leaf into similar halves or mirror images.

**Native:** The species that exist in a given ecosystem because of natural processes.

**Nonnative:** A plant introduced with human help (intentionally or accidentally) to a new place or new type of habitat where it was not previously found. Not all nonnative plants are invasive.

**Noxious weed:** A nonnative plant designated by the state of Idaho as injurious to public health, agriculture, recreation, wildlife, or property.

**Perennial:** A plant that lives for more than two years.

**Petal:** One of the modified leaves that makes up the outside of a flower (i.e. corolla). Flower petals are often the most colorful part of a plant. In some cases, what looks like a petal, is a modified flower (e.g. annual sunflower, arrowleaf balsamroot, Bachelor's button, hoary tansyaster, prickly lettuce, and rush skeletonweed).

**Pistil:** The female, seed-bearing reproductive organ of a flower, usually composed of the ovary, stigma, and style. It usually appears as a long, slender club. The other flower parts (petals, sepals, and stamen) are often centrally arranged around the pistil.

**Rhizome:** An underground stem that grows horizontally and acts as an agent of vegetative propagation.

**Rosette:** A plant with leaves radiating out from a short stem at soil level. A rosette is the common form of biennial plants in their first year. The rosette form enables such plants to survive grazing and trampling and to be more successful in competing with other species for space.

**Shrub:** A perennial, multi stemmed, woody plant that is usually less than 16 ft in height. There are often several stems arising from or near the ground.

**Spikelet:** The basic unit of a grass inflorescence. Spikelet characteristics such as size, number of florets, or how it fractures at maturity may be used as diagnostic traits for grasses.

**Stamen:** The pollen producing, male reproductive organ of a flower, consisting of the anther and filament.

**Style:** A pillar-like tube that funnels pollen down to the ovary.

**Taproot:** A persistent robust primary root, often penetrating some depth below ground level and sometimes specialized for storage. Swollen taproots are produced by many perennial or biennial plants, e.g. carrot.

**Warm season (grasses):** Plants that grow and reach full height during warm months.

# Book References

- Debolt A., Rosentreter R., and Van Paepeghem B. 2012. Fire resistance of plants. College of Western Idaho, Idaho Botanical Garden, and U.S. Department of the Interior, Bureau of Land Management, Idaho State Office, Boise, ID.
- Johnson W. and Wilson R. 2009. Invasive weed identification for Nevada. University of Nevada, Reno, Cooperative Extension. Reno, NV.
- Lambert S. and Parkinson H. 2005. Guidebook to the seeds of native and non-native grasses, forbs, and shrubs of the Great Basin. Idaho BLM technical bulletin, U.S. Department of the Interior, Bureau of Land Management, Idaho State Office, Boise, ID.
- Monsen S., Stevens R., and Shaw N. 2004. Restoring western rangelands and wildlands. GTR-136 U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fort Collins, CO.
- Rosentreter R. and Kelsey R. 1991. Xeric big sagebrush, a new subspecies in the *Artemisia tridentata* complex. *Journal of Range Management*, 44: 4, 330-335.
- Selland, L. 2003. Landscaping with native plants of the Intermountain Region. U.S. Department of Interior, Idaho State Bureau of Land Management, Idaho State Office, Boise, ID.
- Taylor, R. 1992. Sagebrush country: a wildflower sanctuary. Dover Publications, Inc., 31 East 2nd St., Mineola, NY.
- U.S. Department of Agriculture. 1998. Range plant handbook. Idaho BLM technical bulletin, U.S. Department of Interior Bureau of Land Management Office, Idaho State Office, Boise, ID.
- Whitson, T.D. 2000. Weeds of the West, 9th edition. Collaboration of the Western Society of Weed Science, Western U.S. Land Grant Universities Cooperative Extension and University of Wyoming, Newark, CA.
- Winward, A. 2004. Sagebrush of Colorado. 1st edition. Colorado Division of Wildlife, Department of Natural Resources, 6060 Broadway, Denver, CO.

# Selected Website References

- Moerman, Daniel E. 2003. Native American Ethnobotany: A database of foods, drugs, dyes and fibers of Native American Peoples, derived from plants. (<http://herb.umd.umich.edu>, 4 February 2013). University of Michigan-Dearborn, Dearborn, MI 48198, USA.
- Northern Rockies Natural History Guide. (<http://nhguide.dbs.umt.edu/>, 4 February 2013). Division of Biological Sciences, University of Montana. Missoula, MT 59808, USA.
- State of Idaho. Noxious Weeds Program. (<http://www.idahoag.us/Categories/PlantsInsects/NoxiousWeeds/indexnoxweedmain.php>, 22 February 2013) Department of Agriculture, P.O. Box 790, 2270 Old Penitentiary Road, Boise, ID 83701, USA.
- U.S. Department of Agriculture, Natural Resources Conservation Service. 2013. The PLANTS Database (<http://plants.usda.gov>, 4 February 2013). National Plant Data Team, Greensboro, NC 27401, USA.
- U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 2013. Fire Effects Information System. (<http://www.fs.fed.us/database/feis>, 4 February 2013). Fire Sciences Laboratory, Missoula, MT 59808, USA.

# Index

## By common name

Aase's onion.....	24
African wiregrass. <i>See</i> Ventenata wiregrass	
Annual sunflower.....	26
Antelope bitterbrush.....	12
Arrowleaf balsamroot.....	28
Bachelor's button.....	30
Ballhead gilia.....	32
Basin big sagebrush.....	14
Basin wildrye.....	122
Bastard elm. <i>See</i> Nettleleaf hackberry	
Bastard toadflax.....	34
Bluebunch wheatgrass.....	124
Blue Mountain buckwheat.....	36
Bottlebrush squirreltail.....	126
Bristly fiddleneck. <i>See</i> Fiddleneck	
Bulbous bluegrass.....	128
Bur buttercup.....	38
Cereal rye.....	130
Cheatgrass.....	132
Common rye. <i>See</i> Cereal rye	
Common sunflower. <i>See</i> Annual sunflower	
Compass plant. <i>See</i> Prickly lettuce	
Cotton thistle. <i>See</i> Scotch thistle	
Crested wheatgrass.....	134
Curveseed butterwort. <i>See</i> Bur buttercup	
Desert madwort.....	40
Desert mallow. <i>See</i> Munro's globemallow	
Devil's lettuce. <i>See</i> Fiddleneck	
Douglas' dustymaiden. <i>See</i> False yarrow	
Downy bromegrass. <i>See</i> Cheatgrass	
False yarrow.....	42
Fiddleneck.....	44
Foothills sagebrush.....	16
Gairdner's beardtongue.....	46
Garden cornflower. <i>See</i> Bachelor's button	
Goathead. <i>See</i> Puncturevine	
Goat's beard. <i>See</i> Yellow salsify	

Gray rabbitbrush.....	18
Gray's biscuitroot.....	48
Gray's desert parsley. <i>See</i> Gray's biscuitroot	
Green rabbitbrush.....	20
Hoary tansyaster.....	50
Hood's phlox.....	52
Idaho fescue.....	136
Idaho pepperweed. <i>See</i> Slickspot peppergrass	
Indian ricegrass.....	138
Intermediate wheatgrass.....	140
Jim Hill mustard.....	54
Jointed goatgrass.....	142
Leafy spurge.....	56
Longleaf phlox.....	58
Low pussytoes.....	60
Lupine.....	62
Maiden blue-eyed Mary.....	64
Meadow deathcamas.....	66
Medusahead (wildrye).....	144
Mulford's milkvetch.....	68
Munro's globemallow.....	70
Needle and thread.....	146
Netleaf hackberry.....	22
Nineleaf biscuitroot.....	72
Orange globemallow. <i>See</i> Munro's globemallow	
Pale evening primrose.....	74
Pinnate tansymustard. <i>See</i> Western tansymustard	
Prickly lettuce.....	76
Puncturevine.....	78
Purple aster. <i>See</i> Hoary tansyaster	
Pursh's milkvetch.....	80
Red threeawn.....	148
Redstem filaree. <i>See</i> Redstem stork's bill	
Redstem stork's bill.....	82
Rock penstemon. <i>See</i> Gairdner's beardtongue	
Rubber rabbitbrush. <i>See</i> Gray rabbitbrush	
Rush skeletonweed.....	84
Russian thistle .....	86
Sagebrush buttercup.....	88
Sandberg bluegrass.....	152

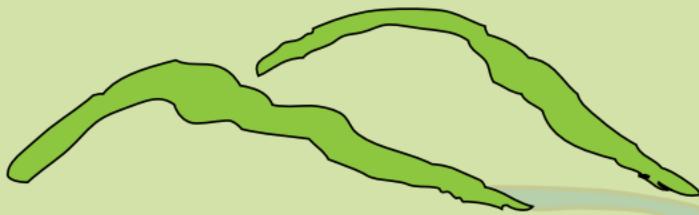
Sand dropseed.....	150
Sand fringe pod.....	90
Scarlet gilia.....	92
Scotch thistle .....	94
Sego lily.....	96
Showy phlox. <i>See</i> Hood's phlox	
Silverleaf phacelia.....	98
Sixweeks fescue.....	154
Skunk flower. <i>See</i> Scarlet gilia	
Skyrocket. <i>See</i> Scarlet gilia	
Slickspot peppergrass.....	100
Small burnet.....	102
Smoothstem blazingstar.....	104
South Idaho onion. <i>See</i> Aase's onion	
Spring draba.....	106
St. Johnswort (Common).....	108
Tackweed. <i>See</i> Puncturevine	
Tall tumbled mustard. <i>See</i> Jim Hill mustard	
Tapertip hawksbeard.....	110
Tapertip onion.....	112
Thurber's needlegrass.....	156
Tumbleweed. <i>See</i> Russian thistle	
Ventenata wiregrass.....	158
Western hackberry. <i>See</i> Netleaf hackberry	
Western salsify. <i>See</i> Yellow salsify	
Western tansymustard.....	114
Western yarrow.....	116
White-leaf phacelia. <i>See</i> Silverleaf phacelia	
White-stemmed evening primrose. <i>See</i> Pale evening primrose	
Whitlow grass. <i>See</i> Spring draba	
Woodland star.....	118
Woollypod locoweed. <i>See</i> Pursh's milkvetch	
Woolly milkvetch. <i>See</i> Pursh's milkvetch	
Xeric big sagebrush. <i>See</i> Foothills sagebrush	
Yellow alyssum. <i>See</i> Desert madwort	
Yellow rabbitbrush. <i>See</i> Green rabbitbrush	
Yellow salsify.....	120

# Index

## By scientific name

<i>Achillea millefolium</i> var. <i>occidentalis</i> .....	116
<i>Achnatherum hymenoides</i> .....	138
<i>Achnatherum thurberianum</i> .....	156
<i>Aegilops cylindrica</i> .....	142
<i>Agropyron cristatum</i> .....	134
<i>Allium aaseae</i> .....	24
<i>Allium acuminatum</i> .....	112
<i>Alyssum desertorum</i> .....	40
<i>Amsinckia tessellata</i> .....	44
<i>Antennaria dimorpha</i> .....	60
<i>Aristida purpurea</i> var. <i>longiseta</i> .....	148
<i>Artemisia tridentata</i> subsp. <i>tridentata</i> .....	14
<i>Artemisia tridentata</i> subsp. <i>xericensis</i> .....	16
<i>Astragalus mulfordiae</i> .....	68
<i>Astragalus purshii</i> .....	80
<i>Balsamorhiza sagittata</i> .....	28
<i>Bromus tectorum</i> .....	132
<i>Calochortus nuttallii</i> .....	96
<i>Celtis laevigata</i> var. <i>reticulata</i> .....	22
<i>Centaurea cyanus</i> .....	30
<i>Ceratocephala testiculata</i> .....	38
<i>Chaenactis douglasii</i> .....	42
<i>Chondrilla juncea</i> .....	84
<i>Chrysothamnus viscidiflorus</i> .....	20
<i>Collinsia parviflora</i> .....	64
<i>Comandra umbellata</i> .....	34
<i>Crepis acuminata</i> .....	110
<i>Descurainia pinnata</i> .....	114
<i>Draba verna</i> .....	106
<i>Elymus elymoides</i> .....	126
<i>Ericameria nauseosa</i> .....	18
<i>Eriogonum strictum</i> .....	36
<i>Erodium cicutarium</i> .....	82
<i>Euphorbia esula</i> .....	56
<i>Festuca idahoensis</i> .....	136
<i>Helianthus annuus</i> .....	26
<i>Hesperostipa comata</i> .....	146

<i>Hypericum perforatum</i> .....	108
<i>Ipomopsis aggregata</i> .....	92
<i>Ipomopsis congesta</i> subsp. <i>congesta</i> .....	32
<i>Lactuca serriola</i> .....	76
<i>Lepidium papilliferum</i> .....	100
<i>Leymus cinereus</i> .....	122
<i>Lithophragma glabrum</i> .....	118
<i>Lomatium grayi</i> .....	48
<i>Lomatium triternatum</i> .....	72
<i>Lupinus</i> spp.....	62
<i>Machaeranthera canescens</i> .....	50
<i>Mentzelia laevicaulis</i> .....	104
<i>Oenothera pallida</i> .....	74
<i>Onopordum acanthium</i> .....	94
<i>Penstemon gairdneri</i> .....	46
<i>Phacelia hastata</i> .....	98
<i>Phlox hoodii</i> .....	52
<i>Phlox longifolia</i> .....	58
<i>Poa bulbosa</i> .....	128
<i>Poa secunda</i> .....	152
<i>Pseudoroegneria spicata</i> .....	124
<i>Purshia tridentata</i> .....	12
<i>Ranunculus glaberrimus</i> .....	88
<i>Salsola tragus</i> .....	86
<i>Sanguisorba minor</i> .....	102
<i>Secale cereale</i> .....	130
<i>Sisymbrium altissimum</i> .....	54
<i>Sphaeralcea munroana</i> .....	70
<i>Sporobolus cryptandrus</i> .....	150
<i>Taeniatherum caput-medusae</i> .....	144
<i>Thinopyrum intermedium</i> .....	140
<i>Thysanocarpus curvipes</i> .....	90
<i>Tragopogon dubius</i> .....	120
<i>Tribulus terrestris</i> .....	78
<i>Ventenata dubia</i> .....	158
<i>Vulpia octoflora</i> .....	154
<i>Zigadenus venenosus</i> .....	66



# Healthy Hills Initiative

[www.healthyhills.org](http://www.healthyhills.org)



*Use this QR code to find more information on the plants in this field guide and how you can help restore the native plant communities of our Boise Foothills ecosystem.*

