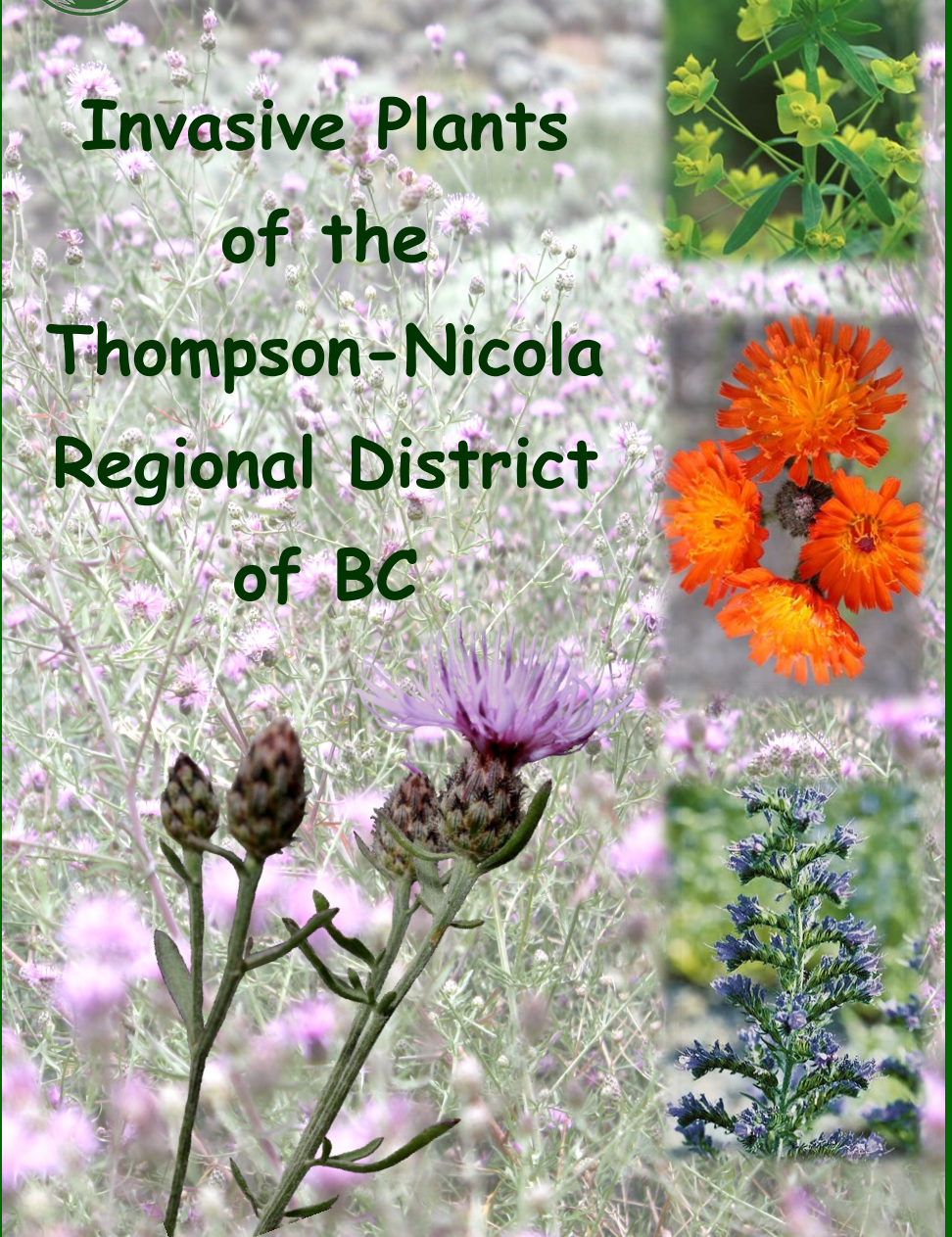




Southern Interior Weed
Management Committee

Invasive Plants of the Thompson-Nicola Regional District of BC



Thank-you to our funders in the printing of this document:



Southern Interior Weed
Management Committee



This document was prepared by Jo-Ann Fox, Becky Haywood-Farmer, and Cara Lamont of the Southern Interior Weed Management Committee (SIWMC).

The SIWMC gratefully acknowledges the following organizations for providing photographs: Province of BC, The Centre for Invasive Species Management (Montana State University), and Becky Haywood-Farmer

Table of Contents

Table of Contents.....	1-2
Legend/Key.....	3

Plant Profiles

Blue Flower

Blueweed.....	4-5
---------------	-----

Orange Flowers

Orange Hawkweed.....	6-7
----------------------	-----

Purple Flowers

Bull Thistle.....	8-9
Burdock.....	10-11
Canada Thistle.....	12-13
Common Bugloss.....	14-15
Field Scabious.....	16-17
Hound's Tongue.....	18-19
Marsh Plume Thistle.....	20-21
Meadow Knapweed.....	22-23
Nodding Thistle.....	24-25
Plumeless Thistle.....	26-27
Purple Loosestrife.....	28-29
Russian Knapweed.....	30-31
Scotch Thistle.....	32-33
Spotted Knapweed.....	34-35

White Flowers

Baby's Breath.....	36-37
Common Crupina.....	38-39
Diffuse Knapweed.....	40-41
Hoary Alyssum.....	42-43
Hoary Cress.....	44-45
Knotweed Species.....	46-47
Oxeye Daisy.....	48-49
Perennial Pepperweed.....	50-51
Scentsless Chamomile.....	52-53

Yellow Flowers

Common Tansy.....	54-55
Dalmatian Toadflax.....	56-57
Leafy Spurge.....	58-59
Rush Skeletonweed.....	60-61
Russian Olive.....	62-63
St. John's Wort.....	64-65
Sulphur Cinquefoil.....	66-67
Tansy Ragwort.....	68-69
Western Goat's Beard.....	70-71
Yellow Flag Iris.....	72-73
Yellow Hawkweed Species.....	74-75
Yellow Starthistle.....	76-77
Yellow Toadflax.....	78-79

Report-a-Weed App.....	80
-------------------------------	-----------

Glossary.....	81-82
----------------------	--------------

Legend / Key



Biological Control Life Cycle

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

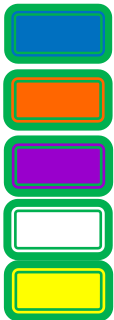
Indicates the months that insects are available for release.

Overwintering	Adult	Dormant Adult	Larva	Pupa	Egg	Mixed Stages	All Stages
---------------	-------	---------------	-------	------	-----	--------------	------------

Plant Life Cycle

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Dormant Stage			Growing Stage			Flowering Stage			Seed Stage		

Flower Color



Blue

Orange

Purple

White

Yellow

Orange Hawkweed (*Hieracium aurantiacum*)

OH

HIER AUR

Species Latin Name

Species Common Name

Map label code
(Used for IAPP data entries)

Plant's Genus and Species Codes
(Used for IAPP data entries)

Blueweed (*Echium vulgare*)

BW ECHI VUL

Erect biennial to short-lived perennial herb up to 1 metre tall. Introduced from North Africa as a garden ornamental



Distribution

Fairly common in the Merritt area but in very limited numbers elsewhere.

**Please report
all occurrences
outside of the Merritt area.**

Quick ID

Purplish-blue, funnel-shaped flowers.

Flowers on the upper side of short arching branches.

Seed stalk resembles a viper's head.

Entire plant is bristly/hairy.

Interesting Facts:

Typically not eaten by grazing animals and thus increases in overgrazed areas.

"Look-Alike" Species

Lupine, *Lupinus spp.*, appears similar but the main distinguishable difference is that lupines have leaves that are palmate shaped, that are smooth above and hairy below, and that are soft to the touch. The flowers are pea-like.



Manual Treatment: Hand pulling or digging is effective; done best when soil is moist. Wear gloves, avoid skin contact. If any portion of flower is beginning to emerge, or if seed heads are formed, pick, bag, and remove.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Numerous bright, purplish-blue (occasionally white or pink), funnel-shaped flowers arranged on the upper side of short arching branches. Five petals. Buds are reddish-purple before opening.



Leaves and Stems: First year basal rosette radiates from central point. Rosette leaves have entire margins, taper towards the stalk, and are rounded at the tips. Flowering stalks grow from the rosette during the second year. Stem leaves are lance-shaped with entire margins, and are alternately arranged. Stem hairs are painful to touch.

Seeds: Fruit is a cluster of four angular, wrinkled seeds that are grayish-brown when mature. Each plant may produce up to 2,800 seeds.

Roots: Stout, black taproot with smaller fibrous lateral roots. Reaches 60cm long.



Reproduction and Dispersal: By seeds. Most seeds fall near the parent plant, but seeds also travel though infested gravel, water, animals, heavy machinery and vehicles.

Habitat Preference: Found in gravelly riparian areas, roadsides, pastures, and meadows at low to mid-elevations. Well-adapted to dry, rocky, sandy or shallow soils, especially glacial till.



Orange Hawkweed (*Hieracium aurantiacum*)

OH HIER AUR

A 30 cm to 1 metre tall perennial with above ground runners, similar to those of strawberries. Introduced from Europe as a garden ornamental.



Distribution

Fairly common throughout the North Thompson and Cariboo.

Quick ID

Vibrant orange-red flowers.

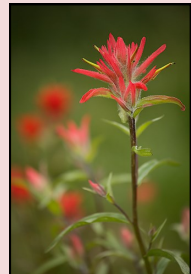
Milky latex juice when broken.

Hairy leaves mostly found at base of plant.

Stems mostly leafless with black bristly hairs.

“Look-Alike” Species

Indian paintbrush, *Castilleja miniata*, has a flower set in a cluster with long, tube-like, hairless petals that are pale green to red on the ends. Many native hawkweeds exist in this ecosystem as well but all have white or yellow flowers.



Interesting Facts:

Above ground runners create a dense mat that impedes other vegetation. Grazed by sheep, goats, horses, occasionally by cattle, and native grazing animals.

Manual Treatment: Hand pulling or digging is effective; done best when soil is moist. Wear gloves, avoid skin contact. If any portion of flower is beginning to emerge, or if seed heads are formed, pick, bag, and remove.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Cluster of 5 to 30 dandelion-like, showy, red-orange flower heads. Petals have notched tips.

Leaves and Stems: Hairy leaves in a rosette at the base of the plant. Leaves darker green on top than underneath. Few to no leaves on stem.

Seeds: Tiny purplish-black seeds with tawny-white, brittle plumes attached on the flattened end.

Roots: Rhizomatous. Shallow fibrous roots with a woody stem base.

Reproduction and Dispersal: By above ground runner, seeds and roots.

Habitat Preference: Low to mid-elevations. Disturbed areas, meadows, roadsides, grasslands, forest openings and lawns. Will not tolerate heavy shade.





Bull Thistle (*Cirsium vulare*)

BT CIRS VUL

Taprooted biennial growing to 0.3 to 1.5 metres tall.

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<i>Larinus planus</i>		Overwintering adult				Adult	Lar/pup	Adult	Overwintering adult		
<i>Rhinocyllus conicus</i>		Overwintering	Adult		Larva	pupa	Adult		Overwintering adult		



Larinus planus (F.)



Rhinocyllus conicus (Fröl.)

Distribution

Common throughout the Interior.

Quick ID

Dark purple flower heads 3.8 to 5cm wide, with sharp, spiny bracts.

Prickly stems with spiny wings from leaves.

Leaves with short prickles on the upper surface and cottony hair below.

Interesting Facts:

Most animals do not care for the bitter taste of the bull thistle and will not consume it.

Manual Treatment: Cutting and mowing top growth or cutting the taproot just below the root crown before seed-set will eliminate annual seed production. Repeated cutting may be necessary. Cutting and mowing treatments are most effective before plant has bolted.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: At 4-5 cm in diameter, the bull thistle's large, bright pink (to dark purple) flowers are hard to miss. Blooms form at the ends of branches, supported by equally large, spine-covered bracts.

Leaves and Stems: Deeply divided leaves have stout spines at the ends and at the tips of each segment. Leaves clasp the stem with distinctive spiny wings.

Roots: Thick woody taproot.

Reproduction and Dispersal: Seeds are highly viable and usually germinate rapidly whenever conditions are favourable. Seeds have silky down and can be windblown for long distances. However, the majority of seeds land near the parent plant.

Habitat Preference: Bull thistles grow in dry to moist habitats that include roadsides, cultivated fields, pastures, logged forestland, and disturbed sites. They are generally intolerant to shade but are widespread and abundant in all areas of British Columbia.



Burdock (*Arctium spp*)

BU ARCT SPP

Erect biennial ranges in heights from 1 to 3 metres tall.



Distribution

Found throughout the Southern Interior.

Quick ID

Burdock is well-known for producing prickly burrs that easily attach to clothing and animals.

Large purple flowers that are scattered in rounded clusters along the stems.

Interesting Facts:

Livestock eat the leaves, and the foliage can impart a bitter taste in milk.

Burrs can become entangled in the fleece of sheep, damaging the quality and reducing the value of wool. Burdock has diuretic properties.

Manual Treatment: Tillage can be used to kill the plants at the rosette stage. Mowing or cutting can be used to eliminate seed production. Mow after the plant has bolted but before it has flowered .



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Large purple flowers that are scattered in rounded clusters along the stems.

Leaves and Stems: The leaves are toothed or wavy-edged, broad, dark green, and woolly underneath.

Roots: Large fleshy taproot.

Reproduction and Dispersal: Burr-like seed heads are readily dispersed by attaching to animal fur or clothing.

Habitat Preference: Burdock is found at low- to mid-elevations in grasslands and forests, along roadsides, ditches, stream banks, pastures, and disturbed habitats. It is frequent in coastal, west central, and southern British Columbia and a major concern in the Okanagan, Thompson, Cariboo, Omineca, and Peace regions.





Canada Thistle (*Cirsium arvense*)

CT CIRS ARV

Creeping rooted perennial growing erect to 1.2 metres tall.

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<i>Larinus planus</i>			Overwintering adult			Adult	Larva/ pup	Adult	Overwintering adult		



Distribution

Common throughout the Southern Interior.

Quick ID

- Prickly stems and stalkless leaves.
- Extensive creeping rhizomes.
- Purplish-pink flowers less than 2.5cm across.
- Floral bracts generally lack sharp spines.

“Look-Alike” Species

Hooker’s thistle, *Cirsium hookerianum*, tends to grow individually rather than in dense colonies. It typically has white to pink flowers and has a taproot rather than rhizomes.



Interesting Facts:

Each plant has both male and female flowers; female flowers have a pleasant vanilla-like aroma.

Manual Treatment: Occasionally hand-pulling and cultivation may increase infestations by dispersing root fragments. However, repeated cultivation, mowing, or hand-cutting reduces and can eventually eliminate infestations.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Clusters of pinkish-purple (occasionally white) flowers attach to the top of branches or emerge from the joint where leaves attach to stem. Directly below the flower petals are several rows of overlapping floral bracts, which generally lack sharp spines.

Leaves and Stems: Stalkless, alternate leaves 5 to 15 cm long. Leaves are prickly and spine-tipped with a wavy surface, toothed margins, and irregularly shaped lobes. Soft wooly hairs often cover underside of leaf. Hollow, leafy stems lack wings, branch near the top, and become hairy with age.

Seeds: Light brown seeds, 3 to 4 mm long, with feathery white plume attached. Each plant may produce over 40,000 seeds that remain viable for up to 21 years.

Roots: Deep creeping roots, or rhizomes, allow plant to survive below the cultivation zone.

Reproduction and Dispersal: Although seeds can be dispersed by wind, reproduction is primarily from creeping underground rhizomes, or roots with buds.

Habitat Preference: Roadsides, pastures, fields, forest openings, stream banks, and disturbed sites. Prefers moist soil. Typically does not tolerate heavy shade.



Common Bugloss (*Anchusa officinale*)

AO ANCH OFF

Deep tap-rooted perennial in the Borage Family with hairy, angular stems growing 0.8 metres tall.



Distribution

Very rare throughout the province.

Please report all occurrences.

Quick ID

Deep purple to blue flowers with white centers.

Flowers originate at the ends of the stalks with each flower stem coiled like a fiddle neck at first.

Has fleshy, hairy leaves that grow smaller in size towards the top of the stem.

Interesting Facts:

Though not poisonous to livestock or wildlife, it has been shown to reduce carrying capacity in pasture lands.

“Look-Alike” Species

‘Hackelia floribunda’ is a species of flowering plant in the borage family. This is a lush biennial or perennial herb with hairy stems reaching a maximum height of about 1 meter. They emerge as a leafy clump, surrounded by many smooth lance-shaped leaves up to 24 centimeters long. There are few leaves at the ends of the stems, which hold terminal inflorescences of blue flowers. Each flower has five lobes with petal-like appendages at their bases. The fruit is a tiny, mildly prickly nutlet.



Manual Treatment: Cutting or mowing before plants flower will prevent seed production. Flowering stalks should be bagged, removed from the site, and burned.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Flower stems, initially coiled like fiddleheads, straighten out as each bud opens. Deep purple to blue flowers with white centres produce four nut-like seeds each.

Leaves and Stems: Common bugloss has fleshy, hairy leaves that grow smaller in size towards the top of the stem

Seeds: Each flower produces four nut-like seeds. One plant produces an average of 900 seeds.

Roots: Long taproot. New shoots develop from root stock fragments.

Reproduction and Dispersal: Spread when seeds are eaten by animals and when seed-bearing stalks are tumbled in the wind. Vehicles, animal, human feet, redistribution of soils and gravels, and contaminated hay also spread the seeds.

Habitat Preference: Favours dry, fertile, well-drained soils. It is found on roadsides, dry fields, pastures, and disturbed areas in British Columbia.



Field Scabious (*Knautia arvensis*)

FS KNAU ARV

Erect perennial up to 1.5 metres tall. Introduced from Eurasia as an ornamental. Also known as Bluebuttons.



Distribution

Limited distribution in the Southern Interior.

Please report all occurrences.

Quick ID

Solitary violet flower heads.

Ring of narrow, green floral bracts.

Leaves deeply lobed into 5 to 15 narrow segments.

Lower part of plant is bristly/hairy.

Interesting Facts:

Still sold as an ornamental and butterfly attractant.



Manual Treatment: Cut or mow pastures before seed-set.

Cultivation can manage this weed. Heavily infested pastures and hayfields can be cultivated and rotated to an annual crop.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Violet blue to pale purple, up to 4 cm wide; solitary on the end of a long, leafless stalk. Below each flower head are 8 to 12 sepals and a ring of narrow green bracts. Florets have 4 to 5 lobed petal tubes, four stamens, and a single pistil.

Leaves and Stems: Low growing rosette in first year. Rosette leaves are entire, coarsely toothed, stalked leaves 10 to 25 cm long. Produces one main stem the second year. Stem leaves are opposite, stalkless and deeply lobed into 5 to 15 narrow segments.

Seeds: Rectangular, light brown, four-sided seeds that are densely covered with long hairs. Can produce 200,000 seeds and may remain viable in the soil for several years.

Roots: Woody taproot.

Reproduction and Dispersal: By seed. Most seeds fall close to parent plant but animals also facilitate seed dispersal in their manure.

Habitat Preference: Roadsides, pastures and fields. Prefers nutrient-rich and moderately moist to dry loam soils, but also establishes in gravelly soils. Can invade undisturbed plant communities.





Hound's Tongue (*Cynoglossum officinale*)

HT CYNO OFF

A biennial to short-lived perennial. It forms a rosette in the first year with leaves shaped like a dog's tongue. Mature plants are 0.3 to 1.2 metres tall and have rough, hairy, wide leaves and reddish-purple, five-petal flowers.

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<i>Mogulones cruciger</i>		Overwinter	Adult	All stages			Adult	Overwinter - mixed stages			



Distribution

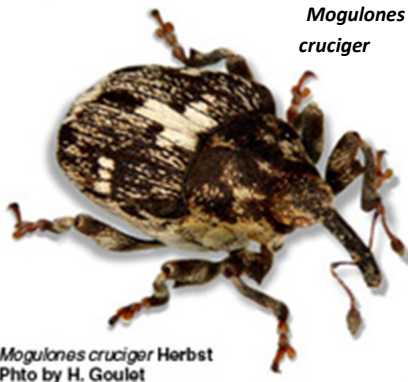
Found throughout the Southern Interior but less common with the introduction of biological control.

Quick ID

Dull, reddish purple flowers with five petals.

Soft, hairy rosette of leaves in first year.

Burr-like seeds stick to fur and clothing.



Mogulones cruciger

Mogulones cruciger Herbst
Photo by H. Goulet

Interesting Facts:

Hound's tongue contains toxic alkaloids that can cause liver damage in cattle, deer, pigs, horses, and goats.

Manual Treatment: Hand-pull plants and/or remove flowering stems before seed-set (by mowing or picking). Wear gloves to prevent skin irritation.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Dull, reddish purple flowers in terminal branches with five petals, united at the base.

Leaves and Stems: Rough, hairy/velvety, 2.5 to 30 cm long leaves with entire margin (lacking teeth or lobes). Alternate leaves in second year. Erect hairy stem, usually branched near the top. May produce a single flowering stem or multiple stems per plant.



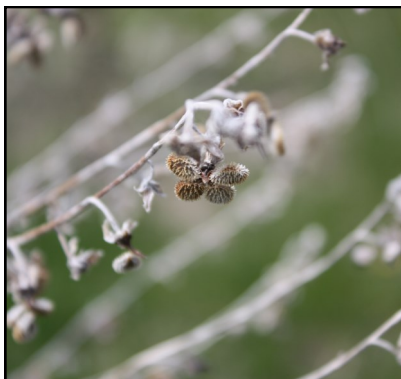
Seeds: Fruit is composed of four prickly, flattened, burr-like nutlets (seeds) that are green when immature and roughly the size of a corn kernel. Seeds turn brown and become adhesive when mature, readily clinging to clothing or animals.



Roots: Mature hound's tongue plants have a woody taproot.

Reproduction and Dispersal: By seed. 'Hitchhiking' seeds can easily be spread great distances by animals and humans. Mature plants can produce hundreds of seeds per year. Viable for 2-3 years.

Habitat Preference: Shade tolerant. Open forested and meadow areas, along roads and trails, disturbed areas.





Marsh Plume Thistle (*Cirsium palustre*)

MT CIRS PAL

Biennial thistle growing to about 1.5 metres tall.

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<i>Rhinocyllus conicus</i>		Overwintering	Adult	Larva	pupa	Adult	Overwintering adult				



Distribution

Very limited distribution in the Southern Interior.

Please report **all** occurrences.

Quick ID

A single, slender, un-branched stem with a cluster of purple flowers at the top.

The upright stem can grow to 1.5 m tall and is evenly covered in spiny wings.

Leaves are deeply segmented, hairy on the undersides, and have prominent woody veins.



Interesting Facts:

As this species flourishes in moist-to-wet openings, it can form dense clumps in cut blocks, competing for moisture and nutrients with tree seedlings.



Manual Treatment: In areas that are suitable for use of mowing equipment, mowing before flowering will prevent seed-set.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Compact clusters of purple flowers form at the tip of the stems. Bracts at the base of the flowers are sticky and tipped with a long spine.

Leaves and Stems:

Slender stems are strongly spiny-winged and are usually un-branched, except for the upper



portion which terminates in clusters of purple flower heads. Deep segmented, spine-tipped leaves are somewhat hairy on the underside and have prominent woody veins.

Seeds: Seeds are straw coloured, 2.5 to 3.5 mm long, with a 9 to 10 mm long tawny pappus.

Roots: Fibrous root system.

Reproduction and Dispersal: By seeds. Wind and water disperse the light, parachute-like seed. Ingestion of seeds by birds may also disperse seeds.

Habitat Preference: Prefers moist wood-lands, riparian areas, roadsides and pastures on both disturbed and undisturbed sites.



Meadow Knapweed (*Centaurea pratensis*)

MK CENT DEB

Erect, short-lived perennial or biennial up to 1.2 metres in height. Meadow knapweed is a fully fertile hybrid between Black knapweed and Brown knapweed. Because it is a hybrid, its traits can vary. Introduced from Eurasia.



Distribution

Very limited distribution in the Southern Interior.

Please report **all** occurrences.

Interesting Facts:

May be capable of hybridizing with Yellow starthistle and Diffuse knapweed.

Quick ID

Pinkish-purple flowers.

Leaves have entire margins or shallow lobes.

Floral bracts are papery with a brownish fringe.

Seed head from previous year persists.



Manual Treatment: Larger infestations can be mowed to remove top growth. Bag and burn mown plants.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: One pinkish-purple (or occasionally white), globe-shaped flower head develops on the end of each stem branch. The papery bracts below the flower head have a tan to dark-brown, bushy fringe. During flowering, the bracts reflect a metallic, golden sheen.

Leaves and Stems: Coarse; covered with fine hairs that give it a grayish-green appearance. Entire, undivided leaves with margins that may be wavy or toothed distinguish it from other knapweeds. Basal rosette leaves are up to 15.24 cm long, taper at both ends, and may be shallowly lobed. Middle and upper leaves are smaller, nearly stalkless and are not lobed.



Seeds: Ivory white to light-brown seeds.

Roots: Deep, stout taproot. Mature plants develop a cluster of somewhat fleshy roots below the woody crown.

Reproduction and Dispersal: Primarily by seed but root and crown fragments also re-sprout. Seeds are often sold in seed catalogs or wildflower mixes and may be found in gardens as an ornamental plant.

Habitat Preference: Found in fields, roadsides and other open areas. Tolerates partial shade and likes wetter environments, such as irrigated pastures or moist meadows.





Nodding Thistle (*Carduus nutans*)

NT CARD NUT

Biennial taprooted thistle growing to 2.5 metres tall.

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<i>Larinus planus</i>			Overwintering adult			Adult	Larva/ pup	Adult	Overwintering adult		
			<i>Rhinocyllus conicus</i>			Overwintering	Adult	Larva	pupa	Adult	Overwintering adult



© 2006 k. chavka

Quick ID

Solitary reddish-purple flower heads droop, or nod, at maturity.

Purplish bracts below the seed head are broad and bent back.

Spiny wings covering stem where leaves are present.

Distribution

Limited distribution throughout the Southern Interior.

“Look-Alike” Species

Native thistles generally do not have leaves whose bases extend down and are fused to the stem all the way from node to node. Many native thistles have hairy upper and lower leaf surfaces.



Interesting Facts:

Similar in appearance to exotic Plumeless thistle but has larger flowers and leaves with prominent white margin.

Manual Treatment: Repeated mowing, hand-pulling, or cutting can be used to stop the spread of nodding thistle. Mowing or hand-cutting after flowering, but before seed-set, prevents seed development and dispersal. When pulling nodding thistle, it is important to completely remove the crown so that the plant does not simply re-bolt and produce seeds. Repeated visits at weekly intervals over the 4–7-week flowering period are necessary because not all plants flower at the same time. Cut plants should be deeply buried or burned because seeds can mature and become viable after cutting.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Reddish-purple flowers (up to 5 cm in diameter) are solitary at the end of branches. Purplish spiny bracts below the seed head are broad (2 mm wide) and bent back. Stalk directly below the flower head is covered with soft white hairs instead of spiny wings.



Leaves and Stems: Hairless stem leaves have a light midrib, long sharp spines along usually white leaf margins, and are stalkless with bases extending down the stem as spiny wings. Wings present only where leaves exist and not directly below the flower head. Basal rosette leaves are up to 30 cm long and are often covered with fine, wooly hairs on both surfaces.



Seeds: Single seeded fruits are 4 to 5 mm long, pale yellow to orange-brown with longitudinal dotted stripes. Averages 10,000 seeds per plant with up to 90% viability.

Roots: Large, fleshy taproot is often hollow near the ground surface.

Reproduction and Dispersal: Reproduces by seed only. Dispersed by wind, water, and animals.

Habitat Preference: Pastures, grasslands, forest lands, crop fields, river valleys, roadsides and disturbed open sites.





Plumeless Thistle (*Carduus acanthoides*)

PT CARD ACA

Perennial taprooted thistle growing to 1.2 metres tall.

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<i>Larinus planus</i>					Overwintering adult	Adult	Lar/pup	Adult	Overwintering adult		
<i>Rhinocyllus conicus</i>					Overwintering	Adult	Larva	pupa	Adult	Overwintering adult	



Distribution

Currently found
in the Kamloops area.

Quick ID

Reddish-purple flower heads.

Stem leaves hairy only on
upper side.

Spiny wings densely covering stem
up to base of flower heads.

Narrow bracts below the seed head
appear as sharp spines.

Interesting Facts:

Unpalatable to grazing animals.

"Look-Alike" Species

Similar in appearance to **non-native** Nodding thistle, *Carduus nutans*, but differs by having spiny wings densely covering stem, smaller flowers (less than 3 cm in diameter), and leaves lacking a prominent white margin. Nodding thistle and Plumeless thistle can hybridize.



Manual Treatment: Hand pulling with leather gloves or cutting the tap root at least 5 cm below the soil line before flowering prevents seed production. Can be effective at reducing populations if done repeatedly throughout the growing season.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Reddish-purple flowers (less than 3 cm in diameter) are either solitary or in clusters of two to five. Narrow bracts below the seed head appear as sharp spines.

Leaves and Stems: Leaves have hair only on the underside, spines along the leaf margin, and a light midrib. Stem leaves are stalkless, extend down the stem like spiny wings. The stems are branched near the top and are densely covered with these spiny wings up to base of flower heads. Rosette leaves are deeply serrated nearly to the midrib.

Seeds: Single seeded fruits are 2 to 3 mm long, light brown with faint longitudinal stripes, and have a plume (pappus) with bristles 11 to 12 mm long.

Roots: Large, fleshy taproot.

Reproduction and Dispersal: Reproduces by seed only. Dispersed primarily by wind. Extremely prolific seed producer; up to 9,000 seeds per plant.

Habitat Preference: Pastures, grasslands, crop fields, river valleys, roadsides and disturbed open sites.



Larinus planus (F.)



Rhinocyllus conicus (Fröl.)

Schott, C. "Thistle beetles." Photo. *Coleoptera Curculionoidea*. 25/01/2013. <<http://claude.schott.free.fr/Cleoninae/Cleoninae-liste-PL.html>>



Purple Loosestrife (*Lythrum salicaria*)

PL LYTH SAL

Perennial species that often forms solid stands in aquatic to semi-aquatic sites. One plant can produce many stout, 1 to 3 metres tall, branched stems. Introduced as an ornamental from Europe in the early 1800's.



Distribution

Not currently found in the Thompson-Nicola Regional District.

Please report all occurrences.

Interesting Facts:

Invades wetland areas and can expand quickly due to abundant seed production. Astringent herb used for treatment of diarrhea and dysentery.

Quick ID

Pink-purple flowers in long, dense clusters.

Leaves opposite.

Square stem.

Found in most habitats.

“Look-Alike” Species

Fireweed, *Chamerion angustifolium*/
Epilobium angustifolium, also has pink flowers in long, dense clusters at the top of the plant, but has a four-lobed flower and alternate stem leaves.



Manual Treatment: Mechanical treatment is best when infestations are small. Seed heads can be cut and removed to eliminate seed production. Rosettes can also be removed mechanically. Larger mature plants may require digging to be uprooted. Bag and remove all stems to prevent new plants from sprouting.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Flowers in long, dense, vertical clusters (or terminal racemes) with leaves. Showy flowers with 4 to 8 wrinkled petals. Sepals have 8, 10 or 12 prominent green veins.

Leaves and Stems: Opposite leaves without stalks, sometimes in spirals (or whorls) around the stem. Lance-shaped, slightly hairy with smooth edges. Stiff, square or octagonal stem. Can be smooth or with soft hairs.

Seeds: Numerous brown to black seeds in a small, brown, two-chambered capsule. Can produce over two million seeds annually. Viable for up to 20 years.

Roots: Woody taproot and extensive branching fibrous root system.

Reproduction and Dispersal: By seeds and underground horizontal roots (rhizomes). Detached root or stem fragments can also form new plants.

Habitat Preference: Near shorelines in wetlands, floodplains, ponds, streams, rivers, lakes, ditches, canals and other disturbed wet soil areas. Well-established plants can persist on dry sites for many years. Can tolerate a wide range of growing conditions.



Russian Knapweed (*Acroptilon repens*)

RK ACRO REP

Erect, perennial herb up to 1 metre tall. Longer lived than other knapweeds due to extensive, rhizomatous root system. Forms dense colonies. Introduced from Eurasia in contaminated alfalfa seed.



Distribution

Found throughout
Southern Interior.

Quick ID

Silvery flower buds open into pinkish-purple flowers.

Papery, green, floral bracts.

Black, scaly, creeping roots.

Woolly, hairy basal leaves.

Interesting Facts:

Smooth-tipped bracts & blackish,
scaly creeping roots distinguish it from other knapweeds.

Manual Treatment: Hand pull or dig entire plant before seed set, removing as much of the root system as possible. Wear gloves. Hand pulling, cutting, or mowing may control but will not eliminate infestations.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: One pinkish-purple, urn-shaped flower head develops on the end of each stem branch. Egg-shaped floral bracts are green at the base, have a whitish papery margin, and are slightly hairy towards the tip.

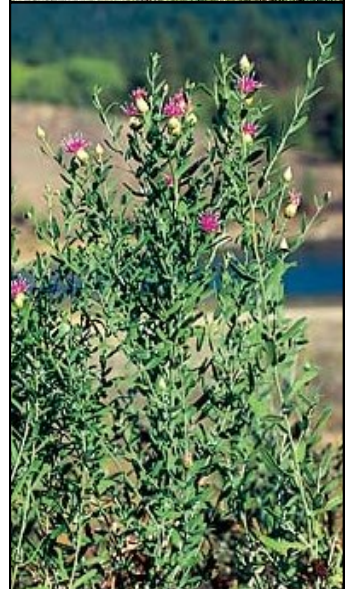
Leaves and Stems: Coarse; covered with fine hairs that give the plant a grayish-green appearance. First year basal rosette has wavy or deeply-lobed leaves, up to 10 cm long. Flowering stalks with alternate leaves grow from the rosette in second year. The narrow upper stem leaves with toothed margins are attached directly to the stem.

Seeds: Flattened, egg-shaped, ivory seeds; 3 to 4 mm long. Not a prolific seed producer.

Roots: Rhizomatous with a vigorous root system. Can grow to depth of 7.6 metres. Creeping adventitious shoots branch off the heavily scaled, black, bark-like roots, enabling plant to spread rapidly.

Reproduction and Dispersal: Primarily by creeping roots (rhizomes).

Habitat Preference: Found in fields, roadsides, cultivated lands and other open areas. Often found in poorly-drained and saline or alkaline soils. Does not tolerate dense shade.



Scotch Thistle (*Onopordum acanthium*)

ST ONOP ACA

Erect biennial up to 2.5 metres tall. Introduced from Europe and western Asia.



Distribution

Limited distribution in the Southern Interior.

Please report **all** occurrences.

Quick ID

Large, bright violet to reddish flowers supported by spine-tipped bracts.

Branched stems with spiny-margined wings.

Leaves are alternate and spiny.

Can grow up to 3 metres tall.

Interesting Facts:

The leaves of Scotch Thistle provide food for some caterpillars.



Manual Treatment: Mowing or hand-cutting are usually most effective in combination with other methods. Plants can re-grow from severed roots, and cut stems may still produce viable seed.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Has numerous, large, bright violet to reddish flowers supported by large spine-tipped bracts. The flowers are globe shaped, 2–6 cm in diameter and are produced in the summer. The flower buds form first at the tip of the stem and later at the tip of the axillary branches. They appear singly or in groups of two or three on branch tips.



Leaves and Stems: The leaves are alternate and spiny. Very large, elliptic-shaped, lower leaves grow to 60 cm long by 30 cm wide. Upper leaves are smaller with irregularly toothed margins with very white hairs on undersurface. Has woody, branched stems with long, spine-edged wings running up the sides.



Seeds: Scotch thistle can produce 8,400 to 40,000 seeds per plant. The seeds are sensitive to light and only germinate when close to the surface. Seedlings will emerge from soil depths up to 4.5 cm, with 0.5 cm being optimal.

Roots: Taproot.

Reproduction and Dispersal: By seed only. Mainly dispersed by wind, or more widely by humans, birds, wildlife, livestock or streams.



Habitat Preference: Scotch thistle is found at low elevations along roadsides, irrigation ditches, on rangelands and disturbed areas. The seeds contain a water-soluble germination inhibitor, so it is often successful in moist areas such as riverbanks.



Spotted Knapweed (*Centaurea biebersteinii*)

SK CENT BIE

Biennial to short-lived taprooted perennial growing to 1.5 metres tall.

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<i>Larinus minutus</i>		Overwintering Adult			Adult	Adult/ larva	Larva/ pup	Adult	Overwintering adult		
<i>Cyphocleonus achates</i>		Overwintering	Larva	Pupa	Pupa/ adult	Adult		Overwintering			



Distribution

Found extensively throughout the Southern Interior.

Quick ID

Pinkish-purple flowers.

Grayish-green stems and leaves.

Floral bracts have brown, triangular tips with comb-like fringe.

Seed head persists until following year.

Larinus minutus



Interesting Facts:

Exudes a chemical called catechin into the soil, which prevents the germination of neighboring plants.

Piper, G. "*Larinus minutus*." Photo. Noxious Weed Control Board. 10/03/2008. 25/01/2013. <<http://www.spokanecounty.org/WeedBoard/content.aspx?c=1462>>

Manual Treatment: Cutting, mowing, or pulling spotted knapweed before the plant sets seed can be effective on a local basis for small populations. However, spotted knapweed seeds can remain dormant in the soil for long periods, so follow-up treatments will be required to make sure the plant has been controlled. Attempt to remove the entire root system so the plant will not re-sprout from the crown or remaining roots.

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: One pinkish-purple (sometimes white), urn-shaped flower head, comprised of 30 to 50 disk flowers, develops on the end of each stem branch.

Leaves and Stems: Coarse; covered with translucent resin dots and fine hairs. First year basal rosette has deeply-lobed leaves. Flowering stalks with deeply-lobed, alternate leaves grow from rosette in second year. Short, narrow upper-stem leaves. Stems on mature plants have many branches. Bitter to taste.

Seeds: Brownish or black seeds, 3 mm long. Seeds are notched on one side of the base and have a short tuft of bristles at the tip. A single plant can produce up to 40,000 seeds.

Roots: Deep, stout taproot that helps plant compete for water and nutrients.

Reproduction and Dispersal: Primarily by seed. Seeds that do not germinate form a seed bank in the soil and may remain viable for eight or more years.

Habitat Preference: Found in disturbed areas, fields, roadsides, and other open areas. Prefers well-drained, light textured soils that receive summer rainfall and ample sunlight. Does not tolerate dense shade.



Piper, G. "Cyphocleonus achates." Photo. Noxious Weed Control Board. 10/03/2008. 25/01/2013. <<http://www.spokanecounty.org/WeedBoard/content.aspx?c=1462>>

Baby's Breath (*Gypsophila paniculata*)

BY GYPS PAN

Erect, bushy perennial up to 1 metre tall. Introduced from Eurasia as an ornamental. Now grown as a crop and used extensively in floral arrangement.



Distribution

Limited distribution in the Southern Interior.

Quick ID

Small white, sweet-scented flowers.

Flower tops look like wispy clouds.

Bluish-green stems and branches;
overall bushy appearance.

Opposite linear leaves with a
prominent white mid-vein.

Interesting Facts:

Can out-complete healthy perennial
grasses.

"Look-Alike" Species

Pearly everlasting, *Anaphalis margaritacea*, appears similar but the main distinguishable difference is that pearly everlasting has soft-hairy foliage, alternate leaves, and it not bushy or heavily branched.



Manual Treatment: Severing the crown from the root by cultivation or hand-cutting below the soil surface usually kills Baby's breath. Regrowth is rare if the complete crown is removed.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Numerous, small, white (occasionally pink) flowers at stem's end—heavily branched clusters. Five petalled flowers, 1.5 to 3 mm wide. A fused, cuplike group of sepals below the flower petals has 5 teeth.

Leaves and Stems: Many-branched, slender stems are swollen at the nodes. Leaves are linear, opposite, hairless, and covered with a powdery white film, which produces a bluish look. Prominent white mid-veins are generally 1.8 to 10 cm, but size decreases toward top. Very few leaves are present when flowers have bloomed.

Seeds: The fruit is a small, egg-shaped capsule with four compartments, each containing 2 to 5 black, kidney-shaped seeds. Can produce over 13,000 seeds per plant.

Roots: Up to 3.6 metres deep, thick, woody tap root. The root has sufficient reserves to survive two years of adverse growing conditions.

Reproduction and Dispersal: By seeds only. Most seeds fall near the parent plant, but mature plants often break off at ground level and wind tumble, dispersing many seeds much further.

Habitat Preference: Disturbed areas, grasslands, pastures, roadsides. Prefers sandy and slightly alkaline soils.



Common Crupina (*Crupina vulgaris*)

CC CRUP VUL

Slender, erect, short-lived annual, up to 1 metre tall. Begins as a fleshy oval seedling then develops into a basal rosette. Originally from the Mediterranean region.



Distribution

Not currently found in the Southern Interior.

Please report **all** occurrences.

Quick ID

Long, narrow, rose-purple flowers.

Short, stiff, barb-tipped hairs on leaf margins.

Fleshy, oval-shaped rosette leaves with distinct purple midribs.

Seeds with a ring of dark, stiff bristles.

Interesting Facts:

Unpalatable forage for grazing animals. Currently most prolific in Idaho.

“Look-Alike” Species

Several **non-native** knapweed species, such as this Russian knapweed, appear similar to Common Crupina in overall appearance, but lack bristly, barb-tipped hairs on the leaf margins.



Manual Treatment: Hand-pulling or hoeing can be effective for small infestations. Plants should be controlled before they set seed, and follow-up treatments may be necessary.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Narrow, 1.3 cm long flower heads composed of 3 to 6 rose-purple disk flowers. One to five flower heads occur at branch tips or in upper leaf axils (where leaves are attached to stems).



Leaves and Stems: One stiff, branched flower stem develops during its second year; rosette leaves wither. Stem leaves are alternate, stalkless, and smaller toward the top. Rosette and stem leaves are deeply lobed with short, stiff, barb-tipped hairs on the leaf margins, making the plant prickly feeling.

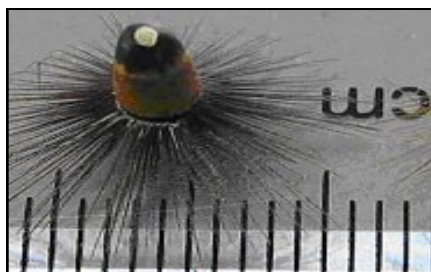
Seeds: Iridescent, black-brown, oblong seeds with a ring of dark, stiff bristles encircling the end.



Roots: Short, dense, fibrous taproot.

Reproduction and Dispersal: By seed only. Seeds typically fall near the parent plant but seeds and whole flower heads can be dispersed further by soil movement, water, animals and human activity.

Habitat Preference: Prefers dry, south facing slopes. Disturbed areas, grasslands, open forests, canyons, riparian areas, croplands, pastures and roadsides.





Diffuse Knapweed (*Centaurea diffusa*)

DK CENT DIF

Biennial to short-lived, heavily branched taprooted perennial, growing from 0.6 to 1 metre in height.

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<i>Larinus minutus</i>		Overwintering Adult		Adult		Adult/ larva	Larva/ pup	Adult	Overwintering adult		
<i>Cyphocleonus achates</i>		Overwintering		Larva		Pupa	Pupa/ adult	Adult	Overwintering		



Distribution

Found extensively in the Southern Interior.

Quick ID

- White (or pinkish-purple) flowers.
- Deeply lobed basal and lower stem leaves.
- Triangular floral bracts tipped with slightly re-curved spines.
- Stems break off at ground level after seed matures, creating a tumbleweed.

Interesting Facts:

A fertile hybrid between Diffuse and Spotted knapweed has been identified.

“Look-Alike” Species

Many native species of **Purple aster** appear similar at first glance, but can be distinguished by the presence of white or purplish petal-like ray flowers, a center of yellow disk flowers, and bracts below the flower heads in series of unequal length.



Manual Treatment: Cutting or mowing before seed-set can be effective to reduce seed production, but it will not eliminate large infestations. Cut plants and rosettes may survive and re-bolt. Hand-pulling can be effective on small infestations, but it often needs to be repeated, depending on the size of the initial weed population.

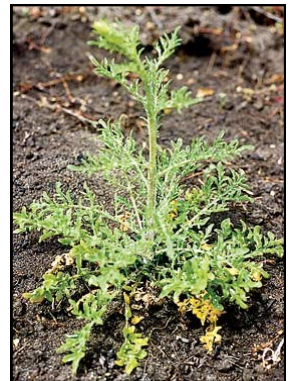


Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: One white (or pinkish-purple) urn-shaped flower head, comprised of 12 to 13 disk flowers, develops on the end of each stem branch. The triangular floral bracts are tipped with a short, cream to brown-colored spine that is slightly recurved. Margins of bracts have slender, comb-like teeth.



Leaves and Stems: Coarse; covered with fine hairs that give them a grayish-green appearance. First year basal rosette has leaves up to 15.24 cm long with deeply lobed segments. Flowering stalks with alternate leaves grow from the rosette during the second year. Single main stem divides into numerous spreading branches on mature plant, giving it a bushy appearance.



Seeds: Oblong, 3 mm long, dark brown or grey.

Roots: Deep, elongated taproot.

Reproduction and Dispersal: Primarily by seed. Wind-blown 'tumbleweeds' help to disperse seeds greater distances.

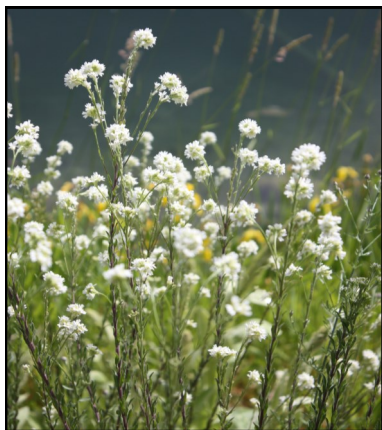
Habitat Preference: Found in fields, roadsides and other open areas. Can spread rapidly in disturbed sites. Prefers well drained, light textured soils that receive ample sunlight. Prefers a drier site that Spotted knapweed.



Hoary Alyssum (*Betseroa incana*)

HA BERT INC

Annual to short-lived perennial. Hoary alyssum grows erect to 0.7 metres tall and has white flowers on long slender stalks.



Distribution

Found scattered throughout the Southern Interior but fairly abundant in the North Thompson

Please report small, isolated sites.

Quick ID

White flowers with deeply notched petals.

The entire plant is covered with star shaped hairs.

Upper leaves are elliptic and clasp stem.

Oval seedpods are 5-8 mm long, somewhat flattened and held close to the stem.

“Look-Alike” Species

Field Chickweed, *Cerastium arvense*, is a native perennial found in subalpine meadows and rocky hillsides. It has opposite, slender, stemless leaves and white flowers with five, deeply lobed petals.



Interesting Facts:

Hoary alyssum is toxic to horses, and can cause fever, edema, and laminitis. Sensitivity varies when small or single doses are ingested, and death has only been reported in horses that have consumed hay infested with a large proportion (30-70%) of Hoary alyssum.

Manual Treatment: Small populations are killed by hand pulling or hoeing. Mowing can prevent seed production.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Has small (5-8 mm in length), white flowers with deeply notched petals that are supported on slender stalks. Sepals are hairy and transient.

Leaves and Stems: The whole plant is covered in star-shaped hairs that are rough to touch, with grey leaves that clasp closely to the stem.

Seeds: Oval seedpods are chambered and held close to the stem with each chamber containing 5-7 black seeds.

Reproduction and Dispersal: Hoary Alyssum spreads rapidly through a long season of seed production. Each plant flowers and produces a large number of seeds between early summer and fall up to frost. Seeds disperse as a contaminant in hay and are spread by vehicles, equipment, footwear, wildlife, and birds.

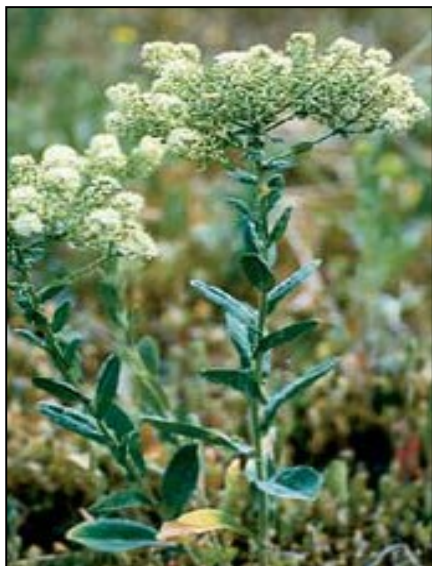
Habitat Preference: Most common on sandy or gravelly soils, hoary Alyssum establishes in dry, disturbed habitats, such as roadsides and railway embankments. Hoary Alyssum invades dry land, irrigated alfalfa fields, and rangelands, tending to increase in forage crops following periods of drought or winterkill, thus reducing hay quality and value.



Hoary Cress (*Cardaria draba*)

HC CARD DRA

Erect, perennial herb up to 0.6 metres tall. Has a flat-topped appearance. Introduced from Eurasia, most likely in contaminated alfalfa seed. Also known as *Lepidium draba*.



Distribution

Limited distribution in the Southern Interior.

Quick ID

White flowers with 4 petals, approx. 6 mm across.

Dense flower clusters give a flat topped appearance.

Lower leaves are stalked and hairy while upper leaves clasp the stem and are usually hairless.

Inflated, upside down, heart-shaped seedpods.

“Look-Alike” Species

Common Yarrow, *Achillea millefolium*, has a similar white, flat-topped flower cluster. The leaves are easily distinguished as they are very finely pinnately-divided, appearing feather like, and have a fragrant aroma when crushed.



Interesting Facts:

Above ground parts are high in vitamin C.

Manual Treatment: Mowing 2–3 times a year for several years may slow the spread and reduce seed production. Mowing should be conducted during the bud stage and repeated when the plants re-bud.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

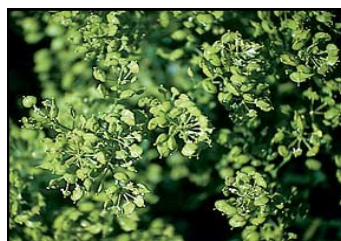
Flowers: White flowers with 4 petals, approximately 6mm across. These dense flower clusters give the weed a flat-topped appearance early in the season, but this is lost as the stem elongates.

Leaves and Stems: Leaves on mature plants are shaped like arrowheads, alternately arranged, and have finely toothed edges. Basal rosettes have bluish-green, lance shaped leaves. A single stem, often branched near the top, has one flower cluster.



Seeds: Inflated seedpods are shaped like an upside down heart. Seedpods contain two reddish brown, egg-shaped seeds separated by a narrow partition. Viable for up to three years.

Roots: Rhizomatous, with vigorous creeping root system. Below ground buds develop new shoots. Root system comprises over 75% of the plants total biomass; can grow up to 9 metres.



Reproduction and Dispersal: Primarily by rhizomes and root fragments; can form dense patches of clones over an area of 3.6 metres. Also reproduces by seed. Can produce two crops of seeds per year.

Habitat Preference: Meadows, fields, roadsides, ditches, waterways, cultivated lands and rangelands. Particularly adapted to sub-irrigated pastures with alkaline soils.



Knotweed Species

Japanese Knotweed: (JK) FALL JAP (*Fallopia japonica*)

Bohemian Knotweed: (BO) FALL BOH (*Fallopia x bohemica*)

Giant Knotweed: (GK) FALL SAC (*Fallopia sachalinensis*)

Himalayan Knotweed: (PO) POLY POL (*Polygonum polystachyum*)

Rhizomatous, semi-woody, herbaceous perennial that may grow 1-5metres high.



Distribution

Very limited distribution in the Southern Interior.

Please report **all occurrences.**

Flowers: small, white/green flowers grow in showy, plume-like, branched clusters along the stem and leaf axils (joints).

Leaves: Predominantly heart- to triangular-shaped on all species except Himalayan, which are elongated and tapered. Leaves on all species except giant knotweed are 8-10 cm wide and 15 cm in length. Giant knotweed leaves are generally twice the size of the other 3 species. A distinguishing feature for Japanese knotweed is the zigzag pattern in which leaves are arranged along the plant's arching stems.

Stems: Stems, or canes, are hollow with varying thicknesses, upright, and bamboo-like with reddish-brown/red speckles and thin, papery sheaths. Stems are generally 1-5 m in height and grow in large, dense thickets. Stems may persist through the winter as bare, reddish-brown stalks.

Fruits: Production of fertile seeds is rare in most knotweed species due to a disproportionate ratio of female to male plants: Japanese being female; Giant being male; and Bohemian being the offspring of the two. Bohemian knotweed produces viable seeds that are dispersed along riparian areas via the water column.

Manual Treatment: Mowing and cutting may be effective if done close to the ground, twice per month between April and August, then monthly until the first frost. Repeat this treatment for at least 5 years to exhaust root reserves. Mechanically controlled areas should be monitored throughout the growing season to ensure new infestations do not develop from root fragments.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Habitat: Thrive on freshly disturbed soil in roadside ditches, low-lying areas, irrigation canals, and other water drainage systems. Also found in riparian areas, along stream banks, and in other areas with high soil moisture. Able to grow in partial shade or full sun.



Giant Knotweed

Reproduction: Perennials that spread rapidly vegetatively. Rhizomatous root system may extend from a parent plant up to 20 m laterally and to a depth of 3 m. Root and stem fragments as small as 1 cm (or 0.7 grams) can form new plant colonies. Fresh stems produce shoots and roots when buried in a soil medium or floated in water. Stems submerged in water can produce viable plants within 6 days.



Himalayan knotweed

Dispersal: Primarily from root (rhizomes) and stem fragments that are dispersed by human activities or by water to downstream areas.



Japanese knotweed

Oxeye Daisy (*Leucanthemum vulgare*)

OD LEUC VUL

Erect, short-lived perennial herb up to 1 metre tall. Often grows in dense clumps due to creeping root system. Introduced from Eurasia as an ornamental and as a contaminant in seed.



Distribution

Found throughout the Southern Interior.

Quick ID

Showy, daisy-like flowers.

Short creeping roots.

Stem leaves have clasping bases; basal leaves are stalked.

Leaves with wavy to lobed margins.

Interesting Facts:

Often included in popular seed mixes. Flowers have an unpleasant odor, reminiscent of stale perspiration.

“Look-Alike” Species

Native Asters, *Aster spp.*, and Fleabanes, *Erigeron Spp.*, such as *Erigeron caespitosus*, resemble Oxeye daisy, but typically have undivided leaf margins, without lobes or teeth. Seeds of Asters and Fleabanes also have a pappus while Oxeye daisy seeds do not.



Manual Treatment: Hand pull or dig entire plant before seed set, removing as much of the fibrous roots and rhizomes as possible to prevent regeneration. If flowers have already gone to seed, pick flower heads, bag and remove. Mowing during or after flowering will disperse seeds.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: A single, daisy-like flower head, composed of yellow disk flowers in the center surrounded by 20 to 30, notched, white ray flowers. Flower develops on the end of each stem branch. Green floral bracts with brown margins appear in several overlapping rows.



Leaves and Stems: Spoon-shaped basal rosette leaves are 5 to 12.7 cm long, attached to the stem by long narrow stalks, and have wavy, scalloped margins. Stem leaves are arranged in an alternate pattern and progressively reduce in size upward on stem. Upper stem leaves are narrower and lack stalks.



Seeds: Ovate, dark brown to black seeds, 3 mm long. Each plant can produce 500 or more seeds and are viable for 20 years.

Roots: Short, fibrous creeping roots.

Reproduction and Dispersal: By seed, underground creeping roots, and root fragments. Quickly forms dense and expansive populations due to rhizomatous nature.

Habitat Preference: Found in disturbed areas, fields, meadows, roadsides and forest openings. Tolerates a wide range of environmental conditions.



Perennial Pepperweed (*Lepidium latifolium*)

PP LEPI LAT

Erect, rhizomatous, perennial herb up to 2 metres tall. Grows in dense patches or clumps due to a creeping (rhizomatous) root system. Introduced from Eurasia.



Distribution

Very limited distribution in the Southern Interior.

Please report **all** occurrences.

Interesting Facts:

Above ground parts are high in vitamin C. Seeds may be used like pepper. Roots can be grated and made into a sauce similar to horseradish.

Quick ID

Waxy leaves with whitish mid-veins.

Grows in dense patches.

Dense white flower heads in rounded clusters near branch ends.

Seedpods attached by long stalks.

“Look-Alike” Species

Common Pepperweed, *Lepidium densiflorum*, is a native annual that reproduces only by seed.

Distinguishable from Perennial pepperweed by hairless pods, green flower petals, deeply lobed leaves, and a taproot rather than creeping roots.



Manual Treatment: Periodic mowing and spring burning have reduced Perennial Pepperweed density.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Fragrant, white flower heads form dense, rounded clusters near the ends of branches. Flowers have four petals arranged in a cross.

Leaves and Stems: Leaves are waxy and have smooth or toothed margins and distinctive whitish mid-veins. Stem leaves are alternately arranged and tapered. Each stem has multiple branches. Dead stems persist for several years.

Seeds: Tiny seedpods are slightly hairy. Seedpod stalks are longer than the seedpods.

Roots: Rhizomatous creeping root system. The buds on roots can develop into new shoots. Roots often reaching depths of 1.8 metres or more.

Reproduction and Dispersal: Primarily by rhizomes and root fragments, but also by seed. Roots can remain dormant for several years. Seeds are spread by wind, water, machinery, soil movement and as a contaminant in hay and crop seed.

Habitat Preference: Meadows, fields, roadsides, ditches, waterways, floodplains, seasonally wet areas, cultivated lands and rangelands. Thrives in moist habitats.



Scentless Chamomile (*Matricaria perforata*)

SH MATR PER

Erect to semi-erect, short-lived, annual, biennial, or occasionally perennial herb from 15 cm to over 1 meter tall. Plants can be very bushy. Introduced from northern Europe and western Asia.



Distribution

Found throughout the Southern Interior with limited distribution in the North Thompson.

Quick ID

White, daisy-like flowers.

Leaves & flowers odorless when crushed.

Leaves divided into narrow, thread-like segments.

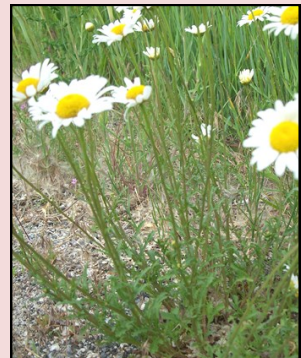
Extensive fibrous taproot.

Interesting Facts:

Scentless chamomile is commonly sold in wildflower seed mixes.

"Look-Alike" Species

This similar looking flowers of non-native Oxeye daisy, can be confused with Scentless chamomile, but the leaves of Oxeye daisy are spoon shaped and have wavy, scalloped margins.



Manual Treatment: Hand pulling or digging before seed production is effective. Remove as much of the fibrous roots as possible. If flowers have already gone to seed, pick flower heads, bag and remove.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: A single, daisy-like, flower head develops on the end of each stem branch. Yellow centers composed of compact clusters of disk flowers; white “petals” are actually ray flowers. Flowers are odorless when crushed. Floral bracts are numerous and arranged in several overlapping rows.

Leaves and Stems: Flowering stems emerge from a basal rosette. The stems are smooth, often reddish-purple, and highly branched near the top, creating a bushy appearance. Basal leaves are similar in appearance to carrot leaves. Stem leaves are alternate, very finely divided, and have a feathery overall appearance.



Seeds: Rectangular, dark brown seeds; 2 mm long. A single plant can produce 10,000 - 400,000 seeds.

Roots: Extensive fibrous taproot.

Reproduction and Dispersal: Entirely by seed. Seeds typically fall close to parent plant or are carried short distances by wind. Can be moved longer distances by water.

Habitat Preference: Found in disturbed areas, fields, meadows, roadsides, forest openings and dry shorelines. Can germinate and persist under periodic flooding conditions. Tolerates a wide range of environmental conditions but does not compete well in vigorous, undisturbed native plant areas.



Common Tansy (*Tanacetum vulgare*)

TC TANA VUL

Erect, bushy perennial 30 cm to 1.8 metres tall. Forms dense patches. Introduced from Europe in the 1600s for its medicinal qualities.



Distribution

Limited distribution in the Thompson-Nicola Regional District.

Quick ID

Dark green fern-like leaves.

Stems often purplish-red.

Yellow, button-like flowers in a dense, flat-topped cluster.

Leaves and flowers aromatic when crushed.

Interesting Facts:

Has been used medicinally to expel intestinal worms, to repel insects and to stimulate menstrual bleeding.

Toxic if ingested in large quantities, but can be grazed safely by sheep and goats.



Manual Treatment: Common tansy can be mowed before flowering and seed-set to eliminate seed production. This method may have to be repeated to eliminate re-growth from rootstocks.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Dense, flat-topped clusters on 20 to 200 yellow-orange, button-like flowers at tops of stems. Flower heads consist of disk flowers surrounded by a ring of ray flowers that lack petals. Greenish-brown bracts below the flower heads overlap in 2 to 3 rows and have papery tips.

Leaves and Stems: Dark green, fern-like leaves are deeply divided into leaflets with toothed margins and are dotted with small pitted glands. Stems are green or purplish-red, dotted with glands and somewhat woody near the base. Several branched stems per plant. Stem leaves are alternate.

Seeds: Oblong, tan to grey, five-angled seeds, 1.5 mm long. Can produce over 50,000 seeds.

Roots: Extensive, short, thick creeping roots, or rhizomes, with numerous lateral roots.

Reproduction and Dispersal: By seeds, creeping roots and root fragments.

Habitat Preference: Disturbed areas, streambanks, riverbanks, waterways, roadsides and fields. Prefers full sun and well-drained soil.





Dalmatian Toadflax (*Linaria dalmatica*)

DT LINA DAL

Rhizomatous perennial up to 1.2 meters tall. Usually found in patches due to creeping roots. Introduced as an ornamental from southeastern Europe.

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<i>Mecinus janthinus</i>		Overwinter Adult	Adult	All Stages	Larva	Larva/Pup	Pupa	Overwinter Adult			



Quick ID

Bright yellow flowers with a long spur.

Alternate, waxy, heart-shaped leaves.

Leaves are a whitish or bluish shade of green.

Flowers have an unpleasant odor.

Distribution

Found throughout the Southern Interior.



Interesting Facts:

Contains a glucoside that is mildly toxic although poisoning is rare.

Plant is generally considered unpalatable to grazing animals.

Manual Treatment: Cutting plants reduces top growth and seed reproduction but will not kill the plant. Hand-pulling toadflax before seed-set each year can be an effective management method for new and small populations, especially if a seed bank has not developed. On a local basis, sheep or goat grazing can suppress infestations and reduce seed production, but grazing should be applied before the plants set seed.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Bright, showy, yellow flowers, 5 cm long; downward spur, fuzzy orange spot on lower lip. Short stalks arranged in elongated cluster at the top of flowering stalk.

Leaves and Stems: Smooth, hairless foliage has a waxy or rubbery feel, and it whitish blue in colour. Heart shaped leaves with entire margins. Alternately or spirally arranged. Stems may be unbranched or form dense branching.

Seeds: Fruit is egg-shaped with two cells that contain several seeds. Seeds are brown and sharply angular or pyramid-like with ridges. Seeds remains viable for up to ten years.

Roots: Rhizomatous. Woody, well branched roots may grow several metres long. Horizontal creeping rhizomes have regenerative buds.

Reproduction and Dispersal: By seeds, rhizomes (creeping roots). Most seeds fall close but can be dispersed over short distances by wind. Animals and birds eat the fruit, dispersing seeds over longer distances.

Habitat Preference: Prefers dry, sandy, burned, or gravelly soils. Roadsides, pastures, grasslands, forest clearings and disturbed or cultivated areas. Rapidly colonizes open sites.





Leafy Spurge (*Euphorbia esula*)

LS EUPH ESU

Perennial with persistent vertical and horizontal creeping roots; grows to 0.8 metres tall.

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec		
Aphthona nigriscutis		Overwintering Larva		Pupa		Adult		Adult/Larva		Larva		Overwintering Larva	



Distribution

Found scattered throughout the Southern Interior.

Quick ID

Heart-shaped floral leaves.
Greenish-yellow flower clusters.
Exudes milky juice when cut or broken.
Numerous pink buds on roots at stem base.

Native “Look-Alike” Species

Lemonweed, *Lithospermum ruderale*, (also know as Western Stoneseed or Yellow Puccoon) is distinguishable by stiff-hairy foliage with smaller lower leaves. Light yellow flowers have five spreading lobes.



Interesting Facts:

Dead plants appear to inhibit the growth of other plants. Large quantities can be toxic to grazing animals (and humans).

Manual Treatment: Tillage, mowing, and pulling are generally ineffective control treatments because of the plant's extensive root system.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Greenish-yellow flowers on long stalks cluster in a flat topped umbrella shape. Flowers lack petals and sepals, relatively inconspicuous. Pairs of heart shaped floral leaves underneath flower clusters.

Leaves and Stems: Pale, bluish green foliage exudes milky sap when cut. Thickly clustered, smooth, hairless stems branched near the top. Leaves, 2.5 to 10 cm long and 6 mm wide, numerous and usually drooping, attached directly to stem in an alternate or spiral arrangement.

Seeds: Oblong, with three-celled capsule. Capsules forcibly burst open when ripe, propelling seeds up to 4.5 metres and aiding in dispersal. Viable up to 8 years.

Roots: Vigourous, creeping root system with pink, scaly buds which develop into new shoots. Can reach depth of 7.6 metres and extend 4.5 metres annually.

Reproduction and Dispersal: Initially by seed, then reproduces by re-sprouting from its extensive, creeping root system. Can also re-sprout from root fragments.

Habitat Preference: Tolerates a wide range of soil types, soil moisture levels and habitats. High genetic diversity resulting in quick adaptation to local growing conditions.



Rush Skeletonweed (*Chondrilla juncea*)

RS CHON JUN

Erect, long-lived perennial up to 1.2 metres tall. Three forms of the plant exist in the United States, each differing in flower characteristics and susceptibility to control measures. Native to Eurasia.



Distribution

Limited distribution in the Southern Interior.

Please report **all** occurrences.



Interesting Facts:

Competes with other plants for soil moisture and nutrients (esp. nitrogen).

Quick ID

Small yellow flowers scattered along branches.

Overall skeleton-like appearance.

Dandelion-like basal rosette leaves.

Reddish down-turned hairs at stem base.



Manual Treatment: Hand-pulling can be used on small infestations, but repeated treatments will likely be required because of the plant's extensive root system. Mowing and cultivation are ineffective at controlling rush skeletonweed (Sheley et al. 1999). Rotational grazing with sheep can control rush skeletonweed if the weeds are grazed at a moderate level while desirable plants are grazed lightly.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Single, or clusters of 2 to 5, scattered, yellow flower heads. Seven to fifteen ray flowers clustered into a dandelion-like flower head. Ray flowers ('Petals') are flat across the end and terminate with distinct lobes.

Leaves and Stems: Foliage exudes a milky juice when cut or broken. A dandelion-like basal rosette with hairless leaves emerges upon germination, then withers as flower stem develops. Wiry, many branched stems have downward pointing, coarse, reddish hairs on bottom 10 cm of stem. Stem leaves are narrow, linear, and often inconspicuous.



Seeds: Light brown to black, ribbed seeds are about 3 mm long. Mature plants can produce up to 20,000 seeds per plant. Seeds require rainfall to establish.

Roots: Extensive, deep taproot can reach 2.5 meters, with occasional lateral root formation.

Reproduction and Dispersal: Disperses by seed and lateral root buds. Seeds are primarily dispersed by wind. Root fragments scattered by cultivation can also aid in spread.

Habitat Preference: Found in well-drained sandy or rocky soils in disturbed areas, cultivated areas, rangelands, pastures and roadsides. Rarely invades healthy native plant communities.



Russian Olive (*Elaeagnus angustifolia*)

RO ELAE ANG

A thorny shrub or small tree growing to 5-7 metres in height.



Distribution

Extensive distribution in the Kamloops area.

Interesting Facts:

This tree does not produce flowers or fruit until it is at least 3 years old.

Quick ID

Its stems, buds, and leaves have a dense covering of silvery to rusty scales.

Has black bark.

Creamy yellow flowers.

Fruit that resemble olives.



Manual Treatment: Hand pulling or digging is effective; done best when soil is moist. Wear gloves, avoid skin contact. If any portion of flower is beginning to emerge, or if seed heads are formed, pick, bag, and remove.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: The highly aromatic flowers are produced in clusters of one to three, 1 cm long with a four-lobed creamy yellow corolla; they appear in early summer and are later replaced by clusters of fruit, a small cherry-like drupe 1-1.7 cm long, orange-red covered in silvery scales. The plants begin to flower and fruit at three years old.

Leaves and Stems: The leaves are alternate, lanceolate, 4-9 cm long and 1-2.5 cm broad, with a smooth margin. Has black bark.

Seeds: The fruit is edible and sweet, though with a dryish mealy texture. Its common name comes from its similarity in appearance to olive.

Roots: The shrub can fix nitrogen in its roots, enabling it to grow on bare, mineral substrates.

Reproduction and Dispersal:

Establishment and reproduction is primarily by seed, although some vegetative propagation also occurs. The fruit is readily eaten and disseminated by many species of birds.

Habitat Preference: It often invades riparian areas.





St. John's Wort (*Hypericum perforatum*)

SJ HYPE PER

Perennial from underground runners growing to 0.3 to 1 metre in height.

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Chrysolina		Overwintering Egg	Larva	Pupa	Pupa/Adult	Adult	Dormant Adult	Adult	Overwintering Egg		
hyperici											



Distribution

Limited distribution in the Southern Interior.

Quick ID

Yellow flowers with black dots at petal edge.

Leaves with tiny transparent dots.

Rust colored stems.

Seed pods and dead stalks are rusty.



Interesting Facts:

St. John's Wort has become popular as a herbal remedy, mainly for the treatment of depression, as well as for burns and skin disorders.

Manual Treatment: Hand pulling or digging young plants before seed production is effective. Remove as much of the taproot and underground runners as possible. If buds, flowers, or seed heads have formed, pick, bag and remove. Can be managed by tillage in agricultural fields.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Bright yellow, clustered at the top of branches. Less than 2.5 cm in diameter. Five petals with glands along their margins. Petals are 8 to 12 mm long.

Leaves and Stems: Stems are rust-colored, have black glands and two ridges running lengthwise. Oval-shaped leaves are less than 2.5 cm long, hairless, and have prominent veins. Leaf margins are smooth and rolled under.

Seeds: Rust coloured seed pods are sticky. Numerous seeds are contained in each pointed, three-chambered seedpod. Seeds are nearly cylindrical and have a rough texture. Viable for up to 10 years.

Roots: Deep, stout taproot, up to 1.5 metres deep with many branched lateral roots or creeping underground runners with vegetative buds that form new shoots.

Reproduction and Dispersal: Reproduces by seed and creeping roots. Root fragments can also develop into new plants. Seeds have a gelatinous seed coat that sticks to animals.

Habitat Preference: Found in disturbed areas, roadsides, pastures, meadows, forest openings and burned areas at low to mid-elevations. Does not tolerate water saturated soils.



Sulphur Cinquefoil (*Potentilla recta*)

SC POTE REC

Erect, long-lived perennial 0.3 to 0.8 metres tall. Older plants often form a ring-shaped clump as old roots die in the center and new shoots grow on the outside edges. Native to Eurasia.



Distribution

Found throughout the Southern Interior.

Quick ID

Pale yellow flower with 5 petals.

Long, stiff hairs perpendicular to stem.

Relatively few leaves at plant base.

Underside of leaf is green, not silver.

Palmate leaves.

Interesting Facts:

Unpalatable to grazing animals due to high tannin content.

“Look-Alike” Species

Many native cinquefoils, such as *Potentilla gracilis*, appear similar but Sulphur cinquefoil can be distinguished by long, right angled hairs; numerous stem leaves but few basal leaves; and leaves that appear green on the underside.



Manual Treatment: Although primarily a seed producer, simply eliminating seed production is not very effective in reducing or eliminating sulphur cinquefoil infestations. Plants are able to perpetuate by vegetative growth and continue to slowly spread. Hand-pulling is effective on small infestations provided the entire root is removed.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Pale yellow flowers, 1.3 to 2.5 cm in diameter, five heart-shaped petals; bright yellow centers. Contain 25 to 30 stamens. Found on top of stems.

Leaves and Stems: A rosette on long-stalked leaves develops first and withers before flowering. Stems and leaves are covered with long, coarse, shiny hairs at right angles. Stem leaves are alternate, green on the underside, and composed of 5 to 7 leaflets with toothed margins. Leaflets appear like marijuana leaves (palmately compound).



Seeds: Oval shaped dark brown seeds covered with net-like ridges.

Roots: Woody taproot may have several spreading roots or stolons, but no rhizomes.

Reproduction and Dispersal: Primarily by seed. Most seeds fall near parent plant and disperse greater distances with water, soil movement, human activities and animals. Seeds survive three years or longer.

Habitat Preference: Disturbed areas, grasslands, open forests, shrubby areas, roadsides and fields. Can invade healthy plant communities but does not tolerate full shade. Associated with knapweed infestations.



Tansy Ragwort (*Senecio jacobaea*)

TR SENE JAC

Erect biennial, or occasionally annual or short-lived perennial, generally 30 cm to 1 metre tall. Occasionally up to 1.8 metres tall. Native to Eurasia.



Distribution

Very limited distribution in the Southern Interior..

Please report **all** occurrences.

Interesting Facts:

Causes irreversible liver damage if ingested in large quantities or in small amounts over a long period of time.

Quick ID

Cluster of yellow daisy-like flowers.

Stems and leaf stalks often purple.

Rosettes have 10 to 20 leaves with web-like hairs.

Crushed leaves have an unpleasant odor.

“Look-Alike” Species

Tansy ragwort

can be

distinguished

from Woolly

groundsel,

Senecio canus,

by its twice

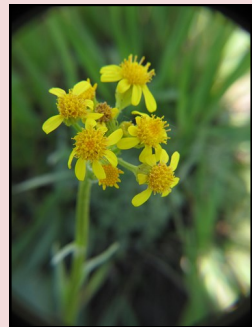
lobed leaves,

13 ray flowers

and 13 bracts,

and by having evenly distributed stem

leaves.



Manual Treatment: Seed production can be prevented by repeated mowing before flowering is advanced. Plants mown after flowering can still set seed. Small infestations can be pulled by hand.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: 20 to 60 daisy-like flower heads, 2.5 cm across, with a yellow center of disk flowers and 10 to 15 ray flowers. Has a dense, flat-topped cluster at the top of stems. 10 to 15 bracts below the flower heads are black-tipped and arranged in a single row.



Leaves and Stems: Rosette and stem leaves are covered with cottony web-like hairs. First year rosette has 10 to 20 leaves, 5 to 25 cm long. One to several purple, branching stems develop in the second year. Stem leaves are alternate, evenly distributed along the stem, and decrease in size and stalk length at top of stem.



Seeds: Light brown, cylindrical, slightly ribbed seeds, 1.5 to 3 mm long with a pappus of soft white bristles attached to the tip.

Roots: Small taproot with fibrous roots and fleshy lateral roots.

Reproduction and Dispersal: Primarily by seed. Dispersed by wind, water, animals, vehicles and human activities. Root fragments can also re-sprout.



Habitat Preference: Disturbed areas, riparian areas, forests (especially after logging or clear-cutting), fields, croplands and roadsides. Prefers well drained soils.

Western Goat's Beard (*Tragonpogon dubius*)

WG TRAG DUB

Taprooted biennial to short-lived perennial growing 0.3 to 1 metre high. Also known as Western Salsify and Yellow Salsify.



Distribution

Extensive distribution in the Southern Interior.

Interesting Facts:

Yellow flower heads close by mid-afternoon and remain closed on cloudy days.



Quick ID

Has a yellow flower head that produces many plumed seeds.

Has a distinct swelling below the flower head.

When flowers are fully opened the floral bracts extend beyond the yellow flowers.

If any portion of the plant is damaged it will exude a milky juice.



Manual Treatment: Seed heads can be cut and removed to eliminate seed production. Rosettes can also be removed mechanically. This can be an effective control method for relatively small infestations. This must be repeated annually to exhaust the soil seed bank. Goat's-beard does not tolerate tillage well¹.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Occur singly at the ends of the flowering stems. Flowers are yellow, approximately 2 to 4 cm in length. Bracts occur at the base of the flowers and these are generally longer than the flowers themselves and somewhat pointed. Yellow flower heads close by mid-afternoon and remain closed on cloudy days.



Leaves and Stems: Mature leaves are approximately 30 cm long and 2 mm wide, linear in outline, and resemble the leaves of grasses but are generally thicker. Leaves may have a few long hairs near their bases. The leaf bases are wider than the apex, and leaf bases clasp the stem. Leaves emit a milky sap when cut.

Seeds: Has a large globed shaped seed head with parachute-like plumes on each seed. Seed head occurs in a round, 'puff-ball.' Each achene has a feathery pappus that facilitates wind dispersal of the seed. Seed heads are approximately 7.5 to 10 cm in diameter.



Roots: A taproot that emits a milky sap when broken

Habitat Preference: Likes disturbed areas.

Yellow Flag Iris (*Iris pseudacorus*)

YI IRIS PSE

Erect perennial up to 1.2 metres tall and found in wet areas. Native of Europe and Africa. Introduced as an ornamental in the early 1900's.



Distribution

Limited distribution within the Southern Interior.

Please report **all** occurrences.



Quick ID

Showy yellow flowers.

Long, sword-like leaves.

Only completely yellow-flowered Iris in North America.

Forms dense colonies in wet areas.

Interesting Facts:

Has been used for erosion control, sewage treatment, and is known to remove metals from wastewater. Can be toxic to humans and animals. Yellow flag Iris continues to be sold through garden dealers.

Manual Treatment: Hand pulling or digging can successfully control small, isolated patches if the entire rhizome mass is removed and treatment is repeated every year for several years to weaken and eventually kill the plant. ***Wear gloves.***



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: One to several large, yellow flowers on each stem; has three upward pointing petals and three downward pointing, tongue shaped sepals; often adorned with brown spots or purple veins.

Leaves and Stems: Leaves are 0.5 to 1 metres long, sword-like, flat, with pointy tips; 8 to 25 mm wide; raised midribs and smooth edges; arranged with sheathing, fan-like. Branched, flowering stems have few to no leaves.



Seeds: Fruit is an erect, three-chambered, glossy-green cylindrical capsule. Each chamber contains many disc-shaped, pitted, pale brown seeds densely packed in vertical rows.

Roots: Thick, fleshy rhizomes may extend 10 to 20 cm deep. Rhizomes often form horizontal mats, and can grow for several months without water.

Reproduction and Dispersal: By rhizomes and seeds. Seeds germinate and grow well after being burnt.

Habitat Preference: Found in moist soils near lakes and ponds, stream banks, irrigation ditches and wetlands.



Yellow Hawkweed Spp. (*Hieracium spp.*)

HS HIER SPP

Perennial with a creeping growth form ranging from 30 cm to 1 metre tall.
Species are difficult to distinguish from one another because they interbreed.
Introduced from Europe as garden ornamentals and medicinal herbs.



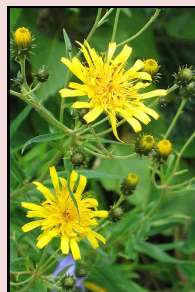
Distribution

Common in the
Southern Interior.

**Limited in the Clinton and Nicola
Regions.**

“Look-Alike” Species

There are many native hawkweeds in this ecosystem with yellow or white flowers, but native hawkweeds lack above ground runners, usually have leafy branched stems, and have flowers arising from stalks that are attached to the stem at the same point.



Quick ID

Clusters of yellow flowers at top of stem.

Exudes a milky latex juice when broken.

Short, stiff hairs on stem; hairy leaves only at base.

Above ground runners.

Interesting Facts:

Similar to Orange hawkweed but have yellow instead of orange flowers.

Grazed by sheep and goats.

Manual Treatment: In small infestations, hand pull entire plant (including stolons), cut below ground, or cut flower seed head. Mowing prevents seed production but encourages spread by stolons.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Crowded terminal clusters (5 to 30 flower heads) of dandelion-like, yellow flowers. Petals have notched tips.

Leaves and Stems: Entire, hairy leaves in a rosette at the base of the plant. Leaves are narrow and club-shaped; darker green on topside of leaf and lighter green underneath. Stems leafless (or with 1 to 3 small clasping leaves below midpoint of stem) with short, stiff hairs. One rosette can produce 10-25 flowering stems.



Seeds: Tiny black seeds with tawny-white plumes attached on the flattened end. Microscopic barbs easily attach to a passersby. Seeds are viable for up to seven years.

Roots: Shallow fibrous roots with a woody stem base.

Reproduction and Dispersal: By seed, roots, and rapidly spreading stolons (or above ground runners). Each plant can produce 4 to 12 leafy stolons, which also create a dense mat that impedes other vegetation.



Habitat Preference: Low to mid-elevations in disturbed areas, pastures, meadows, wetlands, roadsides, grasslands, forest clearings or openings, and lawns. Will not tolerate heavy shade.

Yellow Star Thistle (*Centaurea solstitialis*)

YS CENT SOL

Erect, winter hardy, annual herb up to 1.5 metres tall. Forms impenetrable stands. Introduced from Europe in contaminated alfalfa.



Distribution

Not currently found within the Southern Interior.

Please report **all** occurrences.

Quick ID

Bright yellow flowers.

Wing-like leaves run down length of stem.

Hairy 'cotton ball' seed head persists throughout winter.

Long sharp spines radiate from bracts.

Interesting Facts:

Destroys livestock rangelands.

"Look-Alike" Species

Blazing stars, *Mentzelia spp.*, which can also be found in open habitats with dry soils, have a similar overall appearance, but can be distinguished by the presence of large showy petals and the lack of sharp stiff spines on the bracts.



Manual Treatment: Report immediately. Hand pulling can be effective if entire plant is removed, including taproot. Wear gloves. Bag and remove flowers or seed heads. Minimize soil disturbance. Follow up treatments will be required each year.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: One yellow flower on the end of each stem. Floral bracts have sharp, stiff, straw-coloured spines that radiate outward in a star-like pattern. Below these is a pair of short lateral spines covered in cotton-like hair.



Leaves and Stems: basal rosette leaves are deeply lobed and pointy tipped; similar to dandelion rosette. One main flowering stalk. Rigid stems are coarse and covered with cottony hairs. Stem leaves are vertical, flat extensions along the stem. Upper leaves are entire and sharply pointed, becoming progressively smaller toward the top of the plant.

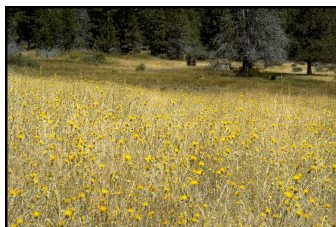
Seeds: Produces two types, seeds with fluffy plumes and seeds without. After dispersal, a fuzzy cotton ball remains on the end of the stem. Large plants can produce nearly 75,000 seeds.

Roots: Deep, stout taproot, 1.8+ metres in length.

Reproduction and Dispersal: By seed. Most seeds fall within a 1.2 metre radius of the parent plant. Seeds travel by soil movement, water, animals, humans, machines and vehicles, or by use of commercial seed.



Habitat Preference: Best adapted to open grasslands with deep, well drained soils but also capable of establishing on shallow, rocky soils with minimal rainfall. Does not tolerate dense shade.



Yellow Toadflax (*Linaria vulgaris*)

YT LINA VUL

Rhizomatous perennial up to 1 metre tall. Introduced from Eurasia in the mid 1800's as an ornamental, fabric dye, and folk remedy.



Distribution

Extensive distribution in the Southern Interior.

Interesting Facts:

Also known as “butter and eggs”. Leaves and stems look extremely similar to another exotic plant, Leafy spurge. Yellow toadflax, however, lacks a milky latex.

Quick ID

Bright yellow flowers with orange spots.

Stems with numerous narrow leaves.

Alternate, green leaves are pointed at both ends.

Flowers have an unpleasant odor.

“Look-Alike” Species

The foliage of *Lithospermum rudemale*, commonly called Lemonweed or Stoneseed, is similar in appearance but is hairy instead of smooth. It has small, pale yellow to greenish five-lobed flowers.



Manual Treatment: Removing the above ground portion of the plant prior to seed set reduces seed production. Repeated hand pulling can be effective if done for up to ten years.



Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----

Flowers: Bright, showy yellow flowers are attached by short stalks, fuzzy orange spot on the lower lip. Flowers have a prominent upper and lower lip; long narrow spurs arranged in a dense elongated cluster, or terminal raceme.

Leaves and Stems: Smooth, hairless foliage is a pale shade of green. Long, linear narrow leaves are pointed at both ends; attached directly to stem. Several stems emerge from each rootstock.

Seeds: Seeds are brown to black and flattened. Viable for eight years.

Roots: Rhizomatous, woody, well branched roots may grow several metres long. Horizontal creeping rhizomes have regenerative buds.

Reproduction and Dispersal: By seeds and rhizomes. Most seeds fall close to parent plants but seeds can be dispersed over short distances by wind and longer distances by birds who eat the fruits.

Habitat Preference: Prefers moist, rich soils; roadsides, pastures, stream and river banks, grasslands, forest clearings, and disturbed or cultivated areas. Aggressive competitor in grasslands and burned areas.





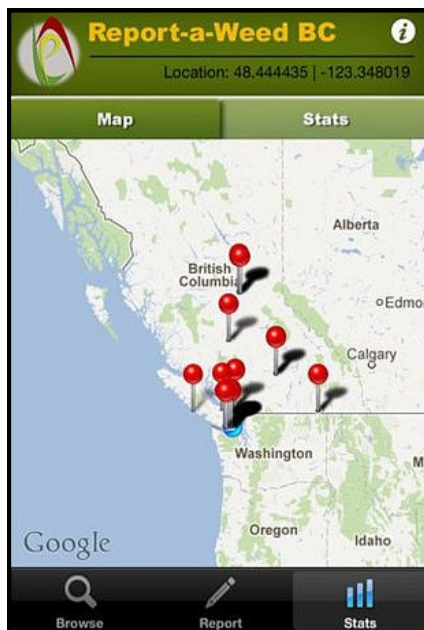
Report-a-Weed APP

Now available as an iPhone and Android platform app free of charge! This app will let you report a weed sighting anywhere in British Columbia. You can create a submission on or off-line. Click “submit” and the report will be sent as soon as you are in cell coverage.

This app includes features such as a map of BC displaying the 500 most recent submissions, statistics on the number of locations reported for each species, and photos of all the 202 invasive plants on the app list.

Submit a report by simply taking a picture of the plant and indicating the size of the infestation by using the slider bar. Contact information will have to be added during the submission of the first report.

Once submitted, invasive plant specialists from the Ministry of Forest, Lands and Natural Resource Operations will review all reports and co-ordinate the necessary follow-up activities with regional weed committees, local governments, or landowners.



Glossary

Achene: A small, dry, one seeded fruit that does not open to release the seed.

Alternate: Arranged singly, one at a time; usually referring to leaves or branches.

Annual: A plant that completes its lifecycle in one growing season.

Basal Leaves: Leaves growing at the base of the stem.

Biennial: A plant that lives for two years, usually flowering and producing seeds in year two.

Borage family: Boraginaceae.

Bract: A modified leaf, usually associated with a flower.

Bur: A rough, prickly husk around the seeds or fruit of some plants.

Compound leaf: A leaf that is divided into many smaller parts.

Corolla: The petals of a flower.

Floret: A single flower, usually part of a composite head or cluster.

Glacial till: Unsorted glacial sediment.

Lanceolate: A leaf shaped like a lance head.

Leaflet: A single segment of a compound leaf.

Linear leaves: Long and narrow, with almost parallel sides.

Mid-vein: The main vein of a leaf.

Node: A place where a leaf or branch is attached.

Nutlet: A small nut.

Opposite: Arranged in pairs, like leaves on opposite sides of a branch.

Palmately compound: A leaf with leaflets that originate from a common point at the end of a petiole.

Pappus: The bristly or scale-like appendage of the fruits of the Asteraceae family.

Perennial: A plant that lives for more than two years.

Pinnate: Compound leaf with leaflets arranged on each side of a common axis.

Pistil: The female organ of a flower made up of the stigma, style, and ovary.

Raceme: A flower cluster, with each flower borne on a short stalk for a common stem.

Rhizome: An underground stem that can develop nodes or buds at the joints.

Rosette: A circular cluster of leaves found at the base of a stem.

Seed bank: Seeds that remain dormant within the soil.

Sepal: One of the separate parts of a calyx, usually green and leaf-like.

Stamen: The male organ of a flower.

Stolon: A horizontal stem that takes root at points along its length to form new plants. An asexual form of reproduction.

Taproot: A main root, usually tapering and pointing down, and larger than the branching roots.

Vegetative reproduction: Reproduction without seeds or spores.

Whorled: Leaves, flowers or branches arranged around an axis in groups of three or more.

For More Information:

Thompson-Nicola

Southern Interior Weed Management Committee

250-851-1699

www.siwmc.ca

info@siwmc.ca

Lillooet—Fraser Canyon

Lillooet Regional Invasive Species Society

250-256-3727

www.lriss.ca

lrinvasives@gmail.com

Okanagan-Similkameen

Okanagan and Similkameen Invasive Species Society

2520-404-0115

www.oasiss.ca

oasiss@shaw.ca

Boundary

Boundary Invasive Species Society

www.rdkb.com

250-446-2232

boundaryinvasives@gmail.com

Columbia-Shuswap

Columbia Shuswap Invasive Species Society

1-855-PUL-WEED

www.columbiashuswapinvasives.org

csinvasives@gmail.com

Invasive Alien Plant Program (IAPP)

www.for.gov.bc.ca/hra/Plants

www.reportaweedbc.ca



Spotted Knapweed (*Centaurea biebersteinii*)

