

A guide to protecting our local habitats by removing invasive plants from your garden!



Invasive Plants In Your Garden



Inside...

- What are invasive plants?
- Common invasive plants to watch out for
- Tips and techniques for removal
- Easy-to-grow native plant alternatives

...and more!

Introduction to this guide

To the reader...

The purpose of this guide is to assist in identifying some of the Capital Region's most common and problematic invasive plants, and to offer guidelines for their removal. By learning how to control invasive plants effectively, readers of this guide can become better stewards of nature and help improve habitat for local wildlife. The list of invasive plant species covered in this guide is not exhaustive. For a complete listing of all invasive plants in BC, visit bcinvasives.ca or call the Invasive Species Council of BC 250-305-1003.

The removal techniques recommended here are based on current best practices but do not include specialized approaches that may vary depending on site conditions, time of year and other variables. Speak to an expert for site-specific advice.



English Ivy carpets the ground and climbs trees, choking out native plants

What are invasive species?

Invasive species are any non-native organisms that cause economic or environmental harm and can spread quickly to new areas.

An invasive plant is any plant species that has the potential to pose undesirable or detrimental impacts on people, animals or ecosystems. These plants spread quickly because they have few natural controls to keep their populations in check. Some invasive plants modify soil chemistry which can reduce the success of plants nearby.

Alien, exotic, ornamental, non-native are terms used to describe plants that are not native to an area but are not necessarily invasive.



Why should I remove invasive plants?

Many invasive plant species are detrimental to our local environment, society and economy, and some may even pose a threat to human and animal health. When you remove invasive plants from your land, you prevent the spread of invasive plants and make a positive impact in your community.

Invasive plants cost us and the environment!

- | | |
|-------------|--|
| Environment | <ul style="list-style-type: none">• reduce biodiversity, pollination of crops and natural pest control• decrease soil health and slope stability (and increase erosion) |
| Society | <ul style="list-style-type: none">• can pose health and safety risks to people and animals (including fire risk)• reduce recreational use of public lands and waterways |
| Economy | <ul style="list-style-type: none">• reduce property values and property use including agriculture and forestry• increase maintenance costs for parks and other public lands |

Why garden with native plants?



Woodland Strawberry is an edible ground cover

- ✓ attractive and easy to grow
- ✓ well-suited for our local climate and seasons
- ✓ benefit native birds and bees by providing food and shelter
- ✓ require less watering if placed in suitable site
- ✓ can discourage some invasive plants from establishing
- ✓ can help stabilize soil against erosion
- ✓ can improve soil-water retention
- ✓ create resilience to disease or drought events

Native grasses and wildflowers are well adapted to our climate and are a preferred, low maintenance alternative to traditional lawns

How do I remove invasive plants?

The following are steps to consider when dealing with invasive plant species on your land. When in doubt about species identification or removal techniques, be sure to consult an invasive species professional or expert through your local government.

1. Identify

- Before taking any action, be sure you have accurately identified the plant(s). If you are unsure, you can: submit photos to HAT by email at hatmail@hat.bc.ca; try using the iNaturalist phone app; contact your local botany club, or your local government, eg. the Capital Regional District (CRD) Invasive Species Program at invasive@crd.bc.ca

2. Report

- If you suspect the plant is an invasive species, **report it** through an online form, easy-to-use government phone app *Report Invasives*, or by calling **1-888-WEEDSBC (933-3722)** or emailing invasive.plants@gov.bc.ca.
- Review the **Regional Priority Invasive Species List** at crd.bc.ca/invasive (or your regional district office outside of CRD) to determine if the plant will require specialized removal by an expert.
- When in doubt, call your local government office for more information.

3. Remove

- Before starting, be sure you are familiar with best practices for removing the species. Some species require specialized removal techniques or are more effectively controlled at certain times of the year. Others may require specific protective gear for removal.
- Avoid disturbing the soil as much as possible.
- Fill in any holes created by the removal of the invasive plants with loose soil.
- If appropriate, remove invasive plants in the fall or winter to minimize disturbance to nesting wildlife and blooming wildflowers.
- When you're done, be sure to wash all equipment, clothing and footwear before working in another area to avoid inadvertently spreading invasive plants fragments or seeds.

4. Dispose

- Home composting of invasive plants is **NOT** recommended.
- Some local governments have yard waste drop-offs that will take certain invasive species but there are limitations or restrictions on certain species. Contact your local government.
- In CRD, invasive plants can be disposed of at the Hartland Landfill. They must be in bags marked "Invasive Species" or in covered loads. Fees and restrictions apply. For more information, visit crd.bc.ca/invasive or call **250-360-3030**.
- Knotweeds are particularly invasive and may only be disposed of by a controlled waste permit and appointment at the Hartland Landfill. Do not dispose of Knotweeds at any yard waste drop-off or roadside pickup as this will just further its spread.

5. Monitor, Replant, and Restore

- Watch for new shoots or seedlings in the treated area and remove any you find immediately. You may have to repeat yearly for many years to achieve control.
- Replant with native alternatives as soon as possible after removal to help the area return to its natural state and prevent other invaders from taking root.
- Wildflower mixes are best purchased from your local native plant nursery as this ensures that they contain plants that are found in your region.

Ensure responsible use of chemical treatments (herbicides). Herbicides are not recommended for the majority of plants described in this guide and may only be applied by provincially certified individuals. Use chemical herbicides only when necessary and as part of an integrated pest management (IPM) approach. Always read the label and follow the instructions. In many local governments, herbicides may not be used without a permit. Contact your local government on herbicide use and regulations.

Reduce your impact to prevent the spread. Avoid disturbing the ground and soil when you remove invasive plants as this can promote vigorous regeneration from dormant seeds in the soil - from the "seed bank" in the soil around the plant.

Be safe! Some plants are toxic! Whenever removing invasive plants, protect yourself from injury and harm by using appropriate personal protective equipment. Some species require the assistance of a professional to safely remove.



*Western Trumpet
Honeysuckle provides food
for pollinators like
hummingbirds*



Common Invasive Plants in Your Garden

Garden Escapees. Although some of these plants may not appear threatening in an home garden, they can spread seed great distances with the help of wind, animals, vehicles, and people. Many have vigorous root systems which can extend under fence lines and cause damage to buildings and driveways. If they enter our native ecosystems, they can cause serious harm. You may already be familiar with many invasive plants, especially those that have become well established in our region. Unfortunately, some invaders continue to be sold at garden centres. Leaders in the horticulture industry have been working with governments and invasive species organizations to reduce the sale of invasive plants. You can help by not purchasing them. Instead, request native plants or non-invasive garden varieties from your local nursery or garden centre.

Invasive



Butterfly Bush

Buddleja davidii

Up to 5 m tall. Deciduous shrub with lance-shaped leaves, grey woolly hairs beneath and green above. Flowers are purplish with orange centres and clustered together at the end of stems. A single flower cluster may produce up to 40 000 seeds. Displaces native vegetation in disturbed open areas and along coastal forest edges. **Removal:** Remove just after first flowering. Hand-pull small shoots when soil is moist. Cut larger bushes at base and dig up roots. Remove new shoots to prevent regeneration.

Native Alternatives:

Red-flowering Currant *Ribes sanguineum* (right)
Douglas' Spiraea (Hardhack) *Spiraea douglasii*
Oceanspray *Holodiscus discolor*



Common Periwinkle

Vinca minor

Low trailing perennial. Forms dense mats. Suppresses plants and invades moist forested areas. Leaves are bright to deep green, oval-shaped. Features a single 5-petaled, windmill-like purple-blue flower per stem. *Vinca major* is similar but not as well established in BC. **Removal:** Hand pulling is effective for small patches and seedlings. For larger patches, cutting to the ground and covering with thick cardboard and mulch can slow regrowth, or consult a professional for chemical treatment options.

Native Alternatives:

Woodland Strawberry *Fragaria vesca* (right)
False Lily-of-the-valley *Maianthemum dilatatum*



Daphne

Daphne laureola

0.3 - 1.5 m tall. Perennial evergreen shrub with narrow dark green and glossy leaves. Shade-tolerant, resembles rhododendron. Pale green-yellow flowers clustered at top of stems, bloom in late winter. Small black fruits. **Removal:** Use caution when cutting as sap may cause skin irritation and/or respiratory issues—see Worksafe BC's related safety bulletin. Cut the main stalk below the first lateral (side) root to prevent re-sprouting. **⚠ All parts of this plant contain poisonous compounds.**

Native Alternatives:

Evergreen Huckleberry *Vaccinium ovatum* (right)
Dull Oregon-grape *Mahonia nervosa*
Sword Fern *Polystichum munitum*



English Holly

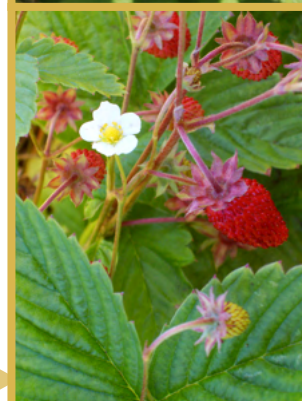
Ilex aquifolium

2 - 5 m tall. Evergreen perennial large shrub or tree. Leaves are thick, glossy, dark green and waxy, and 1-3 inches long, appearing alternately. They have sharp, stout spines along the edges, although leaves may be smooth on older branches. Flowers dull white. Female plants produce clusters of smooth, round red berries. Spreads quickly by seed. Roots outcompete native plants for food and water. **Removal:** Pull before berries form. Cut trunks or stalks will often resprout. Dig up roots with minimal soil disturbance. Clear area of all cuttings and berries. **⚠ Berries toxic to humans if ingested.**

Native Alternatives:

Red Elderberry *Sambucus racemosa* (right)
Tall Oregon-grape *Mahonia aquifolium*

Native



© Todd Carnahan

Invasive

English Ivy

Hedera helix

Trailing evergreen woody vine. Thick, waxy green leaves with 3 or more lobes. Mature plants produce oval dark green leaves with no lobes on upright stems. Green flowers and dark blue-purple fruit. Spreads quickly via runners and seed. Reaches reproductive maturation quickly if allowed to climb. Seeds dispersed by birds and other animals. Threatens woodland areas by forming dense mats that suppress native species. Vines can damage trees and infrastructure.

Removal: For ground cover, hand-pull to remove vines and roots, cut larger stalks. On trees, cut vines at chest height to kill growth above. Do not pull vines off from above to prevent damage to trees or structures.

Native Alternatives:

Dull Oregon-grape *Mahonia nervosa* (right)

Salal *Gaultheria shallon*

European Ash

Fraxinus excelsior

Up to 25 m tall. Deciduous tree introduced from Eurasia. Branches grow upwards forming a broad, rounded crown. Leaves are long with central stalk, with many toothed leaflets, and opposite. Buds are black and hairy. Terminal bud is large and pyramid-shaped. Compound leaf with 5 - 11 leaflets. Fruits are pod-like, in large clusters, but do not split open when dry. Can form dense stands in meadow habitats. Cutting mature trees can result in 1000s of seedlings.

Removal: Contact a professional arborist for removal.

Native Alternatives:

Pacific Dogwood *Cornus nuttalli* (right)

Pacific Crabapple *Malus fusca*

Cascara *Frangula purshiana*

Gorse

Ulex europaeus

Up to 3 m tall. Evergreen shrub with sharp spines and bright yellow pea-like flowers that form oblong hairy seed pods. Vigorous stands grow outward, crowding out all other plants. This, in combination with the oil content of the plant, presents a major fire hazard. **Removal:** Pull smaller plants by hand in wet soil, dig up entire root removing as much of the remaining root fragments as possible. Repeat treatments required. Larger plants may require removal with heavy equipment and/or chemical treatment; consult a professional.

Native Alternatives:

Oceanspray *Holodiscus discolor* (right)

Saskatoon Berry *Amelanchier alnifolia*

Mock Orange *Philadelphus lewisii*

Himalayan and Cutleaf Blackberry

Rubus armeniacus and *R. laciniatus*

Up to 3 m tall. Both species of blackberry have small white flowers with 5 petals on prickly stalks. Robust stems (canes) with large, stiff thorns can grow 12 m long. Leaves are palmately compound with 3 to 5 leaflets. Each berry produces up to 80 seeds that have a hard, impermeable coat. **Removal:** Cut back to ground, consistent cutting for many subsequent years is required in order to exhaust root reserves or remove as much root as possible; remaining root fragments will re-sprout. Continue monitoring the area for re-growth.

Native Alternatives:

Thimbleberry *Rubus parviflorus*

Trailing blackberry *Rubus ursinus*

Saskatoon Berry *Amelanchier alnifolia*

Spanish Bluebells

Hyacinthoides hispanica

Up to 30 cm tall. Several elongated basal leaves (20-45 cm in length), strap-like in appearance. Stems topped with an inflorescence of blue-purple (sometimes pink or white) bell-shaped flowers in spring. Resprouts from bulbs ~2 cm in size. **Removal:** Dig up bulbs in the spring when ground is soft and flowers are identifiable, repeat yearly until gone.

Native Alternatives:

Common Camas *Camassia quamash* (right)

Great Camas *Camassia leichtlinii*

Native



© Todd Carnahan



Invasive



Scotch Broom

Cytisus scoparius

Up to 3 m tall. Shrub with bright yellow, pea-like flowers. Woody, five-sided dark green stems with small diamond-shaped leaves sometimes with 3-leaflets. Hairy seed pods that are dark when ripe. **Removal:** Cut stalk below soil and beneath the first lateral root in mid- to late spring before seed pods have ripened. Smaller plants (<1.5 cm in diameter) may be hand-pulled if soil disturbance is minimized.

Native Alternatives:

Mock Orange *Philadelphus lewisii* (right)

Oceanspray *Holodiscus discolor*

Tall Oregon-grape *Mahonia aquifolium*



St. John's Wort

Hypericum spp.

0.3–1 m tall. Spreading evergreen groundcover, forming thick mats. Dark green oval leaves. Bright yellow, 5-petaled flowers with bushy stamens. This plant is toxic to animals. **Removal:** Hand pulling is effective for small patches and seedlings. For larger patches, cutting to the ground and covering with thick cardboard and mulch can slow regrowth, or consult a professional for chemical treatment options. Care must be taken to remove as much of the root as possible as root fragments will re-sprout.

Native Alternatives:

Kinnikinnick *Arctostaphylos uva-ursi* (right)

Fringecup *Tellima grandiflora*



Yellow Flag Iris

Iris pseudacorus

0.5–2 m tall. Long upright leaves fold and clasp the stem at the base; large yellow flowers with 3 sepals that curve backward, 3 petals pointing upwards; firm, large orange tubers below soil. They are found in wet soils and pond edges. **Removal:** If growing at waters edge, cut down to no more than 5cm tall, then lay heavy rubber matting such as pond liner for a year secured with stakes or dug in. Tubers should be completely black and mushy. This depletes its energy reserves in its roots and rhizomes.

Native Alternatives:

Henderson's Checkermallow *Sidalcea hendersonii* (right)

Small-flowered Bulrush *Scirpus microcarpus*



Yellow Archangel

Lamium galeobdolon

Up to 60 cm. In the mint family, shared features include helmet-shaped or hooded flowers, square stems, stolons, and opposite leaves. Oval to heart-shaped leaves are dark green and silver with round-toothed edges. Whorls of small yellow flowers. Plant spreads via seeds and runners or from cuttings in garbage and compost piles. **Removal:** Hand-pulling. Ensure complete removal of roots, and repeat treatments likely needed.

Native Alternatives:

False lily-of-the-valley *Maianthemum dilatatum* (right)

Small-flowered Alumroot *Heuchera micrantha*



English Hawthorn

Crataegus laevigata or *C. monogyna* (or hybrids)

Up to 7 m tall. English hawthorn, also called common, one-seed or single-seed hawthorn, is a long-lived, deciduous, small tree to large shrub. Its branches have sharp thorns and the leaves are deeply lobed. White flowers, which can have a pink tint, bloom in May and develop red fruits in the fall. **Removal:** Hand pulling or mechanical removal in moist soil. Ensure complete removal of roots, and repeat treatments likely needed. When disposing ensure all cuttings and berries are collected and bagged. Larger plants may require chemical treatment so consult a professional.

Native Alternatives:

Black Hawthorn *Crataegus douglasii* (right)

June Plum or Osoberry *Oemleria cerasiformis*

Native



© Kristen Miskelly



© Wylie Thomas

New Invaders to look out for:

The **Early Detection and Rapid Response Program** (EDRR) is designed to locate and control new invasive species before they become established in our region. If you find one of these plants on or off your property, **report immediately** by *Report-A-Weed* app, by phone 1-888-WEEDSBC (933-3722) or email invasive.plants@gov.bc.ca. For more information on EDRR and for the **Regional Priority Invasive Plants** list in the CRD, visit crd.bc.ca/invasive.



Garlic Mustard

Alliaria petiolata

Can grow over 1 m in height. A new invader to BC, it has already devastated forests in eastern Canada. Dominates forest understory layer. Reaches maturity in 2 years. Year 1 - stems short, leaves evergreen, low-lying, heart-shaped with scalloped edges. Growth in clusters. Year 2 - stalks grow to over 1 m tall; mature leaves green, triangular with scalloped edges. Stems tall, with clusters of white, 4-petaled terminal flowers. Has a garlicky odour when crushed.

Giant Hogweed

Heracleum mantegazzianum

⚠️ The sap of Giant Hogweed can cause severe burns and scarring to the skin when exposed to sunlight. It can also cause temporary or permanent blindness. Found on steep slopes and stream banks. Grows up to 6 m tall. Stalks hollow, 5 - 10 cm in diameter, with purple spots or striping with stiff hairs. Leaves are large, (up to 2.5 m long) deeply lobed with jagged edges. Flowers appear in large, white umbrella-shaped clusters up to 1 m across in June-July. Similar to Cow Parsnip (*Heracleum maximum*) which lacks purple spots on stem, has smaller less jagged leaves, and only grows between 1-3 m.



Knotweeds

Fallopia japonica, *F. sachalinensis*, *F. x bohemica*, and *Polygonum polystachyum*
Between 1 - 5 m tall. Thrive in low-lying disturbed areas including home gardens, roadside ditches, canals, water drainage systems, stream banks and riparian areas. Stems are hollow, upright and bamboo-like with red-brown speckling. Leaves are heart-shaped to triangular in all species except *Polygonum polystachyum*. Small white flowers occur in clusters at leaf joints. Spread rapidly via root systems, which can extend up to 20 m laterally and 3 m deep.

Poison Hemlock

Conium maculatum

⚠️ All parts of Poison Hemlock are poisonous to humans and animals. Grows up to 3 m tall. Branched, hollow, smooth, hairless stems with purple blotches. Leaves triangular shaped, finely divided and fern-like. Has a strong, musty odour. Can render croplands useless due to acute toxicity. Spreads readily via seed. May be mistaken for similar edible plants (e.g. parsley).



Policeman's Helmet

Impatiens glandulifera

Between 2 - 3 m tall. Establishes in dense stands and outcompetes native plants in riparian and wetland areas as well as in grasslands and wooded areas. Reddish, bamboo-like stems. Pink-purple flowers. Leaves in opposite whorls of three. A self-pollinating species. Seeds (up to 2500 per plant) spread by humans, animals and water.

Be on the lookout for these additional invasive plants in your community and report them at 1-888-WEEDSBC (933-3722) or email invasive.plants@gov.bc.ca

Tansy Ragwort



Milk Thistle



Kudzu Vine



Toadflax



Shiny Geranium



© Bruce Newhouse

Additional Resources

How do I learn more about Native Plant Gardening?

Creating a **naturescape** (native plant garden) on your land is part of the solution to habitat loss. Naturescapes are functional gardens that reflect the native richness and beauty of our unique region. The best plant choices for gardens are often the native plants that thrive naturally in our region. A native plant includes those species that were here prior to European settlement. The actions of many individual landowners can make a big difference for wildlife in our region. Take a look at our free guide (see right) for more information.

HAT's Gardening with Native Plants Guide Visit: hat.bc.ca/publications

What about non-native alternatives for my garden?

Take a look at the Invasive Species Council of BC's **Grow Me Instead** guide. It informs gardening enthusiasts about horticulture's most "unwanted" invasive plants in BC, while providing a variety of native and ornamental plant alternatives found to be non-invasive across the province.

Grow Me Instead Guide Visit: bcinvasives.ca

Need more detail or information about Invasive Plants?

There are a variety of resources, groups, and other supplemental materials that can help you stay up to date, or simply more informed on invasive species.

CRD's Invasive Plant Resources Visit: crd.bc.ca/invasive

Create beautiful, easy-to-maintain naturescapes that attract birds and butterflies by

Gardening with Native Plants

See inside...

- Top Ten Plants
- Attracting Birds & Butterflies
- Garden Design Tips
- Preventing Weeds
- Create Habitat for Wildlife
- How to Save Water & Money



Invasive plant removal can feel like a big job for just one person. Getting friends and neighbours involved removing invasive plants can make a big difference to the survival of native plants and wildlife. Look for a local stewardship group or try out the Greater Victoria Green Team. **Try hosting an invasive plant removal party in your neighbourhood!** Offer to share your time and effort with others, or provide some treats in exchange for their hard work.

Acknowledgments: HAT works and stewards ecosystems as visitors in the traditional and unceded territories of the WSÁNEĆ, Scia'new, and T'Sou-ke Nations, ləkʷəŋəŋ peoples (Songhees and Xwsepsum Nations) and all other Coast Salish Peoples who have lived in relationship with and stewarded these lands since time immemorial and continue to live in relationship to the Land today.

We would also like to thank the Invasive Species Council of BC, Satinflower Nurseries, Jenny Eastman, Carolyn Richman, Wylie Thomas, and Don Hare for providing helpful insight and resources used in developing this guide.

Information cited: Invasive Species Council of BC. 2017. Invasive Plant Fact Sheets. bcinvasives.ca; Capital Regional District. 2019. CRISP Priority Invasive Plants: Status List; Klinkenberg, B. 2017. Electronic Atlas of the Plants of British Columbia [eflora.bc.ca]. Lab for Advanced Spatial Analysis, Department of Geography, University of British Columbia. eflora.bc.ca; Pojar & MacKinnon. 1994. Plants of Coastal British Columbia including Washington, Oregon & Alaska. Vancouver, BC. Lone Pine Publishing; District of Saanich. 2011-2013. Community Invasive Plant Alerts. saanich.ca.

Habitat Acquisition Trust

HAT is a non-profit regional land trust established in 1996 to secure significant natural lands on south Vancouver Island and the southern Gulf Islands through acquisition, stewardship, conservation covenants, research and community education.

HAT

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Funding provided by:

HABITAT CONSERVATION TRUST FOUNDATION

BRITISH COLUMBIA
Supported by the Province of British Columbia

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