



Town of Blue River Noxious Weed Management Plan

Developed by the Blue River Noxious Weed Advisory Board

Adopted December 15, 2021



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Introduction

The Colorado Noxious Weed Act

Several species of invasive non-native plants have become a threat to the economic and environmental land value in Blue River, Colorado. These plants are not indigenous to North America and have no natural predators or diseases to keep their populations in balance with the ecosystem. Invasive non-native plants rapidly displace native vegetation, disrupt hydrologic processes, alter soil chemistry, and disturb the native ecosystem stability and diversity, while negatively affecting environmental and recreational resources. The Colorado State Department of Agriculture has mandated that “a countywide plan must be implanted by every county to prevent further damage by these noxious weed species” pursuant to The Colorado Noxious Weed Act, C.R.S. 35-5.5-101, et seq. (“The Act”), and the Rules Pertaining to the Administration and Enforcement of the Colorado Noxious Weed Act, 8 C.C.R. 1206-2 (“The Rules”). The noxious weeds are categorized into three lists based on priority for management in Colorado:

- List A noxious weeds are newly arrived and/or less common in Colorado and are designated for eradication from all lands in State. It is a violation of the Act to allow any List A species to produce seed or develop other reproductive means such as roots, shoots and runners. The Rules allow the local governing authority to file for a compliance waiver if it is determined that eradication is not a practical management objective for specific populations.
- List B noxious weeds may be designated for eradication, containment, or suppression, depending on the extent of their presence. This Plan is designed to stop the continued spread of List B species, making it a violation to allow any List B species to spread to un-infested areas.
- List C noxious weeds are widespread or well-established noxious weeds for which local governments have authority to decide the management strategy. This Plan recommends but does not require control methods to stop the spread of List C species to un-infested areas.
- Watch List-non-native plant species not known to exist in Colorado, but have been recognized as noxious or problematic by another state in the region, and require careful observation. The Watch List serves as advisory and for educational purposes only, to encourage identification and reporting should these species appear on Colorado lands.

The Blue River Noxious Weed Management Plan

The Blue River Board of Trustees has appointed the Citizen Advisory Committee as the Noxious Weed Advisory Board, and has resolved to adopt this Blue River Noxious Weed Management Plan (“WMP”) for the purpose of fulfilling its responsibilities with respect to The Act and The Rules and managing the land within Blue River town limits with respect to noxious weeds.

The objectives of this Blue River Weed Management Plan are to:

- Educate and Communicate with the Public: This document serves as a weed control guide for Blue River landowners. It provides guidelines and training about the CO Noxious Weed Law, identification of noxious weed species, integrated weed management practices, prevention, control, and disposal methods. It aims to raise awareness, improve communication, and foster a spirit of cooperation among landowners on the noxious weed issue.
- This document is a resource and guideline to prevent the spread of noxious weed infestation in and around Blue River.



Public Education

Education is essential to the sustainable success of this Plan. The Noxious Weed Advisory Board will reach out to Blue River residents through community events and education series, Town website, digital informational brochures, posters, and social media. Groups targeted for public education include those with agricultural interests, homeowners, landowners, developers, recreational groups, youth groups and schools. Subject areas will include: the definition of “noxious weed,” why noxious weeds are a problem; State and Local laws, compliance with “The Act” and “The Rules,” noxious weed species identification, best recommended Integrated Weed Management Practices including prevention, control, removal, and disposal methods. Public announcements and noxious weed information can be found at:

<https://townofblueriver.colorado.gov/community/community-education-series/noxious-weeds>

Blue River’s Statement of the Noxious Weed Problem

Diversity Sacrificed for Monoculture

The health of Blue River’s natural environment is a high priority of residents of Blue River, CO. The health and productivity of our ecological systems are in danger as invasive, non-native weeds grow due to Blue River on personal automobiles, shoes of hikers, bike tires, animal fur, infested construction equipment, contaminated fill and the like. Once these weeds take hold infesting one site and their seeds blow to un-infested lands exacerbating the problem. Moreover, weed seeds can be viable in the soil for decades. Non-native invasive plants can crowd out desirable native vegetation, reducing the diversity and quantity of native plants, threatening rare plants and animals and their habitats, reducing water supply, and altering the ecosystem processes and functions by diminishing native forage for wildlife.



Noxious Weeds (Photo 1)



Wild flowers (Photo 2)

As the photographs illustrate, noxious weeds can dramatically reduce native species diversity. In Photo 1, before the noxious weed infestation, there are many different species of plants providing specialized nectar and food sources for a wide variety of native pollinators and other animals. In Photo 2, after the infestation, many of these species become crowded out into a monoculture or near-monoculture of noxious weeds which provide few or no ecosystem services. Native wildflowers such as Colorado Blue Columbine, the state flower, cannot compete with aggressive, invasive plants for nutrients, sunlight, and water. As a result, our biologically diverse mountain meadows, grasslands, and wetlands are in danger of being overrun by monocultures of non-native species.

To date, noxious weeds have displaced at least 10% of Colorado’s native plant species and have severely degraded important native plant communities that provide essential habitat to more than 85% of Colorado’s wildlife species. Experts in weed science estimate that the current populations increase 15 percent annually without mitigation. Blue River is located with the White River National Forest, and surrounded by US Forest Service land and provides access to many trails in Summit County. Left untreated, millions of acres of adjacent lands become threatened. Without an integrated weed management program, aggressive invasive species will continue to infest and degrade the lands that we value so highly.



What is a “noxious weed?”

A ‘weed’ is any plant growing where you don’t want it to. A “noxious weed” is a legal and regulatory definition for a non-native, invasive, ecologically damaging plant that did not exist in the United States prior to human settlement. Colorado’s native grasses and wildflowers evolved over millions of years to fill unique ecological niches and have insects and diseases keep them in balance. The invasive noxious weeds that this plan targets were originally imported to the United States for their ornamental beauty, aggressive growth habits, xeriscape, or re-seeding capabilities. However, the very aggressive growth traits, which made these plants desirable for a garden or landscape have enabled them to thrive outside cultivated areas and become fierce competitors with our native vegetation. Lacking environmental controls and natural predators, they have escaped cultivation and become aggressive invaders of wildlands, open space, housing subdivisions, municipal areas, private property and roadsides.

Why should you care?

Some people believe that nature will “heal itself” and that as new plants come in, a new, more “resilient” ecosystem will be born. While it is true that weeds can cause a plant community shift, it is usually into a far less biodiverse one. The idea that the plant will heal itself is not more than wishful thinking. Humans created the problem. Therefore, it is our duty to try to mitigate some of our effects. Its call stewardship. Being a good steward is realizing that there is harm to the environment, and thereby working to prevent further harm. If noxious weeds were simply pioneer species “doing their job” to fill in disturbed areas, there wouldn’t be a problem with them displacing wildlife and dominating an area that once held a mix of native species. Residents of Blue River have expressed interest in preserving the health of the natural ecosystem. It is desired to preserve and repair the ecosystem.



Inventorying/ Mapping

The primary objective of weed inventorying and mapping is to identify which species of noxious weeds are currently present within the Town and to accurately locate where these populations of unwanted plants occur. This information could be potentially used by the Town in order to:

- Predict those areas potentially subject to weed invasion
- Develop and evaluate the effectiveness of any weed control methodologies
- Increase public awareness, education, and weed management efforts

Treatment & Disposal Methods

Integrated Weed Management

It is necessary to implement a well-thought-out package of management techniques that will complement each other and together weaken existing stands of noxious weeds, prevent their spread, and gradually reduce their numbers. Proper timing will be critical to ensure that the various treatment methods will work together, rather than against each other. Since weed seeds can remain viable in the soil for decades, an integrated weed management plan is a long-term commitment, regardless of treatment choice. Treatment methods specified for specific weeds in this Plan include, but are not limited to:

- **Prevention**
 - Prevention is a vital part of any successful weed management plan and critical to keeping future costs down. Methods include, educating Blue River residents about Noxious Weeds and least toxic control practices. Monitoring vigilantly and eradicating small, new infestations. Using only certified weed-free seed, manure, and hay. Obtaining gravel, fill dirt, soil, and mulch from weed-free sources. Minimizing soil disturbance caused by water, vehicles, or machinery. Observing good land management practices such as water conservation, erosion control, and revegetation with native plants after removing noxious weeds. Frequent monitoring and mapping of noxious weeds to quickly locate any new infestations.
- **Mechanical Control**
 - Methodologies or management practices that physically disrupt plan growth, including tilling, mowing, burning, mulching, hand-pulling, hoeing, grazing and removing flowers or seed heads.
- **Cultural Control/Restoration**
 - Methodologies or management practices that favor the growth of desirable native plants to compete with noxious weeds, including maintaining an optimum fertility and plant moisture status in an area, planting at optimum density and spatial arrangement in an area, and planting species most suited to an area.
- **Biological Control**
 - The use of organisms or natural predators (such as insects, mites, or diseases which feed only on specific noxious weeds) to disrupt the growth of noxious weeds. Bio-control agents are prohibited for use on species designated for eradication. Note there are limited to no effective biological controls in the mountains and many weeds have no established bio-controls to date.
 - Seed mixes provided on the Town website for reference.
- **Chemical Control**
 - The use of herbicides or plant growth regulators to disrupt the growth of noxious weeds-to be used **ONLY** as a last resort. Communication with neighbors, consideration for individuals with chemical sensitivities, and proximity to wells, waterways, wildlife and gardens should be considered before the decision to use herbicides is finalized. If chemical means are used, adequate signage, application rates and personal safety precautions should



be practiced. Note that many herbicides require certification training in order to use them. Visit Summit County Weed Control at <https://www.summitcountyco.gov/114/Weed-Control> for more information and assistance with chemical controls. It should be noted that in certain cases, the limited use of herbicides may be the only way to effectively control a noxious weed species. In the absence of such effective control, the species will continue to spread infesting more land and eventually require more control that will be more costly in the long-run.

- ***Disposal***

- Option 1: Decompose-Ideally, pull or mow noxious weeds before they flower so they can be left on the ground to decompose naturally, unless management methods for individual species warn against re-propagation of plant parts.
- Option 2: Landfill-flowers, seeds or other propagules can be placed in sealed 3.0 mil plastic bags (contractor type) and disposed in a solid waste landfill which covers refuse daily with six inches of soil or alternative material.
- Attempts should not be made to burn noxious weeds at home due to fire risk.



Blue River Noxious Weed List

List A	List B	List C	Nuisance List
Required to Eradicate	Required to Eradicate, Contain, or Suppress	Recommended to Suppress	Recommended to Suppress
Myrtle Spurge	Diffuse Knapweed (C)	Common Burdock	Reed Canary grass
Cypress Spurge	Hoary Cress (C)	Common Mullein	Small-flowered Alyssum
Orange Hawkweed	Houndstongue (E)		Yellow Sweet Clover
Bull Thistle	Leafy Spurge (E)		
Canada Thistle	Spotted Knapweed (E)		
Musk Thistle	Wild Caraway (E)		
Oxeye Daisy	Yellow Toadflax (E)		
Scentless Chamomile	Cheat Grass		
Scotch Thistle	Poison Hemlock		

**For more information visit <https://www.colorado.gov/pacific/agconservation/noxious-weed-mapping>

Management Objectives

The noxious weed species listed in this plan have been identified by the Blue River Noxious Weed Advisory Board to be present within Blue River Town limits, to be undesirable as per the Act and Rules and are hereby designated by the following prioritized management objectives:



- Eradicate-remove the reproductive portions of noxious weed species or specified noxious weed populations in largely un-infested areas to zero and/or permanently eliminate the species or populations within a specified period of time.
- Contain-maintain an intensively managed buffer zone, including road right of way, that separates infested regions where suppression activities prevail, from largely un-infested regions where eradication activities prevail.
- Suppress-reduce the vigor of weed populations within an infested region, decrease the propensity of noxious weed species to spread to surrounding lands, and mitigate the negative effects of noxious weed populations on infested lands.
- Encourage homeowners to address noxious weeds in right of way adjacent to their property.
- Develop an annual educational event around the removal of noxious weeds and the reseeded of the area.

Use the descriptions that follow to aid in identification, planning and implementation of an integrated management program for Blue River’s noxious weeds, with the purpose of achieving specified management objectives and promoting desirable plan communities, while choosing the least toxic options wherever possible. For more information on integrated management plans, refer to Fact Sheets for specific weed species provided by the Colorado Department of Agriculture: <https://www.colorado.gov/agmain>.





Blue River List A Noxious Weeds:


**Required to be ERADICATED from all lands in the State*

<p>Myrtle Spurge <i>Euphorbia myrsinites</i> CO List A Designated for Eradication</p> 	<p>DESCRIPTION: Low growing, 4-8" tall with 18" spread. Flowers yellow-green with heart-shaped bracts. Trailing stems with fleshy blue-green alternate leaves. Taproot. Leaves and stems have toxic milky sap that is poisonous; can cause skin irritations, nausea, vomiting, and diarrhea.</p> <p>Blooms: Perennial. Early spring, March –May.</p> <p>Reproduces: By seed and can spread vegetatively. Seed heads are explosive and can project seeds up to 15 ft.</p> <p>Control Methods: Integrated management is best. Mechanical: Hand-pullable, but protect skin from sap, bag up entire plant and dispose. Do not leave plant parts on the ground as they could re-propagate. Monitor the area for at least 9 years to ensure the plant is eradicated. Cultural: Revegetate area with native seed or plants that bloom August-October. Suggested alternatives: Creeping Mahonia, Creeping Sedum, Sulphur Flower, Kinnikinnick, White Horehound. Biological: None known. Chemical: Large infestations can be controlled with herbicides.</p>
<p>Cypress Spurge <i>Euphorbia cyparissias</i> CO List A Designated for Eradication</p> 	<p>DESCRIPTION: Low growing perennial. Flowers yellow-green and similar looking to myrtle spurge, but leaves are linear. Taproot. Leaves and stems have toxic milky sap that is poisonous; can cause skin irritations, nausea, vomiting, and diarrhea.</p> <p>Blooms: Perennial. Early spring, March-May</p> <p>Reproduces: By seed and can spread vegetatively. See heads are explosive and can project seeds up to 15ft.</p> <p>Control Methods: Integrated management is best. Mechanical: Hand-pullable, but protect skin from sap, bag up entire plant and dispose. Do not leave plant parts on ground as they could re-propagate. Monitor the area for at least 9 years to ensure the plant is eradicated. Cultural: Revegetate area with native seed or plants that bloom August-October. Suggested alternatives: Creeping Mahonia, Creeping Dedum, Sulfur Flower, Kinnikinnick, White Horehound. Biological: None known Chemical: Large infestations can be controlled with herbicides.</p>





<p>Orange Hawkweed <i>Hieracium aurantiacum</i> CO List A Designated for Eradication</p> 	<p>DESCRIPTION: Grows 10-20" tall. Flower 1/2-3/4" wide, bright orange with notched tips, resembling dandelions. Clusters of 5-35 flowers on top of stem, and tend to close up in shade, making the plant difficult to see. Leaves area basal, one or two small leaves may occur on the slender, bristly stem. Rosette leaves are 4-6" in length, spatula shaped, finely toothed margins.</p> <p>Blooms: Creeping perennial. Flowers June-July.</p> <p>Reproduces: from runners, rhizomes, sporadic root buds and seed.</p> <p>Control Methods: Integrated management is best. Mechanical: Very difficult to eliminate solely by hand-pulling. Bag and dispose entire plant if flowering. Cultural: Revegetate area with native seed or plants that bloom in August-October. Suggested alternatives: Wallflower, Globemallow, Poppies. Biological: None Known Chemical: Herbicides at the bud stage is the best method for elimination.</p>
<p>Bull Thistle <i>Cirsium vulgare</i> CO List A Designated for Eradication</p> 	<p>DESCRIPTION: In Colorado, Bull thistles are the only species that are prickly hairy on the top and are cottony-hairy on the undersides of the leaves. In mature plants the leaves extend down, clasping the stem and are divided into segments.</p> <p>Blooms: Gumdrop shaped pinkish to dark purple 1 1/2-2" in diameter. Flowers June-July. Seeds set in July-August.</p> <p>Reproduces: Biennial. Spiky rosettes first season, flowers second season.</p> <p>Control Methods: Mechanical: Because biennial thistles do not reproduce from their roots, any mechanical or physical method that severs the root below the soil surface will kill the weed. Cultural: Revegetate area with native seed or plants that bloom July-September. Suggested alternatives: Rocky Mountain Bee Plant, Purple Coneflower (Echinacea), Garden Phlox. Biological: None known Chemical: Not needed, if mechanical methods are used.</p>



<p>Canada Thistle <i>Cirsium arvense (breea)</i> CO List A Designated for Eradication</p> 	<p>DESCRIPTION: Grows 2-4 ft. tall. Flowers pink, purple, 1/2-3/4" wide. Clusters of 1-5 small flowers per branch. Stems erect, hollow, lower covered with fine hairs. Leaves lance shaped, spine tipped lobes, hairless or fine hairs. Rosette at bottom is spiny-tipped with wavy leaves. Roots extensive, fleshy, creeping, forming colonies.</p> <p>Blooms: Creeping perennial. Rosette every spring. Flowers June-October.</p> <p>Reproduces: By seed and deep, reproducible roots that spread horizontally 18 feet in one season. 75% of Canada thistle plant is underground.</p> <p>Control Methods: Mechanical: Mow May-September just before flowering. If flower heads are purple or have gone to seed, bag and dispose flower heads first before mowing. Aim to exhaust the seed bank. Shallow tillage only increases the number of plants. Cultural: Revegetate area with native seed or plants that bloom July-September. Suggested alternatives: Rocky Mountain Bee Plan, Purple Coneflower (Echinacea), Garden Phlox. Biological: None known Chemical: Herbicides are the best method for elimination</p>
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<p>Musk Thistle <i>Carduus nutans ssp. macrolepis</i> CO List A Designated for Eradication</p> 	<p>DESCRIPTION: Grows 2-6 ft. tall. Flowers 1 ½-3” wide, pinkish-purple, with pinecone-like prickly bracts below. 1 or more stems from base highly branched above, one flower per stem. Leaves waxy, alternate, extending down stem, dark green, deeply lobed, spines on edges, white edges and midribs. Rosettes densely hairy. Taproot.</p> <p>Blooms: Biennial. Spiky rosettes first season, blowers second season, late May-June. Seeds set June-July.</p> <p>Reproduces: Only by seed.</p> <p>Control Methods: Mechanical: Pull entire plant before flowering. Otherwise, clip and bag flowers while leaving the roset of the plant on ground to decompose. Aim to exhaust the seed bank. Cultural: Revegetate area with native seed or plants that bloom in May-September. Suggested alternatives: Rocky Mountain Bee Plant, Purple Coneflower (Echinacea), Garden Phlox. Biological: None known Chemical: Apply herbicide when the plants are approximately 1” tall. If flower heads are purple or have gone to seed, clip and bag flower heads first.</p>
<p>Oxeye Daisy <i>Leucanthemum vulgare/ Chrysanthemum leucanthemum</i> CO List A Designated for Eradication</p> 	<p>DESCRIPTION: Grows 10-24” tall. Large 2” daisy-style flower with yellow center and white petals, singular flower at end of stem. Leaves are deeply toothed. Lower leaves spoon-shaped, upper leaves are narrow and clasp the stem, increasingly less leaves at top of stem. Rosette at bottom. Creeping root system.</p> <p>Blooms: Creeping perennial. Flowers June-August</p> <p>Reproduces: by seed and underground rhizomes.</p> <p>Control Methods: Mechanical: Hand pull or dig when soil is moist and infestations are small. Oxeye daisy is fairly shallow rooted, make sure to pull up all of the roots. Clip and bag flowers while leaving the rest of plant on ground to decompose. Aim to exhaust the seed bank. Cultural: Revegetate area with native seed or plants that bloom in May-September. Suggested alternatives: Coulter Daisy, Showy Daisy, Marguerite Daisy, White or Purple Coneflower. Biological: None known Chemical: Larger infestations may require chemical control to effectively control this plant.</p>



Scentless Chamomile

Matricaria perforata

CO List A

Designated for Eradication



DESCRIPTION: Grows 6-30" tall. Small 3/4" daisy-style flower with yellow center and white petals. Leaves fern-like, feathery, alternate, busy appearance. Stems erect and smooth. Roots fibrous. Differs from the chamomile used in tea because its flowers, leaves lack odor, flavor. Irritates mucous membranes of livestock.

Blooms: Annual. Flowers early summer until frost.

Reproduces: only by seed

Control Methods:


Mechanical: Hand pulling can prevent spread into new areas and effective on small infestations. If pulled before flowering, can be left on ground to decompose, otherwise, must be bagged and disposed. Aim to exhaust the seed bank. Frequent, shallow tillage can help exhaust the seed bank. Mowing is not an effective long-term control method due to the fact the plant will grow prostrate and bloom. However, in the short-term mowing will assist with limiting seed production.

Cultural: Revegetate area with native seed or plants that bloom in May-September. Suggested alternatives: Pearly Everlasting, White Columbine, White Coral Bells, and Feverfew.

Biological: None known



Chemical: Can be controlled with herbicides.



<p>Scotch Thistle <i>Onopordum acanthium</i> CO List A Designated for Eradication</p> 	<p>DESCRIPTION: Grows up to 12' tall, branching, and can be quite dense. Flowers reddish-purple to violet, numerous, 1-2 inches in diameter, with spine-tipped bracts. Leaves hairy, up to 1 ft. wide and 2 ft. long. Rosettes up to 2 ft. diameter. Fleshy taproot.</p> <p>Blooms: Biennial. Rosette in spring or fall of first year. Flowers mid-June to September of second year.</p> <p>Reproduces: Only by seed. Can produce up to 14,000 seeds per plant.</p> <p>Control Methods: Mechanical: Hand-pullable, best controlled in the rosette stage by severing its taproot 1-2 inches below the ground. Chemical and Cultural Integrated management: One integrated approach to Scotch thistle management involves 1) incorporate livestock grazing to increase grass vigor and reduce bare ground; 2) spray rosettes with herbicide; 3) re-seed treated ground with competitive desirable plants in the fall after spraying. Suggested alternatives: Rocky Mountain Bee Plant, Purple Coneflower (Echinacea), Garden Phlox; 4) Follow up with spot cutting of entire plants when first flowers appear annually for several years to deplete the seed bank in the soil. Biological: None known</p>
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Blue River List B Noxious Weeds

<p>Diffuse Knapweed <i>Centaurea diffusa</i> CO List B Designated for Containment</p> 	<p>DESCRIPTION: Grows 1 ½-3 ft. tall. Highly branched, becomes a tumbleweed in the winter. Flowers white or lavender, solitary or on clusters on each branch tip. Yellow-brown spiny bracts with pronounced tip and fringed edges. Young leaves covered with fine hairs, finely-divided, becoming reduced as the plant matures. Rosette at base with finely divided leaves covered in short hairs. Taproot.</p> <p>Blooms: Biennial. Seeds germinate in spring or late summer. Plants bolt in mid-spring. Flowers June-August.</p> <p>Reproduces: Only by seed.</p> <p>Control Methods: Mechanical: Hand-pullable, best in May or June. Bag and dispose of flowers or seeds. Rest of plant, can be left on ground to decompose. Aim to exhaust the seed bank. Cultural: Revegetate area with native seed or plants that bloom in May-October. Suggested alternatives: Rocky Mountain Bee Plant, Wax Currant, and Apache Plume. Biological: None known Chemical: Can be controlled with herbicides.</p>
<p>Hoary Cress <i>Cardaria draba</i> CO List B Designated for Containment</p> 	<p>DESCRIPTION: Grows 10 to 24 inches tall. Flowers small, white, numerous, 4 petals on stalks radiating from a stem. Leaves alternate ½ to 4 inches long with blunt ends, upper leaves have 2 lobes that clasp the stem. Seed capsules are heart-shaped with two small, flat, reddish brown seeds.</p> <p>Blooms: Creeping perennial. Rosette in early spring. Flowers May-June.</p> <p>Reproduces: By seeds and vigorous creeping roots. One plant can produce from 1,200 to 4,800 seeds and drop them by mid-summer.</p> <p>Control Methods: Mechanical: Control of hoary cress is difficult because of the perennial root system, abundant seed production, and diverse habitats. Mowing may be ineffective. Cultural: Revegetate area with native seed or plants that bloom in May-July. Suggested alternatives: Yarrow, Pearly Everlasting Biological: None known Chemical: Commonly controlled with herbicides.</p>



Houndstongue

Cynoglossum officinale

CO List B

Designated for Eradication



DESCRIPTION: Grows up to 3 ft. tall. Flowers reddish-purple, ¼ inches wide. The seeds are covered with short, hooked prickles that cling to hair, fur and clothing.

Blooms: Biennial or short leaved perennial. Blooms May-June.

Reproduces: by seeds. One plant can produce up to 2,000 seeds that remain viable for 2 to 3 years.

Control Methods:

Mechanical: Digging, pulling and cutting can be effective if the root crown is severed. Clipping or mowing second-year plants can greatly reduce seed production. Bag up and dispose flowers or seeds. Aim to exhaust the seed bank. Grazing is not practical due to risk of poisoning.

Cultural: Revegetate area with native seed or plants that bloom May-July. Suggested alternatives: Rocky Mountain Bee Plant, Garden Phlox, First Love Dianthus, Meadow Rue

Biological: None known

Chemical: Commonly controlled with herbicides.



<p>Leafy Spurge <i>Euphorbia esula</i> CO List B Designated for Eradication</p> 	<p>DESCRIPTION: Grows 2-6 ft. tall. Flowers 1 ½-3” Pull wide, pinkish-purple with pinecone-like prickly bracts below. 1 or more stems from base, highly branched above, one flower per stem. Leaves waxy, alternate, extending down stem, dark green, deeply lobed, spines on edges, white edges and midribs. Rosettes densely hairy. Taproot.</p> <p>Blooms: Biennial. Spiky rosettes first season, flowers second season, late May-June. Seeds set in June-July.</p> <p>Reproduces: Only by seed.</p> <p>Control Methods: Mechanical: Pull entire plant before flowering. Otherwise, clip and bag flowers while leaving the rest of plant on ground to decompose. Aim to exhaust the seed bank. Cultural: Revegetate area with native seed or plants that bloom in May-September. Suggested alternatives: Rocky Mountains Bee Plant, Purple Coneflower (Echinacea), Garden Phlox. Biological: None known Chemical: Apply herbicide when the plants are approximately 1’ tall. If flower heads are purple or have gone to seed, clip and bag flower heads first.</p>
<p>Spotted Knapweed <i>Centaurea maculosa</i> CO List B Designated for Eradication</p> 	<p>DESCRIPTION: Grows 1-3 ft. tall. Flowers pinkish-purple, usually single at end of branches, with dark-spotted, fringed bracts at base. Stems upright, ridged, one or more branches. Fruit has parachute-like structure. Seeds 1/8” long. Leaves ¾-1 ½” long. Rosette 6” long, deeply lobed. Taproot. Sap irritates skins.</p> <p>Blooms: Biennial. Rosette the first year. Flowers June-October.</p> <p>Reproduces: by seed.</p> <p>Control Methods: Mechanical: Hand-pullable, best in May or June. Bag and dispose of flowers or seeds. Otherwise, can be left on ground to decompose. Aim to exhaust the seed bank. Cultural: Revegetate area with native seed or plants that bloom in May-October. Suggested alternatives: Rocky Mountain Bee Plant, Wax Currant, Apache Plume, and Tansy Aster. Biological: None known. Chemical: Can be controlled with herbicides.</p>



Wild Caraway

Carum carvi

CO List B

Designated for Eradication



DESCRIPTION: Flowers white or pinkish in color, small, occur in terminal or lateral loose clusters at the top stems. Stem leaves finely divided, resemble those carrots. Shoot leaves alternate and oblong or oval in shape.

Blooms: Biennial or sometimes perennial forb. Low growing rosette in the first year, flowering stalk bolts the second year, it can sometimes bolt a third year. Flowers June-August.

Reproduces: By seed. Prolific seed producer, each plant can produce several thousand seeds.

Control Methods:

Mechanical: Hand-pulling of bolting stalks is effective at preventing seed production, but at maturity seed heads are fragile and shatter easily. At this stage, place plastic bag carefully over the mature plant, close tightly around the stem and hand-pull without accidentally spreading seed. Bag and dispose of flowers or seeds. Aim to exhaust the seed bank. Tilling can be effective because this plant is sensitive to root disturbance.



Mowing is not an effective long-term control method due to the fact the plant will grow prostate and bloom.

Cultural: Revegetate area with native seed or plants that bloom in May-September. Suggested alternatives: Yarrow, Cow Parsnip.

Biological: None known.

Chemical: Can be controlled with herbicides.



<p>Yellow Toadflax “Butter & Eggs” <i>Linaria vulgaris</i> CO List B Designated for Eradication</p> 	<p>DESCRIPTION: Grows up to 3’ tall. Snapdragon-like yellow flowers, 1” long with deep orange centers, with spur as long as the flower. Stems woody at base and smooth at top. Leaves narrow, linear, 1-2 inches long.</p> <p>Blooms: Perennial. May-August</p> <p>Reproduces: By seeds and creeping roots.</p> <p>Control Methods: Integrated management is best: Mechanical & Chemical: Prevent seed formation and vegetative spread of roots. For small infestations, dig roots up deep, bag up and dispose entire plant. For large infestations, hand-pulling and digging not effective, as it is unlikely the entire root will be evacuated and shallow tillage only increases number of plants. A combination of mowing and herbicides applied at or before flowering over a period of several years is best. Cultural: Revegetate area with native seed or plants that bloom in June-September. Suggested alternatives: Golden Banner, Yellow Columbine, Snapdragons, Hardy Jerusalem Sage. Biological: None known.</p>
<p>Downy Brome/Cheat Grass <i>Bromus tectorum</i> CO List B Designated for Suppression</p> 	<p>DESCRIPTION: Grows 2 to 36” tall. Stems slender, dense, and drooping. Color green, then purple, then blonde or brown. Spikelets slender, 3/8” to 3/4” long, nodding. The awns on the end of the spikelets 5/8” long. Leaves densely covered in with soft hairs. Roots fibrous and fleshy.</p> <p>Blooms: Annual. Early spring. Goes to seed by May</p> <p>Reproduces: by seed.</p> <p>Control Methods: Mechanical: Hand-pullable. Bag and dispose of entire plant. Aim to exhaust the seed bank. Cultural: Revegetate area with native seed or plants that blooms in May-September. Suggested alternatives: Foxtail Barley Biological: Non known Chemical: Can be controlled with herbicides.</p>



Poison Hemlock

Conium maculatum

CO List B

Designated for Suppression



DESCRIPTION: Grows 4-8 feet tall. Flowers white umbrella-like clusters, show, at the end of the branch, 5 petals, notched. Stems smooth, hollow, covered with purple spots. Leaves shiny green, multi-stemmed, fern like appearance, lacy, resembling parsley and have musty odor when crushed. Fruit is flat, small, and grayish-green. All parts of this plant are poisonous and can be lethal.

Blooms: Biennial. Large rosette the first year. The second year the plant bolts a large stem, and flowers June to July. Fruit matures in August-September.

Reproduces: by seed.

Control Methods:

Mechanical: Hand-pullable, must wear gloves. Bag up and dispose entire plant. Aim to exhaust the seed bank.


Cultural: Revegetate area with native seed or plants that bloom in June-September. Suggested alternatives: yarrow, Cow parsnip.

Biological: Hemlock moth has been effective in other areas.



Chemical: Can be controlled with herbicides.



Blue River List C Noxious Weeds

<p>Common Burdock <i>Articum minus</i> CO List C Designated for Suppression</p> 	<p>DESCRIPTION: Grows 3-10 ft. tall. Large rosette 6 to 18" long and up to 10" wide. Broadly triangular or oval, bluntly pointed leaves, coarsely veined. Upper surface is smooth to sparsely hairy and dull, dark green; the lower surface has a woolly texture, light green. A branched flower stalk emerges the second year. Flowers rose-purple, with many spines at base that often have a hook on the end. Flower and spines dry and become an easily dispersible bur. Taproot brown and fleshy.</p> <p>Blooms: Biennial. Rosette first year. Flowers July-October of second year.</p> <p>Reproduces: By seed (burs stick to everything, everyone)</p> <p>Control Methods: Mechanical: Hand-pullable. Bag and dispose of flowers or seeds. Rest of plant can be left on ground to decompose. Aim to exhaust the seed bank. Cultural: Revegetate area with native seed or plants that bloom in May-September. Suggested alternatives: Creeping Mahonia, heartleaf arnica. Biological: None known. Chemical: Can be controlled with herbicides when in the rosette stage.</p>
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<p>Common Mullein <i>Verbascum thapsus</i> CO List C Designated for Suppression</p> 	<p>DESCRIPTION: Erect stem, grows 2 to 6 ft. tall. Flowers yellow, five petals, 3/4-1 1/2", on spikes 20" long. Leaves light green, covered in soft velvety hairs, alternate and overlapping, up to 1 ft. long. Basal rosette 30" wide. Taproot and fibrous roots.</p> <p>Blooms: Biennial. Basal rosette first year, stem in spring of second. Flowers June-August.</p> <p>Reproduces: By seed.</p> <p>Control Methods: Mechanical: Hand-pullable. If not flowering, pull and leave on ground to decompose. Otherwise bag and dispose flowering heads. Aim to exhaust the seed bank. Cultural: Revegetate area with native seed or plants that bloom in June-September. Suggested Alternatives: Green Gentian, Rocky Mountain Bee Plant, and Snapdragon. Biological: Non known. Chemical: Can be controlled with herbicides when in the rosette stage.</p>
<p>Field Bindweed <i>Convolvulus arvensis</i> CO List C Designated for Suppression</p> 	<p>DESCRIPTION: Grows up to 6 feet long, creeping, twining, low along ground. Flowers white or pink, bell or trumpet shaped, 1" long. Leaves arrowhead shape. Taproot 20 ft. deep and numerous horizontal roots. Grows predominately in low turf or native grass areas.</p> <p>Blooms: Creeping perennial. Emerges from roots in spring, flowers June until first fall frost.</p> <p>Reproduces: From seed and creeping, horizontal extensive root system.</p> <p>Control Methods: Mechanical: Dig up roots deep, being careful not to break them. Shallow tilling only increases spreading. Bag and dispose of entire plant. Cultural: Revegetate area with native seed or plants that bloom in May-September. Suggested alternatives: Native Clematis (not Chinese Clematis!), Honeysuckle Graham Thomas, Virginia Creeper. Biological: Non known. Chemical: For large infestations, herbicides are the only effective way of controlling this plant.</p>



Blue River's Nuisance List:

<p>Reed Canary grass <i>Phalaris arundinacea</i> Designated for Suppression</p> 	<p>DESCRIPTION: Tall bunchgrass forms extensive single-species stands along the margins of wet open areas. Panicles (inflorescences) are compact and resemble spikes when immature, but become open and slightly spreading at anthesis. Creeping rhizomes often form a thick sod layer.</p> <p>Blooms: Perennial. June-August.</p> <p>Reproduces: By seed, but also spreads vegetatively by underground rhizomes.</p> <p>Control Methods: Very difficult to control once established. Prevention is the best method of control.</p> <p>Mechanical: For small infestations, dig up and remove entire root mass. Be sure to remove all rhizomes and roots, as fragments can resprout. Bag and dispose entire plant.</p> <p>Cultural: Revegetate area with native seed or plants that bloom in May-September. Suggested alternatives: Horsetail.</p> <p>Biological: None known.</p> <p>Chemical: Can be controlled with herbicides, but only aquatic-safe formulations should be used.</p>
<p>Small-Flowered Alyssum <i>Alyssum minus/parviflorum</i> Designated for Suppression</p> 	<p>DESCRIPTION: Short plant, grows 3' tall. Flowers tiny and bright yellow. Stems are straight. Seeds are flat, round, and hairy, seed burs stick to clothing, shoes and fur.</p> <p>Blooms: Annual. Emerges early spring, March-April.</p> <p>Reproduces: By seed.</p> <p>Control Methods: Integrated Management is best:</p> <p>Mechanical: Pullable, bag up and dispose entire plant. Aim to exhaust the seed bank.</p> <p>Cultural: Revegetate area with a native seed or plants that bloom in March-October. Suggested alternatives: Pearly Everlasting, Native Cinquefoils, Golden Banner, and Wallflower.</p> <p>Biological: None known.</p> <p>Chemical: Can be controlled with herbicides.</p>



<p>Yellow Sweet Clover <i>Melilotus officinale</i> Designated for Suppression</p> 	<p>DESCRIPTION: Yellow flowers crowded densely at the top 4” of a central stem, each flower is attached by a minute stalk. Leaves are divided into three finely toothed leaflets; middle leaflet grows on a short stalk. Fragrant.</p> <p>Blooms: Biennial. Blooms June-August on second year plants.</p> <p>Reproduces: By seed.</p> <p>Control Methods: Mechanical: Aim to exhaust the seed bank. Hand pulling, effective on small infestations when the soil is moist. Bag and dispose of flowers or seeds. Rest of plant, can be left on ground to decompose. Mowing or cutting before flowers emerge can help stress the plant. Cultural: Revegetate area with native seed or plants that bloom in March-October. Suggested alternatives: Pearly Everlasting, Native Cinquefoils, Golden Banner, and Wallflower. Biological: None know. Chemical: Can be controlled with herbicides.</p>
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Conclusion

Proper noxious weed identification, monitoring, and integrated management practices are the most important steps to reducing or eradicating infestations. Remember, not all techniques will work in all situations. If we are diligent in our efforts, we will protect our lands for the enjoyment of future generations.

What You Can Do To Help?

- Familiarize yourself with the identification of noxious weeds and native plants in your area.
- Communicate, educate, and cooperate with neighboring landowners to identify the extent of noxious weed populations and generate solutions for mitigation.
- Use a combination of control methods for noxious weeds including prevention, mechanical and restoration, as per the suggestions of this Plan. Use chemicals only as a last resort and only after notification/approval with neighbors.
- Ensure that revegetation with native plants is part of your control methodology, or your efforts will be lost to the competitive nature of these extremely aggressive weeds.
- Be patient and diligent! You may have to repeat some methodologies for several successive years to achieve desired results.
- Volunteer in a community weed pull.
- The Town of Blue River encourages all citizens to be educated and vigilant about noxious weeds.
- In the spirit of cooperation, residents are encouraged to communicate directly with landowners to raise awareness and generate solutions for noxious weed problems on a property in Blue River, as per the recommendations of this Plan.

Thank you for caring about our natural environment and taking proactive measures to maintain the health and diversity of our mountain ecosystems.



APPENDIX A: RESOURCES

Noxious Weed Identification and Integrated Management Recommendations

Blue River’s Noxious Weeds Website:

<https://townofblueriver.colorado.gov/community/community-education-series/noxious-weeds>

Colorado Noxious Weed List:

<https://www.colorado.gov/pacific/agconservation/noxious-weed-species>

Summit County Noxious Weeds

<https://www.summitcountyco.gov/993/Summit-County-Noxious-Weeds>

Summit County Weed Program:

<https://www.summitcountyco.gov/114/Weed-Control>

Colorado Department of Agriculture:

Early Detection Rapid Response, Noxious Weed Mapping, Noxious Weed Species ID, and more:

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

Publications: <https://www.colorado.gov/pacific/agconservation/noxious-weed-publications>

Noxious Weeds Species <https://www.colorado.gov/pacific/agconservation/noxious-weed-species>

Colorado State University Extension:

Sources of Colorado Native Plants

<https://extension.colostate.edu/docs/pubs/natres/sources-native-plants.pdf>

*I want to learn more about.....*The Colorado Noxious Weed Law

Colorado Noxious Weed Act C.R.S. 35-5.50-101 (“The Act”)

<https://www.colorado.gov/pacific/agconservation/noxious-weed-publications>

*I want to speak to someone...*About Noxious Weeds

Summit County Weed Control

(970) 668-4218

PO Box 626

Frisco, CO 80443



APPENDIX B: CONSTRUCTION BEST MANAGEMENT PRACTICES

For Controlling the Spread of Noxious Weeds

The following Best Management Practices are intended to provide information to land owners in order to reduce the potential for introducing new noxious weed species and to eliminate the spread of existing noxious weed infestations during construction practices.

Survey and Treat the Project Area

Prior to ground-disturbing activities, survey the project area to document the presence of any pre-existing weed infestations. Treat infestations prior to ground-disturbing activities and remove all weed seed and propagules to prevent weed spread. If possible, survey and treat infestations on adjacent properties to reduce the likelihood of noxious seed dispersal into the project site.

Inspect All Equipment

Inspect all equipment used in the project to be clean, i.e. free of mud, dirt, plant parts, and seeds, or other debris that could contain or hold plant parts or seeds, prior to entering the project area, and prior to leaving a weed-infested project area.

Topsoil Salvage/Stockpiling

The goal of topsoil salvage is to keep the soil alive, weed free, and protected from damage until it can be used for planting or seeding. Usually, topsoil is stockpiled until the site is ready for seeding. Topsoil should be stored for less than one year in a weed-free location. Salvage entails scraping off the top soil, or the uppermost, fertile layer of the soil, and setting it aside in stockpiles until needed. After construction, this topsoil should be spread out to a minimum depth of 3” on all surfaces that are to be seeded. Soil stockpiles should be protected from wind and water erosion with temporary seed mixtures or erosion control barriers.

Seed Bed Presentation

A good seedbed is crucial to successful revegetation. Slopes should be graded to avoid concentrated water flow and subsequent erosion. If possible, any areas severely compacted by machinery and equipment during construction should be ripped by tractor or backhoe to loosen soils and allow for water infiltration and root growth. Clods larger than 3” should be broken, and any weeds controlled by tilling the soil.

Use Certified Weed Free Seed for Revegetation

The Town of Blue River encourages the use of native seed mixes in revegetation. Drill seeding is generally the best seeding method for seeding. If the site is too small or steep for a tractor for drill seeding, then broadcast the seed by hand or with a mechanical spreader. Broadcast seed needs to be applied at twice the rate of drilled seed. For further information on Revegetation, please refer to resources listed at the end of this Appendix. More information is available on the Town website at <https://townofblueriver.colorado.gov>.

Mulch

For steeper slopes, a mulch is necessary to keep the seed and topsoil in place. Mulch also provides shade to seedlings and helps to retain soil moisture. On slopes of 3:1 or less, the mulch can be certified weed-free straw or a synthetic hydro-mulch. On steeper slopes, an erosion control matting should be used. Follow the manufacturer’s installation instructions for erosion control products.

Monitoring

Most revegetation sites will be dominated by “pioneer” or “weedy” species for the first few years following disturbance. Normally, these plants are not aggressive and they will eventually be replaced by desirable vegetation. However, monitoring is critical during initial establishment to ensure that a timely and appropriate



response is taken to the appearance of a noxious weed species. Monitoring the site for 3 years post construction is recommended.

Revegetation Resources

Summit County Weed control

<https://www.summitcountyco.gov/114/Weed-Control>

Native Plant Revegetation Guide for Colorado

Colorado Parks and Wildlife webpage

<https://cpw.state.co.us/Documents/CNAP/RevegetationGuide.pdf>

Town of Blue River Building Code

<https://townofblueriver.colorado.gov>



APPENDIX C: DEFINITIONS

All language definitions used within this plan shall be consistent with the “Colorado Noxious Weed Act” 35-5.5-101 C.R.S. and the “permanent Rules Pertaining to the Administration and Enforcement of the Colorado Weed Management Act” 8 C.C.R. 1206-2, as amended.

“The ACT”

The Colorado Noxious Weed Act, C.R.S. 35-5.5-101, et seq., as amended. The Act directs the Board of County Commissioners of each county in Colorado to adopt and administer a Noxious Weed Management Plan for all unincorporated land within the county, and to appoint a local Weed Advisory Board.

Adjacent

Meeting or touching at some point, or having nothing of the same kind intervening.

Biological Control

The use of organisms or natural predators (such as insects, mites, or diseases which feed only on specific noxious weeds) to disrupt the growth of noxious weeds.

Chemical Control

The use of herbicides or plant growth regulators to disrupt the growth of noxious weeds.

Containment

Maintaining an intensively managed buffer zone that separates infested regions where suppression activities prevail, from largely un-infested regions where eradication activities prevail.

Control

To manage the populations of noxious weed species so that the population is maintained or reduced in size. Control methods include Mechanical, Cultural, Chemical, and Biological.

Cultural Control

Methodologies or management practices that favor the growth of desirable native plants over noxious weeds, including maintaining an optimum fertility and plant moisture status in an area, planting at optimum density and spatial arrangement in the area, and planting species most suited to an area.

Integrated Management or Integrated Management Practices (IMP)

The planning and implementation of coordinated program utilizing a variety of methods for managing noxious weeds, the purpose of which is to achieve specified management objectives and promote desirable plant communities. Such methods may include but are not limited to education, preventative measures, good stewardship, and techniques such as biological control, chemical control, cultural control, and mechanical control.

Invasive

Capable of entering a native plant community to the detriment of native species.

List A

Rare noxious weed species that are subject to eradication wherever detected in Colorado in order to protect neighboring lands and the state as a whole, as per The Act.



List B

Noxious weed species with discrete distributions in Colorado that are subject to eradication, containment or suppression as designated by the Blue River Noxious Weed Advisory Board in order to stop the spread of these species, as per The Act.

List C

Widespread and well-established noxious weed species in Colorado for which management is recommended but not required, although the Blue River Noxious Weed Advisory Board may in its discretion require management, as per The Act.

Manage

Any activity that prevents a plant from establishing, reproducing or dispersing itself.

Management Objective

Controlling noxious weeds in accordance with applicable provisions of the Act and Rules, designating that specific weeds shall be eradicated, contained or suppressed on a species-by-species basis.

Mechanical Control

Methodologies or management practices that physically disrupt plant growth, including tilling, mowing, burning, mulching, hand-pulling, hoeing, grazing, and removing flowers or seed heads.

Native Plant

A plant species, which is indigenous to the State of Colorado.

Noxious Weed

A non-native, invasive plant that has been designated as per the Act to meet one or more of the following criteria:

- Aggressively invades or is detrimental to economic crops or native plant communities;
- Is poisonous to livestock;
- Is a carrier of detrimental insects, diseases, or parasites;
- Has a direct or indirect detrimental effect on the environmentally sound management of natural or agricultural ecosystems.

Nuisance Weed

A plant not designated by the Act or the Rules as noxious, but has qualities that outcompete desired vegetation and can be included in a local Noxious Weed Management Plan.

Restoration or Revegetation

The removal of noxious weed species and subsequent reestablishment of desirable native plant communities.

“The Rules”

The Rules Pertaining to the Administration and Enforcement of the Colorado Noxious Weed Act. 8 C.C.R. 1206-2 as amended.

Suppression

Reducing the vigor of weed populations within an infested region, decreasing the propensity of noxious weed species to spread to surrounding lands, and mitigating the negative effects of noxious weed populations on infested lands.



APPENDIX D: ACKNOWLEDGMENTS

The Blue River Noxious Weed Advisory Board would like to extend special thanks to the following for assisting in content, advice, and development of this plan, and the hard work of community weed pulls:

- Blue River Noxious Weed Advisory Board
- Blue River Board of Trustees

Credits

- Nederland Noxious Weed Committee Management Plan
- Summit County Weed Control
- Colorado Weed Management Association
- Colorado Department of Agriculture Conservation Services Division (CDA)

