



Wild Caraway
Carum carvi

ID tips

- Clustered small white flowers
- Leaves similar to carrot leaves, droop more



Identification

- Lifecycle: Biennial or short-lived perennial
- Flower: Clustered small white or pinkish flowers
- Leaves: Leaves look similar to carrot leaves, but droop more
- Roots: Single tap root
- Seedling: Seedlings look similar to mature plant with smaller leaves
- Other: Spreads by seed, several stems from the root, plant is 1 – 2’ tall, first year growth is a rosette

Management

- Cultural: Cultural management helps but wild caraway can compete with desired vegetation
- Mechanical: Hand pulling with complete removal of root system
- Biological: None available
- Chemical: Escort (metsulfuron methyl), 2,4-D



Knotweeds,
Japanese, Giant, Bohemian

Polygonum cuspidatum, sachalinense, X bohemicum

ID tips

- Clustered small showy white flowers
- Hollow reddish colored stems with heart shaped leaves



Identification

- Lifecycle: Perennial
- Flower: Clustered small showy white flowers in late summer
- Leaves: Leaves are heart shaped, alternate and large,
- Roots: Extensive creeping rhizomes
- Seedling: Seedlings look similar to mature plant with smaller leaves
- Other: Stems reddish color, hollow, often swollen at nodes, membranous sheath at nodes, tends to grow in riparian areas, can reach 10’ tall

Management

- Cultural: Cultural management helps but the knotweeds can compete with desired vegetation
- Mechanical: Hand pulling with complete removal of root system, solarization, mowing of limited use
- Biological: None available
- Chemical: Habitat (imazapyr), Rodeo (glyphosate) Requires an herbicide labelled for use in and around water

Additional Resources:

An integrated system of weed management will produce the best results on your property. Relying solely on one management technique will result in less than desired results and may lead to resistance in the weed. Utilizing cultural, mechanical, biological and chemical techniques will provide the best results.

Rapid identification and management produces the best result.

Colorado Department of Agriculture

<https://www.colorado.gov/pacific/agconservation/noxiousweeds>

Colorado Weed Management Association

<http://www.cwma.org/>

Boulder County Parks and Open Space Weeds Division

Steve Sauer, Boulder County Weed Coordinator, ssauer@bouldercounty.org 303-678-6110
<http://www.bouldercounty.org/property/weeds/pages/default.aspx>

CSU Extension Boulder County

Sharon Bokan, Boulder County Extension Small Acreage Coordinator, sbokan@bouldercounty.org 303-678-6176
<http://www.extension.colostate.edu/boulder/acreage.shtml>

CSU Extension Fact sheets

<http://extension.colostate.edu/topic-areas/natural-resources/?target=publications>

CSU Extension Small Acreage website

<http://www.ext.colostate.edu/sam/index.html>

Products are listed as a service to Boulder County and Extension clientele. Boulder County and CSU Extension do not guarantee nor warranty the standard of any products, nor does it imply approval of the product to the exclusion of others which also may be available, nor does it intend discrimination or criticism of products or providers that are mentioned or not mentioned. In addition, Boulder County and CSU Extension assume no liability for use of any product.

Boulder County Weed Management Pocket Guide Mountains



Colorado State University, U.S. Department of Agriculture and Colorado Counties cooperating. Cooperative Extension programs are available to all without discrimination. To simplify technical terminology, trade names of products will be used. No endorsement of products named is intended nor criticism implied of products not mentioned.

This brochure was designed to increase weed awareness especially noxious weeds, the importance of identification and development of a weed management plan and provide some weed management methods.

How do I manage weeds on my property?

1. Positively identify the weed. Improper identification may lead you to the wrong management methods.
2. Understand the weed's life cycle. Is it a winter or summer annual (1 year growth cycle), biennial (2 year growth cycle) or perennial (multiple year growth cycle)? Does the perennial spread only by seed (simple) or seed and vegetative sprouts (complex). Timing of management methods is an important part of a successful weed management plan.
3. Learn what management techniques are available
 - a. Cultural
 - b. Mechanical
 - c. Biological
 - d. Chemical (includes both "synthetic" and "organic")
4. Develop a weed management plan that includes monitoring of the weeds and property.



Poison hemlock

Conium maculatum

ID tips

- Flowers small white born in carrot/parsley like umbrella shaped clusters
- Leaves are similar to carrot leaves
- Stems have purple splotches



Identification

- Lifecycle: Biennial
- Flower: Small 5 petaled white flowers born in umbrella shaped flowers
- Leaves: Leaves are carrot/parsley like in appearance
- Roots: Tap and fibrous roots
- Seedling: Seedlings carrot/parsley like
- Other: Only reproduces by seed , stems have purple splotches, the plant is poisonous to humans and livestock

Management

- Cultural: Maintaining healthy desired vegetation
- Mechanical: Hand pulling rosettes or cutting off flower stalks prior to seed production can reduce seed production, dig out plants, wear protective gear when pulling or cutting
- Biological: None available
- Chemical: 2,4-D. Escort (metsulfuron methyl), Telar (chlorsulfuron)



Myrtle spurge

Euphorbia myrsinites

ID tips

- Low growing plant with fleshy leaves and stems, containing milky white latex sap
- Leaves are blue green, alternate with inconspicuous flowers



Identification

- Lifecycle: Perennial
- Flower: Yellow-green petal like bracts
- Leaves: Fleshy blue-green, alternate oval shaped with pointed tip
- Roots: Taproot
- Seedling: Seedlings look similar to mature plant
- Other: Latex sap is toxic and may cause skin irritation, nausea or vomiting if ingested

Management

- Cultural: Cultural management helps but Myrtle spurge can compete with desired vegetation
- Mechanical: Hand pulling or digging are effective, be sure to wear gloves and long sleeve shirt and long pants to protect from irritating sap.
- Biological: None available
- Chemical: 2,4-D



Spotted knapweed

Centaurea maculosa

ID tips

- Flowers are lavender to purple, bracts under flower have black tips
- Leaves are deeply lobed, first year growth a rosette



Identification

- Lifecycle: Biennial or short-lived perennial
- Flower: Flowers are lavender to purple, bracts under flower have black tips
- Leaves: Leaves are deeply lobed, rosette leaves larger, leaves decrease in size on the stem
- Roots: Taproot
- Seedling: Seedlings have deeply lobed leaves in a rosette
- Other: Flower structure breaks off and becomes a tumbleweed, may hybridize with Diffuse knapweed

Management

- Cultural: Maintaining healthy desired vegetation
- Mechanical: Hand pulling or cutting off flowering structure can reduce seed production, digging out plants
- Biological: Goats and sheep can help manage infestations, *Cyphocleonus achates*, root weevil, *Larinus minutus*, flower weevil
- Chemical: Milestone (aminopyralid), Transline (clopyralid), Curtail (clopyralid + 2,4-D), Redeem (clopyralid + triclopyr)

Always read and follow the instructions on the herbicide label!



Diffuse knapweed

Centaurea diffusa

ID tips

- White to lavender flowers, bracts under flower spiny and straw colored
- Leaves highly dissected, first year growth a rosette



Identification

- Lifecycle: Biennial or short-lived perennial
- Flower: White to lavender <1/2" diameter flowers, clusters of 2 – 3, bracts under flower spiny and straw colored
- Leaves: Basal leaves and rosette leaves are highly dissected, leaves on stem smaller and less dissected
- Roots: Taproot
- Seedling: Seedlings have highly dissected leaves in a rosette
- Other: Flower structure breaks off and becomes a tumbleweed, may hybridize with Spotted knapweed

Management

- Cultural: Maintaining healthy desired vegetation
- Mechanical: Hand pulling or cutting off flowering structure can reduce seed production, digging out plant
- Biological: Goats and sheep can help manage infestations, *Cyphocleonus achates*, root weevil, *Larinus minutus*, flower weevil
- Chemical: Milestone (aminopyralid), Transline (clopyralid), Curtail (clopyralid + 2,4-D), Redeem (clopyralid + triclopyr)



Mediterranean Sage

Salvia aethiopsis

ID tips

- Gray/blue green hairy triangular lobed leaves
- Flowering structure with white flowers that becomes a tumbleweed



Identification

- Lifecycle: Biennial
- Flower: Hooded, 2 lipped white to cream colored, clustered
- Leaves: Gray/blue green hairy aromatic leaves
- Stems: Single lower stem becomes multi branched flowering structure
- Root: Taproot
- Seedling: Gray/blue green rosette with leaves having none to limited lobes
- Other: Rosette the first year, may be confused with ornamental sages

Management

- Cultural: Maintaining healthy desired vegetation
- Mechanical: severe root below soil surface and remove plant or cutting/mowing plant when plants are beginning to bloom
- Biological: None available
- Chemical: Telar (chlorsulfuron), Escort (metsulfuron methyl) + 2,4-D tank mix or Plateau (imazapic)



Common mullein

Verbascum Thapsus

ID tips

- Light green/yellow/gray hairy leaves mostly basal
- Flowers are born on a spike and are 5 petalled and sulfur yellow



Identification

- Lifecycle: Biennial
- Flower: Five petal ¾ to 1.5 inch diameter sulfur yellow color flowers born on a spike
- Leaves: Ovate shaped leaves, alternate on stem, yellow/grey/green color covered with soft hairs
- Roots: Fibrous roots
- Seedling: Seedlings similar to full size plant
- Other: Only spreads by seed, but seeds can survive for 100 years in the soil, so continued monitoring required

Management

- Cultural: Maintaining healthy desired vegetation
- Mechanical: Hand pulling rosettes or cutting off flower stalks prior to seed production can reduce seed production, dig out plants
- Biological: None available
- Chemical: Telar (chlorsulfuron), Cimarron (metsulfuron methyl)

What is a Noxious Weed?

Noxious weeds are defined by State and Federal law and are non-native plants that have no natural controls and are able to adapt to varied conditions. The Colorado Weed Act places these weeds onto three separate lists (weed names are color-coded to correspond to the list they are on).

List A weeds: Elimination required

List B weeds: Management required

List C weeds: Management recommended

Weed management is an ongoing process that will continue until you sell your property. Check along fence lines, ditches and roads as these are usually the first areas to be infested. Any time you disturb the soil, you open the door for a weed infestation to start.

Boulder County Weed Management Plan

<http://www.bouldercounty.org/doc/parks/wedmplan.pdf>

This brochure is not meant to be all inclusive but is a guideline for those weeds commonly found in the county. Photographs for this brochure are from the following sources.

CO Dept. of Ag. - Noxious Weed Management Program
<http://www.colorado.gov/ag/weeds>
 CO Weed Management Association - Noxious Weed Info.
<http://www.cwma.org/>
 USDA Plants Database - Plants information
<http://plants.usda.gov/java/>

Weed Management Methods

Cultural: Cultural methods involve getting and keeping desired vegetation established and healthy. Developing and following a grazing management plan, reseeding disturbed areas, using clean weed free seed and maintaining proper stubble height are all cultural methods.

Mechanical: Mechanical methods include but are not limited to hand pulling, mowing, hoeing, tillage and burning.

Biological: Biological methods include the use of natural predators for specific weed species. This may include insects, fungi, bacteria and livestock. Biological methods are not 100% effective and can take 5 to 10 years to establish sufficient populations. Insects can be obtained from the Colorado Department of Agriculture's Insectary.

<https://www.colorado.gov/pacific/agconservation/request-bug>

Chemical: Chemical methods include both "organic" and "synthetic" herbicides. Always positively identify the weed and determine the best herbicide to use and application timing.

Read, understand and follow the label prior to application. Mixing at a higher rate or using an herbicide where it is not labelled for use is illegal and may cause harm to desirable plants, humans, livestock and wildlife. For more information on the herbicides listed, please contact Steve Sauer, Boulder County Parks and Open Space or Sharon Bokan, Boulder County Extension. Contact information on last page.

Sprayer calibration:

<http://www.ext.colostate.edu/pubs/farmmg/05003.html>



Cheatgrass

Bromus sp.

ID tips

- Winter annual grass, hairy leaves, may have reddish cast in winter
- Matures by June with drooping seed heads and seeds that get caught in clothing



Identification

- Lifecycle: Annual
- Flower: Open, many branched drooping panicle
- Leaves: Leaves are hairy and may have reddish tinge in winter
- Roots: Fibrous roots
- Seedling: Seedlings look similar to mature plant, germinate from August through winter
- Other: Three related grasses Cheatgrass (*Bromus secalinus*), Downy Brome (*Bromus tectorum*) and Japanese Brome (*Bromus japonicus*)

Management

- Cultural: Maintaining healthy desired vegetation
- Mechanical: Mowing and grazing can be effective if timed properly
- Biological: None available
- Chemical: Plateau (imazapic), Roundup (glyphosate)



Oxeye Daisy

Chrysanthemum leucanthemum

ID tips

- Daisy appearing flower, flowers solitary and 1 to 3" in diameter
- Leaves are spoon shaped on the lower part of stem and narrow toothed leaves that clasp the stem on the upper stem



Identification

- Lifecycle: Perennial
- Flower: Daisy appearing flower, flowers solitary and 1 to 3" in diameter 15 to 30 white ray flowers
- Leaves: Leaves are spoon shaped, toothed and on long petioles on the lower stem and narrow toothed and clasp the stem on the upper stem
- Roots: Extensive creeping rhizomes
- Seedling: Seedlings have spoon shaped, toothed leaves
- Other: Seeds can survive for 40 years in the soil, so continued monitoring required

Management

- Cultural: Cultural management helps but Oxeye daisy can compete with desired vegetation
- Mechanical: Hand pulling can reduce seed production, digging out root system
- Biological: Goats and sheep can help manage infestations
- Chemical: Milestone (aminopyralid), Escort (metsulfuron methyl), Telar (chlorsulfuron)



Musk thistle

Carduus nutans

ID tips

- Flowers have spine tipped bracts underneath that curve away from flower
- Leaves have a white midrib and margin
- Flowers are solitary, 1 – 2" in diameter and purple



Identification

- Lifecycle: Biennial
- Flower: Flowers are solitary, purple, 1 – 2" in diameter, and usually nodding, spine tipped bracts under flower
- Leaves: Alternate on the stem, dark green with white mid rib and white leaf margin, deeply lobed, forms a rosette when the plant first emerges
- Stems: Plants can be 6' tall with multiple stems, spiny
- Roots: Taproot
- Seedling: Seedling forms a rosette
- Other: Only spreads by seed

Management

- Cultural: Maintaining healthy desired vegetation
- Mechanical: sever root below soil surface and remove plant or cutting/mowing plant when plants are beginning to bloom
- Biological: None available
- Chemical: Milestone (aminopyralid), Transline (clopyralid), Curtail (clopyralid + 2,4-D), Redeem (clopyralid + triclopyr), Telar (chlorsulfuron)



Canada thistle

Cirsium arvense

ID tips

- White to light lavender ½" diameter flowers born in clusters
- Leaves spiny



Identification

- Lifecycle: Perennial
- Flower: Flowers are small (1/2"), white to pink to lavender and born in clusters of up to 5 flowers
- Leaves: Leaves are spiny, alternate on the stem, oblong shaped with serrated edges.
- Stems: Plants range from 2 – 4' tall, stems are prickly
- Roots: Roots are extensive and include both vertical roots for water and nutrient storage and lateral roots that produce new shoots.
- Seedling: Seedlings look similar to mature plant
- Other: Canada thistle spreads by both seed and root system. Tillage can spread infestation by producing viable root segments

Management

- Cultural: Cultural management helps but Canada thistle can compete with desired vegetation
- Mechanical: Mowing can be effective if done every 2 weeks and at a low height
- Biological: Livestock will graze young plants and flowers
- Chemical: Milestone (aminopyralid), Transline (clopyralid), Curtail (clopyralid + 2,4-D), Redeem (clopyralid + triclopyr), Telar (chlorsulfuron)



Scentless Chamomile

Matricaria perforata

ID tips

- Flowers ¾" diameter, daisy like, yellow center disc
- Leaves are fern like and odor less



Identification

- Lifecycle: Annual, biennial or short-lived perennial
- Flower: Daisy like, yellow center disc, ¾" in diameter
- Leaves: Leaves alternate, fern like finely divided
- Roots: Tap and fibrous roots
- Seedling: Seedlings fern like
- Other: Only reproduces by seed so managing seed production is vital

Management

- Cultural: Maintaining healthy desired vegetation
- Mechanical: Hand pulling or tillage to disrupt plant growth and limit seed production, mowing of limited use due to low growth
- Biological: None available
- Chemical: Escort (metsulfuron methyl), Telar (chlorsulfuron)



Dames Rocket

Hesperis matronalis

ID tips

- Flowers are white or purple with four petals and born in clusters on the stem ends
- Leaves are lance shaped, alternate on stem, slightly hairy, with finely toothed edges



Identification

- Lifecycle: Biennial or short-lived perennial
- Flower: Flowers are 4 petaled white to purple ½ to ¾ inch diameter, clustered at end of stems
- Leaves: Leaves are lance shaped 2 – 4 inches long, slightly hairy with finely toothed edges, alternate on the stems
- Roots: Fibrous roots
- Seedling: Seedlings are similar to mature plants
- Other: Only spreads by seed, Dames rocket is in the mustard family, escaped ornamental

Management

- Cultural: Maintaining healthy desired vegetation
- Mechanical: Hand pulling or cutting off seed head can reduce seed production, digging or pulling is effective
- Biological: None available
- Chemical: Escort (metsulfuron methyl), Telar (chlorsulfuron)

Weeds and Forest Mitigation

An important aspect of living in the mountains is doing forest mitigation not only for insurance purposes but also for land stewardship. Doing forest mitigation can be a source of weed infestations. Weed seed can be brought in on mitigation equipment or seed that has blown onto your property that now has the light and moisture to germinate and grow.

What can you do to minimize the weed infestations post mitigation? First, recognize that it will happen and plan for it. If you hire someone to do the mitigation work for you, you can ask them to thoroughly clean equipment and vehicles prior to coming onto your property. Monitor roadsides and mitigated areas for new infestations. Keep the vegetation on your property healthy by not over grazing if you have livestock. Walking the property and looking for that new weed that you haven't had before. Taking care of a single weed is far easier than an acre of weeds.

If you burn slash piles on your property, they are quite often the place that weeds will get established. You need to put an annual crop or grass seed in those areas to keep the soil from eroding and to provide competition for the weeds. Annual crops can be plants like triticale (a sterile wheat and rye hybrid) or oats. Slender wheatgrass is a short lived native grass that establishes quickly and can provide competition. You can work with the local seed companies to find a grass mix that will work for your elevation and location. Because a slash piles burn for a long time and at higher temperatures, it is also beneficial to incorporate some organic matter into those areas. Make sure that you get organic matter that doesn't contain weed seeds (i.e. fresh manure) otherwise you are creating a bigger problem.



Orange Hawkweed

Hieracium aurantiacum

ID tips

- Attractive orange flower head
- Hairy basal leaves with one or two small leaves on the bristly stems



Identification

- Lifecycle: Perennial
- Flower: Daisy shaped red-orange ½ to ¾ “ diameter flower with clusters of flowers on each stem
- Leaves: Leaves are basal with one or two small leaves on the stem, leaves are hairy
- Roots: Fibrous with creeping rhizomes,
- Seedling: Seedlings look similar to mature plant
- Other: Plant spreads by seed, rhizomes and stolons (above ground runners), crowds out other plants.

Management

- Cultural: Cultural management helps but Orange hawkweed can compete with desired vegetation
- Mechanical: Hand removal to prior to seed set, removal of entire root system by digging
- Biological: None available
- Chemical: Milestone (aminopyralid), Transline (clopyralid)



Leafy spurge

Euphorbia esula

ID tips

- Flowers are indistinct yellow-green with a pair of heart shaped bracts below each flower
- Plant contains a milky white latex



Identification

- Lifecycle: Perennial
- Flower: Flowers indistinct, yellow-green with heart shaped bracts under the flower
- Leaves: Leaves are alternate narrow and 1 – 2.5” long, pale green
- Roots: Extensive creeping rhizomes
- Seedling: Seedlings look similar to mature plant
- Other: Plant contains a white milky latex that may cause skin irritation

Management

- Cultural: Cultural management helps but Leafy spurge can compete with desired vegetation
- Mechanical: Mowing can be effective if done every 2 weeks and at a low height
- Biological: *Apthona sp.* flea beetle
- Chemical: Perspective (aminocyclopyrachlor), Plateau (imazapic), dicamba



Dalmatian toadflax

Linaria genistifolia ssp. dalmatica

ID tips

- Yellow snapdragon shaped flowers, orange bearded throat and long spur
- Leaves blue/green color, heart shaped that clasp the stem



Identification

- Lifecycle: Perennial
- Flower: Yellow snapdragon shaped flowers, orange bearded throat
- Leaves: Leaves waxy and blue/green color, heart shaped that clasp the stem
- Stems: Multi stemmed
- Roots: Extensive creeping rhizomes
- Seedling: Seedlings look similar to mature plant
- Other: Dalmatian toadflax spreads by both seed and root system. Tillage can spread infestation by producing viable root segments

Management

- Cultural: Cultural management helps but Dalmatian toadflax can compete with desired vegetation
- Mechanical: Mowing can help if done every 2 weeks and at a low height
- Biological: *Mecinus janthinus* stem weevil
- Chemical: Telar (chlorsulfuron) , Plateau (imazapic), Tordon (restricted use herbicide)



Yellow toadflax

Linaria vulgaris

ID tips

- Pale yellow to cream snapdragon shaped flowers, orange bearded throat
- Leaves are pale green, narrow and pointed



Identification

- Lifecycle: Perennial
- Flower: Pale yellow to cream snapdragon shaped flowers, orange bearded throat
- Leaves: Leaves are alternate pale green, narrow and pointed
- Roots: Extensive creeping rhizomes
- Seedling: Seedlings look similar to mature plant
- Other: Yellow toadflax spreads by both seed and root system. Tillage can spread infestation by producing viable root segments

Management

- Cultural: Cultural management helps but Yellow toadflax can compete with desired vegetation
- Mechanical: Mowing can help if done every 2 weeks and at a low height
- Biological: *Mecinus janthinus* stem weevil
- Chemical: Telar (chlorsulfuron) , Plateau (imazapic), Tordon (restricted use herbicide)