



MAINE INVASIVE PLANTS

Purple Loosestrife

Lythrum salicaria
(Loosestrife Family)

Threats to Native Habitats

An invasion of purple loosestrife leads to a loss of plant and wildlife diversity. Infestations of purple loosestrife appear to follow a pattern of establishment, maintenance at low numbers, and then dramatic population increases when conditions are optimal. This plant flourishes in wetland habitats that have been disturbed or degraded by draining, natural water drawdown in dry years, bulldozing, siltation, shore manipulation, cattle trampling, or dredging. Mudflats exposed following drawdowns will quickly be colonized if a loosestrife seed source is present. Seeds are usually present in such large numbers and germinate in such high densities that growth of native seedlings is prevented. High seed viability and prolific seed production can build up a seedbank of massive proportions. The buildup of debris around the roots enables loosestrife to invade deeper water and to form dense stands that shade out other emergent plants and push out floating vegetation by closing open water spaces.

Description

Purple loosestrife is a stout, erect, perennial herb with a strongly developed taproot. The plant's flower clusters are spike-like and range from four to 20 inches tall, topping a plant that ranges in height from two to six feet. The four-angled stem can be smooth to somewhat fuzzy. The leaves attach directly to stems at their bases, and they are opposite or in whorls, narrow to narrowly oblong, with heart-shaped bases. The flowers are magenta, or occasionally white or light pink, with five to seven petals. The flowers open in July and continue to bloom through September or October. The fruit is a dry capsule generally containing 100 or more tiny, dark-colored seeds. From a distance, purple loosestrife may be confused with several other tall native herbs with long red or purple spike-like flower clusters. Up close, however, it is easily distinguished from native plants. Consult a natural resource professional to confirm identification.



Purple Loosestrife (photo by Frank Bramley, courtesy of the New England Wild Flower Society)

Habitat

Purple loosestrife is found in wetlands such as cattail marshes, sedge meadows and open bogs. It also occurs along streams, riverbanks, and lakeshores. It is opportunistic in areas that have experienced recent soil disturbance. It is not uncommon to find it growing in man-made storm-water retention ponds and in ditches next to parking lots and roads. Purple loosestrife grows best in highly organic soils, but tolerates a wide range of soils including clay, sand, muck and silt. Generally, the plant is found in full sun, but it can survive in partial shade.

Distribution

Purple loosestrife is native to Eurasia and was first reported on the coast of northeastern North America in 1814. Although purple loosestrife occurs in nearly

all sections of the United States, the heaviest concentrations are in the glaciated wetlands of the Northeast. In Maine, purple loosestrife has been documented in all but three counties.

Control

Current methods for getting rid of large, dense populations of loosestrife are not totally effective. Several control methods have been attempted with varying degrees of success. Natural area managers must determine their objectives first, and determine if it is more feasible to contain or to destroy populations of purple loosestrife. Large populations extending over three acres or more are difficult, if not impossible, to completely destroy using presently known methods. These large populations should be contained at their present position. Preventing the expansion can be accomplished through hand-pulling new plants along the edges or spraying herbicide on plants extending beyond the main body of the population. Smaller populations can be eradicated: populations up to three acres can be cleared with herbicides or hand-pulled, depending upon the size of the work crew and time available.

Biological: On-going experiments have successfully demonstrated that certain loosestrife-eating insects can cause its populations to decrease in size. Although these creatures do not completely eliminate purple loosestrife from a site, they can reduce populations to more manageable and less harmful densities.

Chemical: The herbicide glyphosate is most commonly used for purple loosestrife control. However, over-spray can cause native vegetation to die back, and ultimately lead to even greater explosions of loosestrife invading from the seedbank. Spot application directly onto plants can ensure that no large holes appear in adjacent vegetation and that competition is relatively unaffected. The safest method of applying glyphosate herbicide is to cut off all stems at about 6 inches and then paint or drip onto the cut surface a 20 to 30 percent solution. Spraying should be done after the period of peak bloom, usually late August. It is critical that any control effort be followed up the same growing season and for several years afterwards since some plants will be missed, new seedlings may sprout from the extensive seedbank, and some plants might survive the treatment. For larger infestations where spot application of glyphosate is not practical, broadleaf herbicides can be used. They have the advantage of not harming grasses and other grass-

like species, which are the dominants in most wetlands. This fact sheet does not contain all the available information on methods of herbicide treatments for purple loosestrife. Consult a licensed herbicide applicator for more information.

Pulling: Hand-removal is recommended for small populations and isolated stems. Ideally, the plants should be pulled out before they have set seed. The entire rootstock must be pulled out since regeneration from root fragments is possible. Be sure to minimize disturbances to the soil and native vegetative cover. Remove uprooted plants and broken stems from the area since the broken stems can resprout.

References:

Josselyn Botanical Society of Maine. 1995. *Checklist of the Vascular Plants of Maine, Third Revision*. Orono, ME: Maine Agricultural and Forest Experiment Station.

Bender, J. & J. Rendall. 1987. *Element Stewardship Abstract for Lythrum salicaria*. Arlington, VA: The Nature Conservancy in collaboration with the International Network of Natural Heritage Programs and Conservation Data Centers. Natural Heritage Databases.

For more information or for a more extensive list of references on invasive species contact:

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