

Purple Loosestrife (*Lythrum salicaria*) in North America: The Problem—The Solution—A Long-Term Strategy for Biological Control¹

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Purple loosestrife, *Lythrum salicaria*, is a herbaceous perennial introduced into North America from Europe in the early 1800s. The plant has invaded marshes and wetlands over much of the temperate parts of the United States and Canada displacing native vegetation and degrading waterfowl habitat. Conventional control techniques for *L. salicaria* have failed to limit its formation of dense monotypic stands. Biological control was initiated as a technique to reduce the harmful ecological and economic impacts of this weed. Surveys of U.S. *L. salicaria* populations found no natural enemies causing appreciable damage to the plant. European surveys identified 3 highly damaging beetle species: a root-mining weevil *Hylobius transversovittatus* and 2 leaf-feeding chrysomelid beetles *Galerucella californiensis* and *G. pusilla*. These 3 insects are relatively host-specific posing little, if any, risk to native plants. A *Purple Loosestrife Working Group* was created to merge proposed release strategies with a variety of research issues of the biological control project. A national monitoring program will be developed to evaluate release sites and the effects of colonizing natural enemies in various species combinations and numbers of founders. Plant-insect interactions will be studied on target and non-target plants. Factors affecting re-establishment of native wetland vegetation will also be assessed. This integrated release and research strategy will contribute to increased understanding of ecological issues currently facing biological control.

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