



PEACE RIVER REGIONAL DISTRICT

# Invasive Plants

A pocket guide to invasive plants  
in the Peace River Regional District



# PULL. BAG. TOSS.

**PULL** plants up by hand to prevent seeds from reaching the ground.

**BAG** the pulled plants into clear bags flowers first. Tie up the bag.

**TOSS** the bags into one of the three PRRD landfills (Bessborough, Chetwynd, North Peace) and select transfer stations for FREE.



## REPORT AN INVASIVE

### Report to the Province of BC:

Download the free app by searching Report Invasives wherever you get your apps

### Report using the Provincial form:

Scan the QR code to access the Provincial reporting form via the PRRD's website



### Report to the PRRD:

Call: 1-800-670-7773

Email: [environmental.services@prrd.bc.ca](mailto:environmental.services@prrd.bc.ca)








This Invasive Plant Species profile is provided by the Peace River Regional District (PRRD) to assist residents with the identification and management of invasive species found in our region.






For questions or further assistance please contact the PRRD Invasive Plant Team at 250-784-3200 or [environmental.services@prrd.bc.ca](mailto:environmental.services@prrd.bc.ca)

For tips on growing PlantWise options in your garden, visit the Invasive Species Council of British Columbia at [bcinvasives.ca](http://bcinvasives.ca)










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Federally Listed Noxious Weeds











Provincially Listed Noxious Weeds














Regionally Listed Noxious Weeds

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-  Federally Listed Noxious Weeds
-  Provincially Listed Noxious Weeds
-  Regionally Listed Noxious Weeds

# Regional Early Detection Rapid Response

(REDRR)

REDRR species are new to the area and pose a significant threat. The plants include new introductions and potential high risk species that may not yet be present. The management objective is eradication.

Chicory





# Baby's Breath

(*Gypsophila paniculata*)

This herbaceous **perennial** has delicate white/pink flowers and bushy stalks. Seeds will continue to develop in floral arrangements.



## ⚠ Major Threat

Baby's breath mixed with hay will reduce the protein value of the crop for both livestock and wildlife.

## 🚫 Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Restore degraded areas with a diverse mixture of plant species.
- Purchase "PlantWise" garden ornamentals.
- Chemical use is most effective in the spring.
- Plants may be dug up as long as the **caudex** is severed.

## ✅ Important Tip

Baby's breath is in most flower arrangements and proper disposal of these plants is necessary to prevent their establishment in the environment.

## ✳ Grow Me Instead

Pearly everlasting is a BC native plant. The "everlasting" white flowers are used in both fresh and dried flower arrangements. It is self-seeding and attracts both butterflies and other insects. Yarrow species such as hybrid yarrow or fernleaf yarrow are great native alternatives for flower gardens.

# Bighead knapweed

*(Centaurea macrocephala)*

This is a long-lived **perennial** with solitary yellow flowers. The rounded head of the plant is covered in layers of **phyllaries** with fringed tips or spines. Leaves can vary in shape and size; those near the base have oval blades and those higher on the stem have short, narrow blades.



## ⚠ Major Threat

Do not grow Bighead knapweed as a garden plant or use in flower arrangements. Seeds can attach to animal fur and many infestations happen due to garden escapes.

## 🚫 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Small patches of Bighead knapweed can be hand-pulled if the entire root system is removed.
- Cultivating infested areas is a good control as long as it is cut below the root crown.
- Chemical application is best applied when the plant is in its rosette stage, before seed sets.
- Intensive grazing is an option to consider if established in a pasture.

## ✅ Important Tip

Mowing Bighead knapweed will help stop the spread of seeds. The plant will continue to regrow without other controls.

# Black Henbane

(*Hyoscyamus niger*)

This plant is an **annual** or **biennial** plant that produces as many as 500,000 seeds per plant per season. Greasy hairs cover the entire plant. Stems are upright, thick, almost woody, and can grow up to 1 m tall. Leaves have a heavy, foul scent and grow alternatively with shallow **lobes** and conspicuous **veins**. Flowers are borne on spikes and are pale yellow with deep purple **veins** and **throats**.



## ⚠ Major Threat

All parts of this plant are poisonous to humans and animals when ingested and dried plants will retain their toxic properties in forage. Gloves and protective clothing should be worn when hand-pulling this plant.

## 🖐 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Purchase 'PlantWise' garden ornamentals.
- Mowing, while difficult due to the thickness of the plant, is effective.
- Hand-pulling is effective; gloves and protective clothing should be worn.

## ✅ Important Tip

Black henbane is not a strong competitor. Maintain healthy pastures to prevent establishment of unwanted invaders.

# Blueweed

(*Echium vulgare*)

This plant grows 30 to 80 cm in height. Bright blue flowers are found on the upper side of short, rough stems with hairs that often have swollen dark bases that form noticeable **flecks**. Leaves get smaller as they approach the top.



## ⚠ Major Threat

New **germinates** can produce all season long so intense management and treatment of this plant is very important. Rough seeds can stick to clothing, hair, and feathers.

## 🖐 Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Combine cultural, mechanical, and chemical treatments.
- Hand-pulling is effective with removal of the entire taproot.


## ✅ Important Tip

Stems are painful to the touch so gloves and protective clothing should be worn when hand-pulling this plant.

## ✳ Grow Me Instead

Large-leaved lupine as well as larkspur are both native, zone 3, plants that have the same appearance as blueweed. Caution, both of these plants have toxic properties to both humans and livestock and should not be consumed.

# Bohemian Knotweed

(*Fallopia x bohemica*) 

One of 4 varieties of invasive knotweeds found within BC, plants grow up to 3 m tall with stout, **cane**-like, hollow stems that are reddish-brown. Leaves are either spade or heart-shaped. Bohemian leaves are thicker and rougher than giant knotweed and less so than Japanese knotweed. A key identifying feature is the short, broad-based hairs on the leaf undersides, especially along the mid **vein**.



## Major Threat

Knotweed species have very strong root systems that can grow through concrete, damage infrastructure, and drastically affect banks of **riparian** areas.

## Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Purchase “PlantWise” garden ornamentals.
- Combination of mowing, cutting, and herbicide application should be used multiple times each year and through subsequent years until eradicated.
- Grazing may be an effective strategy to prevent establishment.

## Important Tip

The entire root system must be removed since re-sprouting can occur from **rhizomes**. Remove all plant parts from the area to allow native vegetation to compete and assist with early detection of re-growth of **canes**.

## Grow Me Instead

Goat’s beard (*Aruncus diocius*) is a zone 3, BC native **herbaceous perennial** with broad, fern-like leaves, stiff upright stems and tiny white flowers held up on multi-branched arching clusters at the tops of the up to 2 m tall plant.

# Brown Knapweed

(*Centaurea jacea*)

This plant is an **annual** with a **perennial biotype** that can reach up to 150 cm in height. **Basal** leaves are up to 15 cm long, tapering at both ends with the broadest part above the middle of the leaf. Stem leaves are lance-shaped, shallowly-**lobed**, and stalkless. Flowers are rose purple and at the ends of the upper branches. The **bracts** are light to dark brown, with a papery, translucent **margin**.



## ⚠ Major Threat

**Germination** happens all season because it is triggered by temperature.

## 🖐 Prevention and Management

- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Purchase "PlantWise" garden ornamentals.
- Hand-pull when the ground is wet to allow for removal of the entire root.
- Mowing will reduce the number of flowers and seeds.
- Early season herbicide applications are most effective.
- Grazing is an option to assist with infestation control.

## ✅ Important Tip

Early season treatment allows for smaller roots to be dug and more easily killed with herbicides as plants are growing and more susceptible.

# Cheat Grass

(*Bromus tectorum*)

This **annual** grass has a fine, feathery appearance with slender light green stems drooping at the tips where the seeds form. Each **spikelet** has 5 to 8 **florets** and forms 1 to 2 or even up to 20 **tillers**. Leaf blades twist and are **glabrous** to **hispid** with soft, short hairs on the leaf sheaths. Cheat grass grows as tall as 75 cm, turns purple, then brown as it matures and dries.



## ⚠ Major Threat

Cheat grass rapidly invades tame pastures, native rangelands, forestry openings, and **riparian** areas.

## 👤 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Prescribed burning is effective when used in combination with other control methods.
- Grazing can be used when plants are green and before seed production.
- Repeated **disking** or tillage may be effective if seeds are buried 4 to 6 inches deep.

## ✅ Important Tip

Cheat grass reproduces entirely from seed so control strategies need to focus on preventing seed production and depleting seed bank reserves. Fall is the preferred season to apply herbicide.

# Chicory

(*Cichorium intybus*)

Chicory grows up to 2 m in height and has clusters of 1 to 4 velvety blue, dandelion-like flowers typically with 17 **rays**, each with 5 small teeth. The flowers are widely spaced along naked branches. Leaves are rough, **basal**, lance-shaped, and 8-25 cm wide.



## ⚠ Major Threat

Chicory can be easily confused with Aster conspicuous (showy aster). Chicory flowers are entirely blue whereas showy aster flowers have a yellow centre.

## 🖐 Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Mowing and cutting plants prior to seed is effective.
- Small infestations can be easily removed with manual efforts.
- Herbicide treatment is most effective in the spring or early summer before seeds mature.

## ✅ Important Tip

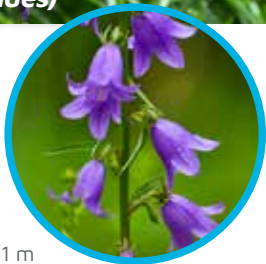
Livestock can eat chicory, however, it may cause dairy products to taste bitter.



# Creeping Bell Flower

(*Campunaula rapunculoides*)

Nodding light purple flowers, each with 5 united **sepals**, and 5 united petals, are borne in the **axils** of the upper leaves and occur mainly along one side of the stem. The erect stems are often purplish, can be hairy or smooth, and grow up to 1 m in height. Lower leaves are long-stalked and heart-shaped with coarsely toothed **margins**. Upper leaves are **sessile** and lance-shaped with some hairs on the lower surface.



## ⚠ Major Threat

Creeping bellflower is a **perennial** that spreads by seed, **propagules**, and **rhizomes** and can grow through concrete.

## 🖐 Prevention and Management

- Purchase "PlantWise" garden ornamentals.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Hand-pulling or cutting and bagging flower spikes pre-bloom prevents seed production.
- Digging up the plant and entire root system can be effective but may take a few years to completely eradicate.
- Herbicide treatment is best applied in the spring.

## ✅ Important Tip

Each plant can produce 3,000 or more seeds annually that are light brown with small wings, allowing the seeds to be easily spread by wind.

# Cypress Spurge

(*Euphorbia cyparissias*)

A low growing **perennial** weed that somewhat resembles a **coniferous** shrub. The young flowers are yellowish green and grow in clusters at the ends of stems. Stems are hairless and green to yellowish-green in colour. Plants can grow up to 80 cm high with narrow leaves that can be linear or lance-shaped.



## ⚠ Major Threat

Leaves and stems that break release a milky, toxic sap. Wear rubber gloves and eye protection when hand-pulling and handling to protect from the irritating sap.

## 🖐 Prevention and Management

- Purchase "PlantWise" garden ornamentals.
- A combination of mechanical hand-pulling and herbicide treatments is most effective in eradicating infestations.
- Herbicides are best applied in the spring and may need multiple applications to kill the entire root system.

## ✅ Important Tip

When hand-pulling, ensure the soil is moist so the entire root system is removed.

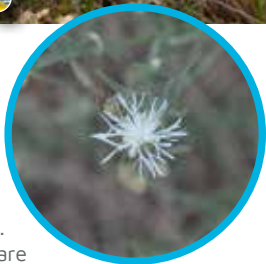
## ✳ Grow Me Instead

Yellow gem shrubby cinquefoil is a zone 2, BC native shrub with bright yellow flowers that are produced from spring until frost and can tolerate drought conditions once established.

# Diffuse Knapweed

(*Centaurea diffusa*)  

This plant is a **biennial** or a weak **perennial** that grows from a deep **taproot**. The upright stems have numerous spreading branches. Flowers are white, solitary, or in clusters of 2 or 3 at the ends of branches.



**Bracts** around the flower heads are yellowish green with a light brown **margin**, fringed in spines ending with a longer spine at the tip.

## Major Threat

With only its root still intact, diffuse knapweed can survive and continue to regrow.

## Prevention and Management

- Purchase weed-free hay, soil, seed mixes and gravel.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Cutting the plant will decrease seed production.
- Manual efforts can be made throughout the growing season to remove the **taproot**.
- Herbicides are best applied during the spring to target the **rosettes** and **bolting** plants.

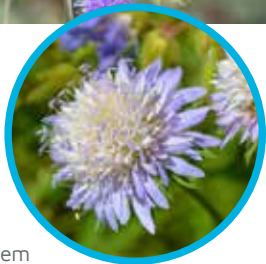
## Important Tip

Recently treated soils should be planted with native species to avoid reintroduction of invasive plants.

# Field Scabious

(*Knautia arvensis*)

A **perennial** that grows up to 1 m tall, field scabious flowers between July and September. Leaves form a **basal rosette** and are paired on the stem. The lowest leaves are around 30 cm long and spear shaped with smaller upper leaves. The stem has long, stiff hairs angled downwards with pinkish-purple flowers at the top.



## ⚠ Major Threat

Field scabious prefers grassy areas and dry soils. It avoids heavy soils, making pastures and hay land the optimal place for establishment. Seeds can also be transported by animal movement.

## 🖐 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- **Disking** and mowing before flower production is effective. Mow repeatedly throughout the growing season.
- Residual herbicides are best applied in spring.
- Grazing can be effective if plants are grazed prior to seed setting.

## ✅ Important Tip

The deep **taproot** is difficult to remove in anything except moist, loose soils. Hand-pulling often results in breaking the stem, causing the plant to re-sprout.

## ✳ Grow Me Instead

Nodding onion is a BC native plant that has nodding clusters of purple flowers, edible bulbs, and 30 cm of tall edible foliage. An easy **perennial** that self-seeds and tolerates some drought.

# Giant Knotweed

(*Polygonum sachalinense*) 

One of 4 varieties of invasive knotweeds found within BC. Giant knotweed is the largest with stems up to 5.2 m in height. The stems are smooth, hollow, light-green and sparingly branched. The leaves are 15 to 41 cm long with a deeply heart-shaped base and a blunt tip. Hairs on the leaf underside are long, thin, and wavy. The flowers are small, creamy/greenish white, and grow in short, branched clusters from leaf **axils** near the ends of the stems.



## Major Threat

Knotweed species have very strong root systems that can grow through concrete, damage infrastructure, and drastically affect banks of **riparian** areas.

## Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Purchase "PlantWise" garden ornamentals.
- Combination of mowing, cutting, and chemical application should be used multiple times each year and through subsequent years until eradicated.
- Grazing may be an effective strategy to prevent establishment.

## Important Tip

The entire root system must be removed since re-sprouting can occur from **rhizomes**. Remove all plant parts from the area to allow native vegetation to compete and assist with early detection of re-growth of **canes**.

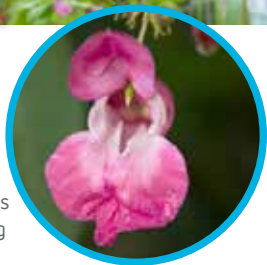
## Grow Me Instead

Black elderberry is a zone 3, BC native shrub that produces pyramid clusters of white flowers in early spring and then produces black berries that are attractive to many kinds of birds.

# Himalayan Balsam

(*Impatiens glandulifera*)

Also known as 'Policeman's Helmet', this **annual** has bright pink flowers and fleshy, hollow stems. Stems are green in the spring and turn red later in the season. Leaves and side branches grow along the stems in spiralling **whorls**.



## ! Major Threat

Controls will be ineffective if the source of seeds is not suppressed. Seeds remain viable for more than 1 year.

## 🖐️ Prevention and Management

- Purchase "PlantWise" garden ornamentals.
- Mowing or uprooting is the best control method as the plant has a relatively weak root system.
- Plants primarily spread through waterways so surveys of water courses both upstream and downstream of known infestations is important to ensure additional infestations do not exist.
- Grazing is an option for this plant prior to seed production.
- Herbicides are an option for control when infestations are found outside of water courses and wet areas.

## ✓ Important Tip

When touched, seed **capsules** open explosively and release seeds up to 7 m, allowing the plant to colonize new areas.

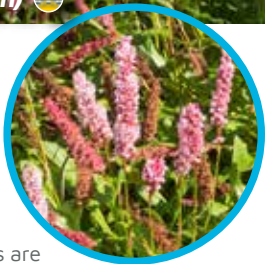
## \* Grow Me Instead

Red columbine is a zone 3 BC native with bright red flowers and ample nectar for hummingbirds, butterflies, and bees. Finches and other small birds love the seed heads.

# Himalayan Knotweed

(*Polygonum polystachyum*) 

One of 4 varieties of invasive knotweeds found within BC. It is not usually confused with other knotweeds. Plants grow up to 2 m tall and have long, slender, leathery, alternate leaves that are 13 to 30 cm long with sharply pointed tips. Flowers are showy, pinkish, and fragrant with clusters borne at the tips of the branches.



## Major Threat

Knotweed species have very strong root systems that can grow through concrete, damage infrastructure, and drastically affect banks of **riparian** areas.

## Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Purchase "PlantWise" garden ornamentals.
- Combination of mowing, cutting, and chemical application should be used multiple times each year and through subsequent years until eradicated.
- Grazing may be an effective strategy to prevent establishment.

## Important Tip

The entire root system must be removed since re-sprouting can occur from **rhizomes**. Remove all plant parts from the area to allow native vegetation to compete and assist with early detection of re-growth of **canes**.

## Grow Me Instead

Red-osier dogwood is a zone 2 BC native suckering shrub with flattened heads of white flowers. The stems are bright red when they are young.

# Hoary Alyssum

(*Berteroa incana*) 

This is an **annual** or short-lived **perennial** with a slender **taproot** and star-shaped hairs on the stems that grows up to 70 cm tall. The upper leaves are elliptical and lack stalks with the lower leaves having slender stalks. Flowers are clustered at the tops of stems, small, white, and deeply notched with hairy **sepals**.



## Major Threat

Hoary alyssum can cause fever, laminitis, limb edema, and potentially may result in death when ingested by horses.

## Prevention and Management

- Purchase weed-free hay, soil, seed mixes and gravel.
- Purchase "PlantWise" garden ornamentals.
- Hand-pulling is effective if the root crown and seed head is removed and can be done throughout the season.
- Repeated mowing to a minimum 6 " stubble height.
- Shallow tilling that severs the **taproot** below the root **crown** will kill the plants. Follow with herbicide application to prevent **germination** of the seed bank.
- Herbicide application is best with a residual product.

## Important Tip

One-time mowing may increase infestations by removing the competitors as well. Repeated mowing depletes the seed bank and keeps plants from going to seed.



# Hoary Cress

(*Cardaria draba*)

Deep-rooted **perennial** that grows up to 61 cm tall. It has both **basal** and stem leaves with soft white hairs. **Basal** leaves taper to a short stalk that attaches to the **crown** near the ground. Stem leaves are grayish to bluish-green, arrowhead-shaped, with smooth and occasionally finely toothed edges. It has white flowers with 4 petals, giving it a flat-topped appearance.



## ⚠ Major Threat

Each plant produces up to 4800 seeds and can spread up to 3.5 m<sup>2</sup> in one year thus making it a highly competitive plant in hay fields, rangeland, meadows, and roadsides.

## 🖐 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manage pastures to maintain healthy plant communities.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Mowing during bud stage and repeatedly when plants re-bud will help control the spread and reduce seed dispersal.
- Herbicide applications are most effective in the spring.
- Manual control is only feasible for small infestations as extensive digging is required to ensure root fragments are not left behind.

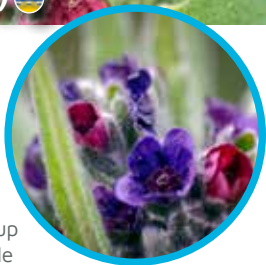
## ✓ Important Tip

Fire may enhance populations by setting back other vegetation as the plant rapidly re-sprouts. Keeping areas vegetated is important to ensure that this invader cannot establish.

# Hound's Tongue

(*Cynoglossum officinale*) 

This is a **biennial** to short-lived **perennial** which flowers from May through July. This soft, hairy plant forms a low growing **rosette** of leaves in its first year and then **bolts** in the second year to form a plant up to 1 m tall. The dull reddish-purple flowers originate on the upper part of the stem and produce 4 sticky **nutlets** each. These rounded, triangular-shaped, brown to grayish-brown seeds are covered with hooked prickles.



## Major Threat

**Burrs** captured on animals fur and clothing make this plant very easily spread.

## Prevention and Management

- Clean footwear, clothing, equipment, pets, and tires after recreating or working in infested areas.
- Hand-pull isolated plants and small patches removing, as much of the root as possible.
- Mowing and weed wacking greatly reduces seed production.
- Re-seed disturbed areas as soon as possible.
- Herbicides are effective when plants are in pre-bud stage.
- Biocontrol agents are available for this plant.

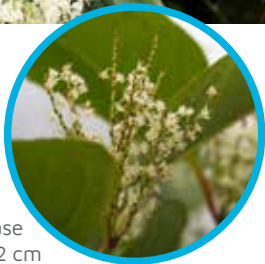
## Important Tip

Don't let hound's tongue go to seed!

# Japanese Knotweed

(*Fallopia japonica*) 

One of 4 varieties of invasive knotweeds found within BC. It has hollow stems with distinct raised **nodes** that give it the appearance of bamboo. The leaves are broad and oval-shaped with a **truncated** base that is 7 to 14 cm long and 5 to 12 cm wide with an entire **margin**. Flowers are small, cream/white, produced in erect **racemes** 6 to 15 cm long.



## Major Threat

Knotweed species have very strong root systems that can grow through concrete, damage infrastructure, and drastically affect banks of **riparian** areas.

## Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Purchase "PlantWise" garden ornamentals.
- Combination of mowing, cutting, and chemical application should be used multiple times each year and through subsequent years until eradicated.
- Excavations should be down to 3 m below the surface to remove Japanese knotweed from the site.

## Important Tip

The entire root system must be removed since re-sprouting can occur from **rhizomes**. Japanese knotweed can extend over 7 m below ground.

## Grow Me Instead

False solomon's seal is a zone 3, BC native **herbaceous perennial** that grows to 1 m in height. It has alternating broad leaves, conical heads of foamy white flowers that are followed by bright red berries.

# Leafy Spurge

(*Euphorbia esula*) 🇨🇦

A long-lived **perennial** that forms an extensive and persistent creeping root system that can grow up to 1 m tall. Stems, which are arranged in clumps, are smooth and hairless and contain a milky latex. The numerous leaves are attached alternately to the stem. They are around 7 cm long and are waxy, smooth edged, and bluish in colour, gradually turning reddish-orange in the late summer. The small, yellow-green flowers lack both petals and **sepals** and are supported by 2 green, heart-shaped, and leaf-like **bracts**.



## ⚠️ Major Threat

Leafy spurge is difficult to manage and can recover from almost any control effort.

## 🖐️ Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Re-seed disturbed areas as soon as they are identified.
- Manage pastures to maintain healthy plant communities.
- A multi-year management is required to control leafy spurge and infestations should be monitored.
- Herbicide application should be performed in the spring to early summer.

## ✅ Important Tip

All parts of the plant contain milky-coloured latex that can poison livestock and cause skin irritation on humans.

## ✳️ Grow Me Instead

Yellow gem shrubby cinquefoil is a zone 2, BC native shrub with bright yellow flowers that are produced from spring until frost. Tolerates drought once established.

# Marsh Plume Thistle

(*Cirsium palustre*)

This tall **biennial** or **perennial** thistle reaches up to 2 m in height and has strong stems covered in spines. This plant grows as a leaf **rosette**, bearing spiny leaves with dark purple edges in its first year. In subsequent years, this plant grows a tall, straight stem, the tip of which branches repeatedly with a **candelabra** of dark purple flowers with purple tipped **bracts**.



## ⚠ Major Threat

This plant reduces native species and threatens native diversity. Tall stems can lead to snow press and permanently damage tree seedlings in cutblocks.

## 🖐 Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Hand-pulling or cutting of buds prior to seeding will prevent seeds from spreading.
- Herbicide application is most effective at **rosette** stage or in early spring prior to plants bolting and producing seed.

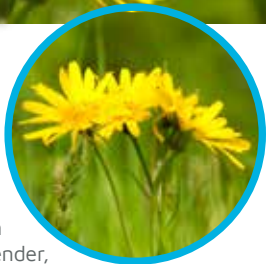
## ✅ Important Tip

This plant prefers moist to wet, naturally open, or disturbed habitats and it spreads via wind and water as well as ingestion and dispersal by birds.

# Meadow Goat's Beard

(*Tragopogon pratensis*)

This plant can be a **biennial**, **annual** or short-lived **perennial** that reproduces only by seed. The stalk immediately below the flower head is abruptly narrowed to normal stem thickness and is not hollow. Stem leaves taper quickly into long, slender, curled tips and often have crisped or wrinkled **margins**. Bright yellow flowers petals are surrounded by 8 green **involucral bracts** which are about as long as or shorter than the **florets**.



## ⚠ Major Threat

Meadow's goat beard looks similar to its cousin, western goat's beard (*Tragopogon dubius*), however, differences can be seen in the stem leaves, the stalk immediately following the flower head, and the **involucral bracts**.

## 🖐 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Herbicides are best applied in the pre-bloom stage throughout the season or with a residual herbicide for long-term control.
- Hand-pulling can be done at any time by removing the flower heads.

## ✅ Important Tip

Meadow goat's beard is typically found in pastures, meadows, and roadsides. It has a long season and can grow until September.

# Mountain Bluet

(*Centaurea montana*)

Also known as cornflower or bachelor's buttons, this **taprooted**, hairy **perennial** grows up to 80 cm tall. It has simple, lance-shaped leaves that have a lightly wooly underside. Flower heads are similar to knapweeds with blue **disk** flowers that bloom in late spring to early summer.



## ⚠ Major Threat

Plant spreads rapidly by seed so it is important to treat infestations before the plants bloom.

## 🖐 Prevention and Management

- Purchase "PlantWise" garden ornamentals.
- Hand-pull or dig plants when they are young and ensure the entire root system is removed.
- Herbicide application is best applied prior to blooming and residual products should be utilized.

## ✅ Important Tip

Mountain bluet can regenerate from root fragments so it is important to make sure the entire root system is removed when hand-pulling.

## ✳ Grow Me Instead

Wild bergamot is a zone 3, BC native aromatic **perennial**. Flowers are summer blooming with globular **terminal** heads of pink, hummingbird pollinated flowers. The stems and leaves are a source of oil and thyme.

# Nodding Thistle

(*Carduss nutans*) 

This is a **biennial** plant that overwinters in the **rosette** stage in its first year. Leaves are dark green, 30 to 60 cm long, coarsely **bi-pinnately lobed**, with a smooth, waxy surface and sharp yellow-brown spines at the tips of the lobes. The stem is cottony/hairy with spines and grows up to 1.5 m tall. Flowers are showy red-purple, and droop to a 90 to 120 degree angle when mature.



## Major Threat

A single flower can produce 1,200 seeds and a single plant up to 120,000 seeds, which are dispersed by wind.

## Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Hand-pulling or cutting of buds prior to seeding will prevent seeds from spreading.
- Herbicide application in the spring or in **rosette** stage is most effective.

## Important Tip

Severing the **taproot** just below the ground will kill the plants.



# Plumeless Thistle

(*Carduus acanthiodes*) 

Either a winter **annual** or a **biennial**, this plant starts off as a **rosette** with wavy leaves with yellow spines along the white leaf **margins**. The stems are covered with leaf-like, winged spines that extend up to the flowering heads. The flowers grow in clusters of 2 to 5 and are purple to dark red. Leaves blend into the stem and are alternate and stalkless with a hairy underside. This plant can grow taller than 1.5 m at full maturity.



## Major Threat

It is unknown how long seeds remain viable so recommended monitoring time is 10 years with repeated control methods.

## Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Hand-pulling or cutting of buds prior to seeding will prevent seeds from spreading.
- Dispose of the flowering cut plants into clear plastic bags as seeds can mature and become viable after being cut.
- Herbicide application in the spring or in **rosette** stage is most effective.

## Important Tip

Any mechanical or physical method that severs the root below the soil surface will kill the plant.

# Purple Loosetrife

(*Lythrum species*) 

This **herbaceous perennial** can grow up to 2 m tall forming clonal colonies of 1.5 m or more in width with numerous erect stems growing from a single woody root mass. The square stems are reddish-purple. Leaves are **lanceolate**, **downy**, **sessile**, and arranged opposite or in **whorls** of 3. The flowers are reddish-purple with 6 petals and are clustered tightly in the **axils** of **bracts** or leaves.



## Major Threat

The plant prefers moist, **riparian** areas and can drastically affect biodiversity in sensitive wetland areas.

## Prevention and Management

- Purchase "PlantWise" garden and pond ornamentals.
- Biocontrol agents are available for use within BC.
- Hand-pull or dig plants when they are young and ensure the entire root system is removed.
- Herbicide application is best applied in the spring and labels must be followed in wetland areas.

## Important Tip

This plant looks like fireweed at first glance and may require a closer look.

## Grow Me Instead

Blue hyssop is a zone 3, BC native, which has deep blue to lavender flowers on compact spikes atop stems that grow up to 1 m in height. Hummingbirds, bees, and butterflies love this plant and the strong licorice aroma discourages grazing.

# Queen Anne's Lace

(*Daucus carota*)

An invasive **biennial** herb, growing up to 2 feet tall, that is roughly hairy and has a stiff, solid stem. The triangular leaves are **tri-pinnate**, finely divided and lacy. Small, dull white flowers cluster at the tops of the stems in flat, dense **umbels**. It has a slender, woody **taproot** that is carrot-like in smell and taste.



## ⚠ Major Threat

This plant invades disturbed dry agriculture land, abandoned fields, waste locations, and road sides. It is a threat to recovering grasslands and can be persistent on clay soils.



## 🖐 Prevention and Management

- Contain garden herbs and plants in planters and monitor their escape.
- Purchase and grow non-invasive herbs.
- Purchase "PlantWise" garden ornamentals.
- Hand-pull or mow in mid to late summer before seeds set.

## ✅ Important Tip

Re-seed disturbed areas to prevent the introduction of unwanted invasive plants.

# Rush Skeletonweed

(*Chondrilla juncea*)  

This **perennial** has narrow, barely visible stem leaves that give it a “skeleton-like” appearance. Each **rosette** produces 1 single, milky fluid-filled stem with 1 to 5 small yellow flowers. The **florets** produce **achenes** 3 to 4 mm long and with numerous ribs.



## Major Threat

Reduces livestock and wildlife forage and stems can cause serious problems with harvest machinery.

## Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Hand-pulling or cutting of buds prior to seeding will prevent seeds from spreading in small populations.
- Repeated mowing when plants bolt will reduce seed production.
- Herbicides best applied in spring on **rosettes** to increase surface area for herbicide **translocation**, retention, and absorption.

## Important Tip

Plants can produce 20,000 parachute-like seeds that travel easily with wind, water, animals, and humans along dry grasslands. It also has horizontal roots that aid in reproduction.

# St. John's Wort

(*Hypericum perforatum*)

A **herbaceous, perennial** plant with creeping **rhizomes** that can grow up to 1 m tall. The narrow, oblong leaves grow oppositely, stalkless, and are yellow-green in colour with transparent dots throughout the tissue. The flowers grow in broad **cymes** at the end of the upper branches. Each flower has 5 petals, is 2.5 cm across and is bright yellow with black dots.



## ⚠ Major Threat

St. John's wort can cause photosensitization, central nervous system depression, and spontaneous abortion or death in horses, sheep, and cattle.

## 🖐 Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Purchase "PlantWise" garden ornamentals.
- Mechanical treatment can be used for smaller infestations.
- Herbicide applications prior to maturation of seeds and residual products should be used in the fall.

## ✅ Important Tip

Many traditional herbs have the ability to escape gardens. Monitoring of all herbs and garden plants should be conducted to ensure that plants do not escape to cause unacceptable impacts to the environment

# Sulphur Cinquefoil

(*Potentilla recta*)

This **perennial** plant has pale yellow flowers with 5 heart-shaped petals. The stems are upright with some branching near the top and grow up to 1 m tall. The stems and leaves have long, stiff hairs that stick straight out from the surface. The leaves are numerous on the stems, and have 5 to 7 **leaflets** with distinct toothed edges. The seeds have a net-like pattern.



## ⚠ Major Threat

Mowing is not effective and can stimulate **crown** sprouting and spread seeds.

## 🖐 Prevention and Management

- Purchase "PlantWise" garden ornamentals.
- Digging is effective for small populations with complete removal of the entire root.
- Herbicides are effective and may require multiple treatments and a suitable surfactant.

## ✅ Important Tip

This plant looks like graceful/slender cinquefoil (*Potentilla gracilis*) which is a BC native plant. The native plant has short hairs that lie flat on the stems and leaves, brighter yellow flowers, and a smooth seed coat.

# Tansy Ragwort

(*Senecio jacobea*) 

This is a **biennial** to short-lived **perennial**, which grows as a low **rosette** in the first year. It has dark green, irregular leaves that give it a ragged appearance. The bright yellow, daisy-like flowers bloom from July to September and can produce up to 150,000 seeds per year.



## Major Threat

Tansy ragwort produces a toxic **alkaloid** that can make crops unusable and can be toxic to livestock, with the exception of sheep that can graze on it as a control.

## Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manage pastures to maintain healthy plant communities.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Best controlled with multiple methods, including biological, physical, and chemical control methods.
- 5 different biological control agents are available for this plant including 2 moths, 2 beetles, and 1 fly.
- Hand-pulling can be done for smaller areas where the entire root system can be removed.

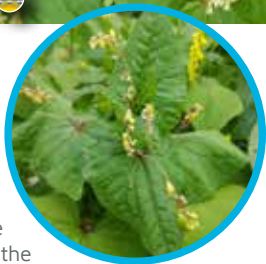
## Important Tip

One tansy ragwort plant can produce more than 150,000 seeds, which can lie dormant on the soil surface for 4-5 years or for over 20 years if buried.

# Tartary Buckwheat

(*Fagopyrum tataricum*) 

This **annual** grows up to 45 cm in height and spreads by seed. The arrow-shaped leaves are as broad as they are long and the lower leaves have longer stalks compared to the short-stalked upper leaves. Flowers are small, greenish, and clustered at the ends of the stems in leaf **axils**.



## Major Threat

Can contaminate grain and oilseed crops.

## Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Numerous herbicide options are available and are best applied before seed production.
- Manual efforts can be used on small infestations.
- Cut and bag flowering plants for deep burial.

## Important Tip

When seeding a new field with tartary buckwheat present, complete a light, spring tillage then allow the buckwheat seedlings to emerge, followed by a subsequent till. This will provide good control.



# Wild Chervil

(*Anthriscus sylvestris*)

This is an **herbaceous biennial** or short-lived **perennial** that grows up to 1.8 m tall. The hollow stems branch into **umbels** of small, white flowers. The **tri-pinnate** are triangular and softly hairy, as opposed to the **leaflets**, which are ovate and subdivided.



## ⚠ Major Threat

Wild chervil is a prolific seed producer and has thick **taproots** that spread aggressively, extending into the soil up to 2 m in depth.

## 🖐 Prevention and Management

- Manage pastures and areas to maintain a healthy composition of vegetation.
- Clean footwear, clothing, equipment, and tires after working or recreating in infested areas.
- Purchase weed-free hay, soil, seeds, and gravel.
- Purchase “PlantWise” garden ornamentals.
- Hand-pulling or digging can be conducted if all root fragments are removed.
- Repeated mowing before seed setting can prevent its spread.
- Cut and bag flowering plants for deep burial.

## ✅ Important Tip

Choose seed mixes carefully and watch for this as a listed ingredient as it has been found in BC wildflower mixes.

# Wild Parsnip

(*Pastinaca sativa*)

This **biennial** plant bolts in year 2, producing 1 or many stalks with yellow, flat-topped flowers. Wide leaves are made up of 5 to 15 **leaflets** and are arranged alternately with the **petioles** wrapping the stem.



## ⚠ Major Threat

This plant has chemical compounds that can increase skin sensitivity to sunlight and cause severe dermatitis. It is known to decrease weight gain and fertility in cattle.

## 🖐 Prevention and Management

- Manage pastures and areas to maintain a healthy composition of vegetation.
- Clean footwear, clothing, equipment, and tires after working or recreating in infested areas.
- Purchase weed-free hay, soil, seeds, and gravel.
- Cut and bag flowering plants for burial at a minimum of 1 meter deep.
- Herbicide is best applied in **rosette** stage or before the plants go to seed.

## ✅ Important Tip

Closely resembles Peace Region native plant cow parsnip.

# Wormwood

(*Artemisia absinthium*)

This **herbaceous perennial** has fibrous roots and grows up to 1.2 m tall. The stems are straight, grooved, and branched. Spirally arranged leaves are greenish grey above and white below and covered with silky silvery-white **trichomes**. The pale yellow, tubular flowers are clustered in spherical bent-down **capitula**, which are in turn clustered in leafy, branched **panicles**.



## ⚠ Major Threat

This plant invades over-grazed or disturbed areas where there is little competition from other plant species.

## 🖐 Prevention and Management

- Manage pastures and areas to maintain a healthy composition of vegetation.
- Clean footwear, clothing, equipment, and tires after working or recreating in infested areas.
- Purchase weed-free hay, soil, seeds, and gravel.
- Repeated mowing may prevent seed production.
- Herbicides can successfully control infestations if applied when the plant is approximately 1 foot in height.

## ✅ Important Tip

Pasture management should include proper grazing techniques that prevent overgrazing and disturbed areas.

# Yellow Archangel

(*Lamium galeobdolon*)

This plant has hairy oval-shaped, toothed leaves with silver-grey markings. Their flowers are small and yellow with orange and brown markings. Flowers transition into 4 **nutlets** containing one seed each.



## ! Major Threat

This plant has the potential to take over natural vegetation in forested areas, green belts, and riparian areas.

## 👋 Prevention and Management

- Contain garden plants in planters and monitor their escape, **DO NOT** compost.
- Purchase “PlantWise” garden ornamentals.
- Continual monitoring and hand-pulling of existing infestations will help to control the spread.

## ✓ Important Tip

Commonly found in hanging baskets and as a ground cover.

## \* Grow Me Instead

Bunchberry is a BC native plant found within our natural ecosystems as a groundcover. It spreads by underground stems and has very distinctive white, “dogwood” flowers composed of 4-pointed white **bracts**. The **whorls** of ribbed, dark green leaves are on low stems, with red berries forming above the leaves in the summer.

## A TIP FROM RESIDENTIAL WILLY:

Despite many plants being invasive species, they are available at garden centres? Be PlantWise when selecting ornamentals for your garden.



Category A:

# High Priority for Eradication and Containment

These invasive plants are highly competitive, have the ability to spread rapidly, and pose a significant threat to the Peace River's regional ecosystems.

**Yellow Hawkweed**



# Burdock

(*Arctium species*)



Burdock is a **biennial** with clusters of sticky **bracts** or **burrs** with purple-pink flowers on top. Flowers bloom between June and October. The **basal rosette** of large, wavy, heart-shaped, wooly undercoated leaves stays close to the ground in its first year of growth and then can grow up to 3 m tall in following years.



## ⚠ Major Threat

Burdock poses a major threat to farmyards, fence lines, roadsides, and stream banks. **Burrs** are easily attached to clothing, fur, wildlife and livestock, leading to plants spreading to new areas.

## 🚫 Prevention and Management

- Manage pastures and areas to maintain a healthy composition of vegetation.
- Clean footwear, clothing, equipment, and tires after working or recreating in infested areas.
- Purchase weed-free hay, soil, seeds, and gravel.
- Combination of cultural and chemical controls are advised.
- Plowing or **disking** as soon as seedlings appear will destroy them.
- Removal of the **taproot** will prevent regrowth.

## ✅ Important Tip

Treat burdock in the late summer to ensure late blooming plants cannot store the nutrients needed for winter survival.

# Comfrey

(*Symphytum species*)

Comfrey is a **perennial** that blooms throughout the summer and grows up to 1 m. Bristly hairs cover the **decurrent**, ovate leaves and stem.

**Racemes** of flowers are **scorpioid**, drooping, and can be creamy yellow or purple in colour.



## ⚠ Major Threat

The rough hairs on the comfrey plant cause itching when touched. It is recommended to wear gloves if hand-pulling. Comfrey is also toxic to livestock.

## 🖐 Prevention and Management

- Purchase and grow 'PlantWise' garden ornamentals.
- All of the root fragments must be removed.
- Mowing plants before they produce seeds can prevent spreading.
- Use herbicides in the spring to be most effective.

## ✓ Important Tip

Treating comfrey with herbicides is most effective in the spring as you can more easily get to the root system.

### A TIP FROM AGRICULTURE KYLE:

Even a small fragment of root can sprout a whole new plant, creating a toxic threat to livestock.



# Common Tansy

(*Tanacetum vulgare*)

This **herbaceous** plant has finely divided, **pinnately lobed**, compound, alternate leaves with saw-tooth edges and a fern-like appearance. It has yellow, button-like flowers that sit in **terminal** clusters at the top of stout, reddish, smooth stems and bloom from mid-to-late summer. The scent is similar to camphor with hints of rosemary.



## ⚠ Major Threat

Tansy leaves and flowers are toxic if consumed in large quantities. Their oil contains toxic compounds that can cause convulsions as well as liver and brain damage.

## 🚫 Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Fertilizer use can increase competitiveness of grasses and other desirable plants.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Mow before the plant goes to flower.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Chemical treatment is recommended before seed has developed.
- Hand-pull plants and remove the entire root and **crown**.

## ✅ Important Tip

When treating common tansy, be sure to use gloves and other protective clothing to prevent skin irritation.

## ✳ Grow Me Instead

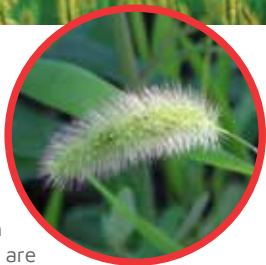
Flat-top goldentop is a zone 3 BC native, drought-tolerant **herbaceous perennial** that produces flat-topped clusters of fragrant yellow flowers from July to October.



# Green Foxtail

(*Sertaria viridis*)  

This is an **annual** invasive grass that has a fibrous root system and spreads by seed. Stems are smooth and hollow and grow up to 115 cm tall. The leaf **sheath** is smooth except for the **margins** which are lined with short, upward pointing hairs that are noticeable near the **collar**. **Awns** are covered in tiny, hair-like **barbs** that are either green or purple in colour. **Barbs** point upward, so the **panicle** feels soft and fuzzy when stroked toward the tip. The **panicle** is usually erect.



## Major Threat

Green Foxtail seeds grow over the entire summer.

## Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manage pastures to maintain healthy plant communities.
- Herbicides with residual are best applied in the fall.
- Plant crops in narrow rows and supply proper nutrients for desired plant use.

## Important Tip

Mowing before foxtail seeds spread is a cost effective way to control the growth of foxtail.

# Orange Hawkweed

(*Hieracium aurantiacum*)

Stems are erect, leafless, and covered with bristly hairs. Plants grow up to 90 cm tall and contain a milky sap. Leaves are mostly **basal**, elliptical, and covered with bristly hairs. Orange-red **ray** flowers are borne in clusters of 5-30 heads at the ends of stems, with square edged, notched petals.



## ⚠ Major Threat

Orange hawkweed can create mats of **rosettes** that choke out native plants in meadows, fields, pastures, and forested areas.

## 🚫 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manage pastures to maintain healthy plant communities.
- Purchase "PlantWise" garden ornamentals.
- Fertilizing small infestations can help reduce Orange Hawkweed by causing grass and other plants to be healthier.
- Cultivate infested pastures/fields and seed to an **annual** crop to allow for multiple herbicide treatments.

## ✅ Important Tip

All plant parts must be contained, removed from the infestation site, and disposed of to prevent its spread.

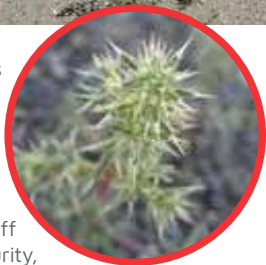
## ✳ Grow Me Instead

There are three zone 3, BC natives that are alternative options to plant in your garden. Alpine aster is a clustering **perennial** with violet **rays** and yellow centres. Heart-leaved arnica is a hairy **herbaceous perennial** with heart-shaped leaves and bright yellow, daisy-like flowers. Blanket flower is a **herbaceous perennial** with yellow-**ray** flowers and reddish-brown centres.

# Russian Thistle

(*Salsola kali*)  

This bushy **annual** has numerous reddish-purple stems and jagged leaves that resemble pine needles. Young plants are fleshy, dark green, narrow, and about 2.5 cm in length. As they age, leaves become short and stiff with sharp-pointed tips. At maturity, plants can reach up to 1.8 m tall. Once the plant dries, the base of the stem becomes brittle and breaks off, dispersing seeds as it tumbles in the wind.



## **Major Threat**

Pulling the plants at later stages may require wearing gloves for comfort due to the spike-like plant head.

## **Prevention and Management**

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Plants can be easily hand-pulled or hoed at early stages of their growth.
- Herbicides are most effective in the spring - early summer before any seeds are produced.

## **Important Tip**

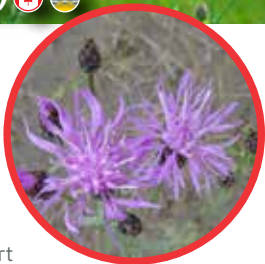
Often found in dry soils that lack competition. Re-seed disturbed areas quickly to prevent the establishment of unwanted invasive plants.

# Spotted Knapweed

(*Centaurea biebersteinii*)  

This is a **biennial** or short-lived **perennial**. Its name is derived from the spots formed by black **margins** on the flower **bract** tips. It typically forms a **basal rosette** in its first year and flowers in subsequent years.

**Rosette** leaves are borne on short stalks and have 1 or 2 deep **lobes** on both sides of the centre **vein**. The **taproot** is stout and deep. Flowering stems are erect, 20 cm to 1.3 m tall, branched above the middle, and sparsely to densely hairy. Unstalked leaves grow alternately along the stem and may be slightly **lobed**, or linear and **unlobed**. Flowers are purple, pink, or rarely white, with 25 to 35 flowers per head.



## Major Threat

Spotted knapweed seeds can remain viable in the soil up to 75 years.

## Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Fertilizer use can increase competitiveness of grasses and other desirable plants.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Mow before the plant goes to flower.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Chemical treatment is recommended before seeds have developed.

## Important Tip

Hand-pull weeds when the soil is moist and be sure to remove the entire root and any seeds.

# Yellow Hawkweeds

(*Pilosella* species) 

This **perennial** has fibrous roots and **rhizomes**. Flower heads are compact and grow in flat-topped clusters of 5-25 or more. Flowers are composed of all yellow **ray** flowers with petals fused into a strap-like shape.

**Bracts** at the base of flower heads have simple, **stellate** and **glandular** hairs. Leaves are all **basal** except for 1 or 2 stem leaves. Leaves are covered in hair with the upper leaf surface having long simple hairs and possibly a few **stellate** hairs. The lower leaf surface has simple, **stellate**, and **glandular** hairs. Stems have dense simple, **stellate** or **glandular** hairs.



## Major Threat

There are 12 different invasive yellow hawkweed species within BC.

## Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manage pastures to maintain healthy plant communities.
- Purchase "PlantWise" garden ornamentals.
- Fertilizing small infestations can help reduce yellow hawkweeds by causing grass and other plants to be healthier.
- Cultivate infested pastures/fields and seed to an **annual** crop to allow for multiple herbicide treatments.

## Important Tip

Spring herbicide treatment is recommended, however, is also effective in the fall.

## Category B: **Medium Priority for Eradication and Containment**

These invasive plants have the ability to spread rapidly but are not as aggressive as Category A plants or have become naturalized. They are still considered a threat to the fine seed industry.

**Creeping Thistle**



# Common Toadflax

(*Linaria vulgaris*) 

This **perennial** plant sends up several slender stems from **rhizomes** that are erect and often branched, growing up to 60 cm tall. Flowers are yellow and have a distinct snapdragon-like appearance. They are 2.5 cm in length with a “bearded” orange **throat**.



The flowers grow in a dense **terminal** elongated cluster and bloom between July and October. The mouth of the flower is completely closed and never opens until a bee forces it open. Yellow toadflax has numerous narrow, pale green leaves that are pointed at both ends. Leaves are about 6 to 7 cm long and grow alternately or opposite on the stem.

## Major Threat

Once present, common toadflax is extremely difficult to control and even harder to fully get rid of. Multiple control methods and a multi-year approach are the best options.

## Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Purchase “PlantWise” garden ornamentals.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Hand-pulling can be an effective control if the soil is soft and the roots can be removed.
- Herbicides can help to manage infestations and should be applied early before it flowers.
- Mowing can be used with other controls to starve the roots.

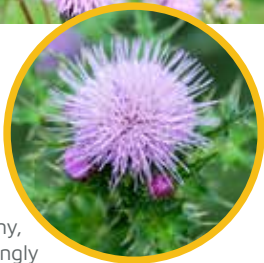
## Important Tip

Common toadflax flourishes when it invades pastures as livestock will not graze it due to its taste.

# Creeping Thistle

(*Cirsium arvense*)

This is a **herbaceous perennial** with erect stems up to 80 cm tall, prickly leaves, and an extensive creeping rootstock. Stems are branched, often slightly hairy, and ridged. Leaves are lance-shaped, irregularly **lobed** with spiny, toothed **margins** and are borne singly and alternately along the stem. Rose-purple, lavender, or sometimes white flower heads appear from June through October, generally, and occur in rounded, umbrella-shaped clusters. The small, dry, single-seeded fruits of Canada thistle, called **achenes**, are 2.5 to 3.8 cm long and have a feathery structure attached to the seed base.



## ⚠ Major Threat

Thistles can emerge from pieces of root 3 mm in length so removal tactics must include complete removal of the roots in order to eradicate it.

## 🖐 Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Using a combination of controls, including grassland management, pest management, mowing, herbicide, and biological controls together is the best way to reduce infestations.

## ✅ Important Tip

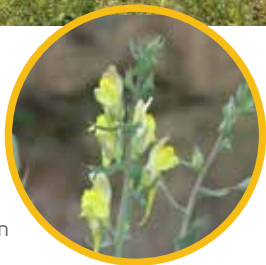
Seeds can remain viable for 21 years so multifaceted treatments may be needed for long-term control and management.



# Dalamation Toadflax

(*Linaria dalmatica*) 🇺🇳

This aggressive creeping rooted **perennial** can grow up to 1.2 m tall. It has pale, waxy, heart-shaped leaves with a pointed tip. The flowers are snapdragon-like, bright yellow and spurred. Up to 25 flowers can grow on a single stem.



## ⚠️ Major Threat

This plant loves steep, south facing slopes and can invade sensitive **riparian** areas.

## 👉 Prevention and Management

- Purchase "PlantWise" garden ornaments.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Hand-pulling or hand-cutting works best to prevent seeds from growing.
- Hand-cutting to ground level in the spring or early summer is effective to stop seed production.
- Herbicide application is best conducted in the spring and early summer.

## ✅ Important Tip

Seeds are viable for up to 10 years so annual monitoring of infestations and removal of seed heads is necessary to prevent further seed dispersal.

## ✳️ Grow Me Instead

Daylilies are zone 3, long-lived, clumping **herbaceous perennials**. Many different hybrids are available in different colours, heights, and scents.

# Kochia

(*Kochia scoparia*)  

Kochia is an **annual** invasive plant with a deep root. It grows up to 1.5 m tall with upright stems that grow many branches. Small green flowers are grouped in clusters near the upper leaves. Leaves are narrow and lance-shaped with smooth, hairy edges and silky hairs on the underside of the leaf.

Each flower forms a small inflated seed-bearing structure that is covered by **sepals**. Seeds are wedge-shaped and light brown.



## Major Threat

Kochia is one of the first weeds to emerge in the spring, so it is already mature when other weeds are emerging. Choose herbicides with wide application windows.

## Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Good spray coverage is important for heavy infestations of kochia, especially when using contact herbicides.
- Mowing or cutting for feed are effective ways of controlling kochia seed production, as long as the plants have not yet set seed.

## Important Tip

Most kochia seeds don't live for more than one year, so preventing seed production will help control kochia.

# Night-flowering Catchfly

(*Silene noctiflora*)  

This is an **annual** herb with sticky, hairy stems that grows up to 85 cm. The white to pink flowers are nocturnal, meaning they bloom at night and attract nocturnal pollinators, such as bats and moths. The flowers are encapsulated in a hairy **calyx** of fused **sepals** lined with a netlike pattern of **veining**. Leaves are hairy and lance-shaped, gradually getting smaller towards the top of the plant.



## ⚠ Major Threat

Night-flowering catchfly only blooms at night so can be difficult to detect in a timely manner.

## 🖐 Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Herbicides are most effective if used early in the pre-bud stages.
- Cultivation is a good control to be done all season long as it prevents seed production and is known to decrease infestations.

## ✅ Important Tip

Improved separation of crop seed has reduced the spread of night-flowering catchfly.

# Oxeye Daisy

(*Chrysanthemum vulgare*) 

This is a **biennial** that reproduces by seed and underground stems. The plant has single daisy-like flowers at the end, with white **ray** flowers and yellow centres and slender stems that have low, spoon-shaped leaves. A single plant can produce over 26,000 seeds, which leads to oxeye daisy quickly spreading to nearby areas.



## Major Threat

Due to its unpleasant taste, most grazers avoid this plant, leaving it to spread easily within grasslands, pastures, and rangelands.

## Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manage pastures to maintain healthy plant communities.
- Purchase "PlantWise" garden ornamentals.
- Hand-pulling can be effective as long as the entire root is removed as new shoots can grow from root portions.
- Mowing may reduce seed production, but should be repeated as it can cause more growth.

## Important Tip

Shasta daisies can hybridize with oxeye daisy to create an invasive form of shasta daisy so be aware of the potential risk and monitor your garden plants carefully.

# Scentless Chamomile

(*Matricaria perforata*) 

Scentless chamomile produces many single, white, daisy-like flowers with yellow centres at the ends of each branched stem. Flowers are odourless when crushed with tall standing stems that are smooth and branched with fern-like leaves. Mature plants can reach up to 1 m in height.



## Major Threat

One scentless chamomile plant may produce up to 1,000,000 seeds each.

## Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manage pastures to maintain healthy plant communities.
- Hand-pulling can be done all season long but is only practical on smaller infestations.
- There are a number of herbicide options available to help control scentless chamomile.
- Mowing will be effective if done early and often. Each mow should be lower than the last as the plants will flower lower to the ground following a mow.

## Important Tip

Seed production can be reduced if plants are mowed before they flower in pastures, hay land, and non-crop land.

# Meadow Buttercup

(*Ranunculus acris*)

Also known as 'tall buttercup', the meadow buttercup is a hairy, **perennial** with tall, flowing stems that grow up to 1 m tall. Meadow buttercups have bright yellow flowers with 5-9 overlapping petals borne above 5 green **sepals**. The appearance of meadow buttercups can be different depending on where they are found in the world.



## ⚠ Major Threat

The meadow buttercup, among other buttercups, contains a chemical that breaks down into a toxin called Protoanemonin, which causes dermatitis and vomiting.

## 🖐 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manage pastures to maintain healthy plant communities.
- Hand-pulling and digging to extract all of the root can be an effective method to temporarily reduce small-scale infestations.
- Herbicide is best applied before the plants flower and go to seed.

### A TIP FROM LITTLE GIRL GRACE:

Buttercup commonly grows on yard lawns. Don't let your kids or pets eat buttercup, as it can cause an upset stomach.

## ✅ Important Tip

Any roots left in the soil will grow back, making it important to use more than one control method.



# Education and Awareness

These plants can spread easily but requirements to contain are site specific. This list includes native plants that are weedy in nature and cause damage to environment, social and, economic values and invasive plants under successful biological control.

**Mouse Eared Chickweed**



# American Dragonhead

*(Dracocephalum parviflorum)*

This **herbaceous annual** has flowers that are in a thick spike up to 10 cm long at the top of the stems arising from upper leaf **axils**. Individual flowers are about 6 mm long, pale blue-violet, tubular with a notched upper lip and a 3-lobed lower lip. The **bracts** are long, hairy, sharply toothed with spines at the tooth tips. Light to medium green leaves are rounded with large, coarse sharp teeth and a pointed tip. They taper at the base and have a slender stalk. The stalk itself is smooth or sparsely hairy and grows opposite on the stem with small leaflets often clumped in the leaf **axils**. Stems are square and typically branched.



## ⚠ Major Threat

This plant will invade quickly but is easily outcompeted with desirable plants within 3 years of establishment.

## 👉 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manage pastures to maintain healthy plant communities.
- Seed disturbed areas quickly to prevent introduction of unwanted invader species.
- Hand-pulling and digging to extract all of the root can be an effective method to temporarily reduce small-scale infestations.
- Herbicide is best applied before the plants flower and go to seed.

## ✅ Important Tip

Looks like a common garden invader, hemp nettle (*Galeopsis bifida*).



# Arrow Grass

(*Triglochin maritima*)

This grass-like **perennial** has fleshy, dark-green leaves that are half rounded and grow from the base of the plant. While clumps of leaves are only 15 to 45 cm tall, slender flower stalks may reach a height of 1.5 m. Small, green flowers appear close together along the upper part of the stalk early in the season. Later, the flowers develop into golden-brown fruits.



## ⚠ Major Threat

The action of hydrocyanic acid is so rapid that it is usually too late to treat an affected animal after the signs of poisoning are recognized.

## 🚫 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manage pastures to maintain healthy plant communities.
- Seed disturbed areas quickly to prevent introduction of unwanted invader species.
- Hand-pulling and digging to extract all of the root can be an effective method to temporarily reduce small-scale infestations.
- Herbicide is best applied before the plants flower and go to seed.

## ✅ Important Tip

Arrow grass cut for hay may be toxic.

# Bladder Campion

(*Silene cucubalus*)

This is a **perennial** growing to up to 0.6 m tall with a white taproot and numerous deep penetrating woody branching roots. The stems and leaves are light green to whitish with a waxy bloom (fine powdery coating). It has a bladder-like **calyx** that has green to purplish **veins** and 5 short triangular teeth.



## ! Major Threat

It can be a concern in minimum or zero-tillage systems because it is a deep-rooted perennial that can become established on uncultivated land. It can reduce the yield of many economically important crops through competition and the lack of selective control.

## 🚫 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manage pastures to maintain healthy plant communities.
- Seed disturbed areas quickly to prevent introduction of unwanted invader species.
- Hand-pulling may be completed all season long by removing the seed heads and most of the plant.
- Cultivation is most beneficial if it is deep enough to cut the roots below the **crown**.
- Alternative cropping and intensive summer fallow will offer good control.
- Herbicide is best applied before the plants flower and go to seed or in the fall with a residual product.

## ✓ Important Tip

It is sometimes confused with night-flowering catchfly (*Silene noctiflora*) or white cockle (*Lychnis alba*) but has no hairs and is virtually waxy throughout.

# Bluebur Western

(*Lappula species*)

This is an **annual** herb that grows from a **taproot** up to 80 cm tall. The stems are short, straight, usually branched, and hairy throughout. The **basal** leaves are broadly lance-shaped with narrow stem leaves that reduce upwards and are unstalked, entire, and grow alternately. The flowers are blue with 5 yellow bulges at the **throat**. The seeds are small, round, black, **burrs**.



## ⚠ Major Threat

The small black burrs easily attach to clothing, fur, or other materials making it very easily spread and often undetected until too late.

## 🖐 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manage pastures to maintain healthy plant communities.
- Seed disturbed areas quickly to prevent introduction of unwanted invader species.
- Hand-pulling may be completed all season long by removing the seed heads and most of the plant.
- Herbicide is best applied before the plants flower and go to seed and in the fall with a residual product.

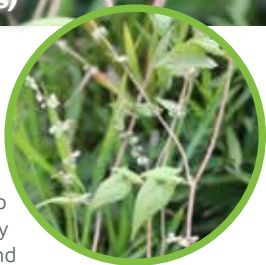
## ✅ Important Tip

Diligent care must be taken to remove and dispose of nuts that attach to clothing or gear during control efforts. This species is commonly introduced to new areas by animal and human dispersal.

# Buckwheat, Wild

(*Polygonum convolvulus*)

This **annual** plant grows like a vine and has a **fibrous** root system. The sturdy stem below the seed leaves is smooth or slightly rough, and erect. The **cotyledons** are oval and grow up to 18 mm long and approximately 3 mm wide with a rounded tip and base that attach to the main stem by a leaf stalk less than 3 mm long. True leaves are alternate and appear one at a time after the seed leaves grow to their maximum size. A papery sheath wraps around each **petiole** where it joins the main stem. The first true leaves are oval, up to 2.5 cm long and half as wide with pointed tips and 2 rounded **basal lobes** that eventually become pointed, giving the leaves an arrowhead or heart shape.



## ⚠ Major Threat

Seeds are produced in great numbers and can remain dormant for up to 5 years.

## 🖐 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Herbicide is best applied before the plants go to seed and in the early stages of growth.

## ✅ Important Tip

Seedlings have the ability to **germinate** throughout the summer and emerge from great depths.

# Bull Thistle

(*Cirsium vulgare*)

This is a branching, erect **biennial** that grows up to 2 m tall.

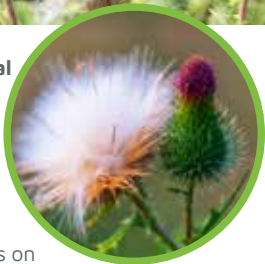
**Rosettes** form in the first year, flowering stems the second.

It has long, sharp spines on the leaves at the midrib and the tips of the **lobes**. Leaves are deeply

**lobed** and hairy with woolly hairs on the underside and coarse hairs that are

rough to the touch on leaf tops. The leaf bases extend downwards and form spiny wings along the stems.

Pink-magenta flower heads top each stem between June and September. Flower heads are “gumdrop” shaped and spines extend all around the base of the flower heads.



## ⚠ Major Threat

Bull thistle thorns are abundant and very sharp. Heavy thick gloves should be used to remove any vegetative material from these plants.

## 🖐 Prevention and Management

- Manage pastures to maintain healthy plant communities.
- Clean footwear, clothing, equipment, and tires after recreating or working in infested areas.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manual removal with a shovel will usually kill the plant if the roots are severed 2" below the surface.
- There are several herbicides that work on bull thistle, but are best applied when plant is in **rosette** or early bolting stage.

## ✅ Important Tip

Generally for every bull thistle you can see, there is a **rosette** somewhere close by.

# Chickweed, Mouse Eared

(*Cerastium species*)

This is a **perennial** herb that reproduces by seeds and spreads by rooting along its creeping stems. The root system is shallow and **fibrous**. The branched stems are green or purple and grow up to 50 cm long. Flower-bearing stems grow erect, rising about 10 cm above the densely matted growth that forms as the rest of the stems trail along the ground. Leaves are dark greyish-green, opposite, and attached directly to the stem. The leaves are oval or **lanceolate** in shape, 1 to 2 cm long, and 3 to 6 mm wide. Leaves on the lower part of the stem often have clusters of smaller leaves in their **axils**, where the main leaf joins the stem. The entire plant is covered with short white hairs.



## ! Major Threat

This invader can easily take over in areas where grass is thin.

## 👉 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Close mowing helps to prevent seed production.
- Small patches may be easily hoed out.
- Herbicide use is most effective during early growth.
- Manual removal can be completed throughout the season.

## ✓ Important Tip

Close mowing does not kill mouse-eared chickweed as it only aids in preventing seed production and encourages the weed to hug the ground more closely.

# Cleavers

(*Galium aparine*)  

These are **annuals** with creeping stems that branch and grow along the ground and over other plants. They attach themselves with the small hooked hairs that grow out of their stems and leaves. The stems can reach up to 1 m or longer and can be angular or square shaped. The leaves are simple, narrowly **oblanceolate** to linear, and borne in **whorls** of 6 to 8. Cleavers have tiny, star-shaped, white to greenish flowers that emerge from early spring to summer. The flowers are clustered in groups of 2 or 3 and are borne out of the leaf **axils**. The globular fruits are **burrs** that grow in clusters of 1-3 seeds, which are covered with hooked hairs that cling to animal fur, aiding in seed dispersal.



## Major Threat

Caution should be taken when seeding canola into cleavers infested fields as cleaver seeds are not easily separated from canola seed.

## Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Summer fallowing infested fields with early and late tillage can reduce cleaver seeds.
- Seed **annual** crops early to outcompete the cleavers seedlings.
- Manual treatments are effective if all seed is collected, bagged, and disposed of properly.
- Many herbicides are available and treatments should occur prior to seed setting.

## Important Tip

Plants can re-root in moist soil, so tillage is most effective under warm dry conditions.

# Corn Spurry

(*Spergula arvensis*)

This is an **annual** plant that spreads by seeds. It is branching, grows up to 40 cm high, is sparsely hairy, and is somewhat sticky and slender. The bright green, needle-like, leaves form **whorls** of 6 to 10 around the stem at each **node**. Leaves are about 2.5 cm long with a rounded upper surface and grooved lower surface. The flowers, which emerge in July, open in sunshine and grow in clusters in which the central flowers open first. The flowers are white with 5 petals that are about 6 mm across and borne on stalks about 12 mm long. The stalks turn down as the **capsule** matures and then turn upward. The seeds are borne in a **capsule** which splits into 5 sections when mature. Small, dull-black seeds are lens-shaped with a small notch at 1 side and a pale narrow wing.



## ⚠ Major Threat

Corn spurry can produce mature seeds ten weeks after **germination**.

## 🖐 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- A number of herbicides are available to treat corn spurry.

## ✅ Important Tip

Regular cultivation can help; however, burial increases the longevity of the seeds which will eventually resurface due to the cultivation.



# Curled Dock

(*Rumex crispus*)

This is a **perennial** that grows up to 1.5 m tall with a deep penetrating yellow **taproot**, dark green wavy, crisp **marginated** leaves that turn a rusty-red colour when mature.



## ⚠ Major Threat

It produces 3,000 to 4,000 seeds per plant that can remain viable for up to 50 years.

## 🚫 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- A number of herbicides are available and a residual should be utilized in pre-bloom stage.
- Curled dock requires multiple treatments for multiple years to gain control.

## ✅ Important Tip

Dock seedlings are not very competitive against healthy, rapidly growing pasture grasses, but once established the root system is extensive and very difficult to control.

# Dame's Rocket

(*Hesperis matronalis*)

This is a **herbaceous biennial** with first-year plants developing into low **rosettes** at ground level and second year flowering plants start as a **rosette** in early spring but soon send up an erect 1.2 m tall flower stem. **Rosette** leaves are up to 15 cm long. Purple flower clusters with 4 petals each branch out from the upper parts of the plant. Flowering stem leaves are pointed and lance-shaped. They are 5 to 15 cm long, wider at the base, and attached alternately along the stem. Leaves decrease in size up the stem. Lower leaves usually have short **petioles** while the upper leaves attach directly to the stem. There are widely spaced teeth along the leaf edges. Both stems and leaves are covered with fine hairs.



## ⚠ Major Threat

This plant will wreak havoc on the natural environment, threatening the survival of native plants and degrading habitat and water quality.

## 🖐 Prevention and Management

- Purchase "PlantWise" garden ornamentals
- Hand-pulling or digging flowering plants can be effective, especially for small infestations.
- Herbicide applications can be effective and are best applied before viable seed has been produced.

## ✅ Important Tip

Previously infested sites should be monitored for several years to eliminate newly emerging plants.

## A TIP FROM RECREATION PETE:

Thoroughly clean shoes, vehicles, tires, boats, and gear to stop the spread of invasive plants.



# Flixweed

(*Descurainia sophia*)

This is a greyish-green **annual** or winter annual that grows up to 1 m high. Alternating branches and leaves are divided into very narrow segments 2 to 3 times with some having star-like hairs. Small, clustered flowers grow at the top of the stem with pale yellow petals that are not longer than the **sepals**.



Stalks are 6 to 12 mm long and borne at an angle from the stem, while the seed pods are linear and about 10 to 30 mm long. The bright orange seeds are about 1 mm long and oblong-shaped, arranged in 1 row in each half of the pod.

## ⚠ Major Threat

Plants begin flowering early in the summer and produce large quantities of seeds which mature early and shatter out very easily.

## 🚫 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Seed disturbed areas as soon as possible to prevent unwanted plants from invading these areas.
- Late spring and late fall tillage allow plants to **germinate** and then destroys the young plants, assisting with seed bank depletion.
- Hand-pull at any time during the season.
- Easily controlled by many different herbicides.

## ✅ Important Tip

Flixweed is not a particularly good competitor; therefore, practices which produce a strong stand of grain are important in its control.

# Flowering Rush

(*Butomus umbellatus*) 

This is a beautiful aquatic **perennial** resembling a large sedge plant. This delicate, almond-scented plant can be found along shorelines of lakes or rivers. While it is typically hard to identify due to its similar appearance of several native aquatic species, it can be easier to identify once the small pink flowers of this species have bloomed. The stem can reach approximately 1 m in height and holds an umbrella-shaped array of pinkish white petalled flowers.



## Major Threat

Once established, flowering rush spreads with underground plant stems and roots as well as on animals. This plant can cause significant damage to **riparian** aquatic areas.

## Prevention and Management

- Purchase “PlantWise” garden and pond ornamentals.
- Clean, drain, and dry boats and equipment to prevent spreading unwanted invaders from one water body to another.

## Important Tip

Always ‘Clean, Drain, Dry’ boats and equipment before leaving a water body. Take extra caution when transferring boat or equipment from one province to another.

## Grow Me Instead

There are 180 different sedge species native to BC. The majority are tufted, grass-like perennials with linear leaves. Two alternative zone 3 BC native species are western blue iris or narrow-leaved cotton grass. Both of these species are adapted to marshy meadows and boggy wet areas.

# Foxtail Barley

(*Hordeum jubatum*)

This is a **perennial** with shallow, **fibrous**, roots, spreading by seed. Seed heads are greyish-green and 30 to 60 cm long. They are smooth, round, hollow, and swollen at the **nodes**. The blades are rough, prominently ribbed, and less than 5 mm wide.



The **sheath** is ribbed but not rough and the lower **sheaths** are sometimes hairy and split. The **ligule** is membranous and less than 1 mm long with absent or rudimentary **auricles**. **Bristles** are green or reddish in early stage, shiny, cream colour at maturity. They are 3 to 4 mm long, each with 4 to 8 long **bristles** that host a sharp point near its base with tiny **barbs** that readily stick to anything that passes.

## ⚠ Major Threat

The **bristles** at the end of the seeds can cause irritation of mouth, eyes, and skin of grazing cattle.

## 🖐 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Seed disturbed areas as soon as possible to prevent unwanted plants from invading these areas.
- Tillage usually provides good control.
- Manual treatments can be effective and can be done throughout the season by collecting the entire plant.
- Herbicides are available and may have to be applied multiple times throughout the season due to the continual **germination** of the plant.

## ✅ Important Tip

Foxtail barley does not seem to compete well with thick grass complex.

# Groundsel, Common

(*Senecio vulgaris*)

The plant is usually a winter **annual**, sometimes **biennial**, though it may **germinate** in all seasons. It grows up to 46 cm tall. Flower heads are numerous, with yellow **disk** flowers but no **ray** flowers. The heads are cylindrical with black-tipped **bracts** around the base.

Leaves are deeply **lobed** with toothed **margins** and may be smooth to hairy. They have little or no stalks and are alternately arranged on the stem. **Basal** leaves are usually purplish on the under surface. Plants typically have 1 stem that may have branching and is 10 to 40 cm tall. The seeds are slender, ridged, and tipped with a tuft of silky white hairs.



## ⚠ Major Threat

Seeds are dispersed by wind and can also cling to clothing and animal fur as well as contaminate commercially exchanged seeds.

## 🖐 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Seed disturbed areas as soon as possible to prevent unwanted plants from invading these areas.
- Easily controlled by hand removal or cutting the plant off at its **taproot**.
- Rototilling of young plants can be effective.
- Herbicide options are available and best applied before the seeds have developed.

## ✅ Important Tip

Multiple treatments may be required as species **germinates** all season.

# Hawksbeard, Narrowleaf

(*Crepis tectorum*)

This is an **annual** or winter **annual** that produces a milky juice. The plant grows up to 90 cm high and is slender and branched. Stem leaves are narrow, without teeth, and stalkless. The **basal** and lower leaves are variable, usually with backwards pointing teeth.

The bright yellow flowers grow in groups of 5 and are 2 cm across when fully expanded. The **bracts** below the flower heads are in several rows with the outer row being shorter than the inner rows. They have a **pappus** of soft white hairs that enable them to be blown by the wind.



## ⚠ Major Threat

The weed may readily become established in thin stands of forage crops, therefore it is important that forage stands be kept as healthy as possible.

## 🖐 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Seed disturbed areas as soon as possible to prevent unwanted plants from invading these areas.
- Tillage will control this invader on cultivated land.
- Early mowing of hay and forage on infested fields is necessary to prevent seed dispersal.
- Hand-pulling small infestations is effective with as much of the root removed as possible.
- Numerous herbicides are available that can be applied all season long.

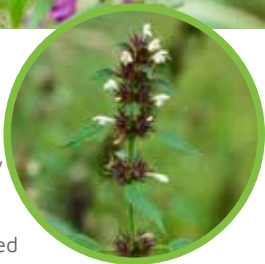
## ✅ Important Tip

This plant resembles many other invasive plants so, when it doubt, pull it out and place in bags to dispose of at a designated disposal location.

# Hemp Nettle

(*Galeopsis tetrahit*)

This is an **annual forb** in which flowers occur in dense clusters from leaf axils. Flowers can be purple, pink, white, or pale yellow with dark markings. Petals are fused into a tube with 2 lips. The **sepals** fuse to form a spine-tipped **calyx** that elongates as the fruit matures.



Opposite leaves are stalked, egg-shaped to lance-like, and have large, rounded teeth with pointed tips. Leaves are prominently **veined** and covered in bristly hairs. Branched stems grow 15 to 100 cm tall and are square with bristly hairs.

## ⚠ Major Threat

It tends to germinate later in spring when soil temperatures have increased and is an aggressive competitor for nutrients and moisture.

## 🚫 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Companion planting in gardens will help to out-compete hemp nettle.
- Seed disturbed areas as soon as possible to prevent unwanted plants from invading these areas.
- Tillage will control this invader on cultivated land.
- Early mowing of hay and forage in infested fields is necessary to prevent seed dispersal.
- Hand-pulling small infestations is effective with as much of the root removed as possible.
- Numerous herbicides are available that can be applied all season.

## ✅ Important Tip

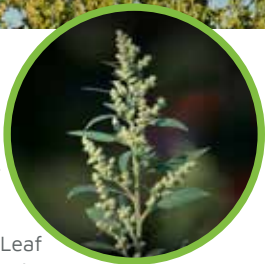
Best treated in early spring before the plants develop viable seeds.



# Lamb's Quarters

(*Chenopodium album*)

This is an upright, branched, summer **annual** that grows up to 2 m tall. Stems are grooved and often purplish or red striped. Leaves are arranged alternately along branches and are covered with tiny, white, granular scales. Leaf undersides and **margins** are sometimes purplish. Lower leaves are borne on stalks, have coarsely toothed **margins** or shallow **lobes**, and often resemble a goose's foot. Upper leaves do not have stalks and are narrow and linear. Tiny, petal-less, grey-green flowers occur in tightly clustered spikes at the ends of branches. Flowers are globular and are enveloped almost entirely by a cup of 5 green **sepals**.



## ⚠ Major Threat

Tilling, hoeing, or hand-pulling is necessary throughout the season to control continual emergence of new plants.

## 🖐 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Seed disturbed areas as soon as possible to prevent unwanted invaders from establishing.
- Tilling, hoeing, or hand-pulling is necessary throughout the season to control continual emergence of new plants.
- Numerous herbicides are available that can be applied all season.

## ✅ Important Tip

Herbicides are most effective when applied in early to late spring before viable seeds are produced.

# Mallow

(*Malva neglecta*)

This is a summer **annual** or **biennial**, freely branching at the base with a **prostrate** growth habit. The seeds **germinate** through the summer and broken stems can also root. This plant has stems that originate from a deep **taproot** and are low spreading with branches that reach from 3 to 60 cm long. The flowers are borne either singly or in clusters in the leaf **axils**, blooming from June to late autumn. Flowers can be pink, white, or lilac in colour with 5 petals that measure 1 to 1.5 cm across on average. Common mallow leaves grow alternately on long **petioles**, reaching 2 to 6 cm wide. They are circular to kidney-shaped, toothed, and shallowly 5 to 9 **lobed**. Short hairs present on upper and lower leaf surfaces, **margins**, and **petioles**.



## ⚠ Major Threat

Plants can **germinate** all season long.

## 🚫 Prevention and Management

- Purchase "PlantWise" garden ornamentals.
- Mechanically hoe, hand-pull, or cut below the **crown**.
- Cultural control may be effective by planting competitive desirable plants in areas where mallow is an issue.
- Numerous different herbicide options are available to use and may require multiple applications.

## ✅ Important Tip

The common mallow likes to grow in lawns, gardens, roadsides, waste areas and cropland.

# Mullein

(*Verbascum thapsus*)

They are typically **biennial** or **perennial** plants that may be rarely **annuals** or **subshrubs**, growing up to 3 m tall. The plants first form a dense **rosette** of leaves at ground level and subsequently send up a tall flowering stem. The leaves are spirally arranged, often densely hairy, though **glabrous** in some species. The flowers have 5 symmetrical petals. Petal colours in different species include yellow (most common), orange, red-brown, purple, blue, or white. The fruit is a **capsule** containing numerous minute seeds.



## ⚠ Major Threat

Plant numbers can easily expand from a few to hundreds per acre in just a couple years due to prolific seed production.

## 🖐 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Seed disturbed areas as soon as possible to prevent unwanted invaders from establishing.
- Mechanical removal with a shovel can be used for small infestations.
- Single mowing of new plants can reduce populations and seed production.
- Herbicides can be effective, but the thick wooly coat of hairs on the leaves can reduce herbicide uptake and control.

## ✅ Important Tip

Easiest to control when population density is low.

# Mustard, Dog

(*Eruscastrum gallicum*)

This is an **annual** or winter **annual** that spreads by seed. The erect stems are 10 to 60 cm the stem having downward pointing hairs. Leaves are alternate and have 1 per **node**. The leaves are often in a dense **rosette** in late autumn and early spring. The leaves are dark green to blackish-green, oblong, **pinnately** cut or divided in to coarsely **lobed** segments, and the bottoms of the spaces between the segments are somewhat rounded.



## ⚠ Major Threat

Potential of becoming a problem in tame mustard and rapeseed crops.

## 🖐 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Seed disturbed areas as soon as possible to prevent unwanted invaders from establishing.
- Small infestations can be hand-pulled from the base at the ground.
- Many herbicides are available for use.

## ✅ Important Tip

Best managed by seeding desirable species and simply out competing.

# Mustards

*(Sisymbrium species)*

Many varieties of Mustard plants exist.

## ⚠ Major Threat

These plants all reproduce through seed production so seed heads should be removed.

## ✓ Important Tip

Easy to hand-pull, bag, and dispose of in designated disposal areas.



# Pineapple Weed

(*Matricaria matricarioides*)

It is an **annual** plant that grows from May to September. It is a low growing plant with finely divided foliage that gives off a pineapple smell when crushed. It has a cone-shaped or rounded non-**rayed**, composite flower head that is yellow-greenish in colour. Leaves are finely divided into narrow, feathery segments. They grow alternately along the stem and average from 2 to 4 cm. long. Leaves are **glabrous**. This plant grows to about 30 cm tall.



## ⚠ Major Threat

It is a nuisance plant in waste areas as well as other areas such as driveways and parking lots that do not have competition.

## 👉 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Seed disturbed areas as soon as possible to prevent unwanted invaders from establishing.
- Manual treatments can be completed all season long.
- There are many herbicides available for use. Effectiveness is increased when applied pre-bloom.

### A TIP FROM INDUSTRIAL KELSEY:

Plant parts and seeds can hitchhike from work yards, parking lots and muster areas. Keep these spaces free from weeds to avoid spreading invasive plants.

## ✅ Important Tip

Pineapple weed looks like chamomile without flower petals.



# Prickly Lettuce

(*Lactuca serriola*)

Prickly lettuce forms a **rosette** of leaves after emergence, usually in autumn, and develops a long **taproot**. It overwinters as a **rosette** then produces one or more flowering stems in early summer. Each flowering stem bears many small yellow flower heads. The small, greyish brown seeds have an attached **pappus** and are dispersed by wind. The leaves, roots, and stems exude a milky juice when damaged. A distinguishing feature of prickly lettuce is a row of spines along the midrib on the underside of the leaf. These spines are occasionally absent from small, upper stem leaves or from leaves on stems that have regrown after mowing.



## ⚠ Major Threat

Plants are difficult to control with herbicides once the flowering stems have begun to elongate.

## 🚫 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Seed disturbed areas as soon as possible to prevent unwanted invaders from establishing.
- Easily controlled by cultivation in fields.
- Hand-pulling is effective on small populations.
- Many herbicide options are available for control.

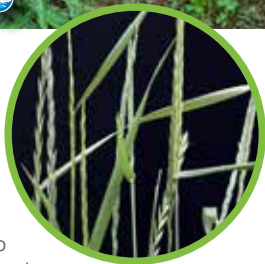
## ✅ Important Tip

Prickly lettuce may be mistaken for dandelion in the **rosette** stage or for sow-thistles at any stage.

# Quackgrass

(*Agropyron repens*)  

This is a **perennial** grass that grows in patches or mats. The blades are usually broad (up to 8 mm wide), tapered, and attached to a hollow stem. Unlike crabgrass, they do not branch off, but instead the clump of blades attaches to a central patch of weeds. The colour is a deep green-blue and often turns brown in the heat of the summer. Quackgrass has very deep roots made of **rhizomes**.



## Major Threat

Quackgrass has very deep roots made of **rhizomes**. This makes a large established plant almost impossible to pull up out of the ground.

## Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Seed disturbed areas as soon as possible to prevent unwanted invaders from establishing.

## Important Tip

It can be easy to mistake quackgrass for crabgrass. One of the easiest ways to distinguish between the two plants other than looking at how the blades are attached to the plant is to try and pull the plant up out of the ground. Crabgrass has very shallow roots, making it very easy to pull up, even if it is a relatively large plant.



# Sea Buckthorn

(*Hippophae rhamnoides*)

These shrubs reach between 0.5 and 6 m tall. The leaf arrangement can be alternate or opposite. It has branches that are dense, stiff, and very thorny.

The leaves are a distinct pale silvery-green, **lanceolate**, 3 to 8 cm long and less than 7 mm broad. It is

**dioecious** with separate male and female plants. Male plants produce brownish flowers, which produce wind-distributed pollen, while female plants produce orange, berry-like fruit that are 6 to 9 mm in diameter, soft, juicy, and rich in oils.



## ⚠ Major Threat

The roots distribute rapidly and extensively.

## 🖐 Prevention and Management

- Purchase "PlantWise" garden ornamentals.
- Hand-pull, cut, or dig out plants.
- Ensure all fruits are picked up off the ground.
- Some herbicides are effective following seed or fruit removal.

## ✅ Important Tip

It is currently unknown what the effect of this plant will be within the Peace Region.

# Shasta Daisy

(*Leucanthemum x superbum*)

This is a hybrid developed by Luther Burbank (1849-1926) in the 1890s near snow-covered Mt. Shasta in northern California. Shasta's grow 90 cm to 1.2 m tall and spread 60 to 90 cm wide. The blooms have white **rays** and yellow centre **disks**.



## ⚠ Major Threat

Shasta daisies can cross pollinate with invasive oxeye daisies, which results in an invasive form of shasta daisy emerging.

## 🚫 Prevention and Management

- Monitor existing garden ornamentals to ensure that Shastas do not begin to invade other parts of the garden.
- Be sure to dispose of seed heads appropriately.
- Manually remove these plants any time throughout the season.
- A wide range of herbicides are available that can be effective.

## ✅ Important Tip

Do not compost flower heads. Dispose of in designated invasive plant disposal locations.

# Sheep Sorrel

(*Rumex acetosella*)

This is a **perennial** herb that has a slender and reddish upright stem that is branched at the top, reaching a height of 0.5 m. The arrow-shaped leaves are small, slightly longer than 3 cm, and smooth with a pair of horizontal lobes at the base. It blooms from March to November when yellowish-green (male) or reddish (female) flowers develop on separate plants into red **achenes** at the **apex** of the stem.



## ⚠ Major Threat

Sheep sorrel can be difficult because of its creeping **rhizomes** and long-lived seeds.

## 🚫 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Seed disturbed areas as soon as possible to prevent unwanted invaders from establishing.
- Herbicides should be applied in spring or early summer, however, residual herbicides are effective if applied in the fall.

## ✅ Important Tip

These plants produce a vast number of seeds that can survive without **germination** for over 5 years.

# Smartweed

(*Polygonum species*)

This species varies widely from **prostrate herbaceous annual** plants under 5 cm high, to erect **herbaceous perennial** plants growing to 3 to 4 m tall, and yet others grow as **perennial** woody vines growing to 20 to 30 m high in trees. Several are aquatic that grow as floating plants in ponds. The smooth-edged leaves range from 1 to 30 cm long and vary in shape between species. They can be narrow **lanceolate**, oval, broad, triangular, heart-shaped, or arrowhead forms. The stems are often reddish or red-speckled. The small flowers are pink, white, or greenish and form in summer in dense clusters from the leaf joints or stem **apices**.



## ⚠ Major Threat

This is an aquatic plant; therefore, chemical use is restricted.

## 🚫 Prevention and Management

- Purchase "PlantWise" garden and pond ornamentals.
- Clean, drain, and dry your boat and equipment when moving from one water body to another.

## ✅ Important Tip

Due to the areas they tend to occupy, plants should be manually removed with the focus being on gathering all the seed heads.

# Sow Thistles

*Sonchus species* 🇺🇸

Sow-thistle is a creeping, rooted **perennial** growing up to 1.5 m tall with stems branching near the top. Leaves have weak **marginal** prickles and clasps at the stem. The upper stalks and flower **bracts** are usually covered in gland-tipped hairs. The dandelion-like yellow flowers are up to 3.8 cm in diameter. Plants contain a bitter, milky juice.



## ⚠ Major Threat

Because some sow thistle species are **perennial** and others are **annuals**, controlling them is not so straight forward.

## 🚫 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Seed disturbed areas as soon as possible to prevent unwanted invaders from establishing.
- Herbicides should be applied in spring or early summer, however, residual herbicides are effective if applied in the fall.

## ✅ Important Tip

**Perennial** sow-thistles are often confused with annual sow-thistle (*Sonchus oleraceus*) which is **taprooted** and has much smaller flowers (less than 2.5 cm across), or spiny annual sow thistle (*Sonchus asper*), which has sharp, spiny leaves and smaller flowers.

# Stinking Mayweed

(*Anthemis cotula*)

This **annual** plant has the typical white and yellow “daisy-like” flowers that are 15-30 mm across. Stems usually erect but are low and bushy-branched, growing from 10 to 60 cm high. They are usually hairless in the lower part but finely hairy just below the flower heads. Leaves are very finely dissected, soft, and grow alternately with 1 per **node**. They can be numerous or sparse where plants are crowded. The weed most similar in appearance is scentless chamomile (*Matricaria perforate*). As suggested by their respective names, stinking mayweed has a very strong smell when crushed.



## ⚠ Major Threat

The finely divided leaves of stinking mayweed can cause it to be confused with a number of other invasive daisy species.

## 🖐 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Seed disturbed areas as soon as possible to prevent unwanted invaders from establishing.
- Herbicides can be applied all season long, however, residual herbicides are effective if applied in the fall.

## ✅ Important Tip

In pastures, stinking mayweed will eventually disappear by itself once it flowers because it is an **annual**. Pasture management should be used to improve density in the subsequent late winter to early spring period to prevent it establishing again.

# Stinkweed

(*Thlaspi arvense*)

This hairless **annual** plant grows up to 60 cm with branches in the upper part. **Basal rosettes** have stalks and smooth or slightly wavy **margins**. Lower stem leaves have shallow, irregular teeth that are rounded towards the tip and taper towards the narrow stalk, which has 2 little **lobes** which clasp the stem. Middle and upper leaves are shallowly or sometimes deeply toothed and without stalks but have a pair of **lobes** at the base which strongly **clasp** the stem. Flowers are small and white in rounded clusters at the ends of branches. The seedpods are rounded to ovate, very flat, and grow 8 to 12 mm wide.



## ⚠ Major Threat

This is a nuisance weed of cultivated land and wasteland.

## 🖐 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Seed disturbed areas as soon as possible to prevent unwanted invaders from establishing.
- Hand-pull plants all season long.
- Numerous herbicides offer control over species but are most effective in the spring.

## ✅ Important Tip

It has a bitter taste and can be used in salads and for creating renewable biofuels.

# Stork's Bill

(*Erodium species*)

This is an **annual** or **biennial** branched herb that grows up to 50 cm tall. It has many limp, ascending stems that are abundantly branched and hairy. Flowers have 5 pink petals with entire tips that are slightly different sizes and sometimes have dark-spots at the base. There are 5 **sepals** that are usually clearly shorter than petals. The leaves of the **basal rosette** and on the stem are opposite. The blades are narrowly triangular, feather-**veined**, and **pinnate** and leaflets are finely **lobed**.



## ⚠ Major Threat

It is not unusual to have 5 or 6 growths of this plant during the summer fallow year so seed control is very important.

## 🖐 Prevention and Management

- Purchase "PlantWise" garden ornamentals.
- Manual removal of species can be done season long ensuring all of the seeds are gathered.
- A wide range of herbicides can be used for control, but may need to have several applications due to species having several **germinations** throughout any given season.

## ✅ Important Tip

Residual herbicide products offer long term control and can be applied anytime.



# Tarweed

(*Madia glomerata*)

It is an **annual** herb sometimes exceeding a meter in height with foliage covered stems that may be branched or not. It is hairy to bristly in texture, studded with stalked yellow resin glands, and strongly aromatic with an unpleasant scent. The rough-haired leaves are up to 10 cm long. The **inflorescence** is generally a cluster of **glandular** flower heads with black-tipped yellow **disc florets** and sometimes 1 or more tiny greenish or purplish yellow **ray florets**. The fruit is a flat black achene with no **pappus**.



## ⚠ Major Threat

Tarweed grows in a wide variety of habitats, including disturbed areas such as roadsides.

## 🚫 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Seed disturbed areas as soon as possible to prevent unwanted invaders from establishing.
- Hand-pull plants all season long.
- Numerous herbicides offer control over species but are most effective in the spring.

## ✅ Important Tip

Manual effects are effective if the plant is removed down to the crown and seed heads are not left behind.

# Western Water Hemlock

(*Cicuta douglasii*)

Photo by Jean Pawek

This is a highly toxic, native plant that grows up to 2 m tall with purplish spots, thick roots, and leaves that are compound, **pinnate**, and alternate. The leaflets are usually 5 to 8 cm long and 1 to 2 cm wide with jagged edges. The flowers are compound **umbellate inflorescences** with many small, white flowers. There are 2 seeds for each flower. The distinguishing characteristic of this plant is the thick rootstalk that contains numerous small chambers.

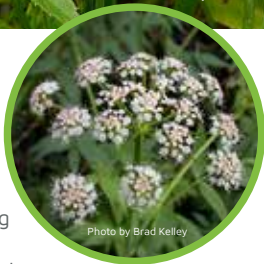


Photo by Brad Kelley

## ⚠ Major Threat

Control and avoidance of western water hemlock are the only ways to prevent livestock loss from poisoning. The roots must be entirely removed because they are attractive to grazing livestock and highly poisonous.

## 🖐 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Monitor wet areas for presence of water hemlock and remove livestock permanently where possible.
- Hand-pulling is effective, however, gloves and proper protective clothing must be worn due to the poisonous nature of this plant.
- Several herbicides are available and are best applied pre-bloom.

## ✅ Important Tip

Water hemlock seeds can be dispersed by wind, water, machinery, on clothing, and through transported soil.

# White Cockle

(*Lychnis alba*)  



This is a **biennial** or short-lived **perennial** with thick fleshy roots that only reproduces by seed. It stands up to 120 cm high.

The oblong leaves grow opposite and are pointed at the tip then narrow toward the stem. They are not toothed, 2 to 8 cm long, and hairy.

Flowers are white and about 2 cm in diameter. Plants can be either male or female. Seed **capsules** are produced only by female flowers and, when the **capsule** opens, it has ten teeth around the opening. Flowers open at night from June to September and are quite fragrant.



## Major Threat

White cockle is an extremely heavy seed producer with 1 female plant producing over 24,000 seeds.

## Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Seed disturbed areas as soon as possible to prevent unwanted invaders from establishing.
- Hand-pull plants all season long.
- Numerous herbicides offer control over species but are most effective in the spring.

## Important Tip

Residual products are effective and will offer descent long term control.

# Wild Caraway

(*Carum carvi*)

This plant is **biennial** or a short-lived **perennial** that grows up to 90 cm tall. It is either **bractless** or has 1 to 3 **bracts**. It flowers in late spring to early summer with flower clusters at the top of the stems. Stems are typically white and can also have a pinkish tinge. Wild caraway has a two-year lifecycle and grows in the early spring. It produces low growing leaves in its first year and flowering white stalks in its second year.



## ⚠ Major Threat

Mowing wild caraway is not effective as the plant will continue to flower closer to the ground, allowing seeds to spread more easily.

## 👉 Prevention and Management

- Purchase weed-free hay, soil, seed mixes, and gravel.
- Manage pastures to maintain healthy plant communities.
- Control wild caraway growth by stopping plants from going to seed.
- Hand-pulling wild caraway is effective and the plant does not have an extensive root system.
- If the plant has gone to seed, PULL-BAG-TOSS and dispose of them at the landfill.

## ✅ Important Tip

Wild caraway is similar to wild carrot. Wild carrot has a distinct **whorl** of widely divided **bracts** and blooms in late summer.

# Wild Mustard

(*Sinapsis arvensis*)



This is an annual plant with seedlings that have broad, kidney-shaped **cotyledons** indented at the tip. Older plants have alternate leaves that are somewhat hairy, especially on the lower surface of the **veins**. The lower leaves are usually stalked and deeply **lobed** with a large **terminal** segment and a few smaller lateral **lobes**. Upper leaves are stalkless and generally undivided, but coarsely toothed. Plant height can range from 30 to 100 cm with either simple or much-branched stems. Yellow flowers are produced in small clusters at the ends of branches. These clusters elongate as the seed pods develop.

## ⚠ Major Threat

Wild mustard can represent a serious weed problem in canola and spring cereals.

## 👉 Prevention and Management

- Manage pastures and lawns to maintain healthy plant communities.
- Purchase weed-free hay, soil, seed mixes, and gravel.
- Clean equipment when moving from an infested field to a new field to prevent spreading unwanted seeds.
- Seed disturbed areas as soon as possible to prevent unwanted invaders from establishing.
- Hand-pull plants all season long.
- Numerous herbicides offer control over species but are most effective in the spring before the plant produces seed.

## ✅ Important Tip

Since wild mustard is an **annual** plant that reproduces only by seed, this weed can be controlled by mechanical cultivation of newly emerged seedlings.

# Wild Oats

(*Avena fatua*) 🇺🇸

These **annuals** grow up to 150 cm tall, resembling a typical oat in appearance: green grass with hollow, erect stems. Leaf blades are flat, sparsely hairy, 10 to 45 cm long, and 3 to 15 mm wide. They have a small membranous structure at the junction of the leaf **sheath** and leaf blade (ligules) up to 6 mm long. The youngest leaves are rolled up. The **ligule** is often irregularly toothed (dentate, fringed). The leaf bases do not have **auricles**. The **inflorescence** is a loose, open **panicle** with 2 to 3 flowered stalked **spikelets**. **Spikelets** are 18 to 28 mm long, with the narrow lance-shaped **glumes** enclosing the 2 to 3 **florets**, each of these with an articulation below **glumes**. Seeds have **awns** that are 2.5 to 4 cm long. Grains are 6 to 8 mm long.



## ⚠️ Major Threat

Wild oats are difficult to separate from desirable crops, therefore decreasing the value of the crop.

## 🖐️ Prevention and Management

- Purchase weed-free hay, seed, soil and gravel.
- A controlled burn after harvest can reduce the viability of the seeds that remain on the soil surface.
- Many selective herbicides can be effective alone, in mixtures or sequences.

## ✅ Important Tip

Wild oat seeds are viable for 3 to 8 years.

# Yellow Clematis

*(Clematis tangutica)*

This is a **perennial** vine producing several stems per plant that can grow up to 4 m in length. Young stems are pliable while the older stems can become very woody. Leaves are green and compound with 5 to 7 lance-shaped leaflets 5 to 6 cm long, which may be **lobed**. Leaf tips are pointed and leaf edges are coarsely toothed. Leaves may be slightly hairy on the underside and are **deciduous**. Nodding flowers are lemon-yellow with 4 petals that are bell-shaped at first and then split as the petals spread. Petals may be silky-hairy on the outside and occasionally tinged purplish-brown.



## ⚠ Major Threat

The earlier you can treat species the better, as it can be difficult to eradicate large infestations once established.

## 🖐 Prevention and Management

- Purchase "PlantWise" garden ornamentals.
- Continual hand-pulling of new shoots will help to decrease the root systems.
- Residual herbicides have been used successfully on yellowclematis.

## ✅ Important Tip

Repeated hand-pulling prior to seed set can provide effective control and possibly eradicate small infestations.

# Yellow Floating Heart

(*Nymphoides peltata*)

This is a bottom rooted **perennial** plant that is commonly found in slow moving waters. Stems are long and branched, reaching up to 1 m or more, located below the surface of the water. Leaves are floating, green to yellow-green, circular or heart-shaped, and about 3 to 10 cm with wavy **margins**. The underside of the leaves is often purple. Flowers consist of 5 bright yellow, shallowly fringed petals. Seed capsules contain numerous flat, oval, shiny seeds with **margins** of stiff hairs.



## ⚠ Major Threat

Aquatic invasives are very difficult to remove due to the inability to utilize herbicides and the sensitive nature of the **riparian**, aquatic areas.

## 🚫 Prevention and Management

- Purchase "PlantWise" aquarium or water garden ornamentals.
- Inspect and 'Clean, Drain, Dry' your boat when moving to a new waterbody.
- Dispose of unwanted aquarium plants in designated disposal areas.
- Learn to identify yellow floating heart.

## ✅ Important Tip

Boat motor propellers can break off fragments and spread the pieces to new areas.



# Definitions

Purple Loosetrife



<b>Achene:</b>	A small, dry, indehiscent fruit with a single locule and a single seed, and with the seed attached to the ovary wall at a single point, as in the sunflower.
<b>Alkaloid:</b>	Natural bases containing nitrogen found in plants.
<b>Annual:</b>	A plant that completes its life cycle in less than 1 year.
<b>Anther:</b>	The expanded, apical, pollen bearing portion of the stamen.
<b>Apex:</b>	(pl. apices) The tip; the point furthest from the point of attachment.
<b>Auricle:</b>	A small ear-shaped appendage.
<b>Awn:</b>	A narrow, bristle-like appendage, usually at the tip or dorsal surface.
<b>Axil:</b>	The point of the upper angle formed between the axis of a stem and any part (usually a leaf) arising from it.
<b>Barb:</b>	Short, rigid, reflexed points.
<b>Basal:</b>	Positioned at or arising from the base, as leaves arising from the base of the stem.
<b>Biennial:</b>	A plant that normally completes its life cycle in 2 growing seasons.
<b>Biotype:</b>	A group of genetically identical plants within a species.
<b>Bract:</b>	A reduced leaf or leaf-like structure at the base of a flower or inflorescence; in conifers, one of the main structures arising from the cone axis.
<b>Bristle:</b>	A short, stiff hair or hair-like structure.
<b>Burr:</b>	A structure armed with often hooked or barbed spines or appendages.
<b>Calyx:</b>	The outer perianth whorl; collective term for all of the sepals of a flower.
<b>Candelabra:</b>	A branched candlestick; has several flowers.
<b>Cane:</b>	A slender, hollow, and often jointed stem, as in a reed; any straight, woody stem arising directly from the ground, as in the raspberry.
<b>Capitulum:</b>	(pl. capitula) A compact cluster of sessile flowers, often surrounded by involucral bracts, as of daisies and other composite plants.

<b>Capsule:</b>	A dry, dehiscent fruit composed of more than 1 carpel.
<b>Caudex:</b>	The persistent and often woody base of an herbaceous perennial.
<b>Clasp:</b>	Partly surrounding the stem.
<b>Collar:</b>	A marking or structure resembling a collar, found at the junction of a stem and a root.
<b>Coniferous:</b>	Of or relating to or part of trees or shrubs bearing cones and evergreen leaves.
<b>Cotyledon:</b>	Primary leaf of the embryo; a seed leaf.
<b>Crown:</b>	The persistent base of an herbaceous perennial; the top part of a plant.
<b>Cyme:</b>	A flat-topped or round-topped determinate inflorescence, panicle, in which the terminal flower blooms first.
<b>Deciduous:</b>	A plant that sheds its leaves annually.
<b>Decurrent:</b>	Extending downward from the point of insertion, as a leaf base that extends down along the stem.
<b>Dioecious:</b>	Flowers imperfect; the staminate and pistillate flowers borne on different plants.
<b>Disk:</b>	An enlargement or outgrowth of the receptacle around the base of the ovary; in the Compositae, the central portion of the involucre head bearing tubular or disk flowers.
<b>Downy:</b>	Covered with short, soft, erect hairs.
<b>Fibrous:</b>	Bearing or resembling fibers.
<b>Floret:</b>	A small flower; an individual flower within a dense cluster, as a grass flower in a spikelet, or a flower of the Compositae in an involucre head.
<b>Forb:</b>	Any herbaceous plant that is not a grass.
<b>Germinate:</b>	To begin to sprout or grow.
<b>Glabrous:</b>	Smooth; hairless.
<b>Glandular:</b>	Of or pertaining to a gland; gland-like; bearing glands.
<b>Glume:</b>	One of the paired bracts at the base of a grass spikelet.
<b>Herbaceous:</b>	Relating to plants or plant parts that are fleshy as opposed to woody.

<b>Hispid:</b>	Covered in stiff hairs or bristles.
<b>Inflorescence:</b>	The flowering part of a plant; a flower cluster; the arrangement of the flowers on the flowering axis.
<b>Involucre:</b>	A whorl of bracts subtending a flower or flower cluster.
<b>Lanceolate:</b>	Narrow and tapering to a point at each end.
<b>Leaflet:</b>	A small leaf or leaflike part.
<b>Ligulate:</b>	With a ligule; strap shaped.
<b>Ligule:</b>	A strap-shaped organ; the flattened part of the ray corolla in the Compositae; the membranous appendage arising from the inner surface of the leaf at the junction with the leaf sheath in many grasses, some sedges; a tongue-like projection borne at the base of the leaves above the sporangia.
<b>Lobe:</b>	A leaf lobe is a partial rounded portion of a leaf margin, separated from the whole by a more or less deeply indentation that does not break the continuity of the structure (deeper than the ones it may have if it is toothed but less than halfway to the midline of the leaf.
<b>Margin:</b>	The edge, as in the edge of a leaf blade.
<b>Node:</b>	The position on the stem where leaves or branches originate.
<b>Nutlet:</b>	A small nut; 1 of the lobes or sections of the mature ovary.
<b>Ob lanceolate:</b>	Inversely lanceolate (tapering to a point at the apex and sometimes at the base).
<b>Ovary:</b>	The expanded basal portion of the pistil that contains the ovules.
<b>Panicle:</b>	A branched, racemose inflorescence with flowers maturing from the bottom upwards.
<b>Pappus:</b>	Modified calyx of the Compositae, consisting of awns, scales, or bristles at the apex of the achene.
<b>Pedicel:</b>	The stalk of a single flower in an inflorescence, or of a grass spikelet.
<b>Perennial:</b>	A plant having a life cycle lasting more than 2 years.

<b>Perianth:</b>	The calyx and corolla of a flower, collectively, especially when they are similar in appearance.
<b>Petiole:</b>	A leaf stalk.
<b>Phyllaries:</b>	A bract or modified leaf which is normally associated with reproductive structure that forms a collar around the head of a flower.
<b>Pinnate:</b>	Having the leaflets growing opposite each other in pairs on either side of the stem.
<b>Propagule:</b>	A structure, such as a seed or spore, which gives rise to a new plant.
<b>Prostrate:</b>	Growing flat along the ground.
<b>Raceme:</b>	An unbranched, elongated inflorescence with pedicellate flowers maturing from the bottom upwards.
<b>Ray:</b>	The strap-like portion of a ligulate flower in the Compositae; a branch of an umbel.
<b>Receptacle:</b>	The portion of the pedicel upon which the flower parts are borne; in the Compositae, the part of the peduncle where the flowers of the head are borne.
<b>Riparian:</b>	An area relating to the banks of a natural course of water.
<b>Rhizome:</b>	Horizontal, underground stem; rootstock.
<b>Rosette:</b>	A dense radiating cluster of leaves. First year plants may grow in this form.
<b>Scorpid:</b>	Shaped like a scorpion's tail; as in some coiled cymes; a determinate inflorescence with zigzag rachis.
<b>Sepal:</b>	A segment of the calyx.
<b>Sessile:</b>	Attached directly, without a supporting stalk, as a leaf without a petiole.
<b>Sheath:</b>	The portion of an organ which surrounds, at least partly, another organ, as the leaf base of a grass surrounds the stem.
<b>Spikelet:</b>	A small spike or secondary spike; the ultimate flower cluster of grasses and sedges, consisting of 1 or many flowers subtended by 2 bracts.
<b>Stamen:</b>	The male reproductive organ of a flower, consisting of an anther and filament.

<b>Stellate:</b>	Star-shaped, as in hairs with several to many branches radiating from the base.
<b>Stigma:</b>	The portion of the pistil which is receptive to pollen.
<b>Subshrub:</b>	A dwarf shrub that is woody at the base.
<b>Subtend:</b>	To be below and close to, as a bract may subtend an inflorescence.
<b>Taproot:</b>	The main root axis from which root branches arise; a root system with a main root axis and smaller branches, as in most dicots.
<b>Terminal:</b>	Growing or appearing at the end of a stem, branch, stalk, or similar part.
<b>Throat:</b>	The orifice of a gamopetalous corolla or gamosepalous calyx.
<b>Tiller:</b>	A basal or subterranean shoot which is more or less erect.
<b>Translocation:</b>	The transport of minerals, sugars, etc. in solution within a plant.
<b>Trichome:</b>	A hair or hair-like outgrowth of the epidermis.
<b>Truncate:</b>	With the apex or base squared at the end as if cut off.
<b>Umbel:</b>	A flat-topped or convex inflorescence with the pedicels arising more or less from a common point, like the struts of an umbrella.
<b>Vein:</b>	One of the narrow, usually branching tubes or supporting parts forming the framework of a leaf.
<b>Whorl:</b>	A ring-like arrangement of similar parts arising from a common point or node; a verticil.

Remember to...

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For more information call the Invasive Plant Team:  
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