

PURPLE LOOSESTRIFE

Lythrum salicaria L.

Family: *Lythraceae* (Loosestrife).

Other Scientific Names: None.

Other Common Names: Purple lythrum.

Legal Status: Not categorized.



Identification

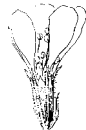
Growth form: Perennial forb or woody half-shrub.

Flower: Showy flowers are purple with 5–7 petals arranged in long vertical racemes.

Seeds/Fruit: Fruits are many-seeded capsules, seeds are small and ovoid.

Leaves: Leaves are simple, entire, and opposite or whorled (Whitson et al. 1996).

Stems: Annual stems arise from a perennial rootstock (Mal et al. 1992). Stems are erect and often grow 0.5–2.0 m tall. Plants become taller and bushier over the years as the rootstock matures.



Roots: Short rhizomes and taproot.

Seedling: No information available.

Similar Species

Exotics: Sweet rocket or dames'-violet (*Hesperis matronalis*), an introduced mustard rare in south-central BC but frequent in the province's southwest and known on Vancouver Island and the adjacent mainland (Douglas et al. 1998).

Natives: Sometimes confused with fireweed (*Epilobium* sp.), which has 4-petaled flowers.



Impacts

Agricultural: No information available.

Ecological: Purple loosestrife is an ornamental escape that occupies wetlands, stream banks, and shallow ponds. It can form dense stands that reduce plant and animal diversity in wetland ecosystems (Bender and Randall 1987). Dense infestations can impede water flow in canals and ditches. Where it coexists with

cattails (*Typha latifolia*), it is favoured by fluctuating water levels because marsh draw-down helps loosestrife seedling establishment. Cattails, however, appear able to compete with loosestrife where water levels remain constant and relatively deep (FEIS 1996).

Human: No information available.

Habitat and Ecology

General requirements: Found in wet areas at low- to mid-elevation in BC. It grows in ditches, irrigation canals, marshes, stream and lake shorelines, and wetlands (Powell et al. 1994). Some common associates include cattail, reed canarygrass (*Phalaris arundinacea*), sedge (*Carex* sp.), bulrush (*Scirpus* sp.),

rush (*Juncus* sp.), and willow (*Salix* sp.). The plant can tolerate a wide range of conditions (up to 50% shade), can grow on calcareous and acidic soils (Rutledge and McLendon. Undated), and will even grow in standing water. Moisture is required for growth and reproduction, but well-established plants can persist on

dry sites for many years (Powell et al. 1994).

Distribution: Common in the Lower Fraser Valley and frequent on southern Vancouver Island (Douglas et al. 1999). There are also localized pockets in the south Okanagan and Boundary areas. It is regarded as a major concern in Kootenay, Okanagan, Mainland, and Vancouver Island agricultural reporting regions and is present in the Thompson and Omineca regions as well. It occurs throughout North America.

Historical: Introduced from Eurasia and first recorded in North America in 1814 (Bender and Randall 1987).

Life cycle: Begins its growth about 7–10 days after cattail and reed canary grass. Seedlings that establish in the spring grow rapidly and produce flowers 8–10 weeks after germination. After flowering, each stem supports a dense, spiraling row of dark-brown seed capsules.

Management

Biocontrol: Three agents have been released in the province (Powell et al. 1994). *Hyllobius transversovittatus* (root boring beetle) can seriously damage the root system, stunt growth, and reduce seed production. Adult weevils emerge in April and feed on loosestrife shoots. Eggs are deposited on the shoot base, and larvae bore into the roots. Two leaf-eating beetles, *Galerucella californiensis* and *Galerucella pusilla*, both feed on the foliage and flower heads of the plant, and larvae leave the plant and pupate in the soil (Powell et al. 1994). These have resulted in stunted growth and reduced seed production at numerous coastal locations.

Mechanical: No information available.

Fire: No information available.

Herbicides: Since purple loosestrife is found in wet soils, herbicide use is restricted. Glyphosate, triclopyr, and 2,4-D have been used successfully to manage this plant in the US on some suitable sites. Consult the most recent edition of BC Ministry of Agriculture, Food and Fisheries Crop Production Guides for specific recommendations. **Before applying**

Mode of reproduction: By seed and vegetatively from roots. Detached root or stem fragments can also root and develop into flowering stems (FEIS 1996).

Seed production: A single flowering stalk can produce 300,000 seeds, and densities exceeding 32,000 stems/ha have been recorded (FEIS 1996).

Seed bank: Seeds may remain viable for up to 20 years.

Dispersal: Seeds are mainly distributed by water, but they can also be dispersed by animals and humans. Seeds do not drop from capsules until the air temperature becomes cold in the early autumn.

Hybridization: No information available.

herbicides, read the label for full use and precautionary instructions.

Cultural/Preventive: Prevent new infestations by minimizing disturbance and seed dispersal. Hand-pulling isolated plants can be effective on small infestations. Pulling should be conducted before plants set seed. Remove the entire root of the plant to avoid regrowth from root fragments.

Integrated Management Summary

The key to effective management is early detection when infestations are small. Small infestations should be eradicated by hand-pulling or herbicide application where appropriate. It is fairly easy to manage small numbers of plants when the seed bank in the soil is small. Eradicating large population may only be possible with biocontrol.

References

Bender, J., and J. Randall. 1987. Element stewardship abstract for *Lythrum salicaria*, purple loosestrife. The Nature Conservancy, Wildland Weeds Management and Research Program.
<http://tncweeds.ucdavis.edu/esadocs/lythsali.html> [5 Feb 99]

Douglas, G. W., D. Meidinger, and J. Pojar, eds. 1999. *Illustrated Flora of British Columbia*. Vol. 3: *Dicotyledons (Diapensiaceae through Onagraceae)*. Province of British Columbia.

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