

BEST MANAGEMENT PRACTICES

FOR INVASIVE PLANTS IN PARKS AND PROTECTED AREAS OF BRITISH COLUMBIA

A POCKET GUIDE FOR BC PARKS STAFF,
VOLUNTEERS AND CONTRACTORS

2011 EDITION



Oxeye Daisy



Orange
Hawkweed



Spotted
Knapweed



Gorse



Acknowledgements

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Orange hawkweed near Okanagan Mountain Provincial Park.

Invasive Plants and Why You Should Care

Invasive plants are any alien plant species that have potential to pose detrimental impacts on humans, animals or ecosystems. Invasive plants have the capacity to establish quickly and easily on both disturbed and undisturbed sites, and can cause widespread negative economic, social and environmental impacts.

Noxious weeds are invasive plants that have been designated under the *BC Weed Control Act*. This legislation imposes a duty on all land occupiers, including the Ministry of Environment (BC Parks) to control a set list of identified invasive plants.
www.agf.gov.bc.ca/cropprot/noxious.htm



St. John's wort infestation at Kettle River Provincial Park.



Invasive Plants and Parks Operations

Fourteen percent of British Columbia is covered by parks and protected areas, which are home to threatened and endangered species. Protected areas also provide key gateways into BC's backcountry and act as buffers to protect our province's ecological integrity and recreational opportunities. Invasive plants can threaten these values, and must be effectively identified, reported and managed to prevent their spread and limit their impacts.

Once established, invasive plant infestations can displace native vegetation and reduce forage opportunities for wildlife, creating areas that are less ecologically diverse, more costly to maintain, and less aesthetically attractive. Invasive plants can severely degrade riparian zones, destabilize slopes, increase fire hazards, and seriously threaten species at risk.

DID YOU KNOW?

“Invasive plants currently occupy over 100 000 ha in British Columbia and threaten another 10 million ha of grassland and open forests in the interior, and Garry Oak habitats on the coast. In recent surveys of 189 protected lands, more than 70 invasive plant species were found, and 98% of the protected lands contained invasive plants.” (*Wikeem and Miller, 2006.*)

DID YOU KNOW?

It is critical to report plants that are unusual and appear to be growing out-of-control! Early identification and reporting is key to limiting the spread of invasive plants in BC's Parks and Protected Areas (See page 12 for reporting protocol).

Invasive plants can contaminate soil, gravel, water, hay, feeds, and other materials imported into parks and protected lands. If contaminated materials are used in parks and protected areas, plant parts and seeds could be spread, thereby encouraging new invasive plant sites.

Some invasive plant species can be a concern for human health and safety as well. Puncturevine (*Tribulus terrestris*) produces hard, spiny seed pods that can penetrate human skin and puncture bicycle tires. Giant hogweed (*Heracleum mantegazzianum*) sap can cause severe skin irritations, burns, and even blindness.



Invasive Russian olive in wetland of Haynes Point Provincial Park.

Invasive Plant Best Management Practices for BC Parks and Protected Areas

BC Parks staff, volunteers and contractors should incorporate best management practices (BMPs) targeting invasive plant prevention and control into all plans and management activities that will result in disturbance to native vegetation and soils. Applying these BMPs will help mitigate the adverse effects of invasive plants on native plants, wildlife, and the environment.

DID YOU KNOW?

BC Parks has developed a guiding document *“Invasive Plants in British Columbia Protected Lands: A Strategic Plan.”* This strategic plan outlines three goals: to prevent invasive plants, to reduce their impacts, and to provide a framework for long-term invasive plant management.



N. Bakker

Carpet burweed quarantine area, Ruckle Provincial Park.

Key Best Management Practices

I. Planning and Coordination

- ✓ Learn to identify invasive species and how to report them. Also, know how to identify native plants.
- ✓ Consult and collaborate with the local weed committee to determine threats that could arise from areas adjacent to parks and protected areas. Coordinating field activities results in advantages that may include economic savings as well as planning and managing on a landscape scale. This is the role of the field staff, particularly area supervisors.
- ✓ Maintain the BC Parks Invasive Plant Threat Analysis every year using the best available data to ensure any new priorities are being considered. This is the role of the conservation specialist in each region.



Training on invasive plant identification and reporting.

2. Site Disturbance from Construction of Recreation Facilities

- ✓ Survey for invasive plants in all areas where planning site-disturbing activities. Conduct an impact assessment to record anticipated impacts. Treat all invasive plants in the project area before work begins.
- ✓ Thoroughly clean equipment and machinery to remove seeds and vegetative plant material before moving to a new site.
- ✓ Carefully clean clothes, boots, hand tools, and other equipment used for treating invasive plants before leaving a site.
- ✓ Ensure road, trail or campsite pad material (e.g. sand, gravel, fill, topsoil), originates from invasive plant-free pits or locations.



Site disturbance at Skaha Bluffs Provincial Park.



- ✓ Maintain invasive plant-free buffer zones along roads, trails, campsites, day use areas, and other high-traffic sites, and comply with campsite maintenance requirements.
- ✓ Reseed bare soil immediately after disturbance, and when soil surface, soil moisture, and weather conditions are suitable for germination and establishment.
- ✓ Avoid using straw or hay for erosion control unless the product can be certified invasive plant-free. Monitor sites where mulches, hay or straw applications protect the soil, and eradicate emerging invasive plants immediately.
- ✓ For disturbed areas, plan the composition of seed mixes to best suit each site. Composition may be entirely made up of native species if seed is available. Alternatively, non-invasive/non-persistent agronomic species can be used where their introduction does not interfere with management objectives. Use only Canada Certified Number 1 Grade seed where possible.
- ✓ Minimize further disturbance on restoration sites as new seedlings establish.
- ✓ Conduct invasive plant surveys for one and three years after completion of all projects that create disturbance or implement restoration treatments.

3. Ecosystem Restoration and/or Vegetation Management

- ✓ Prior to any work, conduct an impact assessment that includes invasive plant mitigation.
- ✓ Inspect all sites for invasive plant presence before implementation of prescribed treatments.
- ✓ Eradicate invasive plant species before carrying out vegetation management treatments. Consider not applying treatments on areas where invasive plants are established and where plant density may increase as a result of the proposed management activity.
- ✓ Retain natural regeneration and understory vegetation in areas where management activities could affect the cover, density, and species composition of the native plant community.



Assessment of a Scotch thistle infestation.

- ✓ Include provisions for invasive plant prevention and ecosystem restoration in contracts and management plans that will result in soil and vegetation disturbance.
- ✓ Conduct invasive plant surveys for one and three years after completion of all projects that create disturbance or implement restoration treatments.
- ✓ Continue to monitor disturbed sites for 5-10 years following major restoration projects.

4. **Wildlife and Domestic Animals**

- ✓ Encourage ranchers to inspect livestock for invasive plant seeds and plant parts before livestock enter protected lands where grazing is permitted.
- ✓ Avoid grazing invasive-plant-infested pastures during the period when plants are setting seed.



Common burdock can attach stubbornly to livestock.

- ✓ Where practical, quarantine livestock for 24-48 hours in a holding field to allow invasive plant seeds to pass through the digestive system.
- ✓ In cooperation with the local provincial government range agrologists, monitor range use throughout the grazing period to ensure grazing practices comply with the Range Use or Range Stewardship Plan.
- ✓ Regularly inspect habitats where wildlife congregates, such as winter and spring ranges, for invasive plants.

5. Recreation and Wilderness Areas

- ✓ Monitor trails within parks and protected areas to ensure horseback riding, mountain biking, and hiking are confined to trails. Inspect disturbed areas adjacent to trails for invasive plants and encourage native vegetation recovery on disturbed sites.



Keep horses on designated trails to prevent invasive plant spread.

- 
- ✓ Encourage commercial and recreational users to feed horses and pack animals on processed feed for 24-48 hours before entering a protected area. Incorporate this requirement into park use permits.
 - ✓ Implement a processed feed (pellets, cubes) policy for feed brought in by commercial and recreational horse/pack animal users and incorporate this policy into park use permits
 - ✓ Inspect and clean horses/pack animals (especially hooves and legs) for invasive plant parts and seeds before entering parks or protected areas. Also clean tack and equipment. Incorporate this requirement into park use permits.
 - ✓ Inspect and clean clothing, shoes, pets, hiking gear, and camping equipment for invasive plant seeds and plant parts.
 - ✓ Inspect and clean mountain bikes and motorized vehicles for seeds and plant parts.
 - ✓ Provide invasive plant identification information at trailheads, campsites and parks and protected areas entrances. Encourage users to report sightings of invasive plants.
 - ✓ Inspect and monitor all areas where people and animals congregate, such as trailheads, parking lots, campsites, day use areas, boat launches, beaches, and maintenance compounds.

6. Water and Beaches

- ✓ Inspect boats, boat trailers, and other boating equipment for aquatic or terrestrial invasive plants before entering protected lands.
- ✓ Pressure clean boats, boat trailers, and other equipment with hot water before transporting to new waters, or let boats and equipment dry for at least five days in sunny conditions.
- ✓ Inspect and remove aquatic invasive plants from fishing gear, downriggers, boat motors, and other equipment before moving off site. Place invasive plant material in a plastic bag and deposit it in proper refuse containers.
- ✓ Inspect and maintain an aquatic invasive plant-free zone for 30m around boat launches and along beaches.
- ✓ Monitor boat launches, beaches, and other high-use areas regularly.



Eurasian watermilfoil on boat, trailer, and motor.

- ✓ Survey riparian areas along lakes, streams, rivers, and wetlands for aquatic and terrestrial invasive plants.
- ✓ Immediately eradicate new infestations.
- ✓ Minimize excessive disturbance along water margins and riparian areas.

7. **Wildfire and Prescribed fire**

- ✓ Inventory prescribed burn areas for invasive plants before the fire. Treat invasive plants in the proposed area before the burn is conducted to reduce the size of infestations, or to locally eradicate populations.
- ✓ Where possible, avoid invasive-plant-infested areas for heliports, camps and staging areas for wildfire suppression operations.



Invasive yellow flag-iris removal in the Kootenays.

- ✓ If possible, treat infestations immediately after a wildfire when invasive plant seedlings are germinating.
- ✓ Monitor burned areas the following growing season and for 2-4 years after a wildfire to determine the presence or spread of invasive plants.
- ✓ Defer livestock grazing in burned areas to permit vegetation to recover following wildfire until forage is stable.
- ✓ Avoid using straw or hay for erosion control unless the product can be certified invasive plant-free. Monitor sites where mulches, hay or straw applications protect the soil, and eradicate emerging invasive plants immediately.



Prescribed burn treatment at Kekuli Bay Provincial Park.

Reporting Invasive Plants

Identification and fast treatment of new infestations is a key to stopping the spread of invasive plants in BC. It is critical to report new infestations!

Plants that appear to be taking over should be reported in one of these three ways:

- ✓ Online database, **'Report-A-Weed,'**
Invasive Alien Plant Program (IAPP):
www.reportaweedbc.ca
- ✓ **Regional Weed Committee**
- ✓ Toll Free **1-888-WEEDSBC**

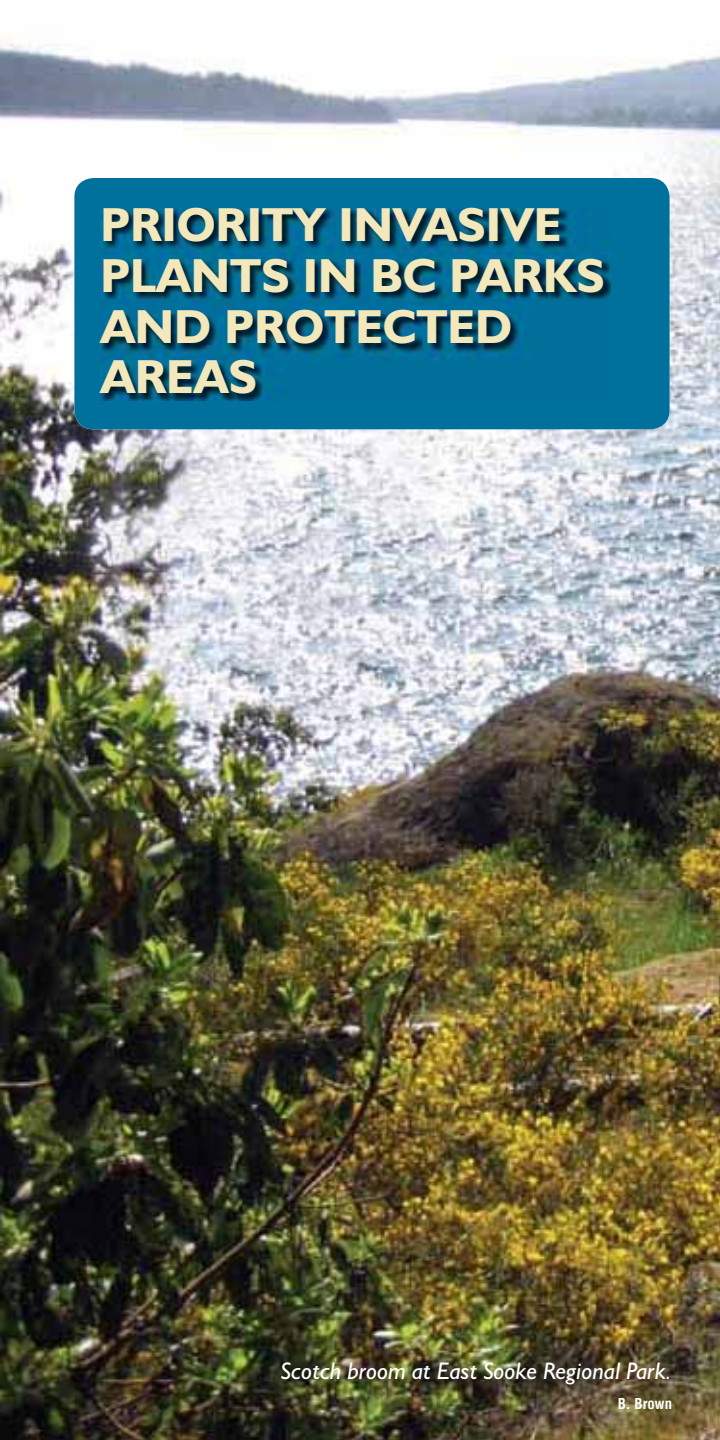
Please report the following information:

1. Species (or plant characteristics and photos if species is unknown)
2. Size of infestation
3. UTM coordinates or directions to site
4. Your contact information



Ministry of Environment, BC Parks

Puncturevine warning signs at Lakeview Dividend Mine, Osoyoos.



PRIORITY INVASIVE PLANTS IN BC PARKS AND PROTECTED AREAS

Scotch broom at East Sooke Regional Park.

B. Brown

Priority Invasive Plants in BC Parks and Protected Areas

The plants included in this guide represent many of the most problematic invasive plants on protected lands in British Columbia. Consult the BC Parks conservation specialist for your area to determine which plants are of concern. And remember, **‘weeds know no boundaries’!** Consider applying **best management practices** to any suspect plants.

Symbols

Invasive plants may be spread by many or all of the methods represented below. For the purpose of this booklet, only the most significant methods of spread have been indicated for each invasive plant:



Seed or plant pieces spread in farm produce such as hay or commercial seed



Seed or plant pieces spread in contaminated soil



Seed or plant pieces carried in water



Seed blown by wind



Seed or plant pieces carried on equipment and vehicles



Seed or plant pieces spread by livestock or wildlife



Seed or plant pieces spread by “hitchhiking” on clothing, fur, etc.



Indicates perennial weeds (plants that grow for more than two seasons)



Indicates biennial weeds (plants that grow for two seasons)



Indicates annual weeds (plants with a growth cycle lasting one year)

Plant Flowering and Seed Production Calendars

All plants should be controlled before they flower and set seed. Calendars of flowering and seed production are included for each plant.

The shaded months in these calendars indicate the time of year when each species is producing one of the following:



Flowers (pink squares)



Seed (orange circles)

For example, in the calendar below, the plant produces flowers from June – September and seed from July – October.

J	F	M	A	M	J	J	A	S	O	N	D
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***Note:** *Plants may flower and produce seed at times other than indicated in this guide. Contact your BC Parks conservation specialist for local information.*

Invasive Plant Treatment Recommendations

Treatment recommendations in this guide generally apply to small infestations. When addressing large infestations, or highly invasive plants, consider integrated pest management: mechanical, chemical or biological treatments. Contact the BC Parks conservation specialist or regional weed coordinator in your area for species and site specific treatment recommendations, or refer to *Guide to Weeds in British Columbia*: <http://www.weedsbc.ca/pdf/GuidetoWeeds.pdf>



Distribution Map



**Consult this legend
for invasive plant
distribution maps.**

Legend

Invasive Plant



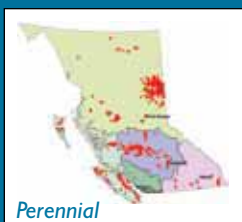
Regions

- Northern
- Kootenay/Okanagan
- Thompson/Cariboo
- South Coast
- West Coast

***Note:** Distribution maps in this guide are from the provincial Invasive Alien Plant Program (IAPP) database as of June 2011, and may not accurately reflect the entire distribution of each invasive plant, as inventory and reporting is a continual process.

Annual Sow Thistle *Sonchus oleraceus*

Perennial Sow Thistle *Sonchus arvensis*



Incomplete pulling or cutting can stimulate remaining roots to re-sprout and worsen infestations. Continual, repeated cutting or pulling will deplete root reserves.



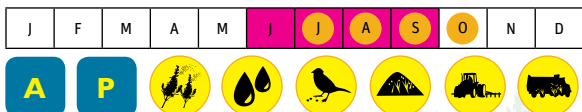
DESCRIPTION: Upright plants ranging from 0.1m to 1.5m in height. Can be found in a variety of habitats: cultivated fields, disturbed roadsides or wet areas.

FLOWERS: Small, stalked, dandelion-like flowers, up to 5cm in diameter.

LEAVES: Basal leaves are stalked, while upper leaves clasp the stem. Edges have small, weak teeth.

STEMS: Upright, hollow stems branch only near the top, and contain a bitter, milky juice.

OTHER ID TIPS: Annual sow thistle is smaller: up to 1.0m in height, with flowers that are less than 2.5cm in diameter. It is a taprooted annual, while perennial sow thistle is a creeping rooted perennial.



Baby's Breath *Gypsophila paniculata*



Hand-pull small plants or dig out large woody specimens. Seeds can mature after cutting or pulling – bag to dispose of. Report all sightings.



DESCRIPTION: Upright, bushy plant up to 1.0m in height. Found in disturbed areas, fields and roadsides, and often used in floral arrangements.

FLOWERS: Sweet-scented, five-petaled, white flowers in clusters at the end of each stem.

LEAVES: Bluish appearance, linear, opposite and covered with a white film.

STEMS: Highly branched, and swollen at the nodes.

OTHER ID TIPS: Woody taproot.



J	F	M	A	M	J	J	A	S	O	N	D
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Blueweed *Echium vulgare*



To kill the plant, dig out or sever taproot at least 5 cm below soil surface. Limit or stop seed production. Report all sightings. 

DESCRIPTION: Upright, tap-rooted plant up to 1.0m in height. Adapted to rocky, gravelly habitats like roadsides, gravel pits.

FLOWERS: Short, arched branches covered on upper side with purplish-blue, funnel-shaped flowers.

LEAVES: Stem leaves are lance-shaped and alternately arranged.

STEMS: Stiff hairs with swollen reddish bases are found along the stem. Stem hairs are prickly and can irritate skin.

OTHER ID TIPS: Forms a rosette in year one.



J	F	M	A	M	J	J	A	S	O	N	D
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Butterfly Bush *Buddleja davidii*



C. Wheeler



C. Wheeler



F. and K. Starr

Cut back branches and use a sharp shovel to dig out root completely. Stumps will sprout vigorously; be sure to repeat cutting treatments if entire root system cannot be removed.



DESCRIPTION: Lanky shrub up to 5m tall. Found on disturbed sites, roadsides, riparian areas, and in gardens.

FLOWERS: Lilac, purple, white or pink flowers with a yellow to orange centre, growing in long cone-shaped, drooping clusters.

LEAVES: Green above, grey and woolly below. Lance shaped and opposite.

STEMS: Shrubby form.

OTHER ID TIPS: This plant does not over-winter well in the interior of BC, and is of little concern in north.



J	F	M	A	M	J	J	A	S	O	N	D
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Canada Thistle *Cirsium arvense*



Highly invasive plant. Incomplete pulling or cutting can stimulate remaining roots to re-sprout and worsen infestations. Continual, repeated cutting or pulling will deplete root reserves.



DESCRIPTION: A prickly upright plant up to 1.2m tall, often forming dense stands. Common on road rights-of-way.

FLOWERS: Purplish-pink, less than 2.5cm across, without sharp spines.

LEAVES: Stalkless, alternate, dark green leaves, with spiny lobes.

STEMS: Prickly, hollow.

OTHER ID TIPS: Forms a rosette in its first year.



J	F	M	A	M	J	J	A	S	O	N	D
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Carpet Burweed *Soliva sessilis*



Pull or cut this plant prior to seed set to reduce seed production. Avoid walking or conducting activities on infested sites. Report all sightings.



DESCRIPTION: A low-growing plant about 5cm in height.

FLOWERS: Very small yellow, inconspicuous.

LEAVES: Finely divided, like carrot leaves. Feathery appearance.

STEMS: Short, spreading.

OTHER ID TIPS: Grows

in lawns, fields and other grassy sites where people may congregate. Small, flat seeds are tipped with spines and easily attach to clothing, shoes, pets, and other animals.



J	F	M	A	M	J	J	A	S	O	N	D
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Common Bugloss *Anchusa officinalis*



To kill plant, dig out or sever taproot at least 5cm below soil surface. Infestations can be prevented by maintaining a strong population of native perennials. Report all sightings.



DESCRIPTION: Upright plant up to 60cm in height.

FLOWERS: Found in coiled clusters at the ends of stalks. Tubular and initially reddish flowers eventually turn purplish-blue with white centers.

LEAVES: Lance-shaped lower and basal leaves. Stem leaves decrease in size toward the top of the plant, and lack stalks. Leaves are covered in stiff hairs.

STEMS: Angular and covered with hairs.

OTHER ID TIPS: Forms a rosette in year one. Plant has a long taproot.



J	F	M	A	M	J	J	A	S	O	N	D
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Common Burdock *Arctium minus*



First year rosettes are easily hand-pulled. Deep roots of mature plants require digging to remove as much root as possible. Preventing dispersal of burs is particularly important.



DESCRIPTION: Upright, tap-rooted plant up to 3m high. Found on roadsides, ditches, riparian areas, grasslands and forests.

FLOWERS: Globe-shaped purple flowers, to 2.5cm in diameter, on short stalks. Covered in hooked green bristles.

LEAVES: Basal leaves are rhubarb-like.

Upper leaves are alternate, with wavy or toothed edges. Leaves have woolly undersides.

STEMS: Upright, grooved, and highly branched.

OTHER ID TIPS: Forms a rosette in year one. Mature flower heads form a bur, which allows seeds to be spread throughout the year.



J	F	M	A	M	J	J	A	S	O	N	D
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Common Tansy *Tanacetum vulgare*



Small plants can be easily hand-pulled. Use shovel to loosen soil for more complete root removal. Plants can regrow from severed roots and cut stems may still produce viable seed.



DESCRIPTION: Bushy perennial growing up to 1.8m tall. Common on disturbed areas, streambanks, and roadsides.

FLOWERS: Flat-topped clusters of 'button-like' yellow flowers, at the top of stems.

LEAVES: Alternate, dark green, fern-like leaves.

STEMS: Mature plants have several branched stems that can be reddish, and somewhat woody near the base.

OTHER ID TIPS: Forms a rosette in year one. Leaves and flowers aromatic when crushed.



J	F	M	A	M	J	J	A	S	O	N	D
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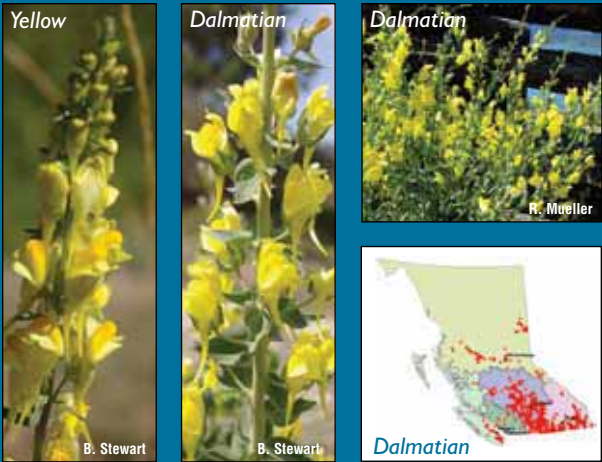


Dalmatian Toadflax

Yellow Toadflax

Linaria dalmatica

Linaria vulgaris



Incomplete root removal or cutting can stimulate remaining roots to re-sprout and worsen infestations. Continual, repeated cutting or pulling may deplete root reserves.

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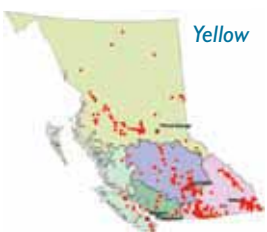
DESCRIPTION: Pretty, waxy-leaved, yellow-flowered plants up to 1.2m tall. Commonly found on dry sites like gravel pits, road shoulders, and cut banks.

FLOWERS: Bright yellow snapdragon-like flowers with a long spur.

LEAVES: Pale-green, waxy leaves are stalkless and have a pointed tip.

STEMS: Branched or unbranched.

OTHER: Yellow toadflax has leaves pointed at both ends, and is shorter – up to 60cm in height.



JFMA

MJJA

SOND

P











Daphne Laurel *Daphne laureola*



R. Vidéki



D. Hanna



R. Vidéki

ALL PARTS OF THIS PLANT CONTAIN POISONOUS COMPOUNDS. Use caution when cutting this plant as sap may cause skin irritation—see *Worksafe BC's* related safety bulletin. Cut stems below mineral soil or as low as possible to prevent re-sprouting. Report all sightings.



DESCRIPTION: A slow-growing shrub, reaching about 1.5m in height.

FLOWERS: Fragrant. Pale yellow-green bell shaped flowers clustered at branch tips.

LEAVES: Oblong, evergreen, waxy leaves in whorls.

STEMS: Woody, upright, often branched.

OTHER ID TIPS: Produces black berries that are **highly toxic to humans**, but readily eaten and distributed by birds.



J	F	M	A	M	J	J	A	S	O	N	D
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Diffuse Knapweed *Centaurea diffusa*

Spotted Knapweed *Centaurea biebersteinii*



Taproot may be hand-pulled from moist soil. Remove as much of the root system as possible. Report all sightings north of Clinton and on Vancouver Island.



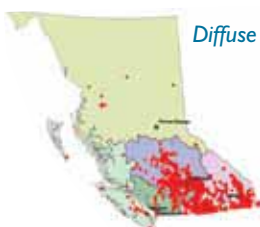
DESCRIPTION: Heavily branched plants 1.0m to 1.5m in height. Found on dry roadsides, gravel pits, disturbed sites, and in fields.

FLOWERS: Small white, pink or purple flowers atop spiny bracts.

LEAVES: Deeply lobed, hairy, grayish-green leaves. Form rosettes in their first year.

STEMS: Single main-stem that divides into bushy, spreading branches on a mature plant.

OTHER ID TIPS: Spotted knapweed flowers are usually pink to purple, and have black tipped bracts.

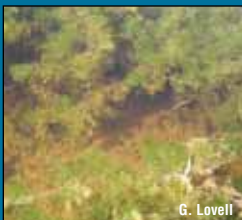


J	F	M	A	M	J	J	A	S	O	N	D
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Eurasian Watermilfoil

Myriophyllum spicatum



To prevent spread, ensure all boat motors, trailers and equipment are free of plant fragments. Prior to plant removal, acquire correct permits. Small infestations may then be raked from lake bottom or hand-pulled by divers – remove all fragments! Report all sightings.



DESCRIPTION: Underwater plant that prefers shallow fresh waters (5m). Extends from lake bottom to surface.

FLOWERS: Inconspicuous yellow flowers extend above surface 5-10cm.

LEAVES: Dusty green, feathery. Whorls of 3 or 4 leaves. Each leaf finely divided with 12-21 leaflet pairs.

STEMS: 1-4m long; can extend to 10m. May be branched; often leafless at the base.

OTHER ID TIPS: Native milfoils have 5-9 leaflet pairs per leaf.



J	F	M	A	M	J	J	A	S	O	N	D
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Field Scabious *Knautia arvensis*



Can be challenging to hand-pull. To kill plant, dig out or sever root at least 5cm below soil surface. Report all sightings.



DESCRIPTION: Upright plant up to 1.3m in height. Found on dry roadsides and in pastures.

FLOWERS: Clover-like violet-purple flowers up to 4cm in diameter, on long leafless stalks.

LEAVES: Stem leaves are deeply lobed, stalkless, and opposite.

STEMS: Hairy, upright stems.

Can form above-ground runners.

OTHER ID TIPS: Forms a rosette in its first year. Woody taproot.



J	F	M	A	M	J	J	A	S	O	N	D
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Giant Hogweed

Heracleum mantegazzianum



U.S. Department of Agriculture



R. Videki



U.S. Department of Agriculture

Leaves and stems contain a highly toxic sap that can burn skin. Refer to Worksafe BC guidelines and consult with regional weed committee. Mature plants should be cut below ground. Report all sightings.



DESCRIPTION: Large upright plant up to 5m in height, preferring damp, rich soils. Found along roadsides, ditches, riparian areas and disturbed sites.

FLOWERS: Clustered white flowers in large umbrella-shaped heads up to 0.8m in diameter.

LEAVES: Dark green, toothed and deeply cut into three large segments. Stiff hairs on undersides.

STEMS: Hollow, ridged, green; some with reddish-purple spots.

OTHER ID TIPS: Similar to smaller native cow parsnip (2.5m).



J	F	M	A	M	J	J	A	S	O	N	D
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Gorse *Ulex europaeus*



Bergman



B. Brown



F & K. Starr

Young plants in very loose, sandy soil can be removed by carefully digging to remove entire root mass. Incomplete pulling or cutting can stimulate root fragments to re-sprout and worsen infestations. Be sure to re-inspect. Report all sightings.



DESCRIPTION: A spiny evergreen shrub which can grow upwards of 2m in height. Can be found on roadside cutbanks.

FLOWERS: Bright yellow flowers develop into black seed pods with dark hairs.

LEAVES: Slightly waxy, narrow leaves end in sharp, rigid spines.

STEMS: Heavily branched stems; bushy.

OTHER ID TIPS: Sharp spines can puncture tires and skin.



J	F	M	A	M	J	J	A	S	O	N	D
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Himalayan Blackberry *Rubus armeniacus*



Use a pulaski, mattock, or backhoe to remove as much root as possible. Ensure biomass is disposed of at a landfill. Any remaining root fragments will re-sprout; be sure to re-inspect. 

DESCRIPTION: Dense, evergreen shrub often growing in thickets to 3m in height. Found on disturbed sites, roadsides, pastures, stream-banks and forest edges.

FLOWERS: Small clusters are white to pink, stalked, and five-petaled.

LEAVES: Grouped in fives or threes.

STEMS: Stiff, five-angled stems support large prickles and are up to 12m in length.

OTHER ID TIPS: Fruits are black, shiny and hairless, and highly sought by berry-pickers. Sharp prickles can puncture tires and skin.



J	F	M	A	M	J	J	A	S	O	N	D
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Hoary Alyssum *Berteroa incana*



Taproot may be hand-pulled from moist soil. Remove as much of the root system as possible. Report all sightings.



DESCRIPTION: Slender plant from the mustard family, growing up to 1.0m in height. Found on disturbed sites, especially roadsides, pastures and embankments.

FLOWERS: Small white almost spherical flowers found at the end of stems.

LEAVES: Greyish, hairy leaves clasp the stem near the top of the plant.

STEMS: Stems are covered with star-shaped hairs.

OTHER ID TIPS: Seed pods have a distinct oval shape, and a pointy tip.



J	F	M	A	M	J	J	A	S	O	N	D
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Hoary Cress *Cardaria draba*



Incomplete pulling or cutting can stimulate remaining roots to re-sprout and worsen infestations. Continual, repeated cutting or pulling may deplete root reserves. Report all sightings.



DESCRIPTION: Upright perennial up to 60cm in height, with flat-topped appearance. Found in pastures, rangelands, ditches and roadsides.

FLOWERS: Clusters of white, four-petalled flowers give plant 'flat top'.

LEAVES: Alternate, blue-green leaves up to 10cm in length with toothed edges. Lower leaves are stalked; upper leaves clasp the stem.

STEMS: Single stem, often branched at the top, supports one flower cluster.

OTHER ID TIPS: Heart-shaped, stalked seed pods.



J	F	M	A	M	J	J	A	S	O	N	D
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Hound's-Tongue *Cynoglossum officinale*



First year rosettes can be easily hand-pulled. Deep roots of mature plants require digging to remove as much root as possible.



DESCRIPTION: A taprooted leafy plant, up to 1.2m in height, found along roads, trails and in meadows.

FLOWERS: Small, reddish-purple flowers with five petals.

LEAVES: Rough, hairy leaves from 10-30cm in length.

STEMS: Hairy; usually branched near the top.

OTHER ID TIPS: Forms a rosette in its first year. Seeds are small hooked 'burs' which cling to clothing and animals.



J	F	M	A	M	J	J	A	S	O	N	D
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Knotweed

Japanese, Giant, Bohemian (*Fallopia* spp.)

Himalayan Knotweed (*Polygonum polystachyum*)



Giant Knotweed
C. Wheeler



Himalayan Knotweed
J. Hallworth



Japanese Knotweed
L. Scott



Giant, Japanese,
Himalayan Knotweed
J. Hallworth

Young plants in very loose, sandy soil may be removed by carefully doffing to remove entire root mass. A single plant can have roots extending 20m in all directions; as little as 0.6g of rhizome can produce a new plant in six days.



DESCRIPTION: Large, woody, bamboo-like shrubs grow 1-5m in height. Found in moist to wet areas like roadside ditches and riparian areas.

FLOWERS: Small, white/green flowers grow in plume-like, branched clusters along the stem and leaf joints.

LEAVES: Variable. Japanese: spade-shaped; Giant: larger, heart-shaped; and Himalayan: lance-shaped, pointy.

STEMS: Reddish-brown, hollow stems form dense thickets.

OTHER ID TIPS: Japanese leaves zig-zagged along stems. Bohemian is a hybrid of giant and Japanese knotweeds.



J	F	M	A	M	J	J	A	S	O	N	D
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Leafy Spurge *Euphorbia esula*



B. Stewart



L. Scott



R. Mueller

Highly invasive plant. Pulling or cutting may worsen infestations. Very young plants and small patches may be removed manually with deep digging. Report all sightings.



DESCRIPTION: Upright plant up to 1.0m tall, with creeping roots. Thrives in a variety of habitats.

FLOWERS: Greenish-yellow flower clusters on long stalks. Floral leaves are heart-shaped.

LEAVES: Narrow bluish-green leaves are spirally arranged on the stem.

STEMS: Smooth, hairless stems are branched near the top.

OTHER ID TIPS: Exudes a milky juice when cut or broken. This juice is toxic to people and some animals.



J	F	M	A	M	J	J	A	S	O	N	D
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Marsh Plume Thistle *Cirsium palustre*



Ministry of Agriculture and Lands



J. Leekie



Ministry of Agriculture and Lands

To kill plant, dig out or sever taproot at least 5cm below soil surface. Limited distribution – important to report all sightings. i

DESCRIPTION: Slender upright plant up to 3.0m in height. Prefers moist-wet soils, and grows on roadsides, in ditches, cutblocks and riparian areas.

FLOWERS: Purple flowers found at the tips of stems. Bracts at flower bases are sticky, and tipped with a prickle.

LEAVES: Spiny leaves are hairy on undersides and have winged bases.

STEMS: Usually unbranched, with spiny wings at leaf bases. Branching may occur at the cluster of flowers.

OTHER ID TIPS: Forms a rosette in first year. Fibrous roots.



J	F	M	A	M	J	J	A	S	O	N	D
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Orange Hawkweed *Hieracium aurantiacum* Invasive Yellow Hawkweeds

Hieracium spp.



L. Wilson



B. Stewart



J. Leekie



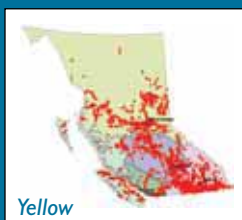
B. Stewart



L. Wilson



Cariboo Regional District



Yellow

Highly invasive plants. Small patches may be manually removed using a shovel. First loosen soil, then carefully remove stolons, plants, and roots. Report all sightings south of Williams Lake, north of Terrace, and in the Peace. i

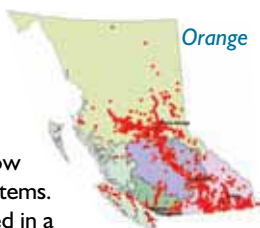
DESCRIPTION: Fast-spreading, hairy plants, growing up to 60cm in height. Found on grasslands, lawns, roadsides and other disturbed sites.

FLOWERS: Bright orange or yellow clusters, atop slender unbranched stems.

LEAVES: Hairy leaves are arranged in a rosette. Few to no leaves found on stem.

STEMS: Stems are covered with bristly hairs, which are black on orange hawkweed.

OTHER ID TIPS: Above ground runners root and grow new plants. Plants produce a milky juice when broken.



Orange

J	F	M	A	M	J	J	A	S	O	N	D
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Oxeye Daisy *Leucanthemum vulgare*



Pull or cut prior to seed set. Pulling or cutting during or after flowering will disperse seeds. Plants will continue to flower and grow if soil is not shaken from roots.



DESCRIPTION: Upright plant growing up to 1.0m in height in dense clumps. Common along roadsides, in fields and in disturbed areas.

FLOWERS: Daisy-like flowers on the end of each stem branch.

LEAVES: Alternate, and decreasing in size up the stem.

Upper leaves are stalkless with wavy to toothed edges.

STEMS: Smooth to sparsely hairy, and branched.

OTHER ID TIPS: Similar to the ornamental shasta daisy and invasive scentless chamomile.



J	F	M	A	M	J	J	A	S	O	N	D
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Perennial Pepperweed *Lepidium latifolium*



Highly competitive plant. Incomplete pulling or cutting can stimulate remaining roots to re-sprout and worsen infestations. Continual, repeated cutting or pulling will deplete root reserves. Limited distribution – important to report all sightings.



DESCRIPTION: Creeping root system results in dense colonies of plants up to 1.0m in height (taller in wet areas). Occasionally found on roadsides and in ditches; thrives in moist habitats.

FLOWERS: Fragrant white flowers in rounded clusters on branch tips.

LEAVES: Waxy, alternate leaves, with a white midvein. Lower leaves are stalked; upper leaves are virtually stalkless.

STEMS: Stems are branched.

OTHER ID TIPS: Seed pods are attached by long stalks.



J	F	M	A	M	J	J	A	S	O	N	D
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Policeman's Helmet (Himalayan Balsam) *Impatiens glandulifera*



Hand-pull from the base of the plant prior to seed set. Plants may be composted as long as no seeds are present. Report all sightings.

i

DESCRIPTION: Upright branched herb up to 2.0m in height. Found in moist areas like streambanks and ditches.

FLOWERS: White, pink, or reddish, and shaped like an English policeman's helmet.

LEAVES: Smooth, egg-shaped leaves are clustered in groups of three to five. Leaf edges are toothed.

STEMS: Hollow, smooth and purple-tinged.

OTHER ID TIPS: Seed capsules explode at maturity.



J	F	M	A	M	J	J	A	S	O	N	D
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Puncturevine *Tribulus terrestris*



L. Scott



F. and K. Starr



L. Scott

After loosening soil, use thick gloves to grab plant at base of vines and pull out. Report all sightings.



DESCRIPTION: Densely-matted, prostrate, trailing plant. Restricted to dry roadsides, fields and disturbed habitats in the Okanagan and Similkameen areas.

FLOWERS: Yellow, five-petalled single flowers on short stalks. Open only in the morning.

LEAVES: Opposite, hairy leaves with four to eight oval leaflet pairs.

STEMS: Trailing and up to 1.5m long, often branching along the ground.

OTHER ID TIPS: Spines on seed pods can cause injury to the feet of people and animals, and can puncture bicycle tires.



J	F	M	A	M	J	J	A	S	O	N	D
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Purple Loosestrife *Lythrum salicaria*



Highly competitive. Purple loosestrife may be pulled from base of plant but it can re-grow from root fragments. Report all sightings.

i

DESCRIPTION: Competitive perennial plant, with showy purple flowers. Thrives in moist habitats, such as ditches, ponds, and wetlands.

FLOWERS: Spike of purple flowers found at the upper end of stems.

LEAVES: Leaves are lance-shaped and can vary in arrangement from opposite to whorled.

STEMS: Stiff smooth stems are square in cross-section.

OTHER ID TIPS: Purple loosestrife is sometimes confused with native fireweed, but purple loosestrife does not produce windborne seeds.



J	F	M	A	M	J	J	A	S	O	N	D
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Reed Canary Grass *Phalaris arundinacea*



Cut plants frequently and regularly (3 times per year for 4 years at a minimum) to prevent seed production and weaken root reserves. Spreading rhizomes are very difficult to pull and any remaining fragments will readily re-sprout.



DESCRIPTION: Tall grass (2.0m). Forms dense stands along ditches, wetlands, meadows, and streams.

FLOWERS: Dusty pink to yellow or brown flowering heads grow up to 30cm long and are composed of many small spikelets.

LEAVES: Green to yellow, broad flat leaves (up to 25mm wide) with parallel veins.

STEMS: Hollow, jointed, up to 2.0m long. Typically unbranched, though new shoots may grow at leaf base.

OTHER ID TIPS: Robust, underground, creeping rhizomes allow vegetative spread and produce new shoots.

Note: There is currently no IAPP map available for this species.

J	F	M	A	M	J	J	A	S	O	N	D
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Rush Skeletonweed *Chondrilla juncea*



L. Scott



J. Friesen



R. Mueller

Highly invasive plant. Incomplete pulling or cutting can stimulate remaining roots to re-sprout and worsen infestations. Continual, repeated cutting or pulling will deplete root reserves. Report all sightings.



DESCRIPTION: Long-lived perennial up to 1.2m tall with skeleton-like appearance. Found on disturbed, dry sites.

FLOWERS: Small yellow flowers randomly scattered along branches.

LEAVES: Inconspicuous, narrow stem leaves.

STEMS: Wiry, highly branched stems with downward pointing hairs near the base.

OTHER ID TIPS: Forms a dandelion-like rosette in the first year. Leaves exude a milky juice when cut or broken.



J	F	M	A	M	J	J	A	S	O	N	D
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Russian Knapweed *Acroptilon repens*



L. Scott



R. Mueller



L. Berry

Highly competitive plant. Incomplete pulling or cutting can stimulate remaining roots to re-sprout and worsen infestations. Continual, repeated cutting or pulling will deplete root reserves. Report all sightings.



DESCRIPTION: Upright plant up to 1.0m in height, often forming dense colonies.

FLOWERS: Single, pink to purple flowers are urn-shaped. Bracts are green at the base with a white, slightly hairy tip.

LEAVES: Lower stem leaves are alternate, longer and deeply lobed. Upper leaves are toothed and decrease in size toward the top of the plant.

STEMS: Upright, stiff, branched, and covered in soft grey hairs.

OTHER ID TIPS: Roots are black, scaly and creeping.



J	F	M	A	M	J	J	A	S	O	N	D
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Russian Thistle *Salsola kali*



Single plant can produce 200,000 seeds. The taproot may be hand-pulled from moist soil. Remove as much root system as possible. Report all sightings.



DESCRIPTION: A rounded, bushy plant to about 1.0m in height.

FLOWERS: Inconspicuous, green with two spiny bracts.

LEAVES: Small and tipped with a sharp point along length of stem.

STEMS: Very branched, red or purple-striped.

OTHER ID TIPS: Often breaks free at ground level in autumn (when seeds mature), and blows in the wind distributing seeds. Also known as 'tumble weed'.



J	F	M	A	M	J	J	A	S	O	N	D
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Scentless Chamomile *Matricaria perforata*



Ministry of Agriculture and Lands



L. Scott



B. Stewart

Single plant can produce 1,000,000 seeds. To hand-pull, loosen the soil using a shovel, then pull from plant base.



DESCRIPTION: Small, bushy plant up to 1.0m in height.

FLOWERS: Daisy-like and scentless, up to 3cm in diameter.

LEAVES: Feathery, and alternate.

STEMS: Smooth, often reddish-purple, and highly branched near the top.

OTHER ID TIPS: Fibrous taproot. Often found in wildflower seed mixes.



J	F	M	A	M	J	J	A	S	O	N	D
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Scotch Broom *Cytisus scoparius*



Small plants should be gently pulled from moist soil. Ensure all roots are removed. Large plants may be cut off as close to the soil surface as possible, without causing soil disturbance.



DESCRIPTION: Taprooted evergreen shrub up to 3.0m in height. Common on roadsides, cutblocks and disturbed areas throughout southern and coastal BC.

FLOWERS: Bright yellow pea-like flowers, sometimes with red markings.

LEAVES: Lower leaves are stalked and have three leaflets; upper leaves are simple and un-stalked.

STEMS: Five-angled and ridged, woody, and brown to green.

OTHER ID TIPS: Flat seed pods have fine hairs on edges.



J	F	M	A	M	J	J	A	S	O	N	D
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Scotch Thistle *Onopordum acanthium*



Deep roots of mature plants require digging to remove as much root as possible. Report all sightings.



DESCRIPTION: Spiny thistle up to 3.0m in height. Found in disturbed areas, ditches and rangelands.

FLOWERS: Many single violet flowers on up to 5cm long branches. Bracts are spiny.

LEAVES: Very hairy, large, lobed leaves with sharp yellow spikes.

STEMS: Numerous branched stems with spiny, hairy wings running down the length.

OTHER ID TIPS: Forms a rosette in the first year, and has a fleshy taproot.



J	F	M	A	M	J	J	A	S	O	N	D
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St. John's Wort *Hypericum perforatum*



Small patches may be manually removed. First, use a shovel to loosen soil, then carefully remove stolons, plants, and roots. Report all sightings.



DESCRIPTION: A herbaceous (not woody) plant. Grows to 1.0m. Up to 30 stems may grow from a single root crown.

FLOWERS: Bright yellow, star-shaped flowers in clusters.

LEAVES: Opposit and up to 3cm long. Oblong with prominent veins. When held up to the light, small transparent dots are visible.

STEMS: Very tough and woody at base, becoming more tender at tips. More branches are found at the end of stems.

OTHER ID TIPS: Root system is extensive (1.5m deep). Expands with lateral roots that form new stems and plants.



J	F	M	A	M	J	J	A	S	O	N	D
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Sulphur Cinquefoil *Potentilla recta*



Small patches may be manually removed using a shovel. First loosen soil, then carefully remove stolons, plants, and roots. Be sure to re-inspect. Report all sightings. i

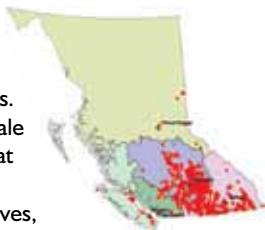
DESCRIPTION: Long-lived perennial, up to 80cm in height. Found in open forests, pastures, disturbed areas, and along roadsides.

FLOWERS: Stalked flowers are pale yellow with five petals, and found at the top of the stem.

LEAVES: Long hairs cover the leaves, which are made up of five to seven toothed leaflets. Leaves appear yellowish-green, not grey, and are hairy on the underside.

STEMS: Stems are hairy and have numerous leaves.

OTHER ID TIPS: Can be confused with native graceful cinquefoil, whose leaves have a woolly, grey underside.



J	F	M	A	M	J	J	A	S	O	N	D
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Tansy Ragwort *Senecio jacobaea*



Seeds are viable for up to 20 years. Small plants can be easily hand-pulled. Use shovel to loosen soil for more complete root removal. Plants can regrow from severed roots and cut stems may still produce viable seed. Report all sightings.



DESCRIPTION: Ragged looking plant up to 1.0m in height. Found on roadsides, fields, disturbed and riparian areas.

FLOWERS: Yellow, daisy-like flowers are borne in clusters at the top of stems.

LEAVES: Alternate leaves are deeply cut and almost ragged, and covered with web-like hairs.

STEMS: Mature plants have branched stems (often purple).

OTHER ID TIPS: In the first year it forms a rosette with 10-20 leaves. Crushed leaves have an unpleasant odour.



J	F	M	A	M	J	J	A	S	O	N	D
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Wild Chervil *Anthriscus sylvestris*



Fraser Valley Regional District



J. Cardina



J. Cardina

Using a shovel, loosen the soil to pull taproot or sever root at least 5cm below soil surface. Limited distribution – important to report all sightings. i

DESCRIPTION: Upright plant from Parsley Family growing to over 1.8m in height. Thrives on moist disturbed sites like roadsides, fencelines, fields.

FLOWERS: White flowers on 2cm long stalks, arranged in umbrella-like clusters.

LEAVES: Fern-like, triangular, glossy dark leaves divided into leaflets. Leaves are smooth to softly hairy.

STEMS: Hollow stems are furrowed. A fringe of hairs is found at branch nodes.

OTHER ID TIPS: Seeds are produced in pairs and have a pronounced tip. Deep taproot up to 1.8m.



J	F	M	A	M	J	J	A	S	O	N	D
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B

P

Yellow Flag-Iris *Iris pseudacorus*



Dig and pull as much of the rhizome system as possible and dispose of away from water bodies, preferably a landfill site. Re-visit site at least once per year for several years and repeat treatment. If digging is not possible, flowers, leaves and seed heads may be cut off and disposed of to reduce plant vigour and limit seed spread. Repeat cutting regularly. Report all sightings.

DESCRIPTION: Showy, upright plant up to 1.5m in height.

Grows in wet areas like ditches and irrigation canals. Widely sold in nurseries.

FLOWERS: Iris-like yellow flowers.

LEAVES: Long, sword-like leaves with bases that fold and clasp the stem in a fan-like fashion.

OTHER ID TIPS: Forms green pods with hard, dark brown, smooth seeds, which can float.



J	F	M	A	M	J	J	A	S	O	N	D
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Yellow Starthistle

Centaurea solstitialis

ALERT!

Not known in BC



Not known in BC. **REPORT ALL SIGHTINGS**

IMMEDIATELY! Taproot may be hand-pulled from moist soil.

Remove as much root system as possible.



DESCRIPTION: Upright plant growing up to 1.5m in height. Can form dense stands. Found in rangelands, pastures, and disturbed areas.

FLOWERS: Yellow, single flowers with sharp spines radiating from bracts in a star-like formation.

LEAVES: Upper leaves are sharply pointed.

STEMS: Winged and covered with fine hairs.

OTHER ID TIPS: Hairy cotton-ball seed head visible throughout winter. Deep taproot.

J	F	M	A	M	J	J	A	S	O	N	D
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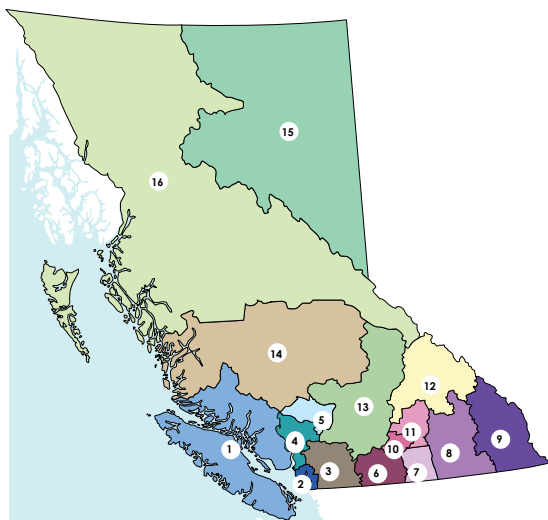
Regional Weed Committees in BC

Regional weed committees are key partners in managing invasive plants in BC. Please contact your regional weed committee to find out more about problem plants in your area, for assistance with plant identification, and to coordinate weed management activities.

www.invasiveplantcouncilbc.ca/committees

Call: _____

(INSERT CONTACT INFO FOR YOUR LOCAL WEED COMMITTEE FROM LIST)





Contact Information

Regional Weed Committees

For further information on plant identification or to report infestations, contact the Regional Weed Coordinator for your area:

1. **COASTAL INVASIVE PLANT COMMITTEE**
250-857-2472
Email: info@coastalinvasiveplants.com
2. **GREATER VANCOUVER INVASIVE PLANT COUNCIL**
604-880-8358
Email: info@gvipc.ca
3. **FRASER VALLEY INVASIVE PLANT COUNCIL**
604-615-WEED(9333)
Email: fvipc@shaw.ca
4. **SEA TO SKY INVASIVE SPECIES COUNCIL**
604-935-7665
Email: ssinvasives@gmail.com
5. **LILLOOET REGIONAL INVASIVE SPECIES SOCIETY**
250-256-3727
Email: lrinvasives@gmail.com
6. **SOUTH OKANAGAN-SIMILKAMEEN INVASIVE PLANT SOCIETY**
250-404-0115
Email: sosips@shaw.ca
7. **BOUNDARY WEED MANAGEMENT COMMITTEE** 250-446-2232
Email: bwmc@nethop.net
8. **CENTRAL KOOTENAY INVASIVE PLANT COMMITTEE**
250-352-1160
Email: coordinator@kootenayweeds.com

- 
9. **EAST KOOTENAY INVASIVE PLANT COUNCIL** 1-888-55-EKIPC (35472)
Email: coordinator@EKIPC.com
10. **CENTRAL OKANAGAN REGIONAL DISTRICT**
250-469-6218
11. **NORTH OKANAGAN REGIONAL DISTRICT**
250-550-3749
12. **COLUMBIA-SHUSWAP REGIONAL DISTRICT**
250-832-8194
13. **SOUTHERN INTERIOR WEED MANAGEMENT COMMITTEE**
250-851-1699
Email: siwmc@telus.net
14. **CARIBOO CHILCOTIN COAST INVASIVE PLANT COMMITTEE**
250-392-1400
Email: info@cccipc.ca
- CARIBOO REGIONAL DISTRICT**
1-800-665-1636 ext. 266
Email: invasiveplants@cariboord.bc.ca
15. **NORTHEAST INVASIVE PLANT COMMITTEE, PEACE RIVER REGIONAL DISTRICT**
250-784-3200
Email: elaine.armagost@prrd.bc.ca
- FORT NELSON INVASIVE PLANT MANAGEMENT COMMITTEE**
250-774-5511
Email: stephanie.smith@gov.bc.ca
16. **NORTHWEST INVASIVE PLANT COUNCIL**
1-866-44WEEDS (449-3337)
Email: info@nwipc.org



Ministry of Environment, BC Parks

For assistance with invasive plant management in parks and protected areas, contact the conservation specialist in your region.

For More Information

Ministry of Environment, BC Parks

www.env.gov.bc.ca/bcparks/conservation.html

Invasive Plant Council of British Columbia

www.invasiveplantcouncilbc.ca

Invasive Alien Plant Program (IAPP)

www.reportaweedbc.ca

Noxious Weeds in British Columbia

www.agf.gov.bc.ca/cropprot/noxious.htm

Guide to Weeds in British Columbia

www.weedsbc.ca/pdf/GuidetoWeeds.pdf

WorkSafe BC Safety Bulletins

www.worksafebc.com/publications/health_and_safety/bulletins/toxic_plants/default.asp

Background Sources

Atwood, L. and S. Young. 2010. BC Parks Invasive Plants Threat Analysis. BC Ministry of Environment.

Wikeem, B. and V. Miller. 2006. Invasive Plants in British Columbia Protected Lands: A Strategic Plan. 2006. BC Ministry of Environment.

Wikeem, B. and V. Miller. 2006. Invasive Plants in British Columbia Protected Lands: Best Management Practices. 2006. BC Ministry of Environment.



Glossary

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 seed in year two.

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

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

Clasping leaf: the base of the leaf surrounds the stem.

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

Fibrous root: root system with many fine parts.

Floral leaf: a modified leaf that is part of a flower.

Lance-shaped: much longer than wide; tapering towards the tip.

Leaf joint: a place where a leaf is attached (a node).

Leaflet: a single segment of a compound leaf.

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

Midvein: the main vein of a leaf.

Node: a place where a leaf or branch is attached (a joint).

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

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

Prostrate: growing flat along the ground.

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.

Runner: a stem that spreads horizontally, often rooting at its joints.

Seed pod: the protective shell or case surrounding a seed.

Spike: a flower cluster in which each flower is not stalked.

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

Trailing: lying flat on the ground, but not rooting.

Vegetative reproduction: reproduction without seeds or spores.

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

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Front Photo: Mount Rohr, Cayoosh Range, Duffy Lake Provincial Park
Back Photo: Lac Du Bois Grasslands Provincial Park
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