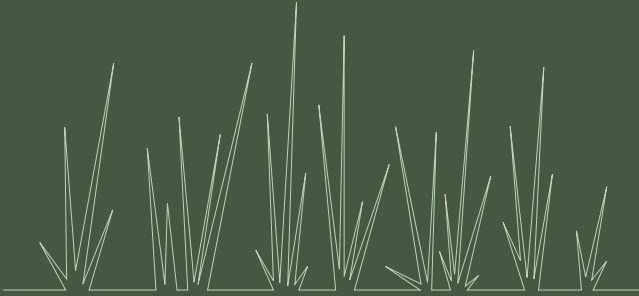


THE CONFEDERATED TRIBES OF  
THE UMATILLA INDIAN RESERVATION



# INVASIVE PLANTS



The Department of Natural Resources  
Range, Agriculture and Forestry Program













**Prepared by  
Confederated Tribes of the  
Umatilla Reservation (CTUIR)**  
Second Edition, 2025

**ACKNOWLEDGMENTS**

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# HOW TO USE THIS GUIDE

<b>PLANT TYPE</b>	 <b>FORB</b>  <b>TREE/SHRUB</b>  <b>GRASS</b>
<b>MANAGEMENT CONTROLS</b>	 <b>CHEMICAL</b>  <b>BIOLOGICAL</b>  <b>MANUAL/CULTURAL</b>  <b>MECHANICAL</b>
<b>CAUTION</b>	 <b>TOXIC TO ANIMALS</b>  <b>TOXIC TO HUMANS</b>  <b>REPORT THIS PLANT</b>

**Report plants with this symbol** by contacting

CTUIR Department of Natural Resources

Range, Ag & Forestry Program

CTUIR\_Invasives@ctuir.org

541-429-7200



# INTRODUCTION

An invasive weed is an introduced species that causes harm to the environment, agriculture, and human health. Invasive weeds displace wildlife and native plants, lower biodiversity, decrease forage and crop production, cause injury to humans and animals, alter soil nutrients and water cycling, increase fire danger, and decrease aesthetic value. Invasive weeds threaten the “First Foods”, that are essential to maintain and enhance the Tribes traditions and culture.

This guide is intended to educate CTUIR staff, community members and other stakeholders to identify invasive weeds on the Umatilla Indian Reservation (UIR). A brief description, color photographs, and recommendation for control are provided for each invasive weed listed in guide. The glossary defines technical terms that are used to describe and identify plants.


Invasive weeds listed in this guide are presently found on the reservation as well as some potential new invaders. This guide will assist with early detection of new infestations, understanding the harmful characteristics and management of invasive weeds.

With everyone working together, we can successfully reduce the threat of invasive weeds.



For questions regarding invasive weeds on the UIR, contact:

**The Department of Natural Resources**  
**Range, Agriculture and Forestry Program**  
**541-429-7200**  
**[CTUIR\\_Invasives@ctuir.org](mailto:CTUIR_Invasives@ctuir.org)**

# CONTENTS

CATEGORY	COMMON NAME	SCIENTIFIC NAME	PAGE
 <b>Forbs</b>	Bur Chervil	<i>Anthriscus caucalis</i>	6
	Bull Thistle	<i>Cirsium vulgare</i>	7
	Canada Thistle	<i>Cirsium arvense</i>	8
	Common Bugloss	<i>Anchusa officinalis</i>	9
	Common Crupina	<i>Crupina vulgaris</i>	10
	Common Mullein	<i>Verbascum thapsus</i>	11
	Common Teasel	<i>Dipsacus fullonum</i>	12
	Dalmatian Toadflax	<i>Linaria dalmatica</i>	13
	Diffuse Knapweed	<i>Centaurea diffusa</i>	14
	Field Bindweed	<i>Convolvulus arvensis</i>	15
	Garlic Mustard	<i>Alliaria petiolata</i>	16
	Hound's Tongue	<i>Cynoglossum officinale</i>	17
	Japanese Knotweed	<i>Fallopia japonica</i>	18
	Kochia	<i>Bassia scoparia</i>	19
	Leafy Spurge	<i>Euphorbia esula</i>	20
	Meadow Knapweed	<i>Centaurea pratensis</i>	21
	Mediterranean Sage	<i>Salvia aethiopis</i>	22
	Myrtle Spurge	<i>Euphorbia myrsinites</i>	23
	Perennial Pepperweed	<i>Lepidium latifolium</i>	24
	Poison Hemlock	<i>Conium maculatum</i>	25
	Puncturevine	<i>Tribulus terrestris</i>	26
	Purple Loosestrife	<i>Lythrum salicaria</i>	27
	Purple Starthistle	<i>Centaurea calcitrapa</i>	28
	Rush Skeletonweed	<i>Chondrilla juncea</i>	29
	Russian Knapweed	<i>Acroptilon repens</i>	30
	Scotch Thistle	<i>Onopordum acanthium</i>	31
	Shiny Geranium	<i>Geranium lucidum</i>	32
	Spikeweed	<i>Centromadia pungens</i>	33
	Spotted Knapweed	<i>Centaurea stoebe</i>	34
	St. Johnswort	<i>Hypericum perforatum</i>	35
	Sulfur Cinquefoil	<i>Potentilla recta</i>	36
	Tansy Ragwort	<i>Senecio jacobaea</i>	37
	Viper's Bugloss	<i>Echium vulgare</i>	38
	Whitetop	<i>Lepidium draba</i>	39
	Yellow Flag Iris	<i>Iris pseudacorus</i>	40
	Yellow Starthistle	<i>Centaurea solstitialis</i>	41

# CONTENTS

CATEGORY	COMMON NAME	SCIENTIFIC NAME	PAGE
 <b>Grasses</b>	Cheatgrass	<i>Bromus tectorum</i>	42
	Jointed Goatgrass	<i>Aegilops cylindrica</i>	43
	Medusahead	<i>Taeniatherum caput-medusae</i>	44
	Rattail Fescue	<i>Vulpia myuros</i>	45
	Ravenna Grass	<i>Saccharum ravennae</i>	46
	Smooth Brome	<i>Bromus inermis</i>	47
	Tall Oatgrass	<i>Arrhenatherum elatius</i>	48
	Ventenata	<i>Ventenata dubia</i>	49
 <b>Trees/ Shrubs</b>	Dog Rose	<i>Rosa canina</i>	50
	False Indigo Bush	<i>Amorpha fruticosa</i>	51
	Himalayan Blackberry	<i>Rubus bifrons</i>	52
	Multiflora Rose	<i>Rosa multiflora</i>	53
	Sweetbriar Rose	<i>Rosa rubiginosa</i>	54
	Tree of Heaven	<i>Ailanthus altissima</i>	55
	Russian Olive	<i>Elaeagnus angustifolia</i>	56

## GLOSSARY

57-59

# Bur Chervil | *Anthriscus caucalis*

## DESCRIPTION

- An annual forb in the Carrot family, growing 3 to 4 feet.
- Stems of plants are hollow and branched, often purplish at the base.
- White flowers have 5 petals produced in umbels from late May to early July of the second year.
- A small taproot and reproduces by seed. Seeds covered with short, thick, hooked hairs.

## HABITAT

Located in open woods, roadsides, riparian, pastures, waste places, and disturbed areas. Prefers rich, moist soil. It is dense under trees and shrubs that have been disturbed.

## IMPACTS

Competes aggressively for light, water, and nutrients and displaces surrounding vegetation. The seeds have tiny hooks that attach to fur, feathers and clothing and are responsible for seed movement.

## MANAGEMENT

- **Manual/Mechanical Control:** Rosettes and immature plants can be pulled or dug. Mature plants must be removed below the root crown to prevent re-sprouting. Mowing can be done before seed set.
- **Chemical Control:** Herbicides effective if applied shortly before blooming and one month after a pre-bloom cutting. Various herbicides are available for use.





# Bull Thistle | *Cirsium vulgare*

## DESCRIPTION

- A biennial herbaceous, in the Aster family, growing between 3 to 7 feet tall with upright branched stem.
- It grows a rosette in its first year and flowering stems in its second year.
- Flower heads 1.5 to 2 inches in diameter. Bracts at base of flower heads are spine tipped. Flowers are purple or rarely white, blooming June through September.
- Leaves alternate and coarsely lobed with a spine tip. Leaf bases extend downward along prominent ridges of the stem. Upper leaf surface is rough with bristle-like spines while the undersides are covered with white woolly hairs. Reproduces by seed and not by vegetative means.



## HABITAT

Primarily in disturbed areas such as pastures, roadsides, and ditch banks as well as in hayfields and logged mountain areas.

## IMPACTS

May outcompete native plants, desirable wildlife and livestock forage plants.



## MANAGEMENT

- **Manual/Mechanical Control:** Hand-pull and dispose of flowering plants in trash to prevent seed spread. Mowing can be effective before the plants flower. If cut too early plants may re-sprout and flower again that season.
- **Biological Control:** Seed head Gall fly (*Urophora stylata*), Seed head weevil (*Rhinocyllus conicum*)
- **Chemical Control:** Use of pre-emergence herbicides will prevent seed germination. Various herbicides are available for use.



# Canada Thistle | *Cirsium arvense*

## DESCRIPTION

- Herbaceous perennial, in the Aster family, 1-4 feet tall, flower heads form in clusters normally pink to purple.
- Leaves are spiny, lobed and alternate on the stem. Develops from seed or vegetative buds from the root system.
- Horizontal roots may extend 15 feet or more and vertical roots may grow 6 to 22 feet deep
- Flowers emerge mid to late spring.

## HABITAT

Cropland, pastures, rangeland, roadsides and non-crop areas.

## IMPACTS

Dense infestations displace desirable forbs and grasses and may decrease or limit forage and livestock production.

## MANAGEMENT

- **Cultural control:** Grasses and alfalfa can compete effectively with Canada thistle.
- **Mechanical control:** Repeated mowing can be an effective tool.
- **Biological control:** Crown root weevil (*Ceutorhynchus litura*), flower beetle (*Brachypterolus pulicarius*), stem gall fly (*Urophora cardui*) and seed head weevil (*Rhinocyllus conicus*)
- **Chemical control:** Various herbicides are available for use.



# Common Bugloss | *Anchusa officinalis*

## DESCRIPTION

- A perennial herbaceous, in the Borage family, growing between 1 to 2 feet tall with several flowering stems.
- First season starts as a basal rosette of leaves. The following year multiple fleshy flower stems, covered with course hairs, form from a long taproot.
- Alternate stem leaves that decrease in size going up the stem.
- Blue to purple flower clusters bloom from May-October. Flower petals have five equal lobes with white throats. Each flower produces 4 nutlets with one seed each. The fiddleneck flower stems uncoil as each bud opens.



## HABITAT

Grows in sandy, gravelly areas such as riparian, river bars, disturbed areas, pastures and roadsides.

## IMPACTS

May outcompete native plants and desirable wildlife and livestock forage plants. The fleshy stalks can cause hay bales to mold.



## MANAGEMENT

- **Manual Control:** Hand-pull the entire plant including the taproot and dispose of flowering plants in trash to prevent seed spread
- **Chemical Control:** Use of pre-emergence herbicides in combination with good sanitation will prevent seed germination. Various herbicides are available for use.





# Common Crupina | *Crupina vulgaris*

## DESCRIPTION

- A winter annual, in the Aster family, that grows up to 3 feet tall.
- Flower heads clustered 1 to 5 on each stem. Flowers are lavender to purple and bloom from June-July. Plants may have up to 40 flower heads.
- Basal leaves are rounded and typically not lobed, and often dying back early.
- Lobed stem leaves are alternate and sessile with spiny margins.
- Seeds are barrel-shaped with brown-black bristles.



## HABITAT

Grows in a wide variety of habitats including range, forest and disturbed non-croplands. Prefers southern slopes in steep canyons with deeper soils. Only found in the Pacific Northwest.



## IMPACTS

It can form solid stands that reduce the quantity and quality of forage for livestock



## MANAGEMENT

- **Manual Control:** Hand pulling or hoeing can effectively control, but repeated treatments are required since it produces a large amount of viable seeds.
- **Biological Control:** No bio-controls are currently approved.
- **Chemical Control:** Various herbicides are available for use.



# Common Mullein | *Verbascum thapsus*

## DESCRIPTION

- A biennial that may reach 6 feet tall, a member of the Figwort family.
- The rosette leaves are large and soft. They are bluish-green and grow up to 12 inches long and 5 inches wide.
- Yellow flowers that occur in a dense spike at the top of the stem that blooms from June-August.
- One mullein plant may make over 100,000 seeds in a year. Seeds can survive almost any conditions and can last up to 100 years.



## HABITAT

Found in pastures, roadsides, riparian areas and forest openings.

## IMPACTS

Can displace native forbs and grasses and becomes abundant in overgrazed or disturbed habitats.



## MANAGEMENT

- **Manual Control:** Hand-pulling is best for small patches pulling before seed set.
- **Chemical Control:** Due to the woolly nature of the leaves, herbicides should be mixed with a surfactant to facilitate uptake. Various herbicides are available for use.



# Common Teasel | *Dipsacus fullonum*

## DESCRIPTION

- A short-lived perennial or biennial, in the Teasel family, growing up to 6 feet
- The stems are pithy or hollow, ridged and become increasingly prickly upward
- Leaves have spines on the underside of the mid-veins. Stems have opposite leaves and branching.
- Flowers are purple to dark pink and tend to grow in bands or rings on large, egg-shaped, spiny heads up to 4 inches tall occurring singly.
- Flower heads have long, narrow, prickly bracts that curve upward and form a “cage” around the heads



## HABITAT

It can be found on roadsides, floodplains, fields, pastures and idle lands. Thrives in open, sunny habitats, and will tolerate most conditions.

## IMPACTS

It has a negative impact on pastureland, hay fields and other agricultural fields. Forms monocultures that can replace desirable species.

## MANAGEMENT

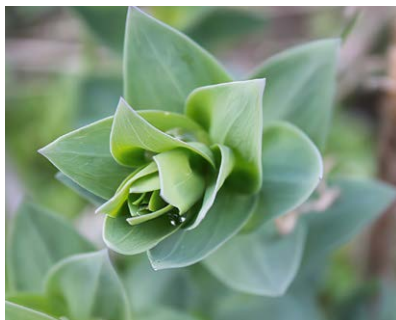
- **Manual/Mechanical Control:** Individual plants can be dug. Once the flowers start to appear, cut the plants at or right below ground level. Mowing is not as effective because plants re-grow from the root crown.
- **Chemical Control:** Several herbicides have been shown to work on rosettes prior to bolting. Various herbicides are available for use.



# Dalmatian Toadflax | *Linaria damatica*

## DESCRIPTION

- Herbaceous perennial, a member of the Figwort family, growing up to 4 feet tall
- Blue green, alternate, waxy, leaves are egg-shaped and pointed on both ends and clasp the stem.
- Flowers, resembling snapdragons, are bright yellow and bloom May-September
- A single toadflax plant contains many vertical, thick-walled and somewhat woody floral stems.
- The taproot may penetrate 3 feet into the soil. Horizontal roots may grow to be several yards long, and develop adventitious buds that may form additional plants.



## HABITAT

Found along roadsides, rangelands, croplands, clear cuts, disturbed areas, riparian areas and pastures

## IMPACTS

A persistent, aggressive invader that replace native grasses and other desirable perennials.

## MANAGEMENT

- **Mechanical Control:** Mowing is **not** recommended.
- **Cultural Control:** Seedlings don't compete well against established perennials.
- **Biological Control:** Stem boring weevils (*Mecinus janthinus*)
- **Chemical Control:** Various herbicides are available for use.





# Diffuse Knapweed | *Centaurea diffusa*

## DESCRIPTION

- A member of the Aster family, can be an annual, biennial or perennial, growing to 3 feet tall and has a long taproot.
- Numerous flower heads are generally narrow, blooming June-September. Flowers white or sometimes purplish and the flower heads have bracts with comb like spines.
- Stem leaves are stalkless and are covered with short dense hairs. Basal leaves are short stalked and often twice divided into narrow lobes.
- Usually has one main stem that branches freely and is covered in short, dense hairs.



## HABITAT

Grows in a variety of habitats, riparian areas, rangeland and pastures. It also thrives in disturbed habitats.



## IMPACTS

Once established it out-competes and reduces the quantity of desirable native species. It contains allelopathic chemicals, which can suppress adjacent plants and create single species stands. Some people develop a rash when handling the plants.



## MANAGEMENT

- **Mechanical/Manual Control:** Pulling or digging for small infestations. Mowing may delay flower production, therefore potentially decreasing seed production.
- **Biological Control:** Seed head gall fly, (*Urophora affinis*) and (*Urophora quadrifasciata*), seed head weevil (*Bangasternus fausti*), Root boring beetle (*Sphenoptera jugoslavica*), Seed head weevil (*Larinus minutus*)
- **Chemical Control:** Various herbicides are available for use.





# Field Bindweed | *Convolvulus arvensis*

## DESCRIPTION

- A perennial herbaceous plant, in the Morning-glory family, with creeping and twining stems, 1-4 feet long that grow along the ground and up through other plants and structures.
- Leaves alternate and arrowhead-shaped but variable and 1/2 to 2 inches long.
- Flowers white to pink and funnel shaped up to up to 1 inch wide. Flowers April-October or until frost.
- Vertical roots can grow to 20 feet. Horizontal roots make up 70% is the root structure.
- Reproduces vegetatively from roots and seeds. Seeds can stay viable for 60 years.



## HABITAT

Grows in a wide range of habitats and is drought-tolerant. It is found on roadsides and farmlands.

## IMPACTS

Reduces crop yields.

Intertwines and topples native species, competes for moisture, sunlight and nutrients. Decreasing habitat biodiversity.

## MANAGEMENT

- **Mechanical Control:** Mowing is not a good option because plants are able to reproduce from roots.
- **Biological Control:** The bud/leaf gall mite, (*Aceria malherbae*)
- **Chemical Control:** Herbicides have been relatively effective for suppression.



# Garlic Mustard | *Alliaria petiolata*

## DESCRIPTION

- Herbaceous biennial of the Mustard family. First year plants are clusters of 3-4 dark green, kidney shaped, scallop-edged leaves rising 2-4 inches high. The second year plants produce 1-2 flowering stems 2-4 feet tall.
- Stem leaves are alternate, stalked, triangular to heart-shaped and coarsely toothed. Crushed leaves and stems smell like garlic.
- Small white flowers composed of four petals forming a cross are produced in button-like clusters. Seed pods are long, narrow and upright.
- The root usually has an “S” or “L” shape, just below the ground.



## HABITAT

Shady, moist to dry forest habitats, forest edges, floodplains, and along streams and disturbed lands. It is not tolerant of highly acidic soils and full sunlight.

## IMPACTS

Has displaced vast areas occupied by native spring wildflowers. It produces allelochemicals that suppress the growth of other plants, fungi and butterfly larvae. Reduces suitable habitat for native insects, birds and mammals.

## MANAGEMENT

- **Manual Control:** Hand removal of plants and roots, is effective for light, scattered infestations. Bagging and disposing of plants with mature fruits is needed to avoid spreading seeds.
- **Chemical Control:** Various herbicides are available for use.



# Hound's Tongue | *Cynoglossum officinale*

## DESCRIPTION

- Herbaceous biennial, in the Borage family, that grows 1-4 feet tall. Plants form rosettes in the first year and produce flowering stalks in the second year.
- Leaves are alternate, soft and velvety and 1-12 inches long and 1-3 inches wide.
- Small reddish-purple flowers with five petals form at ends of outwardly drooping stems.
- Seeds are brown burs with hooks that stick to clothes and animals.
- The single taproot of hounds tongue is thick, black and woody.



## HABITAT

Prefers well drained, relatively sandy and gravelly soils, shady areas under the canopy of forests and wetter grasslands, pastures and meadows, along roadsides and in disturbed sites.

## IMPACTS

Reduces quality and quantity of pasture and range. Carrier of alkaloid poison that can kill livestock.



## MANAGEMENT

- **Manual/ Cultural Control:** Hand pull or dig up isolated plants and small patches and remove as much of the root as possible. Re-seed disturbed or bare soil with a competitive species as soon as possible
- **Mechanical Control:** Mowing reduces seed production and spread. Plants cut close to the ground, may not re-grow. Do not mow plants that are already in seed as this will likely disperse the seeds.
- **Chemical Control:** Spot treat small patches. Various herbicides are available for use.



# Japanese Knotweed | *Fallopia japonica*

## DESCRIPTION

- A non-native ornamental perennial plant of the buckwheat family grows 4-8 feet tall.
- Spreads through underground rhizomes, seed, and stem fragments.
- The stems resemble bamboo. They are jointed, hollow, and have many red or purple nodes where the leaves are attached. The main stems are smooth and bright green.
- Leaves are alternately arranged, spade- or heart-shaped, and up to 6 inches long; lower leaves are often shed as the plant grows.
- Flowers are white or pale green and sprout from the nodes. The fingerlike clusters are 3 to 4 inches long and contain several dozen five-petaled, aromatic flowers.



## HABITAT

Thrives in sites that are at least seasonally wet such as wetlands, stream corridors, forest edges, and drainage ditches.



## IMPACTS

The spread of this plant is exacerbated by flood events and the movement of soil from knotweed infested areas.

Provides poor erosion control, and its presence gradually degrades native vegetation, aquatic habitat and water quality.



## MANAGEMENT

- **Mechanical Control:** Cutting is not an effective suppression approach. However, cutting prior to an herbicide application can be very helpful. Cut in June and wait at least eight weeks after cutting to treat the resprouting plants with herbicide.
- **Chemical Control:** Various herbicides are available for use. Proper timing of operations is important to maximize injury to rhizomes.





# Kochia | *Bassia scoparia*

## DESCRIPTION

- Annual herbaceous plant, in the Amaranth family, that has a deep taproot, grows 2.5 to 5 feet tall. Kochia stems are upright and spreading with many branches.
- Flowers are small and green, grouped in clusters on terminal spikes.
- Leaves are alternately arranged and are 1 to 2 inches long. They are narrow to lance shaped with smooth, hairy edges and may have silky hairs on leaf undersides.
- Stems are reddish, especially late in the season. Seeds are wedge shape and light brown.

## HABITAT

Found on pasture, rangeland, roadsides, ditch banks, wastelands, idle lands and cultivated fields.

## IMPACTS

Reduces crop yield. Inhabits agricultural land and other disturbed areas. Can be toxic to livestock. Reduces visibility along roadsides.

## MANAGEMENT

- **Mechanical Control:** Mowing or slashing the plants before flowering is effective in reducing seed production.
- **Cultural Control:** Early tillage in the spring gives good control of the kochia seedlings.
- **Chemical Control:** Various herbicides are available for use.



# Leafy Spurge | *Euphorbia esula*

## DESCRIPTION

- Herbaceous deep rooted perennial, in the Euphorbia family, that grows to 3 feet tall, in dense patches.
- Leaves alternate, narrow, 1-4 inches long with smooth margins. Stems are hairless and pale to blue green.
- Yellow-green flowers surrounded by a pair of heart shaped bracts.

## HABITAT

Tolerates extremely dry to extremely wet soil conditions. Found along waterways and irrigation ditches, draws and sagebrush. It grows in a wide variety of soil types.

## IMPACTS

Infests range, pastures and woodlands. Displaces native species. TOXIC to cattle and horses.

## MANAGEMENT

- **Cultural Control:**  
Vigorous grass growth is an important aspect of leafy spurge control.
- **Biological Control:**  
Root defoliating beetle (*Aphthona cyparissiae*). Sheep and/or goats have been used.
- **Chemical Control:**  
Proper timing of herbicide application is imperative. Various herbicides are available for use.



# Meadow Knapweed | *Centaurea pratensis*

## DESCRIPTION

- Herbaceous perennial, in the Aster family, grows up to 3.5 feet.
- Plants have one to several upright branched stems. This is a hybrid between black and brown knapweed.
- Larger leaves are at the base of the plant compared to higher up the stem. Leaves smooth or slightly lobed or toothed margins.
- Plants bloom June to September, with bright pink to purple flowers with fringed bracts. Bracts are light to dark brown and papery.

## HABITAT

Occurs in pastures, forest openings, roadsides, floodplains, agricultural fields and railroad right-of-ways. Prefers full sun, but can tolerate some shade.

## IMPACTS

Invades native plant communities, reduces forage, wildlife habitat and species diversity.

## MANAGEMENT

- **Mechanical Control:** Mowing is not a good control method, as plants will resprout and flower.
- **Biological Control:** Seed head weevil (*Larinus minutis*)
- **Chemical Control:** Various herbicides are available for use.





# Mediterranean Sage | *Salvia aethiopis*

## DESCRIPTION

- A biennial that reproduces solely by seed. First year rosettes have ground- hugging basal leaves that are green and woolly.
- The second year a sturdy squarish stem bolts, up to 3 feet tall. Fine, silvery white woolly hairs cover the stems, leaves and leaf undersides.
- Multi- branched flowering stems develop from May to August.
- The five petaled flowers are small, white to yellowish-white and are borne in clusters at branch ends.
- A mature plant can produce up to 100,000 seeds, which are widely scattered after the plant breaks off in the fall and becomes a tumbleweed.



## HABITAT

The plant prefers dry, south-facing slopes and gravelly, well-drained soil. Primarily rangeland weed, but it can also be found along roadsides and in pastures, fields, and some agronomic crops.

## IMPACTS

Can quickly displace native vegetation and severely reduce forage production.

## MANAGEMENT

- **Manual Control:** For small infestations, individual plants should be dug out before they set seed by severing the root 2-3" below the crown to prevent resprouting.
- **Cultural Control:** Infested areas should be reseeded with vigorous, competitive species.
- **Chemical Control:** Various herbicides are available for use. A surfactant is necessary when herbicides are applied.
- **Biological Control:** The root-crown weevil *Phrydiuchus tau* has proven somewhat effective in suppressing the spread.





# Myrtle Spurge | *Euphorbia myrsinites*

## DESCRIPTION

- Herbaceous perennial, in the Euphorbia family, that grows 4-8 inches tall and approximately 18 inches wide.
- Waxy leaves arranged in spirals around fleshy blue-green stems. Stems are low spreading, trailing and fleshy. All plant parts secrete a milky, caustic sap when broken.
- Flowers are inconspicuous, yellow and are surrounded by a yellow-green bract.
- Forms colonies from a deep root system that grows from central taproot.
- It has small seeds that can be projected from plant up to 15 feet and can survive in soil for about 8 years.



## HABITAT

Escaped ornamental that inhabits open areas such as fields, rangelands, disrupted areas, roadsides and waste places.

## IMPACTS

Aggressively displaces native plants. Plants produce a milky sap that is considered toxic and causes skin irritations, such as redness, swelling and blisters.

## MANAGEMENT

- **Manual Control:** Using gloves, small infestations can successfully be dug or pulled. Pulling over multiple years for control. Pull plants early in the season when they are smaller and easier to pull and to prior to seed formation.
- **Chemical Control:** Various herbicides are available for use.



# Perennial Pepperweed | *Lepidium latifolium*

## DESCRIPTION

- Herbaceous perennial, in the Mustard family, growing to 1 to 3 feet tall but can reach 6 feet in ideal conditions.
- Stem leaves smaller and stalkless with smooth to slightly serrate edges, green to gray green waxy leaves, alternate and hairless.
- White, 4-petal spoon shaped flowers form in dense clusters. Flowers June – September.
- Multiple stems grow from a woody crown.
- Spreads by root fragments, rhizomes and seeds.



## HABITAT

Meadows, riparian areas, roadsides and cropland.

## IMPACTS

Rapidly forms large, dense stands that displace desirable native vegetation. Populations easily spread along waterways and can infest riparian areas and degrades nesting habitats.



## MANAGEMENT

- **Manual Control:** Hand pulling or digging infestations being sure to remove as much of the roots as possible because new plants will sprout from root fragments and crowns.
- **Cultural Control:** Planting competitive vegetation will slow the introduction and spread.
- **Chemical Control:** Various herbicides are available for use.



# Poison Hemlock | *Conium maculatum*

## DESCRIPTION

- Herbaceous biennial, in the Carrot family, up to 8 feet tall.
- Stems purple-spotted, hollow, with ridges.
- Bright green triangular shaped leaves are hairless and feathery with strong musty smell.
- Rounded flower clusters contain small white flowers. Fruits are grayish brown, egg shaped with longitudinal ribs. Produces up to 40,000 seeds per plant.



## HABITAT

Roadsides, pastures, in open fields, and in natural areas.

## IMPACTS

Infests large areas of pastures as well as open waste areas. Highly poisonous to humans and animals if ingested. Some people may get contact dermatitis from handling the plant.



## MANAGEMENT

- **Manual Control:** Wearing protective clothing and eye protection, digging is effective for small infestations. When digging the plants, the entire taproot should be removed to prevent regrowth. Mowing or cutting is not effective due to resprouting.
- **Biological Control:** European palearctic moth (*Agonopterix alstroemeriana*)
- **Chemical Control:** Several herbicides are available and are most effective used on seedlings or small rosettes.



# Puncturevine | *Tribulus terrestris*

## DESCRIPTION

- A summer annual, in the Caltrop Family, mat forming, tap-rooted with trailing stems up to 5 feet long.
- Stems radiate from a central point.
- Leaves opposite and oblong with up to 8 pairs of leaflets.
- Solitary yellow flowers, with five petals form in leaf axils.
- Five-sided fruits break into sections containing 2 to 3 seeds. Each fruit section (bur) has a pair of sharp spines resembling a goat head.



## HABITAT

Pastures, agricultural fields, roads, railways, trails, and disturbed areas.



## IMPACTS

With the deep tap root, competes aggressively for water and nutrients. Large quantities of leaves can be toxic to livestock. The sharp spines of the seed bur can injure the mouth and digestive tract or feet of animals.

The sharp spines pierce bicycle tires and can injure people and pets.

## MANAGEMENT

- **Manual Control:** In most situations, puncturevine is best controlled by hand removal, using gloves, or by hoeing to cut the plant off at its taproot. Remove plants to prevent seed spread.
- **Biological Control:** Seed weevil (*Microlarinus lareynii*)
- **Chemical Control:** Herbicide can be used.





# Purple Loosestrife | *Lythrum salicaria*

## DESCRIPTION

- Herbaceous perennial, in the Primrose family, with stiff, four-sided stems, growing 2-7 feet tall.
- Leaves are opposite or whorled, lance-shaped and stalkless with rounded to heart-shaped bases and smooth edges.
- Small magenta flowers with 5-7 petals are produced on tall, showy, flower spikes from July to September. Prolific seed producer and spreads by floating seeds.

## HABITAT

Prefers moist soils and shallow waters. It will adjust to varying light conditions and water levels.

## IMPACTS

Degrades wetlands and diminishes wildlife habitat. Forms monocultures that crowd and shade out native wetland species. Will encroach on crop and pasture land.

## MANAGEMENT

- **Manual Control:** Digging, hand pulling and cutting flower spikes are the best options of control. Flower heads should be bagged to prevent seed spread.
- **Biological Control:** Root weevil/defoliating beetle (*Galerucella calmarienis*), leaf-eating beetle (*Nanophyes marmoratus*) defoliating beetle (*Galerucella pusilla*)
- **Chemical Control:** Herbicide can be used to spot treat small infestations.



# Purple Starthistle | *Centaurea calcitrapa*

## DESCRIPTION

- Herbaceous annual or biennial, in the Aster family, growing to 3.5 feet.
- Basal rosette of leaves with spiny center forms in spring, then plant blooms mid- summer through fall.
- Alternate leaves 4-8 inches long have fine hairs. Stems branched and angled not winged.
- Purple vase-shaped flowers, 3/4 to 1 inch long, are covered with stout, 1 inch long, straw-colored spines.
- Reproduction is by non-plumed seeds.

## HABITAT

Fields, roadsides, pastures, over grazed rangelands, & disturbed sites.

## IMPACTS

Displaces native vegetation. Dense stands of mature plants can reduce forage production for livestock and wildlife.

## MANAGEMENT

- **Manual Control:** Grubbing or digging can be effective for small infestations.
- Mowing is **not** effective due to resprouting.
- **Chemical Control:** Herbicide can be used to spot treat small infestations and when plant is in rosette stage.



# Rush Skeletonweed | *Chondrilla juncea*

## DESCRIPTION

- Herbaceous perennial, in the Aster family, growing to 4 feet tall. Plant begins as rosette of smooth leaves and then develops wiry flowering stems with few tiny leaves.
- Lower stems have bristly, downward pointing hairs.
- When the plant is cut it discharges milky sap.
- Yellow flowers are on terminal or axillary flower heads, and bloom early summer and continue until frost. Seeds are ribbed with white bristles to aid in wind dispersal.



## HABITAT

Thrives in well drained, sandy and/or rocky soils. Disturbed areas, roadsides, pastures, cropland and rangelands.

## IMPACTS

Outcompetes native species for nutrients and water, displaces desirable species in rangeland and pastures. Reduces crop yield.

## MANAGEMENT

- **Manual Control:** Clip and bag plants prior to seed set. Hand pulling and digging will increase sprouting due to the extensive root system.
- **Biological Control:** Rust fungus (*Puccinia chondrillina*) and Bud gall mite (*Eriophyes chondrillae*)
- **Chemical Control:** Herbicide can be used





# Russian Knapweed | *Acrotilon repens*

## DESCRIPTION

- Herbaceous perennial, in the Aster family, that grows to 4 feet tall.
- Plants form dense colonies due to an extensive root system.
- Lower gray green leaves are deeply lobed, 2-4 inches long; upper leaves are toothed or entire. Stems are upright branched and hairy.
- Plants bloom from summer to fall producing small, cone-shaped. Many pink to lavender flowers at each branch tip. Bracts below the flower are rounded with papery margins.
- Reproduction is by seeds and vegetative root buds.



## HABITAT

Found growing in pastures, hayfields, grain fields, and roadsides. It prefers clay type soils and a more arid environment.



## IMPACTS

The plant is poisonous to horses. Its allelopathic, forming dense stands displacing native plants reducing forage for livestock and biodiversity for wildlife.

## MANAGEMENT

- **Manual/Mechanical Control:** Frequent hand pulling over several years may be successful. Mowing and tilling followed by planting competitive vegetation.
- **Chemical Control:** Herbicide can be used.





# Scotch Thistle | *Onopordum acanthium*

## DESCRIPTION

- Branched biennial, in the Aster family, with stems that can grow up to 8 feet tall and 6 feet wide.
- Pink to lavender flowers in mid-summer. The globe-shaped flower heads are borne in groups of 2 or 3 on branch tips.
- Flower heads are up to 2 inches wide, with long, stiff, needle-like bracts at the base.
- The large rosette eliminates competing plants by shading. Leaves are up to 2 feet long and 1 foot wide, are covered with sharp yellow spines and have a gray-green appearance
- Stems have wings that extend to the base of the flower heads.
- Seeds are smooth, slender, and plumed.



## HABITAT

Grows in cultivated fields, pastures, forest edges and rangelands. It may also be found alongside streams and rivers.



## IMPACTS

A problem in rangeland. Infestations reduce forage production. Dense stands of the large, spiny plants exclude animals from grazing and access to water.



## MANAGEMENT

- **Manual/Mechanical Control:** Small areas can be dug effectively, if completed before going to seed. Mowing has limited effectiveness for controlling Scotch thistle and usually only prevents seed production.
- **Chemical Control:** Various herbicides can be used.



# Shiny Geranium | *Geranium lucidum*

## DESCRIPTION

- A small, annual, or biennial herbaceous plant with basal, lobed, shiny leaves and reddish stems.
- The stems are spreading and upright and often have a bright reddish color.
- Leaves are rounded to kidney-shaped and divided into lobed sections that each have their own 3 lobes at the tip. Leaves have hairs on one side.
- It has pink, 5 petal flowers.
- The seeds are small, oval, and hairless.



## HABITAT

Grows in well-shaded woodlands and forest openings as well as in full to partial sun.

## IMPACTS

Invades of high-quality native habitat, forests, open grasslands, disturbed sites and roadsides.



## MANAGEMENT

- **Manual Control:** Small infestations can easily be controlled by carefully hand-pulling, bagging, and putting in the trash.
- **Chemical Control:** Various herbicides are available for use. Apply before flowering



# Spikeweed | *Centromadia pungens*

## DESCRIPTION

- Annual, in the Aster family, that grows 4 inches to 4 feet tall. It has rigid branches and leaves with spreading to stiff hairs. Leaves and flower head bracts spine-tipped.
- Numerous small flower heads of yellow ray and disk flowers. Blooms late June- fall. Bracts at the base of the flower head are partially covered by upper leaves.
- Leaves and stems are rough to the touch and have a sticky resin. The upper leaves are linear and spine-tipped and may be bearing axillary leaf bunches.
- Stems are rigid and freely branching, growing up to 4 feet tall.
- Seeds are achenes and about 0.08 inches long.

## HABITAT

It grows on roadsides, disturbed areas, rangeland, cropland, seasonal wetlands, grasslands and cultivated fields.

## IMPACTS

An agricultural pest in the Columbia Basin forming dense stands. Limits forage production on range and pasture land.

## MANAGEMENT

- **Manual Control:** Using gloves, hand pull small patches in the spring when still green and soft.
- **Chemical Control:** Herbicide can be used.





# Spotted Knapweed | *Centaurea stoebe*

## DESCRIPTION

- Herbaceous biennial or perennial that grows to 3 feet tall.
- Plants are multi-stemmed growing from the crown. No wings on upper stems.
- Blooms from midsummer to fall with purple flowers. Tips of flower head bracts are black, giving the heads a spotted appearance.
- Alternate gray green pinnately divided leaves.

## HABITAT

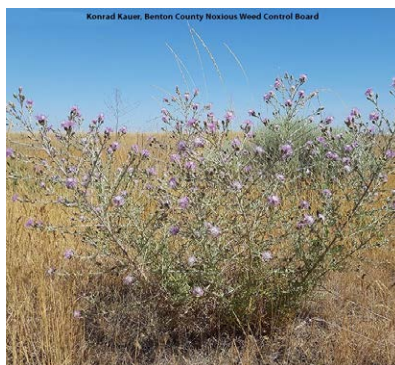
Fields, pastures, rangeland, disturbed sites. Adapted to well-drained, light to coarse-textured soils that receive summer rainfall, is not tolerant of shade. Prefers areas that receive 12 to 30 in annual precipitation.

## IMPACTS

Reduces or displaces desirable plant species, reduces livestock and wildlife forage. Invades disturbed areas and degrades desirable plant communities. The sap of spotted knapweed can cause skin irritation.

## MANAGEMENT

- **Manual/Mechanical Control:** Early detection and persistent hand pulling can control small patches. Mowing as needed so plants don't go to seed.
- **Biological Control:** Seedhead weevils (*Larinus obtusus*, *Bangasternus fausti* & *Larinus minutus*), root/stem boring beetle (*Agrilus hyperici*), seed head gall fly (*Urophora quadrifasciata*)
- **Chemical Control:** Herbicide can be used



# St. Johnswort | *Hypericum perforatum*

## DESCRIPTION

- Herbaceous perennial, in the Hypericum family, that grows 1-3 feet tall.
- Stems are erect, many-branched, somewhat 2-ridged, rust-colored and woody at the base.
- Leaves are opposite, oblong, less than 1 inch long and dots (perforations) show when the leaves are looked at through a light.
- Plants bloom from June to July. Flowers are yellow, star like, with occasional small black dots around the margins.
- Woody taproot with lateral roots that produce new plants.

## HABITAT

Pastures, rangeland, prairies, roadsides and other disturbed areas

## IMPACTS

Toxic to cattle, sheep and horses. It replaces native plant communities and forage vegetation. Contact dermatitis and photosensitivity for animals and humans.

## MANAGEMENT

- **Manual/Mechanical Control:** Pulling for small sites using gloves. Repeated pulling will be necessary to ensure removal of the whole plant and roots. Mowing is a limited option and must be repeated.
- **Cultural Control:** A combination proper range management and encouragement of beneficial plants species will prevent new infestations and re-infestations.
- **Biological Control:** Klamath weed beetles, (*Chrysolina quadrigemina*) and (*Chrysolina hyperici*)
- **Chemical Control:** Herbicide can be used



# Sulfur Cinquefoil | *Potentilla recta*

## DESCRIPTION

- Herbaceous perennial, in the Rose family, that grows to 2 feet tall, with one or more erect hairy stems.
- Stems have perpendicular hairs that make them different than most other cinquefoils.
- Leaves are palmately compound with five to seven toothed leaflets.
- Flowers consist of five pale to sulfur yellow heart-shaped petals during May- June.
- Woody taproot with branching roots producing new shoots.

## HABITAT

Meadows, pastures, open forest, roadsides, natural areas and disturbed areas.

## IMPACTS

Can form monocultures over large areas of pastures, rangeland, roadsides, natural areas and abandoned fields. Outcompetes native plants.

## MANAGEMENT

- **Manual Control:** Mowing is not effective and roots will send up new shoots. For small infestations, hand pulling or digging is also effective if care is taken to remove the root crown.
- **Chemical Control:** Herbicide can be used.





# Tansy Ragwort | *Senecio jacobaea*

## DESCRIPTION

- Herbaceous biennial or short-lived perennial, in the Aster family, reaching 2-4 feet tall.
- Stems are erect and branched near the top. The stems and leaf stalks are often purplish.
- Leaves are dark green, 2-8 inches long and pinnately lobed.
- Multiple yellow flower heads bloom from midsummer to fall.



## HABITAT

Full sun or partial shade in pastures, forest clear cuts, roadsides and other disturbed areas.

## IMPACTS

Reduces pasture productivity and crowds out desirable vegetation. Extremely poisonous to livestock.



Laurel Baldwin, Whatcom County NWCB

## MANAGEMENT

- **Manual/Mechanical Control:** Small infestations can be controlled by pulling the plant including the roots. Wear gloves. Seal pulled plants in a plastic bag and put them in the trash.
- **Cultural Control:** Good pasture management techniques will help to prevent or reduce infestations. Seed and/or plant areas with non-invasive plants to provide competition and suppress seed germination of tansy ragwort.
- **Biological Control:** root/defoliating flea beetle (*Longitarsus jacobaeae*)
- **Chemical Control:** Herbicide can be used



# Viper's Bugloss | *Echium vulgare*

## DESCRIPTION

- Taprooted, upright biennial or short lived perennial, in the Borage family, 1-3 feet tall
- Inflorescences are long and narrow and have many flowers. Petals are blue, fused at the base with 5 unequal lobes, stamens are hot pink. Blooms June-September
- Rosette leaves are simple and oblanceolate, while stem leaves are alternate and linear in shape. Stem leaves are sessile and become smaller as they move up the stem. Leaves and stems are covered with stiff hairs that have swollen bases.
- Spreads by seeds. Fruits are 4 nutlets, each nutlet contains one seed.



## HABITAT

Gravel bars, roadsides, rangeland, pastures and disturbed sites.

## IMPACTS

Degrades rangelands, pastures and non-cropland areas. Crowds out native and beneficial grazing plants. Can be toxic to horses and cattle.



## MANAGEMENT

- **Manual/Mechanical Control:** Pulling or digging small patches, bagging and removing plants. Mowing plants throughout the growing season is effective.
- **Chemical Control:** Herbicide can be used. Best used in spring when plants are small.





# Whitetop | *Lepidium draba*

## DESCRIPTION

- Herbaceous, deep-taprooted perennial, in the Mustard family, growing up to 2 feet tall. Alternate blue-green, arrowhead shaped, clasping, leaves to 4 inches long and 1.5 inches wide on erect on a hairy stem.
- White to cream colored 4-petaled  $\frac{1}{4}$  inch flowers grow in flat to rounded inflorescences April-June
- Seed capsules are heart shaped to ovate with two, reddish brown seeds separated by a constriction.
- Spreads by seeds and long horizontal roots that produce up to 400 new shoots.

## HABITAT

Establish rapidly in moist sites. Open sunny fields, pastures, rangeland, and disturbed sites on many soil types.

## IMPACTS

Decreases rangeland health. It damages wildlife habitat by crowding out beneficial plant species. Mildly toxic to livestock.

## MANAGEMENT

- **Manual/Mechanical Control:** Hand pull small infestations. Mowing followed by an herbicide application on regrowth.
- **Chemical Control:** Herbicide can be used.



# Yellow Flag Iris | *Iris pseudacorus*

## DESCRIPTION

- Perennial, in the Iris family, that grows 3-5 feet tall. Large plant clumps are formed from lateral growth of rhizomes.
- Leaves overlap one another at the base and are long, flattened and sword-like.
- Multiple yellow flowers are produced per stalk April-August.
- The fruit capsules are large, 3-angled and up to 4 in. long with ¼ inch disk-like, corky seeds.

## HABITAT

Riparian areas, open water, and irrigation ditches; prefers silty, sandy or rocky soils.

## IMPACTS

Displaces native vegetation riparian vegetation used by waterfowl and fish. Severely restricts water flow in streams. All parts of the plant may be moderately to severely poisonous to livestock. Contact with its resins can cause skin irritation in humans.

## MANAGEMENT

- **Manual Control:** Pulling or digging the entire plant. Requires heavy tools to remove rhizomes. Care should be used to protect the skin from resins that can cause irritation. Follow up for new plants.
- **Cultural Control:** Don't burn, as seeds germinate and grow well after being burned. Also readily resprouts from rhizomes after burning.
- **Chemical Control:** Herbicide can be used but caution must be used around water.



# Yellow Starthistle | *Centaurea solstitialis*

## DESCRIPTION

- Herbaceous winter annual, of the Aster family, growing 1.5-3 feet tall
- Stems rigid, covered with thin white hairs, winged, and many branched.
- Basal leaves are deeply lobed and dull green. Alternate stem leaves, developing in spring, are up to 4 inches long, both are covered in woolly hairs
- Flowers are yellow with long, yellowish sharp spines in a star like pattern. Have two types of seeds, outer seeds, dark brown without bristles and inner seeds, glossy, white or light brown with white bristles on one end.



## HABITAT

Rangeland, pastures, CRP, abandoned cropland, roadsides, & disturbed areas

## IMPACTS

Displaces native plants, decreases domestic and wildlife forage and plant diversity. Yellow starthistle may deplete soil moisture in grasslands, reduce land value and recreational opportunities. This plant is poisonous to livestock.



## MANAGEMENT

- **Manual/Mechanical Control:** Hand pulling, with gloves, is effective on small infestations. Mowing is only effective if timed correctly.
- **Biological Control:** Bud weevil (*Bangasternus orientalis*), Hairy weevil (*Eustenopus villosus*), flower weevil (*Larinus curtus*), peacock fly larvae (*Chaetorellia australis* and *Chaetorellia succinea*) and Gall-fly, (*Urophora sirunaseva*). They all attack the flower/seed head and directly or indirectly reduce seed production
- **Chemical Control:** Herbicide can be used on actively growing plants before flowering.



# Cheatgrass | *Bromus tectorum*

## DESCRIPTION

- Also known as downy brome, a winter annual, but will germinate in the spring, in the Grass family, about 1 foot tall, but ranges from 6 to 19 inches
- Leaves emerge dark green with a hint of purple.
- Blooms from May to June. Flower spikes drooping to one side, with long, 3/8 to 5/8 inch awns. All parts of the plant are covered by soft hairs.
- Seed heads often dry to light brown or reddish color. Seeds are covered with bristles and stick to fur, feathers and clothing. Seeds are viable for 11 years.
- Primary roots, about 8 inches long, lateral roots are much longer



## HABITAT

Arid to semi-arid, 6-20 inch rainfall areas, almost any soil, native grasslands, cropland, rangeland, pastures and degraded land.



## IMPACTS

Reduces soil moisture in crops. Crowds out native plants, generates massive fuels, causing extreme wildfire hazards.

## MANAGEMENT

- **Manual/Mechanical Control:** Hand pull small patches. Mowing and disking before it produces seed.
- **Cultural Control:** Once cheatgrass has been removed, plant the area with competitive desirable species.
- **Chemical Control:** Herbicide can be used.





# Jointed Goatgrass | *Aegilops cylindrica*

## DESCRIPTION

- Winter annual, in the Grass family, vegetatively similar to wheat in the seedling stage. Plants have upright, hollow stems that branch at the base, growing to 2.5 feet tall.
- It has a narrow, non-spreading spike of flowers with the appearance of a series of joints being stacked upon top of each other. Each joint has 2 to 6 small flowers.
- Leaves are deep blue-green, alternately arranged with long hairs on margins and sheaths. Leaf blades are flat and 1/8 to 1/4 inch wide.
- Seed heads are cylindrical and narrow with 5-10 joints that break apart to spread seed during the summer months.

## HABITAT

Grows well in 10-20 inch annual rainfall areas. Found mostly in wheat fields, but it survives along roadsides, rangeland, waste areas, alfalfa fields, and pastures. It is found in most of the wheat producing areas of the Pacific Northwest.

## IMPACTS

A serious weed in winter wheat and other cereal crops. Reduces wheat yield and quality.

## MANAGEMENT

- **Cultural Control:** Crop rotations with non-grass species, planting spring crops.
- **Chemical Control:** Selected hybrid wheat varieties and a selective chemical have been successful.



# Medusahead | *Taeniatherum caput-medusae*

## DESCRIPTION

- Winter annual, in the Grass family, growing 6-24 inches tall with very few leaves.
- Florets have long, 1-4 inch, awns that can twist when mature. Leaves are narrow 1/8 inch and rolled.
- Flowers are in spikes with two spikelets per node and two florets per spikelet.
- Flowers early in the spring and has viable seeds in June-July.
- The spikes do not break apart as they mature and instead the florets fall away leaving long bracts (glumes). The spikelets are barbed and catch on clothing or animal fur, further spreading the seeds.



## HABITAT

Sagebrush steppe, grasslands, rangeland and disturbed sites.

## IMPACTS

Out-competes native and rangeland plants. Diminishes wildlife habitat. Creates fuel for wildfires. Changes the ecology of rangelands. Not palatable to livestock.



## MANAGEMENT

- **Mechanical Control:** Susceptible to tillage prior to flowering.
- **Cultural Control:** Burning consumes standing vegetation and reduces seed levels. Avoid inadvertent seed dispersal. Livestock should not be moved from infested pastures to fields free of medusahead.
- **Chemical Control:** Herbicide can be used



# Rattail Fescue | *Vulpia myuros*

## DESCRIPTION

- Cool season, winter annual, in the Grass family, up to 18 inches tall, germinates in fall and completes growth in the spring-summer.
- Seed heads are in a slender panicle up to 8 inches in length. Seeds have 5/16 to 3/8 inch awns
- Narrow leaf blades up to 6 inches long are folded and hairless.
- Shallow fibrous root system.

## HABITAT

Sagebrush steppe to grasslands. It shows a preference for disturbed sites in range conditions.



## IMPACTS

Reduces winter wheat yield. Considered a poor forage grass and replaces desirable forages.

## MANAGEMENT

- **Cultural Control:** Heavy livestock grazing in early spring and fall.
- **Manual/Mechanical Control:** Pulling, mowing, disking and deep cultivation will limit growth.
- **Chemical Control:** Herbicide can be used



# Ravenna Grass | *Saccharum ravennae*

## DESCRIPTION

- A large, nonnative, perennial, ornamental grass forms clumps of basal leaves called tussocks.
- Flowering stems are erect and up to 13 feet tall. Leaves occur on stems up to the base of the inflorescences. Stems can be reddish. The inflorescences are slender and silvery in color.
- Its basal leaves are long and narrow. Blades covered with long, fuzzy tawny hair.
- Has tiny seeds that are dispersed by wind and water.



## HABITAT

The plant grows in moist places such as ditches, marshes, wetlands, and riparian areas.

## IMPACTS

Invades along roadsides, disturbed edge habitats, fields, and other open sites.

## MANAGEMENT

- **Manual Control:** Plant can be pulled or dug; it is important to remove the roots to prevent resprouting.
- **Cultural Control:** Planting or seeding desirable, non-invasive plants can provide competition to reduce germination and seedling establishment.
- **Chemical Control:** Herbicides can be effective.





# Smooth Brome | *Bromus inermis*

## DESCRIPTION

- Perennial cool season grass, 2-3 feet high, hairless erect stem.
- Leaf is conspicuous “M”- or “W”-shaped constriction, blade is about 1/4” wide.
- Open flower panicle, blooming in June and July.
- Reproduces vegetatively through horizontal rhizomes.



## HABITAT

Grows in open areas such as grasslands, roadsides, riverbanks and forest edges.

## IMPACTS

Smooth brome has been widely planted as a forage and in CRP and has escaped to native grasslands.



## MANAGEMENT

- **Mechanical Control:** A single, well-timed, low mowing early in the spring may be an effective control. Repeated mowing will deplete the rhizome system.
- **Chemical Control:** Herbicide can be used.



# Tall Oatgrass | *Arrhenatherum elatius*

## DESCRIPTION

- Perennial, cool-season, loosely tufted, in the Grass family.
- Culms are erect, from 3 to 5 feet tall.
- Leaf blades, from 3/8 to 3/4 inches wide, are flat and rough to the touch.
- Fibrous root system with bulbous fragments.
- Seed heads are narrow panicles 6 to 10 inches long with long, twisted, angled, exposed lawns.



## HABITAT

Meadows, fields, open ground, waste places, and roadsides

## IMPACTS

Changes the native grass and forb composition by replacing desirable species.



## MANAGEMENT

- **Cultural/Mechanical Control:** Late spring prescribed burns will decrease stands as well as mowing, neither have shown great success.
- **Chemical Control:** Herbicide can be used



# Ventenata | *Ventenata dubia*

## DESCRIPTION

- Winter annual grass, in the Grass family, that germinates in the late fall and produces seed heads June-August.
- Grows to 6–18 inches tall and is shallowly rooted.
- Early Season (May–June) the plant is bright green. Nodes are dark red or black. Ligules are membranous and less than 1 inch.
- Late Season (June–August) plants are silvery-green and then turn tan. Stem are wiry and hollow with few leaves. Awns are bent when dry.
- Inflorescences are in open panicles up to 8 in long. Spikelets have 2-3 florets.
- Leaf blades are pubescent.



## HABITAT

Roadsides, hay, pasture, range and CRP fields. South facing hillsides with shallow, rocky or clay/clay-loam soils.



## IMPACTS

Highly invasive in alfalfa, winter wheat, pasture and rangeland.

## MANAGEMENT

- **Chemical Control:** Herbicide can be used



# Dog Rose | *Rosa canina*

## DESCRIPTION

- A perennial shrub grows up to 9 feet tall; and has multiple stout, thorny downward arching stems.
- Leaves are alternate and pinnately divided into 5 to 7 leaflets; both sides of the leaves are smooth.
- Flowers are solitary or in small clusters at the ends of branches, have five white to pink petals and bloom in June to July.
- Fruit are small rose hips that ripen from September to October.



## HABITAT

Plant is adapted to low elevations; along roadsides, in pastures, and natural areas.

## IMPACTS

Areas can become dominated by the plant, resulting in a decline in native plant species and other desirable vegetation. Impedes the movement of livestock, wildlife and vehicles.



## MANAGEMENT

- **Mechanical / Manual Control:** Frequent pulling or cutting can be effective.
- **Chemical Control:** Various herbicides are available for use.





# False Indigo Bush | *Amorpha fruticosa*

## DESCRIPTION

- A deciduous shrub, in the Pea family, growing up to 12 feet high and forming thickets.
- The leaves are gland dotted and hairy, with smooth margins and are made up of 13 to 25 leaflets
- The petaled flowers are purplish blue in dense upright clusters. Flowers in June.
- The fruits are pea-like pods short and glandular containing 1-2 seed pods.
- A nitrogen fixing legume.

## HABITAT

Commonly found along riparian areas

## IMPACTS

Grows densely and almost eliminates other plants in the stand. Limits recreational uses along waterways. Negatively impacting willow dependent wildlife.

## MANAGEMENT

- **Mechanical/Cultural Control:** Has limited success, cutting plants may result in resprouting stems.
- **Chemical Control:** Various herbicides are available for use



# Himalayan Blackberry | *Rubus bifrons*

## DESCRIPTION

- A large, vigorous, thicket-forming woody shrub, in the Rose family, with sharp spines covering the stems
- Small, white to pinkish flowers with five petals produce fruits in late summer.
- Main stem leaves, toothed and usually in groups of 5 leaflets. Trailing stems usually have leaflets in groups of three.
- Up to 15 feet tall; canes to 40 feet long. Canes root at the tips, creating daughter plants.
- Main plants have large, deep, woody root balls that sprout at nodes.



## HABITAT

Grows in pastures, forest areas, degraded riparian areas, and seeps.

## IMPACTS

Out-competes native vegetation and prevent the establishment of native plants. Dense, impenetrable blackberry thickets can block access of larger wildlife to water and other resources.



## MANAGEMENT

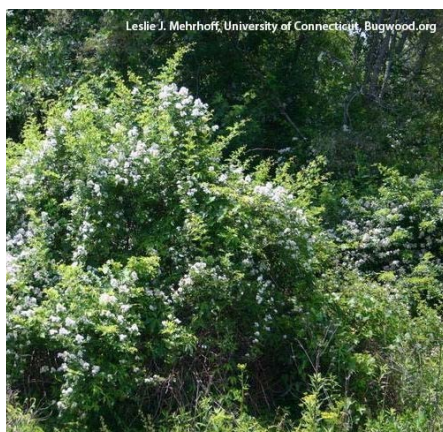
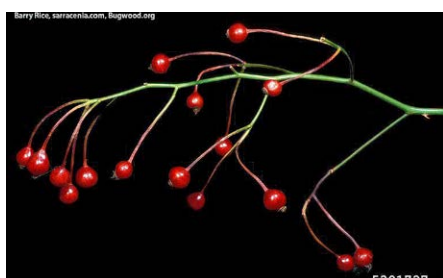
- **Mechanical/Cultural Control:** Digging, mowing, and/or livestock grazing. Cutting followed by digging up roots is much more effective than cutting alone
- **Chemical Control:** Various herbicides are available for use



# Multiflora Rose | *Rosa multiflora*

## DESCRIPTION

- A multistemmed, thorny, perennial shrub that grows 6-10 feet tall.
- Leaves are pinnately compound, have between five and nine leaflets and a fringed base, or stipule, where it connects to the stem.
- Leaflets are 1-2 inches long, football shaped and toothed, or serrated, along the edges. Leaflets and stems are green, but new growth and the stipules can be spotted with red.
- Small, white to pinkish, 5-petaled flowers bloom from May to June.
- Fruit are small red rose hips that remain intact throughout the fall and winter.



## HABITAT

The plant thrives in poor growing sites often found in abandoned fields, hedgerows, forest edges, and roadsides.

## IMPACTS

It forms impenetrable thickets in pastures, fields, and forest edges.

## MANAGEMENT

- **Mechanical / Manual Control:** Frequent pulling or cutting can be effective.
- **Chemical Control:** Various herbicides are available for use.





# Sweetbriar Rose | *Rosa rubiginosa*

## DESCRIPTION

- A perennial shrub grows up to 10 feet tall; multiple stout, thorny downward arching stems.
- Leaves are alternate and pinnately divided into 5 to 7 leaflets; underside of leaves are hairy.
- Flowers are solitary or in small clusters at the ends of branches, have five pale to dark pink petals and bloom in June to July.
- Fruit are small rose hips that ripen from September to October.

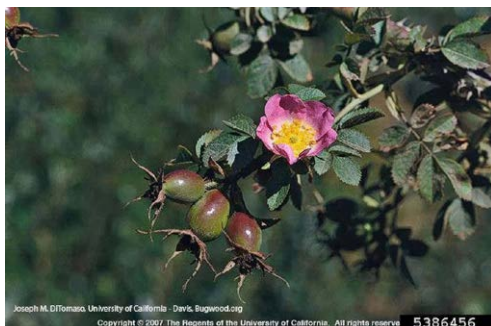


## HABITAT

Adapted to various habitat types; along roadsides, in pastures, and natural areas.

## IMPACTS

Areas can become dominated by the plant, resulting in a decline in native plant species and other desirable vegetation. Impedes the movement of livestock, wildlife and vehicles.



## MANAGEMENT

- **Mechanical / Manual Control:** Frequent pulling or cutting can be effective.
- **Chemical Control:** Various herbicides are available for use.





# Tree of Heaven | *Ailanthus altissima*

## DESCRIPTION

- A rapidly growing deciduous tree, in the Quassia family, with smooth grey bark, growing up to 80 feet tall and 3 feet in diameter.
- Leaves are compound, ranging from 1-4 feet long with up to 30 leaflets. Each leaflet has glandular notches at the base
- Female trees have clusters of winged papery samaras in June that persist into winter.
- The tree has an unpleasant odor.
- New shoots sprout from the roots of adult trees.

## HABITAT

Adapted to a wide variety of soil conditions, including rocky areas, fields, residential areas and forest openings. Grows well in adverse conditions.

## IMPACTS

Forms dense thickets that cause damage to sewers and other structures. A vigorous growing tree and prolific seeder that establishes dense stands that replace natives. Has strong allelopathic effects on other plants. Seeds and bark can cause allergic reactions.

## MANAGEMENT

- **Mechanical Control:** Cut larger top growth to ground level in spring or early summer; follow up treatment cutting new shoots as they appear.
- **Chemical Control:** Various herbicides are available for use. Methods include foliar application, basal bark spray, cut-stump; injection, application of herbicide to cut areas.



# Russian Olive | *Elaeagnus angustifolia*

## DESCRIPTION

- Large deciduous shrub or small tree, in the Oleaster family, up to 25' tall. Dark smooth or sometime shredded looking bark. Twigs are thorn tipped with silvery scales.
- Alternate, distinctive silver-gray lance shaped leaves.
- Yellow fragrant flowers are borne either individually or in small clusters in the leaf axils, blooming in late spring.
- Dry, olive-like, hard; seeds remain viable in the soil for three years.
- Roots can grow as deep as 40 feet and is capable of fixing nitrogen in the soil.



## HABITAT

Prefers areas where the water table is near the surface, such as riparian area. Roadsides, sub-irrigated pastures and grasslands. Prefers full sun. Very adaptable to infertile, dry and sandy soils.

## IMPACTS

Infestations threaten native vegetation and wildlife habitat in riparian and grasslands. Degrades wetlands and irrigated agricultural areas.

## MANAGEMENT

- **Manual Control:** Hand pulling/digging can remove most effectively.
- **Chemical/Mechanical Control:** Various herbicides are available for use. Cut- stump or basal bark spray treatment.



# GLOSSARY

**ACHENE:** small dry 1-seeded fruit

**ALTERNATE:** leaves that grow singly along a stem

**ANNUAL:** a plant that completes its lifecycle in one year

**ADVENTITIOUS BUD:** the bud occurring elsewhere on the plant (such as on trunks, roots, or leaves)

**ALLELOPATHY:** a biological phenomenon by which an organism produces one or more biochemicals that influence the growth, survival, and reproduction of other organisms

**AWN:** slender bristle, usually associated with the seed heads of grasses

**AXIL:** the point where a leaf attaches to the stem

**BASAL:** positioned at or arising from the base

**BIENNIAL:** a plant that completes its lifecycle in two years

**BRACT:** a small, leaf like structure found at the base of a flower

**BUD:** an undeveloped shoot or flower

**CALYX:** the sepals of a flower, typically forming a whorl that encloses the petals and forms a protective layer around a flower in bud.

**CAPSULE:** a dry mature fruit of 2 or more chambers usually containing many seeds

**COMPOUND:** a leaf composed of two or more leaflets

**DECIDUOUS:** woody plants that shed their leaves before the winter or dry season

**DISK FLOWER:** a regular flower of the composite family (compare ray flower)

**FLORET:** an individual flower within a dense cluster, as a grass flower

# GLOSSARY

**FORB:** herbaceous flowering plant that isn't a grass

**HERBACEOUS:** non-woody plant with stems dying back at the end of the growing season

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

**LIGULE:** a thin membranous or hair-like appendage at the leaf collar

**LOBED:** a leaf edge that cuts deeply toward the base or midvein

**NUTLET:** small nut; one section of larger fruit

**OBLANCEOLATE:** having a rounded tip and tapering at base

**OPPOSITE:** a pair of leaves that grow from the same node, directly across from each other

**OVATE:** egg shaped

**PALMATE:** a leaf whose lobes spread like fingers from the palm

**PANICLE:** any loose, diversely branching flower cluster

**PERENNIAL:** a plant that lives for more than 2 years

**PINNATELY:** a compound leaf with leaflets arranged on opposite sides of a common stalk

**PLUME:** a light hairy or feathery appendage on a fruit or seed serving in wind dispersal

**PUBESCENT:** covered with hairs

**RHIZOME:** a creeping underground stem

**ROSETTE:** a circular cluster of leaves

**SEPAL:** the parts of the calyx of a flower, enclosing the petals and typically green and leaf like.



# GLOSSARY

**SESSILE:** lack of leafstalk

**SAMARA:** a dry enclosed winged fruit

**SPIKE:** the seed head of a grass where the flowers or seeds are attached directly to a central long unbranched stalk

**TAPROOT:** an enlarged, vertical main root

**TUBEROUS:** bearing tuber (like a potato)

**UMBEL:** flat or rounded flower cluster in which stalks radiate from same point, like an umbrella

**VEGETATIVE:** pertaining to the non-floral parts of the plant

**WHORLED:** three or more leaves arranged in a circle at a node

