



Purple Loosestrife

Lythrum salicaria

Provincial Designation:
Prohibited Noxious



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Overview:

Purple loosestrife is a hardy perennial of freshwater habitats such as marshes, water-filled ditches, natural waterways, and irrigation canals. It was used for medicinal purposes in Greek times and became a favoured ornamental pond plant by the 1800s in English gardens. Native to Europe and Asia, it first arrived in North America in the 1800s in ship's ballast or via imported sheep/wool.

Purple loosestrife has tremendous reproductive capacity. Seedlings quickly develop a strong taproot from which new shoots arise annually. Stems increase in number each year – mature plants can have 30 to 50 stems per rootstock. Plants bloom throughout the growing season and a single plant can produce more than a million seeds each year. Flowers are pollinated by bees and butterflies.

Infestations quickly take over wetlands, excluding other plant species. In turn, wildlife disappears as habitat for nesting waterfowl and water-living mammals decreases and cover for predators increases. The proper

functioning of wetlands is also degraded as infestations disrupt water flow.

There are a few native plants in Alberta that go by the common name of "loosestrife" however they are completely unrelated plants of the genus *Lysimachia*.

Habitat:

It prefers moist, highly organic soils and neutral to alkaline pH. Purple loosestrife tolerates shallow flooding and partial shade. It has low nutrient requirements but flourishes in areas where fertilizer runoff is prevalent.

Identification:

Stems: Are woody and square-ish, having four to six sides, and grow 1 to 1.5 m tall. Mature plant stems can reach 3 m in height and form short lateral branches.

Leaves: Are stalk-less and opposite – may be whorled near the base – lance shaped, wider near the stem, and 3 to 10 cm long. Leaves are sometimes covered in fine hairs.

Flowers: Are reddish-purple (sometimes white or pink) and have 5-7 petals. More than 2 flowers per bract are clustered in leaf axils - blooming begins at the bottom of the flowering stalk and progresses upwards. Spikes contain 3 flower types with stamens of different lengths.

Seeds: Capsules are 2 mm wide 3-4 mm long. The tiny seeds are less than 1 mm long and have no endosperm therefore must germinate early season when conditions for photosynthesis are greatest. Seeds can remain viable for 2-3 years when submerged.

Prevention:

Purple loosestrife can still be found for sale on occasion, even with a different Latin species name, however it is still the same non-native, invasive plant. Established infestations are extremely difficult to get rid of, so prevention and control of isolated new plants is very important. Irrigation systems provide ideal habitat and seed distribution. New plants can arise from stem and root fragments and be transported in wetland mud.

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Control:

Grazing: Not palatable to grazers and seed/seedlings could be transported in mud on animals' feet and legs.

Cultivation: Not feasible in wetland areas, and stem/root pieces and re-sprouting would produce even more plants.

Mechanical: Mowing is not effective. Hand pulling young plants is easily done and can eradicate small infestations. Shoots of mature plants can be cut – if done late season there will be reduced re-sprouting, however there is the risk of spreading seed. Cut/pulled plant stalks should be bagged on site and thoroughly burned or disposed of in a landfill. Efforts will need to be repeated for a few years.

Chemical: Glyphosate is registered for use on purple loosestrife. The use of herbicides in aquatic environments requires Alberta-specific applicator certification and permits. Always check product labels to ensure the herbicide is registered for use on the target plant in Canada by the Pest Management Regulatory Agency. Always read and follow label directions. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: Two defoliators, *Galerucella calmarien-sis* and *G. pusilla*, and a root-mining weevil, *Hylobius transversovittatus*, have been released at locations in Canada and proven successful.



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