



**Purple Loosestrife**

*Lythrum salicaria* L.

Loosestrife family (Lythraceae)

**NATIVE RANGE**

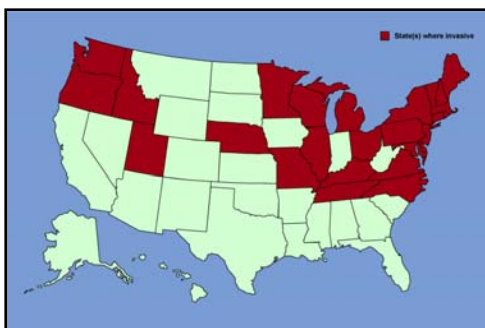
Eurasia; throughout Great Britain, and across central and southern Europe to central Russia, Japan, Manchuria China, southeast Asia and northern India

**DESCRIPTION**

Purple loosestrife is an erect perennial herb in the loosestrife family, with a square, woody stem and opposite or whorled leaves. Leaves are lance-shaped, stalkless, and heart-shaped or rounded at the base. Plants are usually covered by a downy pubescence. Loosestrife plants grow from four to ten feet high, depending upon conditions, and produce a showy display of magenta-colored flower spikes throughout much of the summer. Flowers have five to seven petals. Mature plants can have from 30 to 50 stems arising from a single rootstock.

**ECOLOGICAL THREAT**

Purple loosestrife adapts readily to natural and disturbed wetlands. As it establishes and expands, it outcompetes and replaces native grasses, sedges, and other flowering plants that provide a higher quality source of nutrition for wildlife. The highly invasive nature of purple loosestrife allows it to form dense, homogeneous stands that restrict native wetland plant species, including some federally endangered orchids, and reduce habitat for waterfowl.



**DISTRIBUTION IN THE UNITED STATES**

According to the U.S. Fish and Wildlife Service, purple loosestrife now occurs in every state except Florida.

**HABITAT IN THE UNITED STATES**

Purple loosestrife is capable of invading many wetland types, including freshwater wet meadows, tidal and non-tidal marshes, river and stream banks, pond edges, reservoirs, and ditches.

**BACKGROUND**

Purple loosestrife was introduced to the northeastern U.S. and Canada in the 1800s, for ornamental and medicinal uses. It is still widely sold as an ornamental, except in states such as Minnesota, Wisconsin, and Illinois where regulations now prohibit its sale, purchase and distribution.

**BIOLOGY & SPREAD**

Purple loosestrife enjoys an extended flowering season, generally from June to September, which allows it to produce vast quantities of seed. The flowers require pollination by insects, for which it supplies an abundant source of nectar. A mature plant may have as many as thirty flowering stems capable of producing an estimated two to three million, minute seeds per year.

Purple loosestrife also readily reproduces vegetatively through underground stems at a rate of about one foot per year. Many new stems may emerge vegetatively from a single rootstock of the previous year. "Guaranteed sterile" cultivars of purple loosestrife are actually highly fertile and able to cross freely with purple loosestrife and with other native *Lythrum* species. Therefore, outside of its native range, purple loosestrife of any form should be avoided.

## MANAGEMENT OPTIONS

Small infestations of young purple loosestrife plants may be pulled by hand, preferably before seed set. For older plants, spot treating with a glyphosate type herbicide (e.g., Rodeo® for wetlands, Roundup® for uplands) is recommended. These herbicides may be most effective when applied late in the season when plants are preparing for dormancy. However, it may be best to do a mid-summer and a late season treatment, to reduce the amount of seed produced.

### **Biological**

While herbicides and hand removal may be useful for controlling individual plants or small populations, biological control is seen as the most likely candidate for effective long term control of large infestations of purple loosestrife. As of 1997, three insect species from Europe have been approved by the U.S. Department of Agriculture for use as biological control agents. These plant-eating insects include a root-mining weevil (*Hylobius transversovittatus*), and two leaf-feeding beetles (*Galerucella californiensis* and *Galerucella pusilla*). Two flower-feeding beetles (*Nanophyes*) that feed on various parts of purple loosestrife plants are still under investigation. *Galerucella* and *Hylobius* have been released experimentally in natural areas in 16 northern states, from Oregon to New York. Although these beetles have been observed occasionally feeding on native plant species, their potential impact to non-target species is considered to be low.



**USE PESTICIDES WISELY:** Always read the entire pesticide label carefully, follow all mixing and application instructions and wear all recommended personal protective gear and clothing. Contact your state department of agriculture for any additional pesticide use requirements, restrictions or recommendations.

**NOTICE:** mention of pesticide products on this page does not constitute endorsement of any material.

## CONTACTS

For more information on the management of purple loosestrife, please contact:

- Cornell University Non-indigenous Plant Species Program, <http://www.invasiveplants.net>
- Virginia Natural Heritage Program. <http://www.dcr.virginia.gov/dnh/invinfo.htm>

## SUGGESTED ALTERNATIVE PLANTS

Native species of *Liatris* (blazing star) have showy pink-purple flower spikes and are an important nectar source for many native species of butterflies and other insects.

## OTHER LINKS

- <http://www.invasive.org/search/action.cfm?q=Lythrum%20salicaria>
- <http://nbii-nin.ciesin.columbia.edu/ipane/icat/browse.do?specieId=72>

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## PHOTOGRAPHS

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## REFERENCES

- Heidorn, R. and B. Anderson. 1991. Vegetation management guideline: purple loosestrife (*Lythrum salicaria* L.). *Natural Areas Journal* 11:172-173.
- LaFleur, A. 1996. Invasive plant information sheet: purple loosestrife. The Nature Conservancy, Connecticut Chapter.
- Malecki, R.A. (et al.). 1993. Biological control of purple loosestrife (*Lythrum salicaria*). *BioScience* 43 (10):680-686.
- The Nature Conservancy. Purple Loosestrife: Element Stewardship Abstract. In: *Wildland Weeds Management & Research Program, Weeds on the Web*.

Thompson, Daniel Q., Ronald L. Stuckey, Edith B. Thompson. 1987. Spread, Impact, and Control of Purple Loosestrife (*Lythrum salicaria*) in North American Wetlands. U.S. Fish and Wildlife Service. 55 pages.

Virginia Department of Conservation and Natural Resources. 1995. Invasive Alien Plant Species of Virginia: Purple Loosestrife (*Lythrum salicaria*).