

Spotted Knapweed

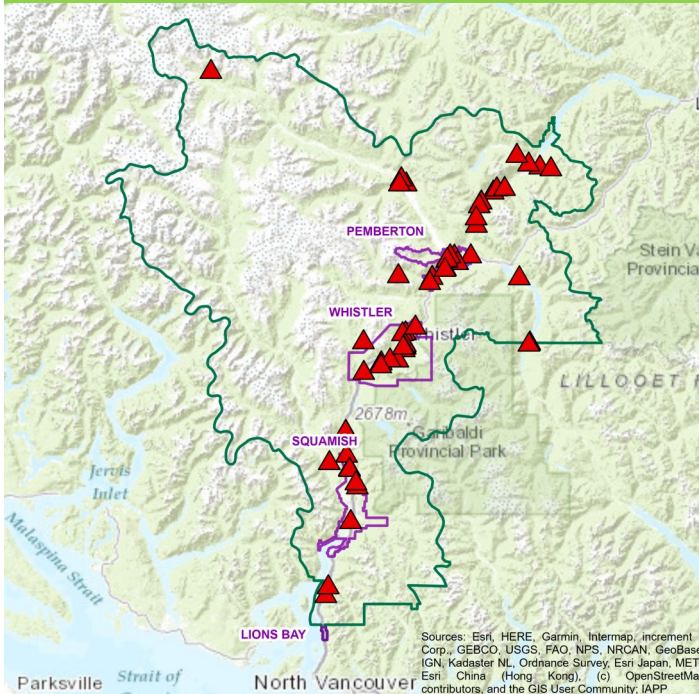
Centaurea stoebe

(AKA *Centaurea maculosa*,
Centaurea. biebersteinii)

FACT SHEET

Squamish: Contain | Whistler: Contain | Pemberton: Strategic Control

DISTRIBUTION



Origin: Spotted Knapweed was introduced from Eurasia in the late 1800s, likely as a seed contaminant.

Habitat: Spotted Knapweed typically grows in open areas and well-drained soils, like grasslands, open forests and woodland clearings. It is tolerant of a wide range of soil moisture levels.

Reproduction: Spotted Knapweed reproduces mainly by seed. One plant can produce up to 40,000 seeds, or 140,000 seeds per square meter, and seeds remain viable in the soil for over 8 years. Seeds are self-fertile, but can also be cross-pollinated by insects.

It can also reproduce vegetatively, with its lateral roots growing just below the soil surface.

IDENTIFICATION



B. Brett

Spotted Knapweed is a biennial or short-lived perennial. It starts out as a rosette and can remain that way for several years before bolting and dying in a subsequent season.

Flowers: Are light purple, aromatic, and found individually at the end of upright stems. The flower bracts (lower flower head fringe) have black tips, giving the plant its spotted appearance.

Stems: Are upright and 1 - 1.5 m tall.

Leaves: Are deeply lobed, hairy, alternate and covered with translucent dots.

Roots: Spotted Knapweed has a taproot as well as lateral roots.

Seeds: Are bristled.

Similar Species:

- **Invasive:** Diffuse Knapweed (*Centaurea diffusa*), which has white flowers; Meadow Knapweed (*C. debeauxii*), which has undivided leaves and larger bracts; Russian Knapweed (*C. repens*), which has smaller flowers and no black marks on the bracts; Black Knapweed (*C. nigra*), which is shorter (10 - 80 cm tall); Brown Knapweed (*C. jacea*), which has pink flowers and lance-shaped leaves.
- Possible hybridization between Diffuse and Spotted Knapweed can also cause confusion.

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Vectors of Spread: Spotted Knapweed seeds spread in the wind and in contaminated hay, gravel or soil; seeds can also spread by clinging to animals and the undercarriages of vehicles.

WHAT CAN I DO?

Spotted Knapweed is found in communities the Sea to Sky Region, so PREVENTION of further spread is key:

- Regularly monitor properties for weed infestations.
- Ensure soil and gravel are uncontaminated before transport.
- Don't unload, park, or store equipment or vehicles in infested areas; remove plant material from any equipment, vehicles, or clothing used in such areas and wash equipment and vehicles at designated cleaning sites before leaving infested areas.
- Minimize soil disturbances (e.g. use grazing plans that prevent soil exposure from overgrazing), and use seed mixes with dense, early colonization (e.g. alfalfa or barley) to re-vegetate exposed soil and resist invasion.
- Ensure plants (particularly flowering heads or root fragments) are bagged or covered to prevent spread during transport to designated disposal sites (e.g. landfill). **Do not compost.**

Spotted Knapweed can be controlled by:

- **Mechanical Control:** Hand-pull small infestations prior to seed set; note that repeated hand-pulling is necessary during the season and must be maintained over several years. Every effort should be made to remove the entire taproot with little soil disturbance. If this is not possible, cut the root 5 - 10 cm below the soil surface. Mowing is not effective, as plants mowed in the rosette stage will quickly recover, and mowing too late (after seed set) will disperse seeds.
- **Chemical Control:** Effective herbicides include dicamba, 2,4-D, clopyralid, aminopyralid and glyphosate. Picloram is also effective, however it is not suited for wet, coastal soils. Herbicides are generally most effective on Spotted Knapweed when applied to the rosette. Herbicide control needs to be completed for at least 2 years to be effective. We recommend that any herbicide application is carried out by a person holding a valid BC Pesticide Applicator Certificate. Before selecting and applying herbicides, you must review and follow herbicide labels and application rates; municipal, regional, provincial and federal laws and regulations; species-specific treatment recommendations, and site-specific goals and objectives.
- **Biological Control:** To date, 12 biocontrol agents have been released in BC to control knapweeds. They seem to be most effective when used in combination.
- **Cultural Control:** Grazing is not an effective eradication method; however having cattle, sheep and goats graze Spotted Knapweed in early spring may help suppress flower and seed production.

If you suspect you have found Spotted Knapweed anywhere in the Sea to Sky region:

Contact the Sea to Sky Invasive Species Council to report and for the most recent, up to date control methods. All reports will be kept confidential.

References: Alberta Invasive Species Council, Capital Region Invasive Species Program, Government of BC, Invasive Species Council of BC, Lillooet Regional Invasive Species Society, Okanagan Invasive Species Online, Ontario Invasive Plant Council, UC Davis.

IMPACTS

Ecological:

- **Displaces native species, threatening biodiversity.**
- **Displays allelopathic properties: produces chemical compounds that prevent the growth of other species.**
- **Increases runoff and erosion, leading to sedimentation of watercourses.**

Health:

- **Causes skin irritation.**



REPORT SIGHTINGS

Visit ssisc.ca/report

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