

# PURPLE LOOSESTRIFE *(Lythrum salicaria L.)*

## INTRODUCTION

Purple loosestrife is native to Great Britain, and across central and southern Europe to central Russia, Japan, Manchuria China, southeast Asia and northern India. It first arrived in eastern North America in the early 1800s. Plants were introduced purposefully as garden alternatives, as well as accidentally through seeds present in the ballast holds of European ships that used soil for weight and stability. Since its introduction, purple loosestrife has rapidly spread across much of the United States and Canada.

In BC, purple loosestrife is present throughout much of the province, particularly coastal regions. It prefers wet areas at low-to mid-elevation, commonly occurring in ditches, irrigation canals, marshes, shorelines and wetlands. In these habitats, loosestrife often forms dense competitive stands out-competing native wetland vegetation.

Where it co-exists with cattails, it is favoured by fluctuating water levels because marsh draw-down helps loosestrife seeding establishment. Cattails however, appear able to compete with loosestrife where water levels remain constant and relatively deep.

Purple loosestrife is known to reduce native wetland biomass by 50-100 percent. This displacement results in a matching loss of wildlife, including several bird species that will not nest in loosestrife infestations. Purple loosestrife is also known to impede water flow, and may even result in the desiccation of wetland habitats.

## IDENTIFICATION

- Perennial; grows from 0.5-2.0 m tall
- Short rhizomes and taproot
- Leaves opposite or whorled
- Stalks are square with five or six sides
- Showy purple flowers are arranged vertically along the flowering stalk
- Each flower contains 5-7 petals

## BIOLOGY

Purple loosestrife reproduces by seed and vegetatively from roots. A single flowering stalk can produce up to 300,000 seeds that may remain viable for up to 20 years. Densities exceeding 32,000 flowering stems/ha have been recorded. Seeds are extremely tiny, roughly the size of a grain of sand and are easily distributed by water, wind, wildlife and humans. Seeds will only drop from seed capsules when air temperature becomes cold in the early fall.



Purple loosestrife infestations also expand due to persistent underground root systems. Annual stems arise from a perennial rootstock. As the roots mature, loosestrife plants become taller and bushier each year. Detached root or stem fragments may also root and develop into flowering stems. Large root nutrient reserves help to increase plant persistence.

## INTEGRATED MANAGEMENT

The most effective method of control for purple loosestrife is to prevent establishment through proper land management. The healthier the natural plant community, the less susceptible it will be to loosestrife invasion. Integrated management will require a combination of prevention, physical control and biocontrol. Where infestations are large, the only effective long-term management strategy is biological control. Areas free of purple loosestrife should be monitored annually and new plants should be destroyed immediately.

### PREVENTION

- Maintain riparian and aquatic environments in a healthy condition to ensure a productive natural plant community; competitive perennial plants utilize water and nutrients that would otherwise be readily available to loosestrife.
- Regularly patrol your property for purple loosestrife plants and immediately control new infestations.
- Cooperate with adjacent landowners and encourage the control of loosestrife and other invasive plants.
- Re-vegetate disturbed soils with native plants that provide dense, early colonization to prevent weed invasion.
- Clean boats of plant material and soil prior to leaving a loosestrife infested area.

### PHYSICAL CONTROL

Small, isolated infestations of purple loosestrife may be hand pulled. The entire root of the plant should be removed to avoid re-growth from root fragments. Pulling is easiest when plants are young. Older plants have larger root systems that are better removed with a garden fork. Pulling should also occur before seed production, otherwise seed heads should be cut and bagged. Seed production begins when flower petals start to drop from the bottom of the spike.

For further information on invasive plants in BC check out the website [www.weedsbc.ca](http://www.weedsbc.ca)  
For more information about the Regional District Okanagan-Similkameen Invasive Plant Program call 250-492-0237 or toll free at 1-877-610-3737. Information is also available on the RDOS website: [www.rdos.bc.ca](http://www.rdos.bc.ca)

### BIOLOGICAL CONTROL

Two leaf-eating beetles, *Gallerucella californiensis* and *G. pusilla*, effectively control loosestrife infestations. Adults of both species feed on the foliage and flower heads of purple loosestrife. Small white eggs are laid in clusters on the stem. Larva also feed on the foliage of the plant, however they only consume on the top layer of the leaf creating a translucent leaf surface. Larvae then move into the leaf litter where they finish their development into an adult beetle.

