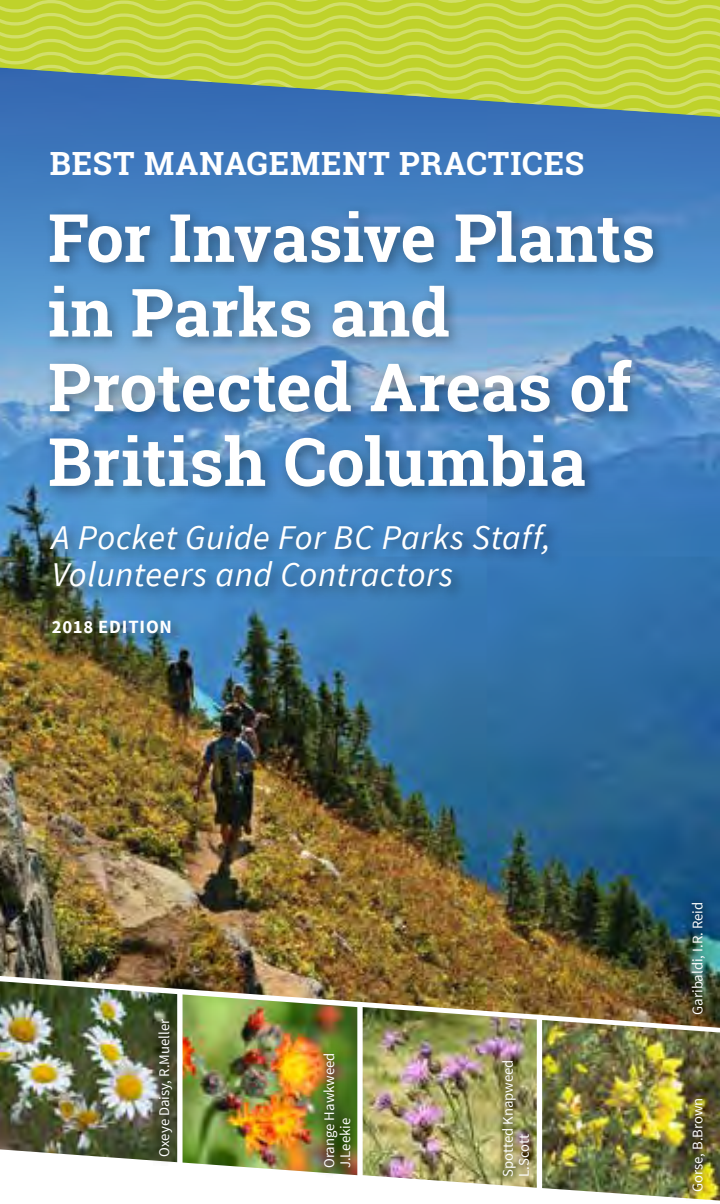
BEST MANAGEMENT PRACTICES

For Invasive Plants in Parks and Protected Areas of British Columbia

A Pocket Guide For BC Parks Staff, Volunteers and Contractors

2018 EDITION



Oxeye Daisy, R.Mueller

Orange Hawkweed J.Leekie

Spotted Knapweed L.Scott

Gorse, B.Brown

Garibaldi, J.R. Reid

Invasive Species Council of BC

British Columbia | BC Parks

Acknowledgements

This guide was developed by the Ministry of Environment and Climate Change Strategy (BC Parks) in partnership with the Invasive Species Council of British Columbia (ISCBC), a non-profit organization that works in collaboration to minimize the introduction, establishment and spread of invasive species.

For more information on invasive species, please visit the ISCBC website:

www.bcinvasives.ca

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The ISCBC staff team responsible for writing this guide includes Coleen Hougen, David Ralph, Nicola Bakker, Pam Jorgenson and Tracy Thomas. Original production design was completed by Julianne Leekie and updates to the guide were completed by Backyard Creative (2018).

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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 and Climate Change Strategy (BC Parks) to control a set list of identified invasive plants.

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

Almost a thousand alien plant and animal species are known to have established in natural environments in B.C. Plants are overwhelmingly the most common group of established alien species in the province. Of the over 800 alien plant species established in the province, over 175 are known to be invasive and occur at more than 117,000 locations across the province (Environmental Reporting BC, 2016).

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 17 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:

1. to prevent invasive plants,
2. to reduce their impacts, and
3. to provide a framework for long-term invasive plant management.

Carpet burweed quarantine area, Ruckle Provincial Park.

Key Best Management Practices

1. 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 regional invasive species organization 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.

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.
- 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.

Site disturbance at Skaha Bluffs Provincial Park.

- 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.

Hydroseeder at work.

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.
- 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.

Assessment of a Scotch thistle infestation.

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.
- 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.

Common burdock can easily attach to livestock.

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.
- 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 all boots, bikes, gear, camping equipment and motorized vehicles for invasive plant seeds and parts before leaving a recreational area.

Keep horses on designated trails to prevent invasive plant spread.

- Encourage commercial and recreational users to buy their firewood locally and burn it on site to prevent the spread invasive insects and diseases that harm BC's forests.
- 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.

Eurasian watermilfoil on boat, trailer, and motor.

6. Water and Beaches

- Inspect and clean off all plant parts, animals, and mud from boats, boat trailers, and other equipment (e.g. boots, waders, and fishing gear) before entering or moving to another waterbody. Use a hot water and/or a power wash station if available.
- Drain onto land all items that can hold water (e.g. buckets, wells, bilge, and ballast).
- Dry all items completely before launching into another body of water; let boats and equipment dry for at least five days in sunny conditions.
- 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.
- Survey and monitor boat launches, beaches, and riparian areas for aquatic and terrestrial invasive plants.
- Immediately eradicate new infestations.
- Minimize excessive disturbance along water margins and riparian areas.
- Dispose invasive plant material by placing it in a plastic bag and depositing it in proper refuse containers.


Ministry of Environment and Climate Change Strategy, BC Parks

Invasive Yellow flag-iris removal in the Kootenays.

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.
- 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 invasive species is key to stopping the spread of invasive species in BC. It's critical to report new infestations immediately!

Here is how you can report invasive species:

- ✓ Report-Invasives BC Phone App
- ✓ Report-A-Weed BC Phone App
- ✓ Report-A-Weed tool in the online IAPP Map Display application
- ✓ Online Report Form

Visit www.for.gov.bc.ca/hra/invasive-species/index.htm to access these reporting tools.

Other ways you can report include:

- ✓ Phone 1-888-933-3722
- ✓ Contact your Regional Invasive Species Organization: www.bcinvasives.ca/about/partners

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 Area

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.

P **Indicates perennial weeds (plants that grow 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.

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

Flowers (orange squares) **Seed (lime circles)**

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

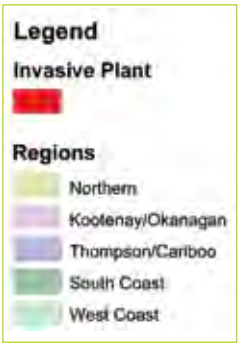
J	F	M	A	M	J	J	A	S	O	N	D

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 invasive species coordinatorin your area for species and site specific treatment recommendations, or refer to Guide to Weeds in British Columbia: www.for.gov.bc.ca/hra/plants/weedsbc/GuidetoWeeds.pdf*

Distribution Map

Consult this legend for invasive plant distribution maps



Note: *Distribution maps in this guide are from the Provincial Invasive Alien Plant Program (IAPP) database from 2011 and 2018, as indicated on each map. These maps may not accurately reflect the entire distribution of each invasive plant, as inventory and reporting is a continual process. For species where IAPP data is not available, the distribution maps will be marked with "IAPP Data Not Available".*

Aaron's Beard *Hypericum calycinum*


J. Ruter, Bugwood.org


J. Ruter, Bugwood.org

This plant is toxic to animals, if consumed. Small patches of plants can be removed by digging. Care must be taken to remove as much of the root as possible. Any remaining root fragments will re-sprout; be sure to re-inspect. Ensure any removed plant matter is disposed of at a landfill.

DESCRIPTION: An evergreen shrub that is a horticultural variety of St. John's Wort. It spreads rapidly by rooting along its horizontal creeping stem. Often found in residential areas, grasslands, meadows, open forests, and along trails and roads.


IAPP DATA NOT AVAILABLE

FLOWERS: Bright yellow; 6-9cm in diameter; formed by 5 egg-shaped petals.

LEAVES: Opposite; oval; 4.5-10cm long by 1-3cm wide.

STEMS: Erect; 4-sided (square); grow up to 80cm tall.

OTHER ID TIPS: Flowers contain numerous, bushy stamen with reddish-orange anthers.

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

P

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.


MAP 2011

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

Bittersweet Nightshade *Solanum dulcamara*


L.J. Mehrhoff, Bugwood.org


D. Cappaert, Bugwood.org


J. Cardina, Bugwood.org

This plant is toxic to humans and animals if consumed. Remove young plants by digging. Remove as much root as possible; remaining root fragments will re-sprout. Dispose of plant at a land fill.

DESCRIPTION: A scrambling woody vine that climbs onto small trees and shrubs. Often found in riparian areas, and along fields or forest edges.


MAP 2018

FLOWERS: Purple and star-shaped; comprised of 5 backward-pointing petals with prominent yellow cone.

LEAVES: Dark green to purplish; alternate; heart shaped at the base.

STEMS: Gray-brown; produces creamy white brittle bark at maturity.

OTHER ID TIPS: Produces green or orange egg-shaped berries that turn bright red at maturity. Plant produces an unpleasant smell when leaves and bark are crushed.

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

P

Blackberry, Himalayan *Rubus armeniacus*
Blackberry, Cutleaf Evergreen *Rubus laciniatus*

Use a mattock or backhoe to remove as much root as possible; remaining root fragments will re-sprout. Continue monitoring the area for re-growth. Ensure biomass is disposed of at a landfill.

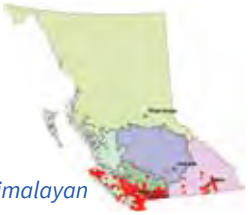
DESCRIPTION: Dense evergreen shrub often growing in thickets 2-10m in height. Found on disturbed sites, roadsides, pastures, stream banks, and forest edges.

FLOWERS: Form small clusters; 5 petals; white to pink.

LEAVES: Alternate; evergreen; palmately compound.

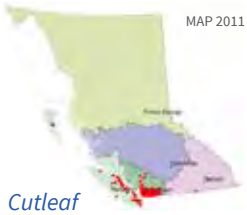
STEMS: Five-angled with stout, hooked prickles along the angles.

OTHER ID TIPS: Mature fruits are deep purple or black in color and highly sought after by berry–pickers.



Himalayan

MAP 2011



Cutleaf

MAP 2018

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

P

Black Locust *Robinia pseudoacacia*


C. Evans, Bugwood.org


N. Frank, Bugwood.org


J. Anderson

Hand pulling is not effective and will cause root damage, resulting in suckering. Digging single saplings can be effective if the entire root system is removed; ensure a large circumference around the tree is dug.

DESCRIPTION: A medium-sized deciduous weedy tree species that invades disturbed woodlands and urban and rural landscapes.


MAP 2018

FLOWERS: Fragrant; pea like; white; less than 20mm long, perfect.

LEAVES: Bluish green, alternate, and deciduous; contain 11-21 oval, smooth-edged leaflets (each 30-50mm long) that are situated on a stalk that is 20-30cm long, giving it a fern-like appearance.

STEMS: 12-18m tall; 30-76cm in diameter; bark is reddish-brown and deeply furrowed at maturity.

OTHER ID TIPS: This tree forms sharp spines or thorns at the nodes of young branches and twigs.

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 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.


MAP 2011

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

Bur Buttercup *Ceratocephala testiculata*


B. Million, Bugwood


Gauna, (USDA FS Modoc NF) [Public domain] Wikimedia Commons


B. Million, Bugwood

This plant can be manually removed by hoeing, digging, hand pulling and tilling before flowering.

DESCRIPTION: A dwarf herbaceous plant that is toxic to humans and poisonous to grazing animals, especially sheep, when consumed. Often found in disturbed areas such as campgrounds, picnic areas, parking lots, pastures and along roadsides.


IAPP DATA NOT AVAILABLE

FLOWERS: Yellow; very small; contain 2-5 yellow petals that are 3-5mm long by 1-2mm wide; sepals are densely covered in white, woolly hairs.

LEAVES: Basal; pale green; spooned-shaped; 0.9-3.8cm long by 0.5-1.5cm wide; covered in white, woolly hairs.

STEMS: Erect; green; covered in white, woolly hairs; extend 2-10cm in height.

OTHER ID TIPS: The flower heads develop into spiny burs that can attached to people, pets and recreational equipment.

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

Butterfly Bush *Buddleja davidii*

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.

MAP 2011

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

P

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.

MAP 2011

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

A

Chicory *Cichorium intybus*


R. Mueller


J. Leekie

Chicory can be managed by mowing and cutting before the plants sets seed.


MAP 2018

DESCRIPTION: A herbaceous plant that has a deep-rooted taproot and often used as an ornamental plant for wild flower gardens. Once escaped from residential areas, it can be found in disturbed spaces such as roadsides, meadows and fields.

FLOWERS: Star shaped; blue ray flowers, occasionally pink or white; 4cm in diameter.

LEAVES: Basal leaves are rough, 8-25cm long, lance-shaped, toothed or pinnate; upper leaves are smaller, alternate, stalk-less, clasping the stem, with undivided margins.

STEMS: Erect; branched above; smooth to stiff-hairy; 30-200cm tall.

OTHER ID TIPS: The entire plant exudes a milky latex which may cause dermatitis on humans.

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

P

Common Bugloss *Anchusa officinalis*


L. Scott


L. Scott


R. Old

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.


MAP 2011

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*


L. Scott


L. Scott


L. Scott

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.


MAP 2011

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 Mullein *Verbascum thapsus*

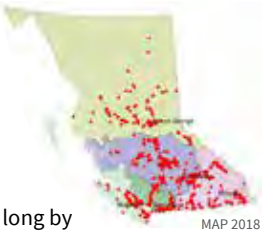

S. Dewey, Bugwood.org


F. & K. Starr, Bugwood.org


R. Mueller

Mechanical treatment prior to seed set is an effective control method. Hand pulling should be carried out on plants growing on loose soil. When cutting or mowing, ensure the stems are cut below the root crown to avoid re-sprouting.

DESCRIPTION: A tap-rooted, herbaceous plant that is often found along railroads, fence rows, fields, pastures and other open, disturbed areas.


MAP 2018

FLOWERS: Sulphur yellow; 12cm in diameter; form a corn cob shaped flower cluster.

LEAVES: Bluish to grey-green; 8-50cm long by 2.5-14cm wide; alternate; overlapping; woolly.

STEMS: Single, erect, woolly; grows 0.5-2m tall.

OTHER ID TIPS: The stem, leaves and inflorescence is covered with star-shaped felted hairs, giving it an overall woolly or fuzzy appearance.

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

B

Common Periwinkle *Vinca minor*


R. Videki, Bugwood.org


D. Tenaglia, Bugwood.org


D. Tenaglia, Bugwood.org

This plant can reproduce vegetatively by stem and root fragments. It is important to remove as much stem and root as possible as incomplete pulling or cutting can stimulate roots to re-sprout and worsen infestations.

DESCRIPTION: Trailing herb that forms a dense groundcover layer. They are typically found in forests, woodlands, fields, meadows, roadsides, trail edges, residential areas and along watercourses.


MAP 2018

FLOWERS: Single; blue-purple, sometimes white or violet; pinwheel-like; 20-30mm wide.

LEAVES: Opposite; dark green, thick and glossy; egg or oval shaped; narrow at base; 3-9cm long.

STEMS: Slender; 10-60cm long; branch out to form trailing and spreading groundcover.

OTHER ID TIPS: Fruit appear as long cylindrical pods that are 3-5cm long.

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

P

Common Tansy *Tanacetum vulgare*


L. Scott


L. Scott

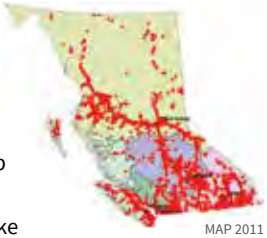

R. Old

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.


MAP 2011

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

Common Teasel *Dipsacus fullonum*


R. Mueller


S. Dewey, Bugwood.org


R. Mueller

Hand-pull and dig small infestations; remove large, fleshy tap-roots. If cutting or mowing before seed set, cut at ground level to prevent regrowth.

DESCRIPTION: A tap-rooted herbaceous plant that is found in riparian areas, abandoned fields, and along roadsides or upper salt marshes.


MAP 2018

FLOWERS: Pale purple to dark pink; occur individually at the tips of stems.

LEAVES: Basal leaves are oblanceolate with wavy margins; stem leaves are opposite; all leaves are prickly.

STEMS: Erect; stout; hollow; increasingly prickly upwards; grow 0.5-2.0m tall.

OTHER ID TIPS: The flower heads have large, linear, unequal bracts that curve upward

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

B

Daphne Laurel *Daphne laureola*

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.

MAP 2011

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

P

English Holly *Ilex aquifolium*


D. Polster


D. Polster


D. Polster

This plant can be controlled through hand removal/digging. Take care to remove the entire root and minimize soil disturbance.

DESCRIPTION: A woody shrub or small tree species commonly used in floral arrangements. They are often found in residential areas, mixed deciduous forests, coniferous forests and along edges of wetlands.


MAP 2018

FLOWERS: Produces small white flowers that are 1.5cm long, with 4 petals.

LEAVES: Dark green, shiny, leathery, with stiff spine-like teeth; typically 3-10cm long and 2-5cm wide.

STEMS: Woody; grow 2-5m in height; green early on and turn brown or gray at maturity.

OTHER ID TIPS: The fruits are globe-shaped, normally red, but can occasionally be yellow or orange; produce up to 120,000 seeds/year; seeds are toxic to humans.

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

P

English Ivy *Hedera helix*

This plant can reproduce vegetatively. It is important to remove as much stem and root as possible. Incomplete pulling or cutting can stimulate roots to re-sprout and worsen infestations.

DESCRIPTION: Evergreen woody vine that grows along the forest floor or up the trunks of canopy trees. In human-dominated habitats it can be found on walls, houses, fences, posts, hedges and ornamental trees.

MAP 2018

FLOWERS: Yellow-green flowers; 5-7mm long; flowers have 5 petals.

LEAVES: Evergreen in color; leathery; glossy; broadly egg-shaped to triangular; alternate; have long stalks.

STEMS: Creeping or climbing; may reach up to 30m in length; stems of long lived plants may reach a diameter of over 10cm and even produce a short trunk.

OTHER ID TIPS: Fruit are a 6-9mm purplish black berry that contains 2-5 seeds.

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

P

Eurasian Watermilfoil *Myriophyllum spicatum*


A. Fox


R. Old


G. Lovell

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 3-4 leaves. Each leaf finely divided with 12-21 leaflet pairs.


MAP 2011

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

P

Field Bindweed *Convolvulus arvensis*

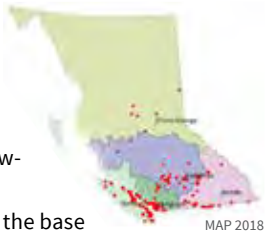

H.F. Schwartz, Bugwood.org


J. Fenneman, E-Flora BC


P. Tenorio-Lezama, Bugwood.org

This plant exhibits vegetative reproduction; root fragments as small as 5 cm to regenerate and produce new shoots. Cutting and mowing have little effect on plant populations unless plants are cut below the root crown at early stages of growth.

DESCRIPTION: A climbing and/or ground spreading herb that grows very rapidly. Commonly found in cultivated lands, roadsides, and disturbed habitats.


MAP 2018

FLOWERS: White to pinkish purple flowers; funnel-shaped; 15-25mm wide.

LEAVES: Egg to arrowhead-shaped at the base and blunt or sharp-pointed at the tip; 2-6cm long; alternate; smooth to sparsely hairy; stalked.

STEMS: Grow up to 1.5m long; smooth to sparsely hairy; climb or trail by twining anticlockwise.

OTHER ID TIPS: Seed capsules are cone-shaped, 5-7mm long and contain long smooth seeds that are 4mm in length.

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.

MAP 2011

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

Garlic Mustard *Alliaria petiolata*


S. Katovich, Bugwood.org


W.S. Brill


J. Hallworth

During manual treatment, remove the upper portion of the roots and the stem as the buds in the root crown can produce new stems.

DESCRIPTION: A tap-rooted herb that displaces beneficial vegetation. This plant can be found along disturbed riparian areas, trails, roads, railways and under forest canopies.


MAP 2018

FLOWERS: White; contain 4-petals that are 4-8mm long and 2-3mm broad; typically born in button-like clusters at the end of each stem; cross-shaped when in bloom.

LEAVES: 10-15cm long (of which about half being the leaf stem) and 5-9cm broad; basal leaves are kidney-shaped and stem leaves are heart-shaped; leaf margins are wavy or coarsely toothed.

STEMS: Produced during second growing season; can reach up to 1.5m in height.

OTHER ID TIPS: The roots and leaves produce a distinct odor of garlic when crushed.

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

B P

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 invasive species organization. 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.


MAP 2011

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*


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.


MAP 2011

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											

Hawkweed, Orange *Hieracium aurantiacum*
Hawkweeds, Invasive Yellow *Hieracium spp.*


L. Wilson


Mouse Ear Hawkweed
Washington State Uni.
Bugwood.org

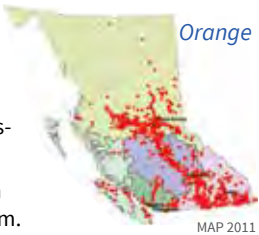

Orange Hawkweed,
Cariboo Regional District


J. Leekie


Yellow King Devil Hawkweed
Montana Statewide Noxious Weed Awareness
and Education Program, Bugwood.org

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.

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.

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

P

Hoary Alyssum *Berteroa incana*


B. Stewart


B. Stewart


R. Mueller

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.


MAP 2011

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


D. Dewey

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.


MAP 2011

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

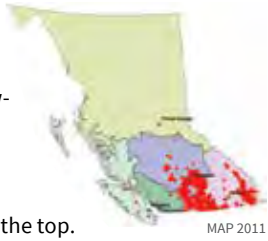
First year rosettes can be easily hand-pulled. Deep roots of mature plants require digging to remove as much root as possible.

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.

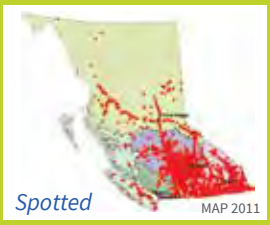

MAP 2011

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

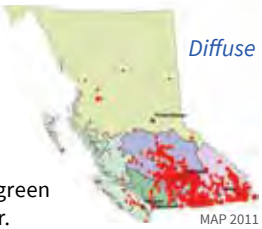
B

Knapweed, Diffuse *Centaurea diffusa*
Knapweed, 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-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

B P

Knapweed, Meadow *Centaurea x moncktonii*


C. Roche, Bugwood.org


C. Roche, Bugwood.org


J. Fenneman, E-Flora BC

Hand-pull small plants; dig mature plants to remove root system. Loosen soil around plant for more complete root removal.

DESCRIPTION: A herbaceous plant with a strong taproot. Found in rangeland and hayfields, along riparian areas, roadsides, and in forest openings.

FLOWERS: Large pink to purplish red (occasionally white) heads at the end of branches.


MAP 2018

LEAVES: Lance-shaped basal leaves have wavy margins; stem leaves have long stalks, entire or shallowly lobed; upper leaves are small, stalkless and un-lobed.

STEMS: Slender; thinly covered in hairs; somewhat rough to the touch; 40-80cm tall.

OTHER ID TIPS: Flower heads are surrounded by scale-like brown bracts that have a tattered comb at tips.

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

B P

Knapweed, Russian *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.


MAP 2011

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

Knotweed, Bohemian *Fallopia x bohemicum*
Knotweed, Giant *Fallopia sachalinensis*
Knotweed, Himalayan *Polygonum polystachyum*
Knotweed, Japanese *Fallopia japonica*


Giant Knotweed
C. Wheeler


Himalayan Knotweed
J. Hallworth


Japanese Knotweed
L. Scott


Giant, Japanese, Himilayan Knotweed
J. Hallworth

Young plants in very loose, sandy soil may be removed by carefully digging 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.


MAP 2011

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*


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.


MAP 2011

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

Meadow Buttercup *Ranunculus acris*


J. Cardina, Bugwood.org


J. Viola, Bugwood.org


F.G. Jones, Bugwood.org

Toxic to grazing animals, who can suffer from skin irritation, abdominal distress, and diarrhea. Small patches may be manually removed; remove as much of the root system as possible.

DESCRIPTION: A herbaceous forb that reproduces vegetatively and by seed. Found in meadows, pastures, and grasslands; also in riparian areas, ditches, gravel pits and along roadways.

FLOWERS: Glossy; bright yellow; typically has five, but as many as eight, rounded petals.


MAP 2018

LEAVES: Basal leaves grow on long stalks and are divided deeply into 3-7 coarsely lobed segments that radiate from a common point; upper leaves are smaller and have fewer lobes and teeth.

STEMS: Single; erect, hollow; grow 20-110cm tall.

OTHER ID TIPS: Distinguished from other buttercup species by upright growth; also know as Tall Buttercup.

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

P

Oxeye Daisy *Leucanthemum vulgare*

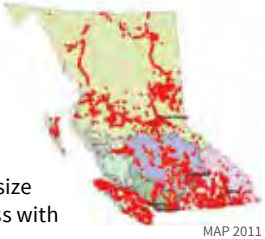

L. Scott


L. Scott


Ohio State University

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.


MAP 2011

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*


Ministry of Agriculture and Lands


M. Harte


Ministry of Agriculture and Lands

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.


MAP 2011

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

Policeman's Helmet / Himalayan Balsam

Impatiens glandulifera


J. Samanek


Ministry of Agriculture and Lands


R. Videki

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.


MAP 2011

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

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.


MAP 2011

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.

MAP 2011

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 wind-borne seeds.

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

P

Reed Canary Grass *Phalaris arundinacea*


H. Schwartz


C. Evans


J. Cardina

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.


IAPP DATA NOT AVAILABLE

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.

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. 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.


MAP 2011

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

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.

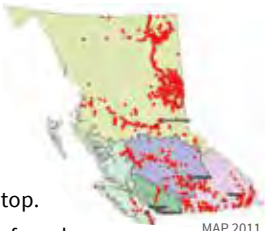
DESCRIPTION: Small, bushy plant up to 1.0m in height.

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.


MAP 2011

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

A P

Scotch Broom *Cytisus scoparius*


Ministry of Agriculture and Lands


J. Leekie


R. Old

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.


MAP 2011

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.

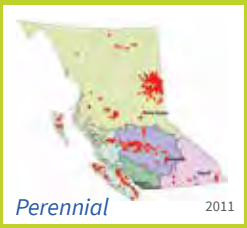
J	F	M	A	M	J	J	A	S	O	N	D

P

Sow Thistle, Annual *Sonchus oleraceus*
Sow Thistle, Perennial *Sonchus arvensis*


C. Evans


M. Rasy



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-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.

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

A P

St. John's Wort *Hypericum perforatum*


J. Cardina


R. Mueller


R. Mueller

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.


MAP 2011

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

LEAVES: Opposite 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

P

Sulphur Cinquefoil *Potentilla recta*

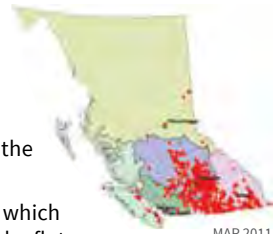

L. Scott


B. Stewart


L. Scott

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.

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


MAP 2011

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*


L. Scott


Ministry of Agriculture and Lands


L. Scott

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.


MAP 2011

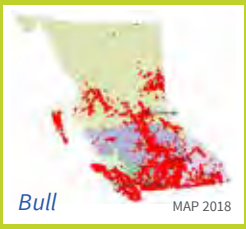
STEMS: Mature plants have branched stems (often purple).

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

Thistle, Bull *Cirsium vulgare*
Thistle, Milk *Silybum marianum*
Thistle, Nodding *Carduus nutans*
Thistle, Plumeless *Carduus acanthoides*



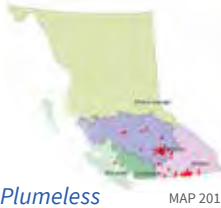
Small patches may be manually removed. Use a shovel to loosen the soil and carefully remove the plant. Use protective gloves when hand pulling.

DESCRIPTION: Herbaceous forb that is formed from a stout, fleshy taproot. It is often found in pastures, rangeland, fields, gravel pits, vacant lots, cutblocks and along roadsides, trails and railroad rights-of-ways.

FLOWERS: Deep reddish purple; form a solitary flower head at the end of stems; flower head is 2.5-5.0cm in diameter and has sharp spiny bracts.

LEAVES: Dark green; alternate; deeply lobed; spiny.

STEMS: Covered with numerous spiny leaves; grow 0.3-3.0m tall; appear as a solitary stem or as several highly branched stems from a single base.



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

B

Thistle, Canada *Cirsium arvense*


L. Scott


R. Mueller


L. Scott

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.

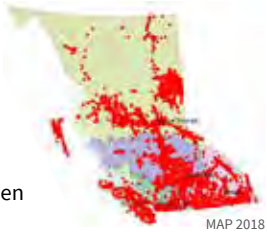
DESCRIPTION: A prickly upright plant up to 1.2m tall, often forming dense stands. Common on road rights-of-way.

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.


MAP 2018

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

P

Thistle, Marsh Plume *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.

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


MAP 2011

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

Thistle, Russian *Salsola kali*


F & K. Starr


B. Million


J. DiTomaso

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.


MAP 2011

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

A

Thistle, Scotch *Onopordum acanthium*


L. Scott


L. Scott


S. Dewey

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.


MAP 2018

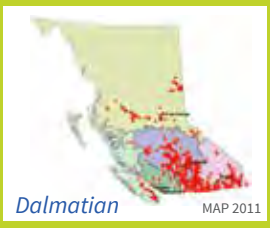
STEMS: Numerous branched stems with spiny, hairy wings running down the length.

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

Toadflax, Dalmatian *Linaria dalmatica*
Toadflax, Yellow *Linaria vulgaris*



Incomplete root removal or cutting can stimulate remaining roots to re-sprout and worsen infestations. Continual repeated cutting or mowing may suppress infestations.

DESCRIPTION: A spreading herb that can form dense mats, out-competing crops and native vegetation. It is toxic to cattle and can be found in dry fields, open forests and along trails and roadsides.

FLOWERS: Bright yellow; resembles a snapdragon; long spur.

LEAVES: Pale green; waxy, numerous and alternate; leaf blade linear to narrowly lanceolate; 2-8 cm long by 0.2-1.5cm wide; smooth-margined; pointed tip.

STEMS: Erect; smooth; 20-80cm tall.

OTHER ID TIPS: Dalmatian toadflax have shorter, wider, leaves that clasp the stem compared to Common toadflax.

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

P

White Sweet Clover *Melilotus albus*

Taproot can be hand-pulled from moist soil. Use shovel to loosen soil for more complete root removal. Remove as much of the root system as possible. Cut flowering stems may produce viable seed.

DESCRIPTION: A herbaceous forb whose first year taproots can extend over 1.7m deep. It is often found in fields and waste places and along riparian areas, roadsides railway tracks and hydro corridors.

IAPP DATA NOT AVAILABLE

FLOWERS: Single, white and 4-6mm long; has a 5-20cm long flower head that contains 20-50 or more pea-like flowers.

LEAVES: 3 fully toothed leaflets; alternate along the stem; usually smooth but can be hairy; 1-7cm long.

STEMS: Erect; branched; grooved; hairless; grow 0.3-2.6m high.

OTHER ID TIPS: The root crown produces between 1-10 stems.

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

A B

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.

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


MAP 2011

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

B P

Yellow Archangel *Lamium galeobdolon*

This plant can reproduce vegetatively. Incomplete pulling or cutting can stimulate roots to re-sprout and worsen infestations.

DESCRIPTION: A shade tolerant species commonly used in garden¬ing. It can spread in forests, agricultural lands, and riparian areas.

MAP 2018

FLOWERS: Small, yellow; arranged as whorls; 5 petals form a 2-lipped bloom; upper petals are pale yellow and lower petals are yellow with orange to brown markings.

LEAVES: Dark green with silver contour around outer margin; hairy; oval to heart-shaped with round-toothed margins.

STEMS: Erect; 4-sided (square); grow 30-60cm in height; produce runners.

OTHER ID TIPS: It is a member of the Mint family whose shared characteristics include hooded flowers, square stems, runners, and opposite leaves.

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

P

Yellow Flag Iris *Iris pseudacorus*


R. Mueller


J. Craig


J. Mehrhoff

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.


MAP 2011

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

ALERT!


U.S. Department of Agriculture


K. Weller


C. Roche

Not known in BC. Taproot may be hand-pulled from moist soil. Remove as much root system as possible. REPORT ALL SIGHTINGS IMMEDIATELY!

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 Species Organizations

Regional Invasive Species Organizations are key partners in managing invasive species in BC.

Please contact your regional organization to find out more about invasive species in your area, for assistance with species identification, and to coordinate management activities. To find the regional invasive species organization closest to you, visit: www.bcinvasives.ca/about/partners

MY REGIONAL COMMITTEE:

PHONE NUMBER:

EMAIL:

WEBSITE:

Additional Invasive Species

British Columbia is the most biologically diverse province in Canada. This diversity provides recreational opportunities that all British Columbians benefit from. Our native ecosystems and natural resources are threatened by invasive species and it is imperative that we take action to protect them now. Each of us has a part to play in preventing and controlling the spread of invasive species in BC by reporting sightings of ALL invasive species.

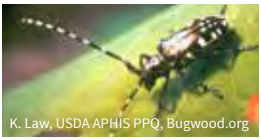
This guide focuses on selected invasive plant species, but there are also animals, insects, and trees of concern.

Keep an eye out for these invasive species and report any sightings immediately:


Florida Fish and Wildlife Conservation Commission, Bugwood.org

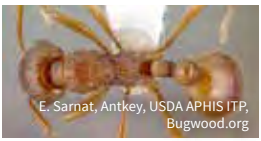
Asian Carp

Grass (Ctenopharyngodon idella), Silver (Hypophthalmichthys molitrix), Bighead (Hypophthalmichthys nobilis), Black (Mylopharyngodon piceus)


K. Law, USDA APHIS PPQ, Bugwood.org

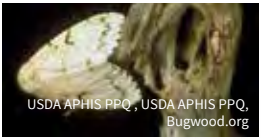
Asian Longhorned Beetle

Anoplophora glabripennis


E. Sarnat, Antkey, USDA APHIS ITP, Bugwood.org

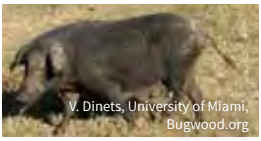
European Fire Ant

Myrmica rubra


USDA APHIS PPQ , USDA APHIS PPQ, Bugwood.org

European Gypsy Moth

Lymantria dispar


V. Dinets, University of Miami, Bugwood.org

Feral Pigs

Sus scrofa


U.S. Geological Survey, Bugwood.org

Goldfish
Carassius auratus


USDA ARS Photo Unit, USDA Ag. Research Service, Bugwood.org

Japanese Beetle
Popillia japonica


M. Quigley, NOAA, Bugwood.org

Quagga Mussels
Dreissena bugensis


C. Evans, University of Illinois Bugwood.org

Russian Olive
Elaeagnus angustifolia


D. Britton, USFWS

Zebra Mussels
Dreissena ploymorpha


R. Vidéki, Doronicum Kft., Bugwood.org

Tree of Heaven
Ailanthus altissima


R. Ottens, University of Georgia, Bugwood.org

American Bullfrog
Lithobates catesbeiana

For More Information

This guide includes some regulated invasive species.

Regulated invasive species lists for BC can be found online at:

- The Prohibited Noxious Weed List (Weed Control Act): www.bclaws.ca/Recon/document/ID/freeside/10_66_85
- Controlled Alien Species (Wildlife Act): www.bclaws.ca/Recon/document/ID/freeside/94_2009

To learn more about invasive species, visit:

- BC Ministry of Environment and Climate Change Strategy: www.env.gov.bc.ca/bcparks
- BC Inter-Ministry Invasive Species Working Group: www.for.gov.bc.ca/hra/invasive-species/index.htm
- Invasive Species Council of BC: www.bcinvasives.ca

Background Sources

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- University of Georgia. Center for Invasive Species and Ecosystem Health. Invasive Species Image Database (www.bugwood.org).
- USDA. Missoula Fire Sciences Laboratory. Fire Effects Information System (FEIS). (www.feis-crs.org/feis)
- Washington State Noxious Weed Control Board. Factsheets (www.nwcb.wa.gov).
- USDA. Natural Resource Conservation Services Plant Guide. (www.nrcs.usda.gov/wps/portal/nrcs/site/national/home)

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 Plant Index

REPORT INVASIVES

www.for.gov.bc.ca/hra/invasive-species

1-888-933-3722

Tunkwa Provincial Park, I.R. Reid