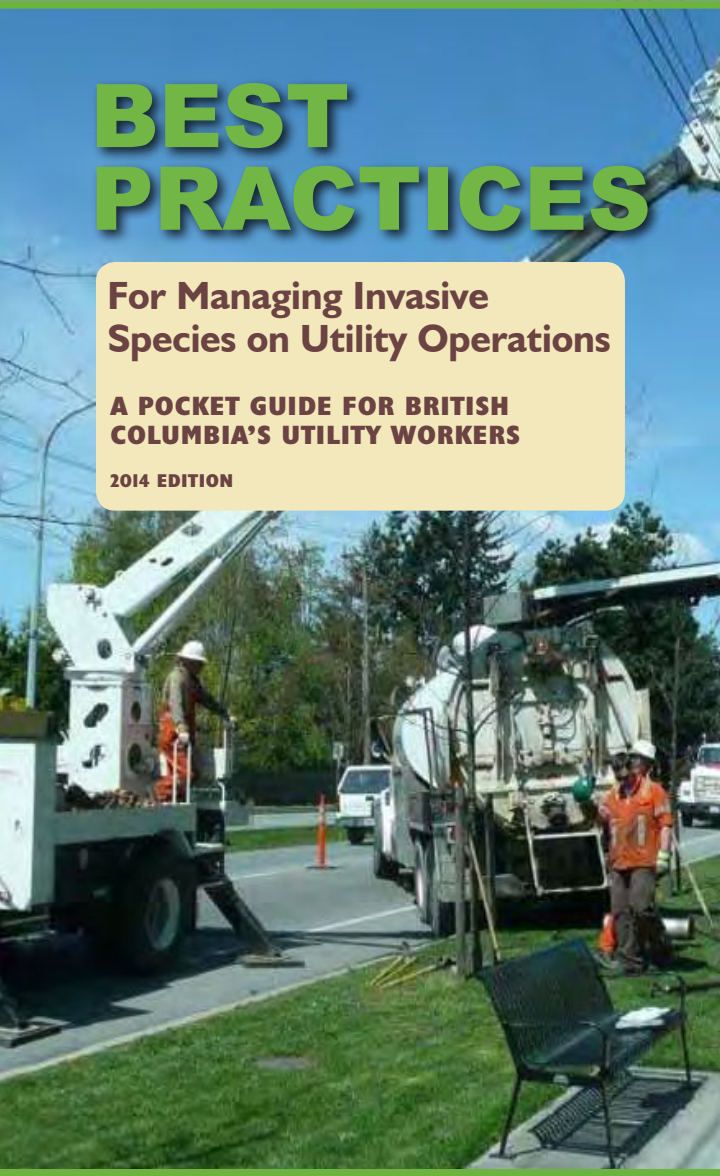
BEST PRACTICES

For Managing Invasive Species on Utility Operations

A POCKET GUIDE FOR BRITISH COLUMBIA'S UTILITY WORKERS

2014 EDITION



Acknowledgements

This guide was developed with the assistance of a Utility Advisory Committee, with the support of the Invasive Species Council of British Columbia (ISCBC), a registered charity that works in collaboration to minimize the introduction, establishment and spread of invasive species.

Thanks to each of the members of the Utility Advisory Committee for their time and technical expertise.

Funding for this project was provided by BC Hydro.

BC hydro
FOR GENERATIONS

For more information, please contact:

Invasive Species Council of BC
www.bcinvasives.ca
info@bcinvasives.ca
1.888.933.3722

The ISCBC also thanks the Ministry of Transportation and Infrastructure (MoT), developers of the Best Management Practices for Managing Invasive Plants on Roadsides, for providing the framework for this guide.

Cover image courtesy of BC Hydro.

Table of Contents

Cleaning Station

Invasive Species and Why You Should Care

This handbook describes the Best Management Practices that work to combat all invasive species, including plants.

Invasive species, including invasive plants, are any invasive alien species that has the potential to pose undesirable or detrimental impacts to humans, animals or ecosystems. Invasive species have the capacity to establish quickly and easily on both disturbed and un-disturbed sites, and can cause widespread **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 utility companies, to control a set list of **identified invasive plants**. Please see page 7 for additional regulations specific to the utility industry. http://www.for.gov.bc.ca/TASB/LEGSREGS/WeedControlAct/WeedControlAct/index.htm

Vehicle parked in blueweed infestation.

THE PROBLEM

Invasive plants negatively impact lands across British Columbia. Utility operations, commonly regarded as hydro-electric but may also include other operations, are recognized as a potential pathway for invasive plant spread, and can be the starting point for infestations found in adjacent pastures, forests and sensitive areas.

DID YOU KNOW?

Staff and contractors of utility companies **have the ability to reduce or stop the spread of invasive species by implementing best practices aimed at prevention and effective control.**

Equipment cleaning station.

INVASIVE SPECIES IMPACTS ON UTILITY OPERATIONS

Once established, invasive plant infestations can displace desirable vegetation, resulting in areas that are less ecologically diverse, and more costly to treat. Invasive plants can severely degrade riparian zones, reduce biodiversity, destabilize slopes, reduce sight lines, increase fire hazards, and in some cases have the potential to cause damage to infrastructure and impact worker safety. The economic impacts of invasive plants can be damaging to all areas of industry, such as agricultural activities, transportation, forestry and oil and gas operations, mining activities and utility operations.

DID YOU KNOW?

It is critical to report plants that are unusual and appear to be growing out of control! Early identification of problem plants is the key to limiting the spread of invasive plants in BC (See pg. 30 for reporting protocol).

Invasive plants can also contaminate gravel pits, rip rap supply, and other fill material sources. If utility workers use these infested materials, they could be spreading plant parts and seeds, thereby encouraging new invasive plant sites.

Some invasive species can be a concern for human and animal 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 irritations, burns, and even blindness. Burdock (*Arctium* spp.) burrs can get caught up in the fur of passing animals and cause irritation, and can even cause the death of birds when the burrs are caught in their feathers, restricting their flight.

DID YOU KNOW?

'If **zebra and quagga mussels** eventually occupy all water systems where they could physically survive and thrive, zebra and quagga mussel are estimated to cause annual damages of 2012 $21.7 million. Of this amount, 57% is due to damages to recreational boaters, 38% through damages to water supplies and 29% through damages to power generation infrastructure.'

— *Preliminary Damage Estimates for Selected Invasive Fauna in B.C.*, Ministry of Environment

Giant hogweed is a safety hazard to workers.

DID YOU KNOW?

Knotweed (*Fallopia* spp.) roots can grow through pavement and other infrastructure. In addition, this plant can grow very fast, causing maintenance issues and altering wildlife habitat by out-competing the native vegetation.

Knotweed

Canada (or Creeping) thistle (*Cirsium arvense*) is also highly invasive. Occasional cutting will only stimulate spreading of its vigorous root system, resulting in more growth and expansion of the infestation.

Canada Thistle

Invasive Species Regulations related to Utility Operations

BC Weed Control Act and Regulation

The *BC Weed Control Act* requires all land occupiers to control designated noxious plants. The *Act* states that "every occupier shall control, in accordance with the regulations, noxious weeds growing or located on land and premises, and on any other property located on land and premises, occupied by him."
http://www.for.gov.bc.ca/TASB/LEGSREGS/WeedControlAct/WeedControlAct/index.htm

Seeds Act

The *Seeds Act* regulates the testing, inspection, quality and sale of seeds. Seeds must meet the standards of the federal legislation before they may enter the country and/or be sold. This *Act* is enforced by the Canadian Food Inspection Agency.
http://laws-lois.justice.gc.ca/eng/acts/S-8/page-1.html

Integrated Pest Management Act

The *Integrated Pest Management (IPM) Act* regulates the use and sale of pesticides in BC. It is based on the degree of risk to human health and the environment, as well as promoting environmental stewardship and integrated pest management. The *Act* and Regulation require the use of Integrated Pest Management for pesticide use on public land, on private land used for forestry, transportation, public utilities and pipelines; and for pest control service companies.
http://www.bclaws.ca/Recon/document/ID/freeside/00_03058_01

Onshore Pipeline Regulations, 1999 (OPR-99)

Section 21 states that "after a pipeline is constructed, the rights-of-way and temporary work areas of the pipeline shall be restored to a condition similar to the surrounding environment and consistent with the current land use"

- Federally regulated rights-of-ways and temporary work areas must be reclaimed with appropriate vegetation (e.g. no new invasive plants) and returned to a condition similar to the surrounding environment.

Section 48 states that "a company shall develop and implement an environmental protection program to anticipate, prevent, mitigate and manage conditions which have a potential to adversely affect the environment"

- Federally regulated pipeline companies are required to have an environmental protection program which includes the prevention, mitigation, and management of invasive plants through the life-cycle of the project (e.g. construction/operations).

*****This Act and its regulations are enforced by the NATIONAL ENERGY BOARD*****

Pipeline

Oil and Gas Activities Act
Environmental Protection and Management Regulation

Section 15 states that "a person carrying out an oil and gas activity on an operating area must

(a) make reasonable efforts to ensure that seed, plant parts or propagules of an invasive plant are not transported into the area while carrying out the oil and gas activities,
(b) to prevent invasive plants from becoming established, revegetate areas disturbed by the oil and gas activity using seed of ecologically suitable species as soon as practicable after the disturbance, and
(c) if on a well site or a facility area, ensure that invasive plants do not become established on the well site or facility area."

Section 33 states that "the minister responsible for administering the *Land Act*, by order, may establish one or more species of plants as invasive."

ISCBC's Legislative Compendium

Report No. 3: A Legislative Guidebook to Invasive Plant Management in British Columbia.
Download from: www.bcinvasives.ca

****Please refer to full documents for more details. This page is meant only as a tool to identify the key acts and regulations.****

Best Management Practices for Utility Workers

The following best management practices are tailored for utility activities, which should not add significant cost to utility operations. By applying these best practices, staff and contractors can help limit the introduction and spread of invasive species, reduce future maintenance and control costs, align with provincial and federal acts and regulations, and be a responsible neighbour.

All groups working on utility operations are encouraged to apply these best practices.

Oil and gas installation site infested with scentless chamomile.

Key Best Practices

- **Identify Invasive Species and Plan Key Activities:** Determine local problem species by consulting invasive plant inventory and treatment maps available from the Ministry of Forests, Lands and Natural Resource Operations, Invasive Alien Plant Program (IAPP): www.reportaweedbc.ca. Contact your regional invasive plant/species committee for more information on regional issues or strategies if needed (see pg. 75).

- **Incorporate education programs for staff and contractors:** For more information or resources on the impacts of invasive species, contact the Invasive Species Council of BC at www.bcinvasives.ca

- **Record and Report Invasive Species:** Ensure invasive species are recorded and reported: call the provincial hotline toll free: 1-888-933-3722 (ISCBC); report on your smart phone with the Report-a-Weed App; contact your Regional Committee (see pg. 75); or report online using IAPP (see pg. 30).

- **Keep Equipment Clean:** Avoid parking, turning around, or staging equipment in invasive plant infested areas. Inspect and clean vehicles before entering a weed free area, or before leaving an infested area. Wash equipment after returning it to the maintenance yard.

- **Coordinate Activities:** Coordinate with other land managers to establish an annual vegetation control schedule (i.e. contact the provincial weed specialist). Consider conducting preliminary treatments on known infestations occurring in areas where activity is planned (i.e. a new facility site, riprap extraction site). Do not brush or mow for seven days before or after an herbicide treatment.

- **Minimize Disturbance and Retain Native Plant Communities:** Minimize unnecessary disturbance of surface soil, and retain desirable vegetation where possible. Where soil disturbance or grading is required, topsoil should be selectively stripped, stored, and replaced when the site is no longer needed. Stored topsoil and subsoil should not be left bare but revegetated as soon as possible to minimize risk of erosion and establishment of invasive plants.

- **Effectively Manage Source and Waste Materials:** Use only clean fill material from an "invasive plant free" source (i.e. rip rap supply, topsoil, seeds, gravel, etc.). Dispose of soil containing invasive plants in a designated disposal site when possible and always report the location of invasive plant waste. Regularly inspect material sources to ensure they are invasive plant free. Record and report invasive plant infested rip rap, gravel pits, quarries, soil and seeds.

- **Remove Invasive Plants:** Remove undesirable vegetation and re-seed with mixtures that are locally adapted, non-persistent, and quick to establish. Identify and remove all invasive plants **PRIOR to flowering or seed-set**. Chemical control must be only be used by a pesticide applicator, in accordance with provincial regulations and herbicide label instructions.

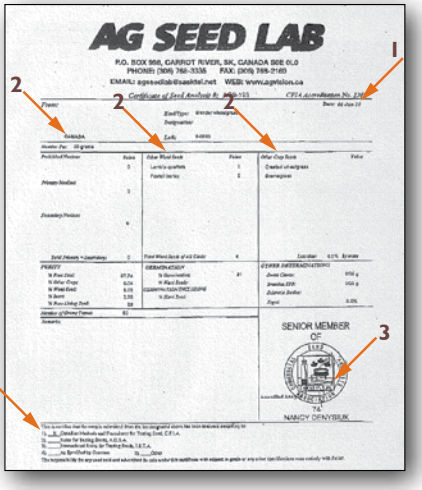
- **Revegetation:** Re-establish vegetation as soon as practical after ground disturbance if appropriate. When re-seeding, use seed mixtures that are free of weeds, locally adapted, non-invasive, and quick to establish. Request and review a Certificate of Seed Analysis for each seed lot and ensure it in invasive plant free. Spread seed in the early spring or late fall to ensure successful establishment.

Portable tracked drilling equipment.

Certificate of Seed Analysis

Undesirable plants can be introduced through contaminants in seed mixtures. **Before you buy seed, CHECK the Certificate of Seed Analysis to ensure that invasive plants and noxious weed seeds are not accidentally introduced to BC!** When reviewing the Certificate of Seed Analysis, check for:

1. Date completed.
2. Species listed under “Other Crop Seeds”, “Other weed seeds” or “Noxious Weeds”.
3. Signature and stamp from an accredited seed testing laboratory.



What’s the Problem?

Typically labels on a bag of seed only show the main species in the mix. Contaminants are not listed!

Certified Seed Tags

- All certified seed must have a blue tag.
- When purchasing seed mixtures, a green tag lists all the components.

What Should You Do?

1. **Request** the Certificate of Seed Analysis for each lot of each species in your mix prior to purchasing and blending the seed.
2. **Check** the Certificate of Seed Analysis for any undesirable species, especially invasive plants and noxious weeds!
3. **Reject** or approve the seed based on what is found, and discuss with supplier.
4. **Report** seed lots with species of concern (pg. 30).

How Do I Know Whether to Reject or Approve the Seed Lot?

Reject the seed lot if the Certificate of Analysis identifies any species listed in the BC *Weed Control Act* Regulations, or the *Forest Range Practices Act*, Invasive Plant Regulation.

Not familiar with a species that is listed?

- *Weed Control Act's Regulation*: http://www.bclaws.ca/Recon/document/ID/freeside/10_66_85
- Contact the Ministry of Forests, Lands and Natural Resource Operations (IAPP), the Invasive Species Council of BC (www.bcinvasives.ca), or your Regional Invasive Plant/Species Committee (pg. 75-77).

Invasive Species Best Practices

KEY ACTIVITY	BEST PRACTICES		
	Identify Invasive Species and Plan Activities	Parking (in infested areas)	Keep Equipment Clean (parking; vehicles)
SURVEYING/ PLANNING		✓	✓
STATIONS, FACILITIES, AND ANCILLARY SITES	✓	✓	✓
DAMS AND RESERVOIRS	✓	✓	✓
FILL SOURCES AND RIP RAP SUPPLY	✓	✓	✓
SERVICE LINES/ DISTRIBUTION	✓	✓	✓
PIPELINES	✓	✓	✓
TRANSMISSION POWER LINES	✓	✓	✓
ROADS OR ACCESS	✓	✓	✓
RESTORATION	✓	✓	✓

BEST PRACTICES				
Minimize Disturbance	Disposal of Invasive Species	Manage Source and Water Materials (use clean material)	Record and Report	Coordinate (monitor; manage)
✓		✓	✓	
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓

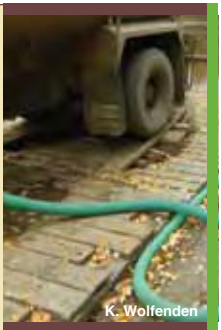
SURVEYING/PLANNING STAGE

- ***Minimize unnecessary disturbance of vegetation and soils.***
- ***Avoid parking in infested areas.***
- ***Clean equipment to remove invasive plants.***
- ***Contact the Regional Invasive Plant/Species Committee if there are local concerns or additional information is required.***
- ***Report infestations:***
  1.888.933.3722
  Report-A-Weed App
  IAPP: reportaweedbc.ca

STATIONS, FACILITIES & ANCILLARY SITES

Typical examples of ancillary sites: substations, generation plants/sites, communication sites (microwave, repeaters, switchyards, compressor stations, valve or gate stations)

- ***If responsible for vegetation management, monitor or remove invasive plants prior to seed set.***
- ***Only use invasive plant free materials.***
- ***Minimize unnecessary disturbance of vegetation and soils.***
- ***Avoid parking in infested areas.***
- ***Clean all equipment to remove invasive plants.***
- ***Transport invasive plant material to an approved disposal site where possible, and report.***
- ***Contact the Regional Invasive Plant/Species Committee if there are regional concerns or additional information is required.***
- ***Practice progressive reclamation and revegetate areas that are not required for operations where appropriate.***


K. Wolfenden


T. Scott


B. Purdon

DAMS & RESERVOIRS


Fortis BC


BC Hydro


BC Hydro

- ✓ *Clean all equipment thoroughly to ensure no invasive larvae is being transferred.*
- ✓ *Avoid using materials from an infested source.*
- ✓ *Record and Report infestations.*
- ✓ *Monitor closely to ensure a continued invasive species free site.*
- ✓ *Dispose of invasive species in an appropriate manner to ensure there is no spread.*

FILL SOURCES AND RIP RAP SUPPLY

- *Avoid using materials from an infested source.*
- *Inspect fill sources to ensure they are free of invasive plant material (i.e. rip rap, gravel, etc.).*
- *Report infestations:*
  1.888.933.3722
  Report-A-Weed App
  IAPP: reportaweedbc.ca
- *Avoid parking in infested areas.*
- *Clean equipment and remove invasive plant material.*
- *Practice progressive reclamation and revegetate areas that are not required for operations where appropriate.*


WILCO


Ministry of Transportation & Infrastructure


Ministry of Transportation & Infrastructure

SERVICE LINES/DISTRIBUTION

- *If responsible for vegetation management, monitor or remove invasive plants prior to seed set.*
- *Minimize unnecessary disturbance of vegetation and soils.*
- *When reseeding, request the Certificate of Seed Analysis and confirm it is an invasive plant free mix.*
- *Avoid parking in infested areas.*
- *Clean equipment to remove invasive plants.*
- *If transporting invasive plant material be sure it goes to an approved disposal site and report it.*
- *Use only invasive plant free fill materials.*

PIPELINES

- *Manage invasive plants during operations to minimize off site impacts.*
- *If responsible for vegetation management, monitor or remove invasive plants prior to seed set.*
- *Minimize unnecessary disturbance of vegetation and soils.*
- *Avoid parking in infested areas.*
- *Clean all equipment to remove invasive plants.*
- *Transport invasive plant material to an approved disposal site where possible and report.*
- *Use only invasive plant free fill materials.*
- *Use only materials that are from an invasive plant free storage site (i.e. Source storage yards and areas should be invasive plant free).*


L. Rainville


L. Rainville


L. Rainville

TRANSMISSION POWERLINES


S. Leverkus


E. Swanson


BC Hydro

- ***If responsible for vegetation management, monitor or remove invasive plants prior to seed set.***
- ***Minimize unnecessary disturbance of vegetation and soils.***
- ***When reseeding, request the Certificate of Seed Analysis and confirm it is an invasive plant free mix.***
- ***Avoid parking in infested areas.***
- ***Clean equipment to remove invasive plants.***
- ***Transport invasive plant material to an approved disposal site and report.***
- ***Use only invasive plant free fill materials.***

ROADS OR ACCESS

- *Coordinate activities.*
- *Avoid parking in infested areas.*
- *Clean all equipment to remove invasive plants.*
- *Report infestations: 1.888.933.3722 Report-A-Weed App IAPP: reportaweedbc.ca*
- *Use invasive plant free construction and reclamation materials. If re-seeding, request a Certificate of Seed Analysis and confirm it is an invasive plant free mix.*
- *Maintain competitive vegetative cover on either site of the roadbed where possible and appropriate.*
- *Minimize unnecessary disturbance of vegetation and soils.*
- *Transport invasive plant material to a designated disposal site where possible and report.*


K. Wolfenden


E. Swanson


S. Leverkus

RESTORATION

L. Rainville

L. Rainville

- ***Contact the Regional Invasive Plant/Species Committee if there are local concerns or additional information required.***
- ***Report infestations:***
  1.888.933.3722
  Report-A-Weed App
  IAPP: reportaweedbc.ca
- ***Avoid parking in infested areas.***
- ***Effectively manage source and waste materials.***
- ***If appropriate, re-seed exposed soil with mixtures that are certified weed-free. Request the Certificate of Seed Analysis and confirm it is an invasive plant free mix.***
- ***Stored topsoil and subsoil should not be left bare but revegetated as soon as possible to minimize risk of erosion and establishment of invasive plants.***

Aquatic Invasive Species

Many utility operations encounter water bodies at some phase of development. The following Best Management Practices should be used when working around any water body.

- ***Clean, Drain, Dry any equipment that has been in contact with infested water.***
- ***Report ALL sightings of invasive mussels to the Report all Poachers and Polluters (RAPP) hotline: 1-877-952-7277***
- ***Report all other infestations: 1.888.933.3722 Report-A-Weed App IAPP: reportaweedbc.ca***
- ***Contact the provincial Aquatics Specialist for further guidance and/or information: 250-387-9500***

KEY AQUATIC INVASIVE SPECIES:

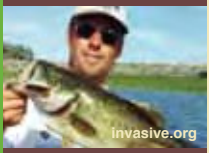
Rusty Crayfish
Orconectes rusticus

Quagga & Zebra Mussels
Dreissena bugensis
NOT IN BC—ALERT

Eurasian Watermilfoil
Myriophyllum spicatum

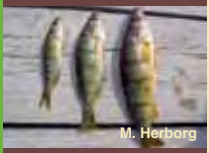
New Zealand Mudsnail
Potamopyrgus antipodarum

American Bullfrog
Rana catesbeiana



Largemouth Bass
Micropterus salmoides

Common Carp
Cyprinus carpio



Yellow Perch
Perca flavescens

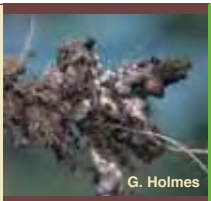
Didymo
Didymosphenia geminata

- ✓ ***Ensure any equipment travelling to the site is thoroughly cleaned before use.***
- ✓ ***Monitor the site consistently to ensure it is invasive species free.***
- ✓ ***Dispose aquatic invasive species at an appropriate disposal site—dry out, bag and landfill, or incinerate. Use only materials from an invasive species free site.***

Other Invasive Species

Many invasive diseases are threatening BC, and there are some simple Best Management Practices that should be used to prevent the spread of these diseases.

- ***Sanitize equipment/ vehicles that have been in an infested area***
- ***Contact your Regional Invasive Plant/Species Committee to inquire about the presence of invasive diseases in the area before acting.***
- ***Follow the Best Management Practices suggested for the utilities activity you are undertaking.***


G. Holmes

Canola production is a very important high value crop in BC, and if the invasive disease clubroot *(Plasmodiophora brassicae)* is introduced to the area it could cause severe economic and environmental impact on agriculture producers.


P. Pattavina

White nose syndrome is a dangerous fungus that is deadly to North American bats; it has the potential to affect endangered species of bats across Canada.


R. Ottens

Fire ants have been identified in BC, and their infestations can cause the loss of property value and cause severe stings, even swarming people who disturb their nests.

Reporting Invasive Species

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

Unusual plants that appear to be taking over or growing out of control should be reported in one of these four ways:

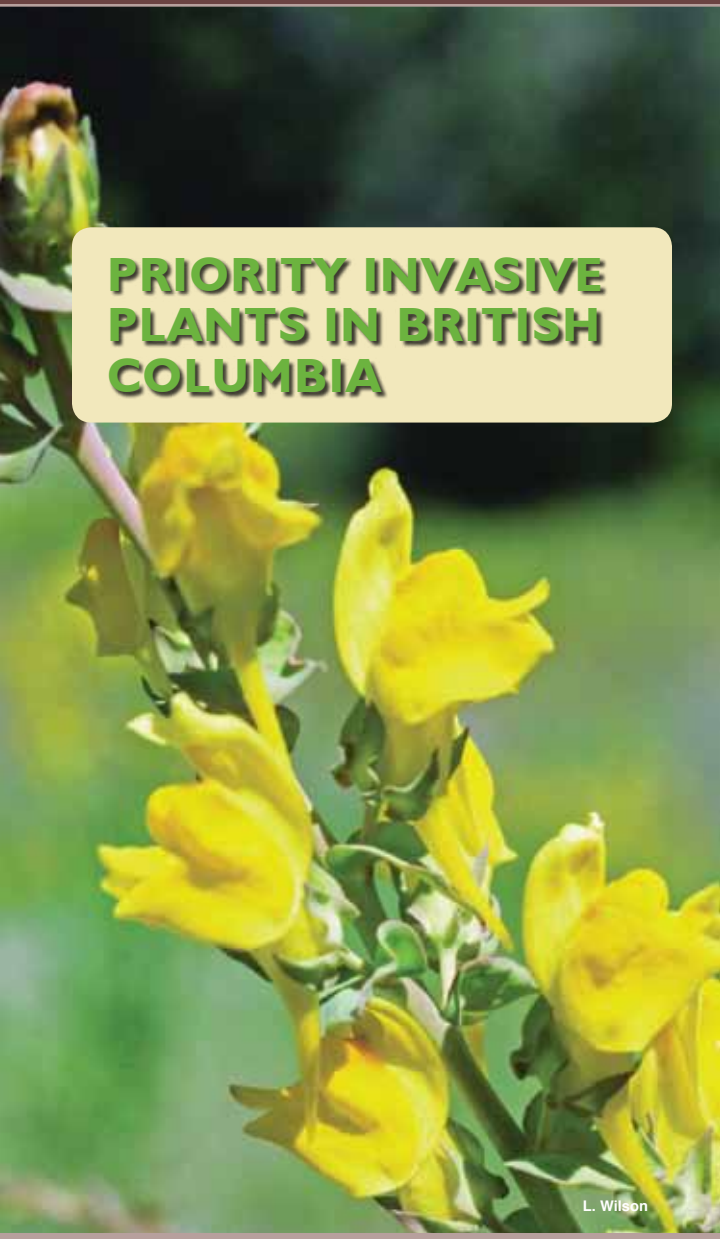
- Online database, 'Report-A-Weed,' the Invasive Alien Plant Program (IAPP). **www.reportaweedbc.ca**
- The 'Report-A-Weed' App, for iPhone and Android smartphones
- Regional Invasive Plant/Species Committee (see pg. 75)
- ISCBC Toll Free: 1-888-933-3722

Please report the following information:

1. Species (include a photo whenever possible)
2. Size and density of infestation
3. UTM coordinates or directions to site
4. Reporter's contact information

Report-A-Weed App screen.

PRIORITY INVASIVE PLANTS IN BRITISH COLUMBIA



Dalmatian Toadflax

Priority Invasive Plants in BC

The plants included in this guide represent many of the most problematic invasive plants in BC. Consult the provincial invasive species specialist and/or regional invasive plant/species committee to determine which plants are of concern in your area. **And remember, 'weeds know no boundaries'!** Note that some species are of higher priority in specific regions than in others. Consider applying best 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 have been indicated for each weed.

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

Seed or plant pieces spread in contaminated soil

Seed eaten or carried by birds and animals

Seed or plant pieces carried in water

Seed blown by wind

Seed or plant pieces carried on machinery, equipment and vehicles

Seed and plant spread by brushing or mowing

Seed or plant pieces spread by cultivation

P — *Indicates perennial weeds (plants growing for more than two seasons)*

B — *Indicates biennial weeds (plants that grow for two seasons)*

A — *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 in this guide to help contractors plan key utilities activities. 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.

Note: *Plants may flower and produce seed at times other than indicated in this guide.*

Distribution map

Legend

Invasive Plant Site

Natural Resource Operations Regions

- Cariboo Region
- Kootenay / Boundary Region
- Northeast Region
- Omineca Region
- Skeena Region
- South Coast Region
- Thompson / Okanagan Region
- West Coast Region

Note: *Distribution maps in this guide are from the provincial Invasive Alien Plant Program (IAPP) database as of July 2013, and may not accurately reflect the entire distribution of each invasive plant, as inventory and reporting is a continual process.*

The following invasive plants have been legislated noxious in the BC *Weed Control Act* Regulations. The **provincially** listed noxious weeds are described in detail following the **regionally** listed noxious weeds, which are described briefly here:

COMMON NAME	LATIN NAME	REGION
Blueweed	*Echium vulgare*	Cariboo, Central Kootenay, Columbia-Shuswap, East Kootenay, Okanagan-Similkameen, Thompson-Nicola
Burdock	*Arctium* spp.	Bulkley-Nechako, Cariboo, Columbia-Shuswap, Fraser-Fort George, Kitimat-Stikine, North Okanagan, Okanagan-Similkameen, Peace River, Thompson-Nicola
Cleavers	*Galium aparine*	Peace River
Common Bugloss	*Anchusa officinalis*	Kootenay-Boundary
Common Tansy	*Tanacetum vulgare*	Bulkley-Nechako, Central Kootenay, Columbia-Shuswap, East Kootenay, North Okanagan
Field Scabious	*Knautia arvensis*	Bulkley-Nechako, Kootenay-Boundary, Thompson-Nicola
Green Foxtail	*Setaria viridis*	Peace River
Hoary Alyssum	*Berteroa incana*	Kootenay-Boundary
Hoary Cress	*Cardaria spp.*	Columbia-Shuswap, North Okanagan, Thompson-Nicola
Kochia	*Kochia scoparia*	Peace River
Marsh Plume Thistle	*Cirsium palustre*	Bulkley-Nechako, Fraser-Fort George
Meadow Knapweed	*Centaurea pratensis*	Columbia-Shuswap

COMMON NAME	LATIN NAME	REGION
Night-Flowering Catchfly	*Silene noctiflora*	Peace River
Orange Hawkweed	*Hieracium aurantiacum*	Bulkley-Nechako, Cariboo, Central Kootenay, Columbia-Shuswap, East Kootenay, Thompson-Nicola
Oxeye Daisy	*Chrysanthemum leucanthemum*	Cariboo, North Okanagan, Peace River, Thompson-Nicola
Perennial Pepperweed	*Lepidium latifolium*	East Kootenay, Thompson-Nicola
Plumeless Thistle	*Carduus acanthoides*	Central Kootenay
Puncturevine	*Tribulus terrestris*	Okanagan-Similkameen
Quackgrass	*Agropyron repens*	Peace River
Russian Knapweed	*Acroptilon repens*	North Okanagan
Russian Thistle	*Salsola kali*	Peace River
Scotch Thistle	*Onopordum acanthium*	North Okanagan
Sulphur Cinquefoil	*Potentilla recta*	Columbia-Shuswap, North-Okanagan, Okanagan-Similkameen, Thompson-Nicola
Tartary Buckwheat	*Fagopyrum tataricum*	Peace River
White Cockle	*Lychnis alba*	Peace River
Wild Chervil	*Anthriscus sylvestris*	Fraser Valley
Wild Mustard	*Sinapsis arvensis*	Peace River

BABY'S BREATH *Gypsophila paniculata*


R. Mueller


J. Leekie


J. DiTomasco

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-petalled, 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

P

BLUEWEED *Echium vulgare*


B. Stewart


R. Old


L. Scott

To kill the plant, dig out or sever taproot at least 5cm 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

B P

BULL THISTLE *Cirsium vulgare*

Competing vegetation limits bull thistle introduction and spread. Re-vegetating disturbed areas is the best defense.

Description: This weed can grow to 3.0m tall, with branches spreading up from erect stems.

Flowers: Flowers are found clustered at the end of the branches. They are 4–5cm wide, pinkish to dark purple, and covered with spines.

Seed/Fruit: The brown, shiny seeds have a top of white, soft hairs.

Leaves: The leaves are alternate and deeply lobed, with spines at the lobes and tips. The base of each leaf surrounds the stem with spiny wings.

Stems: The stems are erect and branched.

Other ID Tips: This weed has a short, fleshy taproot. Skeletons have nodding heads. In the first year, these plants form a rosette.

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

B

CANADA THISTLE *Cirsium arvense* ('Creeping Thistle')

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 and in riparian areas.

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

P

COMMON BUGLOSS *Anchusa officinalis*

To kill this 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

B P

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

B

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.

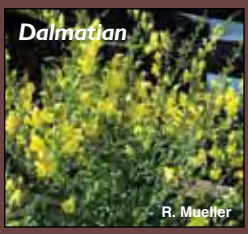
Stems: Mature plants have several branched stems that can be reddish, and somewhat woody near the base.

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

P

DALMATIAN TOADFLAX *Linaria genistifolia*
YELLOW TOADFLAX *Linaria vulgaris*



Incomplete root removal/cutting can stimulate remaining roots to re-sprout and worsen infestations. A commitment to regular, repeated cutting/pulling is required for this control method.

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

Dalmatian

Yellow

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

P

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

P

GIANT HOGWEED

Heracleum mantegazzianum

Leaves and stems contain a highly toxic sap that can burn skin. Refer to Worksafe BC guidelines and consult with regional invasive plant/species 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

P

GORSE *Ulex europaeus*

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

P

HIMALAYAN BALSAM / POLICEMAN'S HELMET *Impatiens glandulifera*

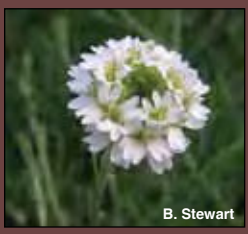
Hand-pull from the base of the plant prior to seed set. Plants may be composted as long as no seeds are present. Report all sightings.

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

A

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

A B P

HOARY CRESS *Cardaria draba*


L. Scott


B. Stewart


S. Dewey

Highly invasive plants. Mowing before seed set will limit seed production, but may encourage spread by runners. Prevent spread and consult your Regional Invasive Plant/Species Committee. Report all sites.

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

P

HOUND'S-TONGUE *Cynoglossum officinale*


R. Mueller


L. Scott


L. Scott

First year rosettes can be easily hand-pulled. Deep roots of mature plants require digging to remove as much root as possible. In southern BC, control of sites can be achieved through a root-attacking biological control weevil.

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

B

KNAPWEED

Diffuse *Centaurea diffusa*
Spotted *Centaurea stoebe*

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.

Diffuse

Spotted

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

B P

KNAPWEED

Meadow *Centaurea debeauxii;* Black *Centaurea nigra;* Brown *Centaurea jacea*

Taproot may be hand-pulled from moist soil. Remove as much of the root system as possible. Dispose of bagged flowering plants into garbage.

Description: Species similar, upright, branched, up to 1 m in height. Found on dry roadsides, disturbed sites and in fields.

Flowers: Large pink to purple-red flowers supported atop comb-like bracts ranging from light to dark brown.

Leaves: Lower leaves long-stalked and shallowly lobed, covered with long to cobwebby hairs. Form rosettes in their first year.

Stems: Single main-stem that divides into branches and is somewhat hairy.

Other ID Tips: Leaves are undivided, unlike other knapweeds.

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

P

KNOTWEED

Japanese, Giant, Bohemian *Fallopia* spp.
Himalayan *Polygonum polystachyum*

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. Do not disturb patches and redistribute material during road or skid trail construction. Report all sightings.

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.

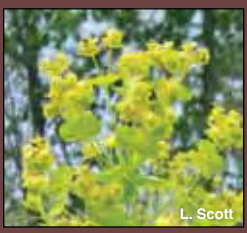
Stems: Reddish-brown, hollow stems form dense thickets.

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

P

LEAFY SPURGE *Euphorbia esula*



Highly invasive plant. Pulling or cutting may worsen infestations. Very young plants and small patches may be removed manually with deep digging. Wear gloves as the milky sap is toxic. 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

P

MARSH PLUME THISTLE *Cirsium palustre*

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

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 flowers 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

B

NODDING THISTLE *Carduus nutans*

Repeated hand-pulling or cutting prior to flowering will help reduce seed production. Expansion of nodding thistle populations in southern BC has been reduced through biological control agents. Report all infestations north of Quesnel.

Description: Solitary stem or several branched stems from a single base, up to 2.4m in height, with nodding flower heads. Found on dry roadsides and disturbed sites.

Flowers: Large (5cm), reddish purple flowers above spiny-tipped bracts, nodding when mature.

Leaves: Deeply lobed with spiny, edges, winged at stem. Overwinter as rosettes.

Stems: Smooth with no spines.

Other ID Tips: Similar to plumeless thistle but has no spines on stem.

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

B

ORANGE HAWKWEED *Hieracium aurantiacum*
YELLOW HAWKWEED *Hieracium* spp.

Highly invasive plants. Mowing before seed set will limit seed production, but may encourage spread by runners. Prevent spread and consult your Regional Invasive Plant/Species Committee.

Description: Fast-spreading, generally 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.

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

P

OXEYE DAISY

Chrysanthemum leucanthemum

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

P

PERENNIAL PEPPERWEED

Lepidium latifolium

Highly competitive plant that is extremely limited in distribution in BC. Report all sightings through Report-A-Weed or to an Invasive Plant Specialist. Incomplete pulling or cutting can stimulate remaining roots to re-sprout and worsen infestations.

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

P

PLUMELESS THISTLE *Carduus acanthoides*

Hand-pull rosettes. Once stalk grows, hand-pulling prior to flowering or removal of flower heads will help reduce seed production. Has an enormous seed banking potential. Limited distribution in BC; report all sightings.

Description: Very spiny, many branched on upper portion, up to 1.5m in height. Found on dry fields, roadsides and disturbed sites.

Flowers: Purplish-pink flowers up to 2.5cm wide, singly or in clusters at ends of branches.

Leaves: Long, narrow, very spiny. Rosette leaves are saw-toothed to the midrib.

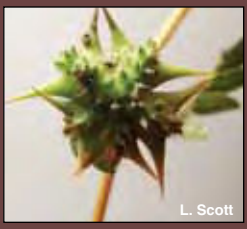
Stems: Very spiny.

Other ID Tips: More spiny than nodding thistle and flowers upright.

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

B

PUNCTUREVINE *Tribulus terrestris*



After loosening soil, use thick gloves to grab plant at base of vines and pull out. Bag all plant parts and dropped seeds and dispose of in landfill. 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

A

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.

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 and is generally found growing adjacent to water or in moist soil areas.

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

P

RUSH SKELETONWEED *Chondrilla juncea*


L. Scott


J. Friesen


R. Mueller

Highly invasive plant with extensive deep root system. Incomplete pulling or cutting can stimulate remaining roots to re-sprout and worsen infestations. Continual, repeated cutting or pulling will eventually 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

P

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

P

SCENTLESS CHAMOMILE

Tripleurospermum inodorum

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

A P

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

P

SCOTCH THISTLE *Onopordum acanthium*

An extremely large and distinctly grey coloured thistle. Deep roots of mature plants require digging to remove as much root as possible. Limited distribution outside the North Okanagan area. 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

B P

ST. JOHN'S-WORT *Hypericum perforatum*

Repeated hand-pulling or cutting prior to flowering will help reduce seed production and deplete root reserves. Biological control has been the primary treatment method for this species across southern BC for over twenty-five years.

Description: Branched, up to 1m in height, with sticky seeds. Found on dry and acidic rangeland, roadsides and disturbed sites.

Flowers: Bright yellow, 5-petalled, numerous.

Leaves: Opposite, oval, small, covered with transparent dots.

Stems: Smooth, upright, and branched.

Other ID Tips: A deep root system finds water when scarce and spreads underground to produce new shoots.

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

P

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 outside the Thompson-Okanagan area.

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

P

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 outside the Lower Mainland and south coast areas.

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

B P

TEASEL *Dipsacus fullonum*

Species is a significant threat in moist areas where it can form impenetrable stands. Dig out or sever taproot at least 5cm below soil surface or cut stalks before flowering occurs. Report all sightings.

Description: Upright taprooted plant up to 1.8m in height. Found in moist areas like ditches and pastures, but also found on drier sites like roadsides.

Flowers: Oval-shaped flower heads over two inches in length consisting of numerous tiny purple flowers. Long, spiny, upward pointing bracts enclose the flower.

Leaves: Stem-leaves opposite, lance-shaped, veiny, with prickles on the lower part of the central vein.

Stems: Large stems have vertical ribs with rows of downward pointing prickles.

Other ID Tips: Forms a rosette in its first year.

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

B

YELLOW FLAG IRIS *Iris pseudacorus*


R. Mueller


C. Hougen


C. Hougen

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.

Flower: 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

P

YELLOW STARTHISTLE *Centaurea solstitialis*

Not present in BC


U.S. Department of Agriculture


K. Weller


C. Roche

REPORT ALL SIGHTINGS IMMEDIATELY! *Contact an Invasive Plant Specialist, use Report-A-Weed, or phone the ISC hotline.*

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.

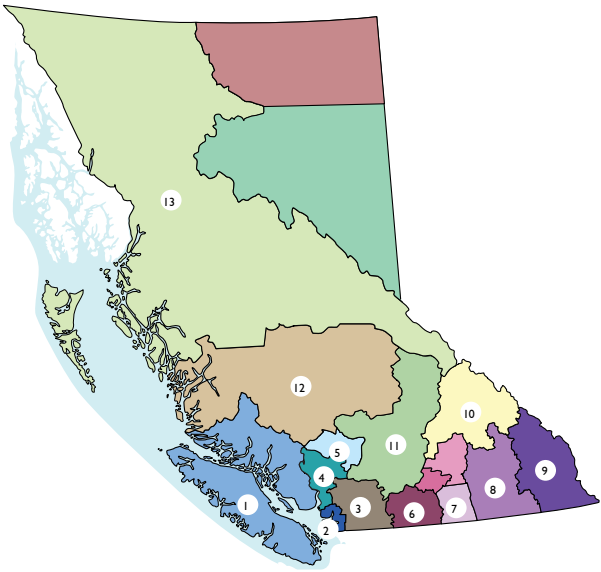
Other ID Tips: Hairy cotton-ball seed head visible throughout winter. Deep taproot.

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

A

Regional Invasive Plant/Species Committees

Regional invasive plant/species committees are key partners in managing invasive plants in BC. Please contact your Regional Committee to find out more about problem plants in your area, for assistance with plant identification, or to coordinate weed management activities. The most current contact information can be found under the partners section at: www.bcinvasives.ca



1. **COASTAL INVASIVE PLANT COMMITTEE**
   www.coastalisc.com

2. **INVASIVE SPECIES COUNCIL OF METRO VANCOUVER**
   www.iscmv.ca

3. **FRASER VALLEY INVASIVE PLANT COUNCIL**
   www.fraservalleyweeds.com

4. **SEA TO SKY INVASIVE SPECIES COUNCIL**
   www.ssisc.info

5. **LILLOOET REGIONAL INVASIVE SPECIES SOCIETY**
   Email: lrinvasives@gmail.com

6. **OKANAGAN AND SIMILKAMEEN INVASIVE SPECIES SOCIETY**
   www.oasiss.ca

7. **BOUNDARY INVASIVE SPECIES SOCIETY**
   www.rdkb.com

8. **CENTRAL KOOTENAY INVASIVE PLANT COMMITTEE**
   www.ckipc.ca

9. **EAST KOOTENAY INVASIVE PLANT COUNCIL**
   www.ekipc.com

10. **COLUMBIA-SHUSWAP INVASIVE SPECIES SOCIETY**
    www.columbiashuswapinvasives.org

11. **SOUTHERN INTERIOR WEED MANAGEMENT COMMITTEE**
    www.siwmc.ca

12. **CARIBOO CHILCOTIN COAST INVASIVE PLANT COMMITTEE**
    www.cccipc.ca

13. **NORTHWEST INVASIVE PLANT COUNCIL**
    www.nwipc.org

For More Information

Invasive Species Council of British Columbia (ISCBC)
www.bcinvasives.ca

BC Hydro
www.bchydro.com

Invasive Alien Plant Program (IAPP)
www.reportaweedbc.ca

BC Ministry of Agriculture - *Field Guide to Noxious and Other Selected Weeds of British Columbia*
http://www.agf.gov.bc.ca/cropprot/weedguid/weedguid.htm

Certified Weed Free Forage and Straw Program
http://nwipc.org/documents/private/wffs_consumer_tech_handoutf.pdf

BC Oil and Gas Commission
www.bcogc.ca

Ontario Invasive Plant Council
http://www.ontarioinvasiveplants.ca/files/CleanEquipmentProtocol_Summary_Mar152013_D2.pdf

Helicopter access

BACKGROUND SOURCES

Belt, J., D. Lafleur, M. Sladek. 2009. *Invasive Plants of the Crown of the Continent*.

Department of Natural Resources and Environment. 2002. *Powercor Australia Environmental Weed Guide*. Victoria, Australia.

Lyons, C.P., B. Merilees. 1995. *Trees, Shrubs and Flowers to Know in Washington and British Columbia*. Vancouver, British Columbia.

Open Learning Agency. 2002. *Guide to Weeds in British Columbia.* BC Ministry of Agriculture, Food and Fisheries. Victoria, BC.

Ralph, D., B. Wikeem, R. Cranston. 1996. *Field Guide to Noxious Weeds and Other Selected Invasive Plants of British Columbia*.

Columbia Basin Trust - **http://www.cbt.org/crt/**

Oxeye Daisy

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.

Invasive Species Index