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Invasive Species Council of BC

FACTSHEET
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Perennial Pepperweed

Lepidium latifolium L.

About Perennial Pepperweed

Perennial pepperweed is a persistent invasive species found in western Canada, the United States and Mexico, but is native to Eurasia. Perennial pepperweed seeds were probably brought to North America mixed in with a sugar beet seed shipment in the 1930s. It tolerates a range of saline and alkaline soils, and often invades sensitive areas, such as marsh lands and grazing fields. Use the Report Invasives app or contact ISCBC if you spot one of these invasive species.

Legal Status

Perennial pepperweed is classified as regionally noxious in the East Kootenay and Thompson-Nicola Regional Districts.

Distribution

Perennial pepperweed is currently found in the Vancouver, East Kootenay, and Thompson-Nicola agricultural regions of British Columbia.

Identification

Flowers: White, 4 petals, form dense clusters at the top of the branches. Flowers in May-July.

Stems: Multi-stemmed, upright, waxy, grey-green in colour, can have red spots. Can grow up to 2 metres tall. The plant has a woody base.

Leaves: Smooth, green-grey in colour. Rosettes have oval or oblong leaves with smooth or jagged edges. Mature leaves alternate on the stem.

Fruits: Small, round or oval shaped, 2 flat seeds in each fruit pod.

Similar Species: Hoary cress *(Cardaria spp.)*

Ecological Characteristics

Habitat: Perennial pepperweed flourishes in moist sandy, silty, clay, clay loam, and soils containing high levels of calcium. It grows predominately in agricultural areas, rangelands, roadsides, and riparian areas.

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Reproduction: This perennial species can reproduce through seeds, root fragments and rhizomes. Rhizome fragments can grow new shoots from the stem bases, from beneath the soil surface and from fragments that are broken off during human interference.

Dispersal: Spreads through seeds and rhizome fragments. Plants spread predominately through the creeping rhizome system, which can grow up to 10 feet annually. Seeds become adhesive when damp and attach easily to farming equipment and vehicles. Seeds and roots can also be transported in hay and alfalfa bales used for feeding livestock.

Impacts

Economic: Perennial pepperweed reduces forage quality and is a serious threat to rangelands, croplands, pastures and riparian areas. Perennial pepperweed mixed in with forage or hay may limit the ability of horses and cattle to retain sodium and water, making them sick.

Ecological: Perennial pepperweed decreases the diversity of native plants by creating a monoculture and increases soil salinity, creating an imbalance of salinity for salt-intolerant plants. Suitable nesting habitats for birds are reduced when its semi-woody stems accumulate.

Integrated Pest Management

Prevention

- Monitor areas frequently to locate new infestations.
- Clean machinery after exposure to infested areas.
- Minimize soil disturbance and promptly re-vegetate disturbed areas.
- Examine disturbed areas for root fragments and remove as many as possible.
- Use certified weed-free hay and seed mixes.

Mechanical Biocontrol

- Mow plants at flower bud stage to prevent seed production.
- Hand pull and dig to remove as much of the root as possible and dispose of all plant parts in a bag. Bags should be buried at a landfill.
- These methods can prevent seed spread but the plant will regrow.

Biocontrol

Biological control is not yet available. Grazing by sheep and goats early in the growing season can help suppress plant populations, but grazing should be integrated with other management methods such as herbicide.

Chemical Control

Herbicide recommendations and use must consider site characteristics and be prescribed based on site goals and objectives. Herbicide labels and other sources of information must be reviewed before selecting and applying herbicides. Herbicide will work best when applied at flower bud stage in conjunction with other treatment methods such as mowing.

- Post-emergent herbicides can control perennial pepperweed with repeat applications over several years.
- Chlorsulfuron and 2, 4-D can be used as herbicide treatments on rangeland and non-crop areas.
- Glyphosate can be used on crop areas, riparian areas, rangeland, and pastures.


MAL


MAL

- Imazapyr alone or mixed with chlorsulfuron can be used in non-crop industrial sites and forestry sites away from riparian areas.
- Application of pesticides on Crown Land must be carried out following a confirmed Pest Management Plan (Integrated Pest Management Act) and under the supervision of a certified pesticide applicator. https://www2.gov.bc.ca/gov/content/environment/pesticides-pest-management

References/Links

https://www.nrcresearchpress.com/doi/pdf/10.4141/CJPS06044

https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5410120.pdf

https://www.nwcb.wa.gov/weeds/perennial-pepperweed

http://ipm.ucanr.edu/PMG/PESTNOTES/pn74121.html

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Additional Contact Info