Exhibit A

Summit County
Weed Management Plan 2022

Adopted April 20, 2022

SUMMIT COUNTY
WEED MANAGEMENT PLAN
2022

Prepared by the

Summit County Weed Control Department

Summit County Public Works Development

Forest Health Task Force

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The Summit County Weed Control Department
Extends an acknowledgement and thanks to the homeowners and residents of Summit County that participated and offered their time and effort in the development of and /or update to the Summit County Weed Management Plan.

Recommended for approval by the Summit County Weed Control Department on May 4th, 2022

Approved by the Board of County Commissioners:
May 4th, 2022
Resolution No. 2015-31

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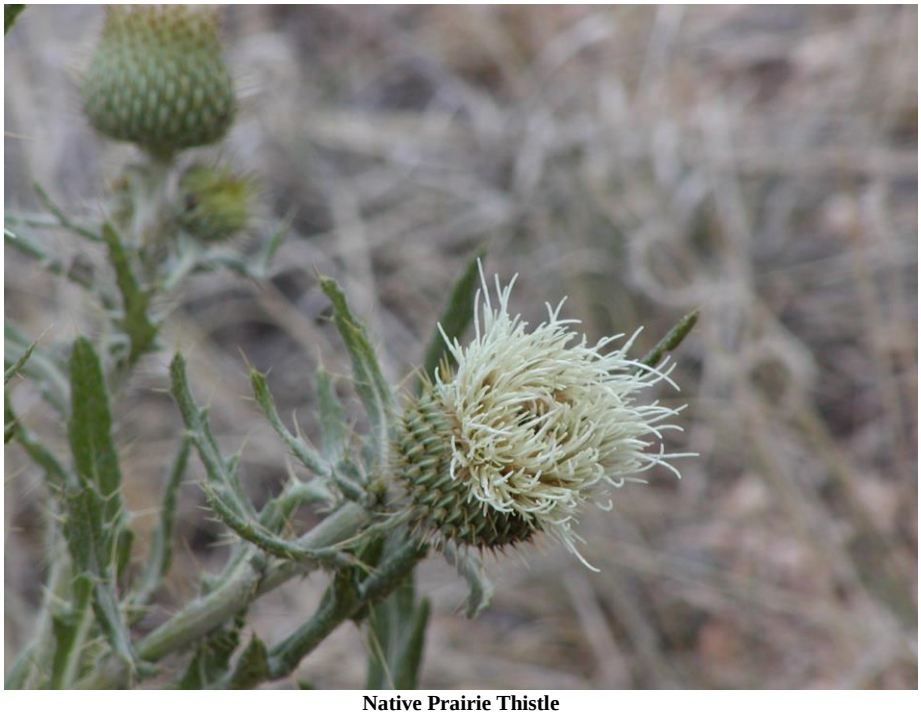

Native Prairie Thistle

I. Introduction

Several species of plants have become a threat to the economic and environmental value of land in Summit County Colorado. These invasive species are non-native to the United States and have no natural predators or diseases to keep them in check. They are rapidly displacing native vegetation, causing a loss of native ecosystems` stability and diversity, while negatively affecting recreational resources.

Pursuant to §35-5.5-101, *et seq.*, C.R.S., the Colorado Noxious Weed Act, the State of Colorado has mandated that "a countywide plan must be implemented by every county to prevent further damage by these noxious weed species".

In 2000 Summit County hired a Weed Program Manager, adopted a County Weed Management Plan and organized the Weed Advisory Board (pursuant to Resolution No. 2001-18), for the purposes of fulfilling its responsibilities with respect to the Act and managing all of the unincorporated lands in the County with respect to noxious weeds. Since 2000, the Act has been revised and therefore certain provisions of the original Summit County Weed Management Plan have also undergone revisions to accurately reflect the provision of the Act.

II. Definitions

All definitions used within this plan are consistent with the "*Colorado Noxious Weed Act"* §35-5.5-101-119 C.R.S. (2003) and the "*Permanent Rules Pertaining to the Administration and Enforcement of the Colorado Weed Management Act"* 8 C.C.R. 1203-19.

A. **Act** means the Colorado Noxious Weed Act §35-5.5-101-119 C.R.S. (2003), as amended.

B. **BMP** means "Best Management Practices," which are techniques or policies that are recognized by science as the most efficient means of limiting or eliminating species of noxious weeds. BMP's will change over time as more scientific information is provided for controlling noxious weed species.

C. **IPM** means "Integrated Pest Management" and refers to different types of management techniques such as Mechanical, Biological, Cultural and Chemical control.

D. **BOCC** means the Board of County Commissioners of Summit County, Colorado.

E. **Control** shall mean to manage the populations of noxious weed species so that the population is maintained or reduced in size.

F. **County** means the unincorporated areas of Summit County, Colorado.

G. **Elimination** shall mean the removal of the seed source.

H. **Eradication** shall mean removing the reproductive success of noxious weed species or specified noxious weed populations to zero and permanently eliminating the species or populations within a specified period of time.

I. **Program Manager** shall mean the Summit County Weed Control Manager.

J. **Rules** shall mean § 8 C.C.R. 1206-2 the Permanent Rules Pertaining to the Administration and Enforcement of the Colorado Weed Management Act.

K. **Appendix A** is the attachment that lists all State Listed Noxious Weeds within Summit County and IPM techniques for controlling those weeds.

III. Summit County's Weed Program

Thousands of acres of land in the County are infested with noxious weed species listed in this document. Weed science experts estimate that weed populations increase 15 percent annually if no control measures are imposed. Such an increase in weed populations poses a serious threat to the economic value and environmental stability of the land and water in the County.

The weed problem in the County is of concern not only to the agricultural community, but to the urban, recreational and small landowner communities as well. Problem areas include roadsides, open space, residential subdivisions, municipal areas, private property, and state and federal lands.

The BOCC has declared that all noxious weeds listed below, and all noxious weeds identified in the Rules, be subject to integrated management in accordance with the requirements of the these regulations, the Act, and the Rules. The specific noxious weed species listed below have been identified by the BOCC to be present in the County, to be undesirable, and are designated to be managed in accordance with the requirements of the Act and Rules:

List A Noxious Weeds: All List A noxious weed species listed below, and any newly discovered infestation of other List A noxious weed species, shall be eliminated or eradicated in accordance with applicable provisions of the Act and Rules.

- *Myrtle spurge (Euphorbia myrsinintes)*
- *Orange hawkweed (Hieracium Aurantiacum)*

Myrtle Spurge

List B Noxious Weeds: All List B noxious weed species listed below, and any newly discovered infestation of other List B noxious weed species, shall be managed in accordance with applicable provisions of the Act and Rules, and the IPM's listed in Appendix A.

- *Absinth wormwood (Artemisia absinthium)*
- *Black henbane (Hyoscayamus niger)*
- *Bull thistle (Cirsium vulgare)*
- *Canada thistle (Cirsium arvense)*
- *Chinese clematis (Clematis orientalis)*
- *Common tansy (Tanacetum vulgare)*
- *Dalmatian toadflax (Linaria dalmatica)*
- *Dame's rocket (Hesperis matronalis)*
- *Diffuse knapweed (Centaurea diffusa)*
- *Hoary cress (Cardaria draba)*
- *Houndstongue (Cynoglossum officinale)*
- *Leafy spurge (Euphorbia esula)*
- *Mayweed chamomile (Anthemis cotula)*
- *Musk thistle (Carduus nutans)*
- *Oxeye daisy (Chrysantheum leucanthemum)*
- *Perennial pepperweed (Lepidium latifolium)*
- *Plumeless thistle (Carduus acanthiodes)*
- *Russian knapweed (Centaurea repens)*
- *Russian olive (Elaeagnus angustifolia)*
- *Saltceder (Tamarix sp.)*
- *Scentless chamomile (Matricaria perforata)*
- *Scotch thistle (Onopordum acanthium)*
- *Spotted knapweed (Centaurea maculosa)*
- *Sulfur cinquefoil (Potentilla recta)*
- *Wild caraway (Carum carvi)*
- *Yellow toadflax (Linaria vulgaris)*

List C Noxious Weeds: All List C noxious weed species listed below shall be controlled at a level determined by this Weed Management Plan (see Appendix A) in accordance with the minimum standards of List A and List B species.

- *Common mullein (Verbascum thapsus)*
- *Downy brome (Bromus tectorum)*
- *Field Bindweed (Convolvulus arvensis)*
- *Poison hemlock (Conium maculatum)*

Ben Pleimann with Plumeless thistle

IV. Summit County Weed Management Plan Goals

Management and Prevention

The primary goals of the Summit County Weed Management Plan are to prevent the establishment of any and all new weed species, manage existing populations of List A, B and C species and to prevent the spread to previously uninfected areas in accordance with the requirements of the Act and Rules. In order to accomplish this goal Summit County Government, through the Program Manager, will:

- Establish weed management areas.
- Identify areas requiring intensive management.
- Aggressively manage existing infestations to prevent their spread and reduce density.
- Establish BMP's for any and all environmental situations.
- Assist Home Owners Associations and individual property owners in managing their weed populations.
- Provide technical and educational support to the citizens of Summit County, Municipalities, State and Local organizations.
- Aggressively undertake intense management of any and all new species through weed awareness education and rapid response.
- Comply with the provisions of the Act and Rules.
- Manage undesirable plants on County owned properties and right-of-ways.
- Initiate and maintain communications with landowners who are affected by *List A Species* and populations of *List B* species designated for elimination or eradication by the Commissioner of Agriculture, and carry out any and all oversight necessary to ensure compliance with the Rules.
- Provide property owners who have *List A* and *List B* species with technical assistance directed at eradicating those species.

Public Education

Education is essential to the sustainable success of the Plan. The Program Manager will reach out to County residents through educational workshops, private consultations, HOA meetings, volunteer days, educational materials and newspaper articles. Education will include:

- Noxious weed identification.
- Best management practices.
- Compliance with the Act and Rules.

County Departmental Cooperation

Certain departments within Summit County Government are in an excellent position to make positive impacts on the weed problem in Summit County. The Program Manager will identify and work closely with these departments to institute management practices that stress the importance of preventing the spread of, and damage by, noxious weeds on properties managed by the County.

Intergovernmental Cooperation

Summit County Government, through its Program Manager, will establish working relationships with federal, state and other local governments to manage weeds across property lines and jurisdictional boundaries. These relationships will include:

- Develop and implement weed management plans for various entities.
- Provide contract labor to conduct weed control activities.
- Provide education to staff and citizens.

Management Methods

The management techniques prescribed in the existing *"Rules"* will be utilized in Summit County Government's management of *List A* weeds. In addition to these requirements, Summit County Government will determine which IPM's are best suited to manage each List B and List C species. Refer to Appendix "A" for accepted IPM's for individual species.

Enforcement

Enforcement of the Summit County Weed Management Plan is authorized and conducted pursuant to the Noxious Weed Act and the Summit County Land Use and Development Code, Chapter 11. The Act states that local governments are directed to take the necessary steps to manage the noxious weeds within their jurisdiction, and provides specific authorization for local enforcement of the jurisdictions duly adopted Weed Management Plan. The County's Enforcement provisions for its Weed Management Plan are codified in the Land Use and Development Code, Chapter 11, Section 11-300.

Conclusion

Noxious weeds are a serious threat to our native ecosystems and must be managed. If left unchecked, these plants crowd out native vegetation, leaving nothing but a monoculture of weeds. With continued education and cooperative weed management efforts, it is possible to eradicate many of these species, but everyone must do their part. For more information about the Colorado Noxious Weed Act, visit http://www.colorado.gov

Native Green Gentian

Appendix A
STATE LISTED NOXIOUS WEEDS IN SUMMIT COUNTY
Accepted Integrated Pest Management for Individual Noxious Weed Species

List A Noxious Weeds

Myrtle spurge: A perennial that spreads by seed and creeping rootstocks. This plant can rapidly expand into sensitive ecosystems, displacing native vegetation and reducing forage for wildlife. Management methods:

- Cultural: Keeping desirable vegetation healthy and thick will help keep invaders out. Prevent the establishment of new infestations by minimizing disturbance and seed dispersal. Survey your land regularly to detect new invaders and eradicate any new populations quickly.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use. *Herbicide selection MUST coincide with Colorado Department of Agriculture recommendations for this specific plant.*

- Biological: Bio-control agents are not included in the prescribed management plans by the State for List A Species.

- Mechanical: Hand pull or dig when soil is moist. Make certain to pull all the roots and wear rubber gloves and eye protection to protect yourself from the toxic milky sap. Treatment follow up is important to check root fragment resprouts that will occur when the tap root is severed too shallow.

Orange hawkweed: A perennial forb that spreads by seeds, stolons and rhizomes. It can be found in mountain meadows and clearings, and prefers well-drained coarse-textured soils.
Management methods:

- Cultural: When native forbs and grasses are already present, assisting plant competitiveness by using supplemental fertilizers can be an effective cultural control method. This proves to be most successful on pasture and rangelands where soil nitrogen levels may be depleted.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use. Herbicide selection MUST coincide with Colorado Department of Agriculture recommendations for this specific plant.

- Biological: Bio-control agents are not included in the prescribed management plans by the State for List A Species.

- Mechanical: NOT recommended because of the weed's ability to reproduce by stolons, rhizomes and root fragments. This often renders mechanical control obsolete.

List B Noxious Weeds

Absinth wormwood: A perennial forb or herb with a strong sage odor. The plant dies back to ground every year. Management methods:

- Cultural: This plant is not generally considered a serious problem on well established pastures and rangeland. The plant tends to invade over-grazed or disturbed areas where there is little competition from other plant species. Therefore the best control measure for Absinth wormwood is prevention.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Biological: None known at this time.

- Mechanical: Tillage can prevent the establishment of Absinth wormwood in crop production areas. Mowing may prevent seed production if mowed several times throughout the growing season. Burning is not effective and may increase populations.

Black henbane: A biennial forb that spreads by seed and is commonly found in pastures, along fencerows, roadsides, waste areas and riparian areas. Management methods:

- Cultural: Maintain a healthy cover of perennial plants. Due to the long seed viability of Black henbane, control practices must be maintained annually.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Biological: None known at this time.

- Mechanical: The most commonly recommended method for control is cutting, hoeing or digging isolated plants before seed production. Since Black henbane seeds may remain viable for several years, any mechanical control method must be vigorously maintained annually.

Bull, Musk, Plumeless and Scotch thistle: These biennial weeds all require the same management methods. Biennials are best controlled in their first year of growth, commonly referred to as the rosette stage. Management methods:

- Cultural: The best way to prevent or reduce the amount of biennial thistle is to manage areas that are susceptible to invasion by promoting vigorous stands of competing vegetation. Adapted grasses have been proven to be effective competitors against the biennial thistles. For a list of these grasses please contact the Natural Resource Conservation Service at (970) 724-3456.

- Biological: Rhinocyllus conicus is a seed head weevil, which is widely distributed in Summit County. This weevil consumes most of the seeds in the terminal flower heads, but has no effect on buds which form later in the season. The conicus weevil can be an effective control method only if it is combined with chemical or mechanical controls. Trichosirocalus horridus is a crown

weevil, which feeds on the growing tip of the thistle rosette. This weevil has been released on numerous occasions in Summit County but has not yet become established.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: Since these thistles are biennials and do not resprout, they are easily killed by tillage or any method that severs the taproot below the root crown of the plant. If dug or cut after seed heads have formed, the plants should be sent to a sanitary landfill in plastic bags to ensure seeds will not spread. Mowing is effective only if done when the first flowers are in bud stage. A second mowing may be necessary because the plants may recover and produce viable seed later in the growing season.

Canada thistle: A perennial weed with an extensive root system, Canada thistle reproduces both by seed and by vegetative buds on the roots. This weed requires a much more extensive management plan than the biennial thistles. Successful management of Canada thistle can be achieved with chemical control or by combining two or more of the control methods listed below. Management methods:

- Cultural: Competitive grasses may be used to control Canada thistle infestations. Choose an array of aggressive adapted grasses with early, mid- and late season vigor to plant in areas where Canada thistle is present. For lists of these grasses please contact the Natural Resource Conservation Service at (970)724-3456. This staggered approach will allow the competitive grasses to stress the Canada thistle throughout the growing season. Dormant burning has shown some success by giving the native vegetation a competitive advantage.

- Biological: Ceutorhynchus litura is a stem weevil whose larvae mine tissues of the leaf, root crown and root. Outward signs of damage by these larvae are not readily apparent but other organisms, which enter the plants through exit holes made by the larvae, cause secondary damage. Urophora cardui is a stem gallfly whose larvae cause galls to form on the stem of Canada thistle plants. The galls reduce the plant's vigor, making it less able to compete with other plants or to resist pathogens or attacks by other insects. It is essential that both of these insects be combined with other methods of control for adequate management of Canada thistle.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: Mowing can be an effective tool when combined with herbicide treatment. Mowing alone is not effective unless conducted at two-week intervals over several growing seasons. Mowing should always be combined with cultural and chemical control. Cultivation may increase the number of plants by spreading the roots to new areas where they may become established.

Chinese clematis: A perennial herbaceous plant with a woody vine. Flowers are solitary with four yellow petals, often nodding. This species is very difficult to control once it has become established. To date, only one population of Chinese clematis has been located in Summit County. Infestations in Clear Creek and Eagle Counties are a continuing threat to Summit County's borders. Management methods:

- Cultural: Recognize and treat infestations of this plant early in the life cycle.

- Biological: None known at this time.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: No specific recommendations are provided at this time.

Chinese Clematis Flower

Common tansy: An introduced ornamental, which has the ability to competitively outgrow many of our native plants. Management methods:

- Cultural: Keep existing native vegetation healthy. Common tansy may still be available from some out of state vendors. Please check all seed packets to be sure they do not contain this species.

- Biological: None known at this time.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: No specific recommendations are known; however, mowing or cultivation when possible will reduce seed production and stand density.

Dalmatian and Yellow toadflax: Both are introduced creeping perennials that have proven to be aggressive and difficult to manage. Management methods:

- Cultural: Maintain vegetation in good condition through irrigation, fertilization and planting of adapted grasses. For a list of these grasses please contact the Natural Resource Conservation Service at (970)724-3456.

- Biological: The Calophasia lunula moth larvae can reduce the root reserves and general vigor of Yellow toadflax by defoliating new growth and eating buds and flowers. Gymnetron antirrhini is a capsule weevil, which can reduce the amount of seed produced but has little, if any, effect on stand density. Combine the use of either of these insects with chemical or mechanical control for best results.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: Mowing will not affect stand density or duration. Hand pulling of small areas can result in good control as long as the plants are pulled prior to seeding and disposed of properly. Repeated cultivation twice a year for two years will slow the spread and reduce seed population. Seeding with competitive grasses should follow any of these treatments.

Dame's rocket: Introduced as an ornamental, Dame's rocket has been touted as "deer resistant", which was one of its main selling features. This plant is a biennial or short-lived perennial which reproduces by seed. Management methods:

- Cultural: Keeps existing native vegetation healthy. As an ornamental plant this plant may still be available from some out of state vendors. Please check all seed packets to be sure they do not contain this species.

- Biological: None known at this time.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: Hand pulling or cultivation prior to seed production will reduce the stand density of this plant. Revegetation should follow any control option.

Diffuse and Spotted knapweed: Biennial or short lived perennials which have become the most damaging wild land weeds in the inter-mountain area. Early detection and management of invading plants is the key to managing knapweed. Management methods:

- Cultural: Seeding with adapted grasses can inhibit the spread of knapweed in dry climates. For a list of these grass species please contact the Natural Resource Conservation Service at (970)724-3456.

- Biological: None known at this time.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: Deep root removal can reduce stand density.

Hoary cress: A perennial plant that is very competitive with native vegetation. Its early seeding habits make it difficult to effectively control in a timely manner. Management methods:

- Cultural: The effectiveness of mowing or cultivating will be increased if perennial grasses are planted as competitor species. For a list of these grasses please contact the Natural Resource Conservation Service at (970)724-3456. Promote healthy grass stands by using proper irrigation and fertilization techniques. Promptly revegetate all disturbed areas with an adapted grass to prevent establishment of this species.

- Biological: No insects are known to be effective for controlling this weed.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: No scientific data is available on mechanical control for this species. Mowing just prior to seed set may reduce overall seed production, but must be repeated several times during the growing season.

Houndstongue: A biennial weed that is toxic to herbivores. The seeds, contained in pods, are covered with barbs, thus enabling them to stick to clothing or animal hair and making them easily transported. Management methods:

- Cultural: Maintain vegetation in good condition through proper irrigation and fertilization and planting of adapted grasses. For a list of these grasses please contact the Natural Resource Conservation Service at (970)724-3456.

- Biological: None known at this time.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: Severing the taproot below the root crown will kill Houndstongue. After cutting, if the plants are in pre- to post-bloom, they should be disposed of at the landfill to prevent seed formation.

Leafy spurge: A deep rooted creeping perennial that spreads by seed and rootstocks. An extensive root system with vast nutrient reserves makes this plant extremely difficult to control. A combination of insects, grazing, plant diseases and chemical methods will be necessary to stress the plant sufficiently to attain acceptable control. Management methods:

- Cultural: Seeding with adapted perennial grasses can be an effective management tool. For a list of these grasses please contact the Natural Resource Conservation Service at (970)724-3456. Early emerging plant species that utilize early season moisture have reduced Leafy spurge density and limited the spread and establishment of new infestations.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Biological: Grazing with sheep or goats can stress Leafy spurge making it more susceptible to other control methods. Apthona flava and Apthona nigriscutis are two species of flea beetles that have been introduced to attack leafy spurge. Adults feed on foliage during summer and lay eggs at the base of spurge plants. The larvae tunnel through the soil and mine the roots, as well as the fine root hairs. These insects alone will not control leafy spurge, but they can weaken the plant making it more susceptible to herbicide treatments or other control methods.

- Mechanical: Mechanical methods have not been proven to be an effective management tool on this plant.

Leafy spurge on a lower Blue River ranch

Mayweed /Scentless chamomile: An escaped ornamental plant, this annual has become widely established in Summit County and is a threat to native plant communities. Management methods:

- Cultural: Learn to identify the plants and physically remove them when they first appear. Seed with competitive, cool season grasses that outcompete this plant at its early stage of growth. For a list of these grasses please contact the Natural Resource Conservation Service at (970) 724-3456.

- Biological: None known at this time.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.
- Mechanical: Since it is an annual plant, hand pulling, cultivation, or any type of physical disturbance can control chamomile.

Musk thistle: (see Bull thistle)

Oxeye daisy: A short-lived perennial forb, this plant has taken over many native high altitude areas in Summit County. Management method:

- Cultural: Maintain vegetation in good condition through irrigation, fertilization and adapted grasses. For a list of these grasses please contact the Natural Resource Conservation Service at (970)724-3456.

- Biological: None known at this time.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.
- Mechanical: Mowing will not affect stand density or duration. Hand pulling can result in good control as long as the plants are pulled prior to seeding and disposed of properly. Repeated cultivation twice a year for two years will slow the spread and reduce seed population. Seeding with competitive grasses should follow any of these treatments.

Perennial pepperweed: This plant was introduced from Eurasia. It has a vast underground root system and can be a very aggressive colonizer of disturbed sites and native vegetation stands. Management methods:

- Cultural: The effectiveness of mowing or cultivation will be increased if perennial grasses are planted as competitor species. For a list of these grasses please contact the Natural Resource Conservation Service at (970)724-3456. Promote healthy grass stands by using proper irrigation and fertilization techniques. Promptly revegetate all disturbed areas with an adapted grass to prevent establishment of this species.
- Biological: None known at this time.
- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.
- Mechanical: Mowing just prior to seed set may reduce overall seed production, but must be repeated several times during the growing season.

Plumeless thistle: (see Bull thistle)

Russian knapweed: A creeping perennial weed, which, once established, becomes extremely difficult to control. In heavy infestations, few plants can grow in competition. Allelopathic chemicals have been extracted from Russian knapweed. Management methods:

- Cultural: Dry range, seeded with adapted grasses, can cause stress in Knapweed by using up moisture prior to the weeds spring growth. For a list of these grasses please contact the Natural Resource Conservation Service at (970)724-3456 or the Summit County Noxious Weed Department.
- Biological: A leaf and stem gall-forming nematode (Subanguina peridus) has been released in the U.S and has shown limited success in controlling Russian knapweed. Grazing with goats has shown to be somewhat successful in limiting seed production and stressing this plant.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: Due to the extensive energy reserves in the root system, removal of top growth alone will not provide adequate control of Russian knapweed. In fact, recent studies have shown that mowing alone increases Russian knapweed density and stimulates growth.

Russian olive: A deciduous introduced shrub or small tree that grows up to 30 feet high. The crown is usually dense and rounded. Management methods:

- Cultural: Learn to identify the plants and physically remove them when they first appear.

- Biological: None known at this time.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: Fire, in combination with herbicide treatment of stumps, can prevent Russian olive from sprouting from the root crown.

Saltcedar: An aggressive, invasive woody deciduous that can be a loosely branched shrub or tree. Management methods:

- Cultural /Preventive: No matter how effective initial treatment is, it is important to re-treat any Saltcedar plants not killed by initial treatment. Once Saltcedar is killed, other vegetation must be established to protect soil resources and to prevent reinvasion.

- Biological: Chilik Saltceder leaf beetle. Use must be approved by the Colorado Department of Agriculture.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: As an alternative to herbicides, a bulldozer or prescribed fire can be used to open up large stands. Once removed, any resprouts need to be treated with an herbicide.

Scentless chamomile: (see Mayweed chamomile)

Scotch thistle: (see Bull thistle)

Spotted knapweed: (see Diffuse knapweed)

Sulfur cinquefoil: A perennial forb with fibrous roots and lateral rhizomes. Populations are limited in Summit County. Management methods:

- Cultural: Frequent plowing or tilling.
- Biological: None known at this time.
- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.
- Mechanical: Small infestations can be controlled by hand digging. Cannot be controlled by mowing.

Wild caraway: A biennial or sometimes perennial forb is commonly found in mountain meadows, hayfields, and along irrigation ditches and roadsides. Management methods:

- Cultural: Wild caraway plants are sensitive to root disturbance and could be eliminated by tilling, although such practices are not likely to be suitable for natural areas. Best preventative practices include the elimination of seed production, and maintaining healthy native communities.
- Biological: None known at this time.
- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.
- Mechanical: Wild caraway plants can be cut or pulled prior to seed set.

Yellow toadflax: (see Dalmatian toadflax)

List C Noxious Weeds

Common mullein: A biennial forb that is found throughout Colorado in pastures, meadows, fencerows, waste areas, and along river bottoms. Management methods:

- Cultural: Prevent the establishment of new infestations by minimizing disturbance and seed dispersal, eliminating seed production and maintaining healthy native communities.

- Biological: A Curculionid weevil that is specific to Common mullein has been introduced and is capable of reducing seed production by 50%.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: Pulling before seed set, digging, mowing or cutting are effective methods of control.

Downy brome: An annual or winter annual grass that is found in recently burned rangeland and wild lands, winter crops, waste areas, abandoned fields, eroded areas and overgrazed grasslands. Management methods:

- Cultural: Prevent the establishment of new infestations by minimizing disturbance and seed dispersal, eliminating seed production and maintaining healthy native communities.

- Biological: Livestock grazing can be helpful with two grazing periods each spring required for at least two consecutive years.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: Cutting is not recommended. Plants cut before seed ripening will produce new stems and seeds at the cut height. Hand-pulling small infestations eliminate current seed production, but will not eliminate the infestation.

Field bindweed: A deep-rooted perennial forb that is a serious threat to native plant communities because it has such great capacity for regeneration. Management methods:

- Cultural: None known at this time.

- Biological: None known at this time.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: Cutting, mowing, or pulling have negligible effect unless the plants are cut below the surface in the early seedling stage.

Poison hemlock: A biennial forb that is poisonous to livestock, wildlife and humans. The plant is scattered in riparian areas, along streams, roadsides ditch banks and irrigation ditches. Management methods:

- Cultural: Prevent the establishment of new infestations by minimizing disturbance and seed dispersal, eliminating seed production and maintaining healthy native communities.

- Biological: The European palerctic moth feeds on Poison hemlock.

- Chemical: Contact the Summit County Noxious Weed Department, or a licensed commercial applicator, for specific recommendations for herbicide use.

- Mechanical: Poison hemlock can be controlled by digging, repeated mowing, pulling or by spring/winter burns.