

# Twelve Most Unwanted Weeds in the Estes Valley

## Identification and Management Guide



Larimer County Department of Natural Resources



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Booklet compiled by ELSA members: Karin Edwards, Paula Edwards, George Hockman, and Shannon Clark. Text from Tim D'Amato, Larimer County Department of Natural Resources with input from Bruce MacBryde.

*This Booklet has been created for educational purposes, and is not intended for sale*

## Estes Land Stewardship Association

Website: [www.elsainfo.org](http://www.elsainfo.org)

Email: [esteslandstewardship@gmail.com](mailto:esteslandstewardship@gmail.com)

Estes Park, Colorado  
2013

### **Noxious Weed Awareness Organizations in Larimer County**

North Fork Weed Coop — [www.northforkweedcoop.org](http://www.northforkweedcoop.org)  
Estes Land Stewardship Association — [www.elsainfo.org](http://www.elsainfo.org)

### **Colorado Weed Law**

-Government of Colorado Noxious Weed Act — [www.colorado.gov/ag/weeds](http://www.colorado.gov/ag/weeds) - Then click on the *Colorado Noxious Weed Act* Link  
-Herbicide applicator education, and continuing education information — [www.colostate.edu/Depts/SoilCrop/extension/CEPEP](http://www.colostate.edu/Depts/SoilCrop/extension/CEPEP)

### **Herbicide Labels and Safety Information and Responders**

-Rocky Mountain Poison & Drug Center — [www.rmpdc.org/](http://www.rmpdc.org/)  
Telephone 1-800-222-1222  
-CHEMTREC — <http://chemtrec.com/>  
Telephone 1-800-424-9300, for help with chemical spills  
-Pesticide Information Center — <http://npic.orst.edu/>  
Telephone 1-800-858-7378, for information on pesticide toxicity, an herbicide's environmental impact, and its biological mode of action  
-Crop Data Management Systems — [www.cdms.net/](http://www.cdms.net/)  
for herbicide labels and MSDS (Material Safety Data Sheet) information

### **WEED DISPOSAL**

Weeds can be burned at the Estes Park Curtain Burner at 666 Elm Road. Put all weeds in brown paper bags. Leave enough room at the top of the bag to roll it down tightly. Please do not tape the bags because tape interferes with the burning process. Use bags you have or use large lawn/weed bags that can be purchased at Ace Hardware or True Value. Please drop off your full bags at the Estes Park Curtain Burner which is open Fridays from 8 to 4. Directions for the Curtain Burner: from the Highway 34/36 intersection, take Moraine Ave/Hwy 36 for 1.2 miles. Turn right off Highway 36 on to Elm Road as if you were going to recycle or to the transfer station. Go past the recycling/dump entrance and follow the road up the hill. There will be signs on the right that say "Bark Beetle Trees Only" and "Weed Drop-off Site." Turn right, and immediately right again. You will see bags of weeds stacked up on the right, and you can leave your weeds there.

## REFERENCES

### **Plant Identification and Control Methods**

Larimer County Weed District — [www.larimer.org/weeds](http://www.larimer.org/weeds)

Boulder County Weed Management Program —

[www.bouldercounty.org/live/environment/land/pages/weeds.aspx](http://www.bouldercounty.org/live/environment/land/pages/weeds.aspx)

Colorado Department of Agriculture’s Noxious Weed Program —

[www.colorado.gov/ag/weeds](http://www.colorado.gov/ag/weeds)

Colorado State University Extension’s Small Acreage Management —

[www.ext.colostate.edu/sam](http://www.ext.colostate.edu/sam)

Colorado Weed Management Association — [www.cwma.org](http://www.cwma.org)

### **Plant and Weed Identification:**

Ernie Marx’s website: [www.EasternColoradoWildflowers.com](http://www.EasternColoradoWildflowers.com)

Al Schneider’s website: [www.SWColoradoWildflowers.com/index.htm](http://www.SWColoradoWildflowers.com/index.htm)

Colorado Native Plant Society: [www.conps.org/](http://www.conps.org/)

***Weeds of the West***, 9th Rev. Ed., by T.D. Whitson and others (2006), 628 pages.

***Weeds of California and Other Western States***, by J.M. DiTomaso & E.A. Healey (2007), Two Volumes, 1808 pages.

***Aquatic and Riparian Weeds of the West***, by J.M. DiTomaso & E.A. Healey (2003), 442 pages.

***Weeds of Colorado***, by Bob Zimdahl, editor Debby Weitzel (1998), 222 pages.

### **Poisonous Plants:**

#### ***A Guide to Plant Poisoning of Animals in North America***

by A.P. Knight & R.G. Walter (2001), 367 pages.

Dr. Knight’s website: [www.southcampus.colostate.edu/poisonous\\_plants](http://www.southcampus.colostate.edu/poisonous_plants) or when necessary email Dr. Knight: [Anthony.Knight@colostate.edu](mailto:Anthony.Knight@colostate.edu)

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# Estes Land Stewardship Association (ELSA)

ELSA was formed to address environmental threats to the Estes Valley and other locations and communities important to the ecosystems near the eastern slope of Rocky Mountain National Park (RMNP). ELSA is a group made up of many agencies and individuals. ELSA's approximate boundaries, which encompass about 300 square miles, are:

- To the North: Larimer County Road 43 – Drake to Glen Haven
- To the East: Longitudinal line 105°18'45" W (approximately Lyons to Drake)
- To the South: Allenspark
- To the West: RMNP's Eastern Slope boundary

## Mission Statement and Focus

Promote the cooperation and collaboration of local residents and federal, state, and local agencies and entities in efforts that enhance and preserve the ecological integrity of public and private lands on the eastern perimeter of Rocky Mountain National Park.

Such efforts shall encourage land stewardship practices that sustain plant communities which provide wildlife habitat, aesthetic value, and help resist encroachment by invasive weed species.

Our initial primary objective is to address the noxious weeds invading the region by promoting awareness of invasive plants and their impacts, through education and outreach efforts such as:

- Articles in local newspapers and newsletters.
- Presentations at meetings and events pertaining to identification, impacts, and management of invasive weed species threatening the region.
- Conducting and coordinating the Estes Park Annual Weed Roundup.
- Providing site visits requested from private property owners to assist with plant identification and general information about weed management.

### Common mullein (*Verbascum thapsus*)



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Common mullein is a biennial plant commonly found in disturbed areas of range and pasture. Mullein seems to show invasive characteristics only on heavily disturbed sites such as overgrazed pastures, prairie dog colonies, or sites severely impacted by wildfire. Seeds germinate in the late summer or fall producing a rosette. Yellow flowers grow from a tall stalk that appears in mid-summer. Hand pulling or digging is an effective method of control if the top 2-3 inches of tap root is removed.



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### Poison hemlock (*Conium maculatum*)



Steve Dewey, Utah State University, Bugwood.org

Poison hemlock is highly toxic to livestock and humans if ingested. The plant is a biennial that grows 2 to 10 feet tall, and is usually found in wet areas. This non-native, invasive weed spreads by seed and has white flowers that grow in rounded clusters. The stems are characteristic of the purple spots found near the base with a taproot, and leaves are fern-like. Mowing plants to keep them short will decrease the chance of poisoning.



John Cardina, The Ohio State University, Bugwood.org

### Water hemlock (*Cicuta maculata*)

All parts of water hemlock are highly toxic to both livestock and humans, especially the roots. It is a native perennial that grows 4 to 6 feet tall and is found in wet areas. Water hemlock has tiny white flowers that grow in rounded clusters on the branches. Stems are erect and hollow with multiple tuberous roots, and leaves are toothed. Digging and disposing of plants can prevent seed production and dispersal, but most of the root needs to be dug up as well. Be sure to wear disposable gloves when coming into contact with the



MacGregor Ranch



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Water hemlock, as even the oil from the plant can cause poisoning.

## Other Invasive Plants of Concern in the Estes Valley

### **Russian thistle** (*Salsola iberica*)

Russian thistle is an annual forb that grows 1/2 to 3 feet tall, producing flowers from the base of the leaves. Considered the classic tumble-



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weed plant, the dried plants break loose and tumble in the wind. Russian thistle can be toxic to livestock when grazed at high enough quantities. Hand-pulling can be an effective method of control, but mowing causes the plant to quickly re-sprout and creates a denser stand.



Forest & Kim Starr, Starr Environmental, Bugwood.org

### **Oxeye daisy** (*Chrysanthemum leucanthemum*)



Mary Ellen (Mel) Harte, Bugwood.org

Oxeye daisy is a perennial that reproduces by seed and lateral roots and can grow up to 2 feet tall, producing showy white flowers. This escaped ornamental plant has become an aggressive invader of pastures and mountain meadows. Digging or hand pulling be an effective method of control. If plants have flowered, be sure to bag and dispose to prevent seed dispersal.



Mary Ellen (Mel) Harte, Bugwood.org

### **Black henbane** (*Hyoscyamus niger*)

Black henbane is an annual or biennial forb that grows up to 6 feet tall and produces a brown-yellow flower with a purple center. Black henbane is known as an escaped ornamental and can be toxic to livestock and humans. The plant reproduces by seed only, so hand pulling or digging should be done before seed set. If plants



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have flowered be sure to bag and dispose of properly to prevent seed dispersal.



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## Introduction

A weed is often defined as “a plant out of place.” This guide addresses *noxious* weeds, or plants that are exotic and invasive. *Exotic* means non-native species that originated in other parts of the world. *Invasive* plants are those vigorous and competitive enough to crowd out desirable plants, and in doing so, are detrimental to native plant communities and wildlife habitat.

The purpose of this guide is to promote awareness of noxious weed species that threaten the Estes Valley, including Rocky Mountain National Park, and to help residents identify and manage invasive plants. ELSA developed a list of noxious weed species that are most prevalent or of concern in the Estes Valley. The list does not include all noxious weed species found in the area.

- 1. Diffuse and spotted knapweeds (and their hybrids)**  
(*Centaurea diffusa*, *Centaurea stoebe* ssp. *micranthos*)
- 2. Hoary alyssum**  
(*Berteroa incana*)
- 3. Canada thistle**  
(*Cirsium arvense*)
- 4. Musk thistle**  
(*Carduus nutans*)
- 5. Dalmatian toadflax**  
(*Linaria dalmatica* ssp. *dalmatica*)
- 6. Yellow toadflax**  
(*Linaria vulgaris*)
- 7. Cheatgrass**  
(*Bromus tectorum*)
- 8. Myrtle spurge**  
(*Euphorbia myrsinites*)
- 9. Leafy spurge**  
(*Euphorbia esula*)
- 10. Houndstongue**  
(*Cynoglossum officinale*)
- 11. Scentless chamomile**  
(*Matricaria perforata*)
- 12. Dames rocket**  
(*Hesperis matronalis*)

## Methods of Management

Weed management decisions vary according to plant life cycles, infestation size, environmental parameters and management objectives. Successful weed management requires proper plant identification, selection of effective management methods, and monitoring the effects over time.

### **Preventive Control**

Prevention is the most essential aspect of weed management. Once a noxious weed infestation becomes established, an increase in size and density creates increasingly more expensive management efforts. Awareness of weed seed sources and plant identification is critical. Keep in mind:

- Weed seed can be spread from neighboring properties, road right-of-ways, and trails.
- Disturbed ground is most vulnerable to weed invasion. Without restoration weeds will likely appear.
- Early detection and rapid response save time and money.

### **Mechanical Control**

Mechanical control consists of methods that kill or suppress weeds through physical disruption. Such methods include pulling, digging, cutting, and mowing. Success of various mechanical control methods is dependent on the life cycle for the targeted weed species.

- Hand pulling and digging can be effective on annual and biennial species.

**Bagging and disposing of pulled weeds to prevent seed dispersal are necessary if the plants have reached the flowering stage because seeds can ripen on pulled plants.**

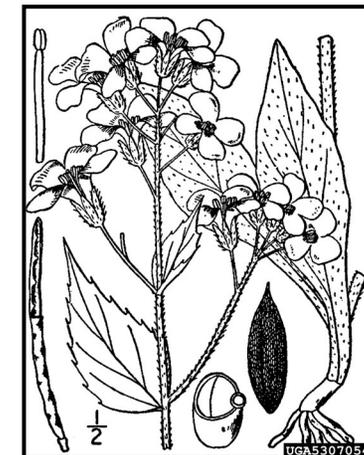
- Mowing is a suppression measure that can decrease seed head production. Mowed weeds may re-grow and set seed from a reduced height, so combined control methods are necessary to be effective.

### **Vegetative Restoration Control**

Vegetative restoration (the establishment of competitive and desired vegetation), prevents or slows down invasion by weedy species and is a key component of successful weed management. Whether seeding to native plants or pasture grasses, it's important to consult with a



Richard Old, XID Services, Inc., Bugwood.org



USDA NRCS PLANTS Database, Bugwood.org



Mark Frey, The Presidio Trust, Bugwood.org

- Height: First year- about 4 inches. Second year- up to 3 feet.
- Stems: Second year stems erect, several per plant. Upper stems often branched.
- Leaves: Alternate, 2-4 inches long, lance-shaped, with finely toothed margins. Dark green; hairy on both sides.
- Flowers: Four-petaled, up to 1 inch across, in loose clusters at end of stems.
- Flower color: Purple, white or lavender-pink.
- Growth form: First year, rosette of leaves; second year, flowering stalks form. May displace native plants to form areas of only Dames Rocket.
- Seeds: In pods approximately 1 inch long, with constriction between enclosed seeds.

**Dames Rocket** (*Hesperis matronalis*)



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**Habitat** Roadside, ditches, gardens, pastures, open woods, damp soil.

**Life Cycle** Biennial or short-lived perennial. Reproduces by seed. First year growth is a low-growing clump of leaves (a rosette). Second year, it bolts to form the flowering stalks.

**Flowering Time** May into July.

**Management** Pull plant and bag for disposal if flowers or seeds are present.

**Seed Viability** Up to a few years.

commercial seeder, Natural Resource Conservation Service (970-295-5655), or other experts prior to investing time and money.

**Chemical Control**

Herbicide application can provide an effective and time-efficient method of managing weeds. Numerous herbicides are available that provide helpful weed control and can be selective so that other plants may be protected. Herbicide application requires user responsibility and compliance with all product label requirements for herbicide handling, use, and cleanup. Always read the label and keep in mind that the label is legally binding. When using herbicides be mindful of proximity to water, trees, shrubs and other desirable vegetation, and be considerate of your neighbors. Herbicides are applied by spot spraying – single nozzle application targeting individual plants, or broadcast spraying. Spot spraying releases the minimum amount of herbicide, and is preferred when possible. Follow manufacturer instructions for appropriate use. This booklet does not deal with chemical applications for large areas. **DISCLAIMER:** ELSA does not give prescriptive advice for chemical control in this booklet. Call the Larimer County Weed District Office (970-498-5768), or Colorado State University Extension Office (970-491-6281) for recommendations or management actions.

**Biological Control**

The goal of biological control is not eradication, but the use of living agents to suppress vigor and spread of weeds. Such agents can be insects, bacteria, fungi, or grazing animals. Insect use is the most common form of biological control. Insects typically require 3-5 years for establishment and can limit the spread and density of target weed species. One must realize that eradication of a weed cannot be attained through insect biocontrol. For more information on insect biocontrol and obtain insects, call the Colorado Department of Agriculture Insectary at Palisade, Colorado (866-324-2963).

## Diffuse knapweed (*Centaurea diffusa*)



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



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### INFORMATION FOR BOTH KNAPWEEDS:

**Habitat** Roadsides, meadows, pastures, parking lots

**Life Cycle** *Diffuse*: Biennial producing rosette in first year, flowering in the second year and then dying. *Spotted*: perennial.  
*Hybrid*: Short-lived perennial.

**Flowering Time** July through October

**Management** Pull plants and bag flowering plants. Mowing prior to flowering can reduce seed production.

**Impact** Prolific seed producers, plants spread rapidly

**Seed viability** 15 years



Caleb Slemmons, University of Maine, Bugwood.org



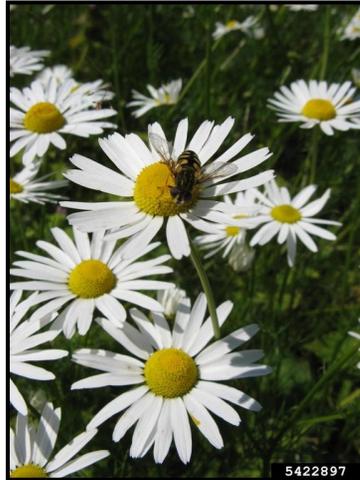
Caleb Slemmons, University of Maine, Bugwood.org

- Height: 6 to 30 inches
- Stems: erect and smooth, branched, often with a bushy appearance.
- Leaves: Alternate, very narrow, appearing fern or feather-like.
- Flowers: ¾—1¼ inches wide.
- Flower color: white with yellow center.
- Growth form: often grows in dense patches or from cracks in pavement

**Scentless chamomile** (*Matricaria perforata*)



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Caleb Slemmons, University of Maine, Bugwood.org

**Habitat** Roadside, ditches, yards, along sidewalks, waste areas, etc.

**Life Cycle** Annual or short-lived perennial. Reproduces by seeds.

**Flowering Time** Early summer until frost.

**Management** Pull to remove entire plant, including fibrous root system. Pulling is easiest when ground is moist. Bag all plants with flowers for proper disposal.

**Seed Viability** Up to 15 years.

**Spotted knapweed** (*Centaurea stoebe ssp. micranthos*)



Steve Dewey, Utah State University, Bugwood.org



Cindy Roche, Bugwood.org



Steve Dewey, Utah State University, Bugwood.org

**INFORMATION ABOUT BOTH KNAPWEEDS**

- **Height:** Diffuse 1/2-2 feet tall, Spotted up to 4 feet tall
- **Flowers:** many flower heads on stems; Diffuse: bract edges spiny, long tip, no black spot; Spotted: bract edges fringed, no long tip, blackish spot; Hybrids: bract often with spiny tip and blackish spot
- **Flower color:** Diffuse: white, pink/lavender; Spotted: pink-purple
- **Leaves:** finely divided, leaves much smaller on upper stems; basal rosette of lobed leaves
- Dry Diffuse Knapweed stays in the ground or forms tumbleweeds

## Hoary alyssum (*Berteroa incana*)



Richard Old, XID Services, Inc, Bugwood.org



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**Habitat** Roadsides, meadows, pastures, lawns, disturbed areas

**Life Cycle** Annual, biennial, short-lived perennial

**Flowering Time** June through fall

**Management** Pull or dig to remove 2-3 inches of taproot. Hoary Alyssum aggressively spreads seeds, and requires persistence for effective control. Bag flowers and seed heads to prevent spreading.

**Seed Viability** At least 9 years

**Toxicity** Toxic to horses when plant is fresh or dry.  
Most problematic with hay mixtures.

**Status** Recent addition to Larimer County Noxious Weed List



USDA NRCS PLANTS Database, Bugwood.org



Joseph M. DiTomaso, University of California– Davis, Bugwood.org



MacGregor Ranch

- Height: 1-4 feet
- Stems: appear in 2<sup>nd</sup> year, and branch out
- Leaves: oblong to lance-shaped, alternate along stems, 1-12 inches long and 1-3 inches wide, rough, hairy, lack teeth or lobes; 1<sup>st</sup> yr rosette leaves are up to 12 inches long
- Flowers: 5 petals, coiled branch ends unroll and flowers open
- Flower color: reddish-purple
- Seed/fruit: four-parted with Velcro-like adhesion of nutlets (seeds)

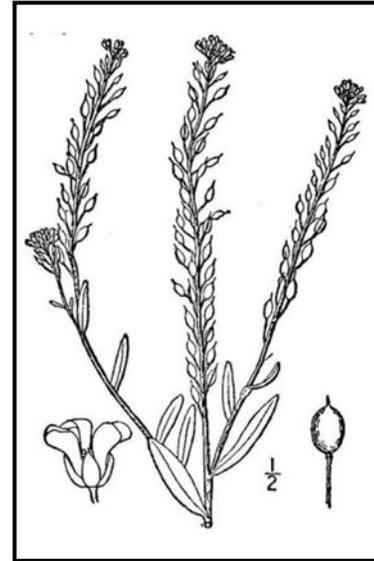
**Houndstongue** (*Cynoglossum officinale*)



MacGregor Ranch



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Illustrated Flora, NL Dritton and A Brown



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**Habitat** Forests, rangeland, pasture, roadsides, moist areas

**Life Cycle** Biennial

**Flowering Time** Summer

**Management** Hand pull or dig, bag and dispose of flowering and fruiting plants

**Seed Viability** Probably only a few years

**Impact** Toxic to livestock, fruits stick and are a nuisance to animals and people

- Height: 1-3 feet
- Stems: fibrous, hairy and rough
- Leaves: Basal leaves 2-3 inches long and lance shaped, usually withering by flowering time
- Flowers: small with four petals that are deeply notched; flowers arranged in tight clusters
- Flower color: white

**Canada thistle** (*Cirsium arvense*)



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**Habitat** Roadsides, rangelands, forests, lawns, gardens, moist and disturbed sites

**Life Cycle** Perennial with deep laterally creeping roots; plant spreads by roots and seeds

**Flowering Time** July through fall

**Management** Aggressive. Cut stalks at base and bag any flower heads. Chemical application may help control. Combined efforts including herbicide use can eradicate populations. Pulling or burning encourages new plants from remaining roots.

**Seed viability** Up to 20 years



Line drawing by W.H. Lindemann, provided by Jay Cole, mtwow.org



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- Height: 1-3 feet
- Stems: erect and unbranched except at flower clusters
- Leaves: narrow, strap-shaped, ¼ inches wide and 1-3 inches long, containing a milky sap
- Flower beads: small clusters of 7-10 flowers enclosed by a pair of yellow-green, showy, heart-shaped bracts which look like part of the flower
- Flower color: yellow-green
- Roots: spreading extensively and often very deep, new plants can emerge from root buds at any depth

**Leafy spurge** (*Euphorbia esula*)



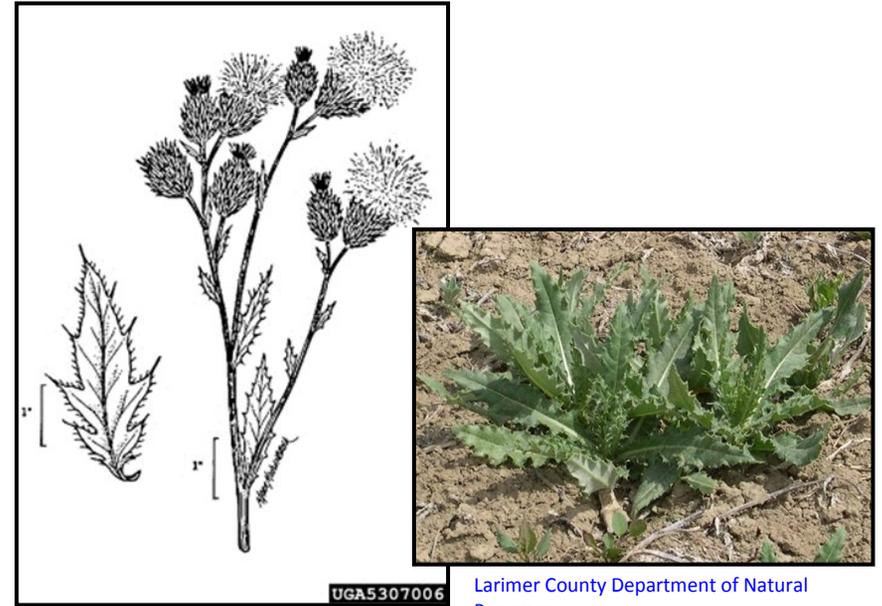
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USDA NRCS PLANTS Database, Bugwood.org

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**Habitat** Roadsides, pastures, rangelands, riparian areas

**Life Cycle** Deep-rooted perennial

**Flowering Time** April through July

**Management** Cutting and bagging flowers/seeds can reduce seed production, mowing and grazing (by sheep and goats) are useful in depleting root reserves, herbicides can provide effective control. All management efforts must be carried out over several years.

**Impact** Leafy Spurge is the worst noxious weed problem in Ft. Collins and much of Larimer County. Millions of acres are infested in MT, ND, WY rangelands. Toxic to horses, cattle, humans. Milky latex can irritate or damage eyes and skin, and may cause blisters in foraging animals.

- Height: 1 1/2 – 4 feet
- Commonly 2-3 feet
- Stems: smooth and stiff, with some spines near stem base
- Leaves: lobed and sessile with multiple spines along edges and tips
- Flower heads: 1/2 to 3/4 inches wide; multiple flowers in clusters on each stem
- Flower color: pink to light purple, sometimes white
- Plants grow close together and often form large patches

**Musk thistle** (*Carduus nutans*)



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**Also Known As** Nodding Thistle

**Habitat** Pastures, forests, rangelands, roadsides, waste areas, ditches

**Life Cycle** Biennial, spreads by seed.

**Flowering Time** July through fall

**Management** Cut and bag flowers to be burned, then dig or pull up plant (gloves recommended). Be sure to remove 2 inches or more of root. Pulled plants without flower heads can be left to dry out. Persistence required to deplete seed bank. Mowing can provide suppression, but plants often re-grow and flower/set seed from a lower height.

**Seed Viability** Up to 10 yrs



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Steve Dewey, Utah State University, Bugwood.org

- Height: 4-12 inches tall with up to an 18 inch spread
- Stems: ropy, often sprawling toward the ground
- Leaves: waxy, succulent, blue-green, alternate on stem, white latex sap (visible when leaf is removed or damaged)
- Flowers: small flowers surrounded by bracts that look like flowers
- Flower color: yellow-green

**Myrtle spurge** (*Euphorbia myrsinites*)



Jim Sebastian, Research Associate, Colorado State University Weed Science Program



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USDA NRCS PLANTS Database, Bugwood.org



MacGregor Ranch

**Also Known As** Donkey-tail Spurge

**Habitat** Lawns, hillsides, gardens. Myrtle Spurge was formerly sold as an ornamental until put on prohibited sales list by Colorado Department of Agriculture in 2003.

**Life Cycle** Perennial

**Flowering Time** April and May

**Management** Hand pull or dig plants out; use proper caution to prevent skin or eye contact with caustic latex that is inside the plant. Recommend gloves, long sleeves, and protective eyewear. Chemical application may be useful.

**Seed Viability** 8 years

**Impact** Caustic latex sap is present in the leaves and stems; this latex may cause a skin rash or permanent damage with eye contact. Colorado "List A" weed means the goal is to eliminate all plants on county, state, federal, and private lands.

- Height: 1-8 feet commonly 4-5 feet
- Stems: spiny and winged
- Leaves: lobed and smooth with wavy, spine-tipped margins; prominent light-green to white midrib
- Flowers: single, very large flower head at end of bent stem; large and spiny triangular bracts at base of flower are purplish
- Flower color: deep pink to purple

**Dalmatian toadflax** (*Linaria dalmatica* ssp. *dalmatica*)



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Susan Turner, British Columbia Ministry of Forests, Bugwood.org

**Also Known As** Wild snapdragon and broadleaf toadflax

**Habitat** Roadsides, pastures, rangelands, cultivated fields, lawns, dry rocky foothill/mountain sites

**Life Cycle** Perennial

**Flowering Time** June through fall

**Management** Pull or dig for several years, remove as much root as possible. Do not mow.

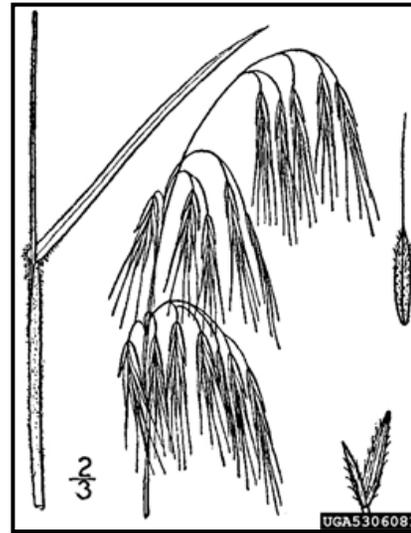
**Seed Viability** Up to 10 years



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USDA NRCS PLANTS Database, Bugwood.org

- Height: 2 inches to 3 feet, commonly 6-10 inches
- Stems: single or multiple
- Leaves: densely covered with soft hairs giving a downy feel
- Flowers: 2-6 inches at maturity
- Flower color: green, then reddish-purple
- Dried seed heads are usually tan

## Cheatgrass (*Bromus tectorum*)



Richard Old, XID Services, Inc., Bugwood.org



Richard Old, XID Services, Inc., Bugwood.org

**Also Known As** Downy Brome

**Habitat** Roadsides, lawns, meadows, pastures, mountain slopes, parking lots

**Life Cycle** Annual

**Flowering Time** Spring, summer, fall. Some Cheatgrass plants may be drying out, while other plants are just greening up

**Management** Hand pull and bag flower/seed heads. Mowing prior to flowering may suppress weeds, but also encourages lower flowering below mower blade which still allows some seed dispersal

**Impact** Fire hazard; Cheatgrass spreads flames quickly across large expanses. Dried seed heads are a nuisance to livestock, pets, and hikers because of prickly nature of seeds, and possible aspiration.

**Seed Viability** Generally 2-3 years, but up to 5 years



Sketch by Regina O. Hughes, provided by Jay Cole, mtwow.org



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- Height: up to 4 feet
- Stems: can be erect and branched; sometimes multiple stems from base
- Leaves: blue-green to green, oval, clasp the stem, alternate and entire; succulent and waxy
- Population: plants more scattered than Yellow Toadflax
- Flower color: yellow, with orange, hairy throat
- Flowers:  $\frac{3}{4}$  to  $1\frac{1}{2}$  inches with a long spur

**Yellow toadflax** (*Linaria vulgaris*)



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**Also Known As** Butter-and-eggs

**Habitat** Roadsides, lawns, rangelands, cultivated fields, waste areas, riparian areas, meadows

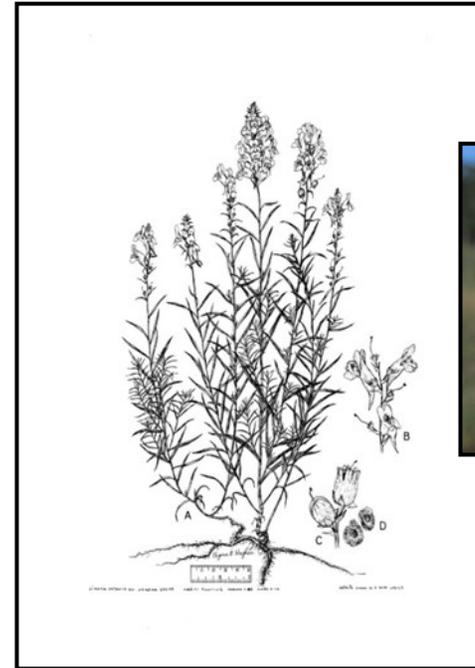
**Life Cycle** Perennial, reproduces from seeds and roots

**Flowering Time** July through fall

**Management** Pull or dig for several years, and remove as much root as possible. Do not mow. Chemical control is available.

**Seed Viability** Plant mostly relies on creeping roots to spread

**Impact** Large quantities of plant are poisonous to cattle



Sketch by Regina O. Hughes, provided by Jay Cole, mtwow.org



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- Height: 6 inches to 2 feet
- Leaves: narrow, smooth to sparsely hairy
- Population: plants tend to grow in crowded patches
- Flower color: pale yellow, with orange, hairy throat
- Flowers: smaller and more clustered at the top of stems compared to Dalmatian Toadflax. Both have long spurs.