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# ENVIRONMENTAL Fact Sheet

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## Purple Loosestrife: An Exotic Menace

### Species Description

Purple loosestrife is an erect perennial herb standing three to 10 feet tall. Its average height is five feet. The plant blossoms every July through September with purple flowers that are located in long spikes at the tip of its branches. Its leaves are opposite or whorled on the square, sometimes woody stem. One purple loosestrife plant may grow as an individual stalk or as several stalks clumped together. As beautiful as this plant may appear, its beauty is deceptive, as purple loosestrife is gradually altering our nation's wetlands. Look-alikes of this plant are swamp loosestrife and blue vervain.

### Species Range and Distribution

Purple loosestrife is a problem in New Hampshire and throughout North America and Canada. The northeastern United States and southern Canada are the areas experiencing the greatest impact of purple loosestrife. The distribution of purple loosestrife ranges from being common to abundant, and many areas have been found to support dense stands of this plant.



**Purple Loosestrife**  
*(Lythrum salicaria)*

### How was Purple Loosestrife Introduced?

Purple loosestrife is native to Eurasia. It was originally introduced to eastern North America in the early to mid-1800s. This invasive plant was either accidentally introduced via ship ballasts, deliberately brought over as an ornamental plant, or its seeds were transported by imported raw wool and sheep.

### Where Does Purple Loosestrife Invade?

Optimum habitats for purple loosestrife include freshwater marshes, open stream margins and alluvial floodplains. Purple loosestrife also invades wet meadows, pasture wetlands, cattail marshes, stream and river banks, lake shores, irrigation ditches, drainage ditches, and stormwater retention basins. Purple loosestrife is often associated with cattail, reed canary grass and other moist soil plants.

## **What Makes Purple Loosestrife A Good Invader?**

Purple loosestrife prefers moist organic soils, fluctuating water levels, and full sunlight; all conditions that can stress many native plants. However, this plant can survive in many conditions associated with disturbed sites, such as construction sites for docks and marinas. It can tolerate a wide range of environmental conditions (temperature, sunlight, pH, nutrient levels) and can establish itself on a variety of substrates (gravel, sand, clay, and organic soil). Purple loosestrife has no natural predators such as disease or insects on this continent; therefore, it has an incredible ability to out-compete native vegetation and to form dense stands.

## **How Does Purple Loosestrife Spread?**

Purple loosestrife's ability to spread contributes to its success as an invader. One adult purple loosestrife plant can produce 2.5 million to 2.7 million seeds annually. Seeds are roughly the size of ground pepper grains. Seeds from the plant are viable for many years. They may remain dormant in the soil until conditions are right for germination. These seeds are easily dispersed and transported by water, wind, bird feathers, animal fur, footwear, boats, boat trailers, and car tires. Purple loosestrife is also capable of resprouting from broken stems, underground roots, and plant fragments. If mowed, the cut stem pieces will send out new roots and form new plants. The once commercial sale of purple loosestrife also increased the spread of this plant by introducing it to various wetlands and home gardens. It has been illegal to sell, purchase, propagate, import, distribute, and transport *Lythrum* species in New Hampshire since 1999.

## **Why Is Purple Loosestrife a Problem?**

Purple loosestrife negatively affects both wildlife and agriculture. It displaces and replaces native flora and fauna, eliminating food, nesting, and shelter for wildlife. Purple loosestrife forms a single-species stand that no bird, mammal, or fish depends upon, and germinates faster than many native wetland species. If wildlife species are displaced, those that cannot move into new areas may be lost. By reducing habitat size, purple loosestrife has a negative impact of fish spawning and waterfowl habitat. The plant also diminishes wetland recreational values such as boating, fishing, and hunting. This, in turn, may hurt local economies. Purple loosestrife affects agriculture by blocking flow in drainage and irrigation ditches and decreasing crop yield and quality.

## **What Are Some Solutions To The Purple Loosestrife Problem?**

Three possible control methods exist for purple loosestrife. These include physical, biological, and chemical means. None of these methods will completely eliminate purple loosestrife, but they will control the populations within ecologically acceptable limits.

**Physical Control** of purple loosestrife is possible for smaller stands of plants (less than about 100 plants). It involves physically removing the plant from the soil. Removal should ensure that all root and plant pieces are dug out of the soil. The best time to remove purple loosestrife from the soil is prior to seeding time (August/September). Removal after this time will not eliminate the seeds that have already been produced by the plant. Once the plants are removed they should be burned or tightly bagged to prevent the spread of seeds or resprouting. Composting is not an alternative as the plants may regenerate in the compost pile. Many local conservation commissions, garden clubs, and other specialty groups throughout New Hampshire are initiating

their own purple loosestrife monitoring programs involving mapping, hand-pulling, and disposal of this nuisance plant. If hand pulling during flowering time, cut off the flower stalk and bag it before removing the plant and roots to minimize seed dispersal.

**Biological Control** is a method on control involving the release of predators to attack the pest species. Three different species have been used in North America to attempt to control purple loosestrife: two species of beetles and one weevil. These three species are common in Europe where they combine to act on the leaves and roots, thereby controlling its populations. The insects were proven “safe” to our natural environment as a result of extensive research conducted at Cornell University.

The New Hampshire departments of Agriculture and Transportation have been working on a joint project to introduce beetles into areas infested with purple loosestrife. The beetles feed on the plants, curbing their growth within a five year period, depending on the size of the infestation. We now have over 20 such sites in New Hampshire, with each showing signs of success with thinning purple loosestrife populations.

**Chemical Control:** In dry areas, Round-Up can be used for control. In wetlands or areas with standing water, only a licensed applicator, working under a special permit, can conduct an herbicide treatment.

### **What Can I Do To Help?**

There are many things you can do to help prevent the spread of purple loosestrife. The first step is to **recognize it**. Purple loosestrife is most easily identified when in bloom (July and August), before it goes to seed. The second step is to **report it**. If a large infestation is identified, you can contact the departments of Agriculture, Transportation or Environmental Services. Mapping the infestation is helpful as well. The third step is to **remove it**. Check with authorities prior to removal to determine what permits may be need and how best to proceed.

For more information about exotic aquatic plants, please contact the Exotic Species Program at (603) 271-2248, or go to [www.des.nh.gov](http://www.des.nh.gov) and search “Exotic Species.”