PLEASE READ GENERAL GUIDELINES FOR INVASIVE SPECIES REMOVAL DOCUMENT FIRST

Purple Loosestrife (*Lythrum salicaria*) Removal Protocol

As recommended by the Nantucket Invasive Plant Species Committee

Eradication of the invasive herbaceous plant purple loosestrife can be accomplished using a variety of techniques depending on the site and size of the infestation. The most effective methods of removal or control often involve a combination of techniques. The techniques presented here are those that have been employed or recommended by the Nantucket Invasive Plant Species Committee (NIPSC).

Mechanical removal is often preferred as a first step in invasive plant removal, particularly for small infestations. However, it is very difficult to completely remove all the below ground root material of loosestrife and follow up treatments are generally required. Root fragments left behind are likely to resprout. In addition, the decision to use mechanical removal techniques must be balanced against the negative effects of soil disturbance and the high costs of such techniques.

A variety of chemical herbicides are available for controlling loosestrife. The NIPSC recommends using Rodeo, or its equivalent (a glyphosate herbicide with water based surfactants) within 100 feet of any wetland resource area. Spraying of herbicides is not generally recommended because of the increased likelihood of drift and of impacting non-target species. Instead, foliar/stem wiping or clip and drip methods of application are recommended. **Be sure to read and follow all safety instructions and application recommendations included on the herbicide label. See Appendix A for information on the MA pesticide regulations. All herbicide concentrations below are given for the active ingredient. Check the herbicide label for the product concentration.**

Removal of loosestrife flowers and fruits during the summer and early fall is recommended as loosestrife produces abundant seeds that can remain viable in the soil for up to five years. Allowing plants to produce seeds prior to removal greatly hampers eradication efforts. Flowers and fruits should be bagged on site and placed into the household trash bin at the landfill.

The NIPSC recommends the following protocols for loosestrife removal keeping in mind that proper disposal of loosestrife material is just as important as the removal itself. Other techniques may be more appropriate in certain circumstances (see Appendix A for other techniques). While biological control organisms, such as *Galerucella* beetles, are available for controlling purple loosestrife, the NIPSC does not recommend their use at this time. Purple loosestrife stands currently present on Nantucket are too small to support self-sustaining populations of the control agents so repeated introductions would be required. In addition, water willow (*Decodon verticillatus*), a related plant native to Nantucket, as well as other native species can serve as alternative hosts to and suffer damage from several of the loosestrife biocontrol agents.

Digging (recommended for individual plants or very small stands)

(1) Dig out loosestrife roots using a shovel or trowel, being sure to get as much root material as possible.

(2) Shake soil from root mass back into the removal hole.

(3) Dispose of flowers, fruits, and roots by bagging on site and placing into the household trash bin at the landfill.

(4) Follow up with additional hand removal or one of the chemical methods below.

Chemical – foliar/stem wiping (recommended for small plants). Be sure to read and follow all safety instructions and application recommendations included on the herbicide label.

(1) Use a hand held sponge or other applicator to wipe loosestrife stems and leaves with a 15% glyphosate solution plus 1% spreader/sticker (this is an adjuvant, added to help herbicides “stick” to the surface of leaves and to penetrate their waxy coating). Late summer/early fall application is recommended as plants are transporting materials from the leaves and stems to the roots at this time allowing for maximum killing of root material. Be sure to remove flowers and fruits during the growing season. Herbicide application prior to seed set may be somewhat less effective but eliminates the need to remove flowers and fruits.

(2) Repeat for three to five years, or until loosestrife has been eradicated.

Chemical – clip and drip (recommended for large multi-stemmed plants). Be sure to read and follow all safety instructions and application recommendations included on the herbicide label.

(1) Grasp stems at a convenient height including as many side branches as possible and clip off the top of the plant. Apply 25% - 50% glyphosate solution to the top of the stems using a sponge or other applicator. Wiping of the upper portion of the stem with herbicide solution can be done as well. If flowers or fruits are present plant tops should be bagged on site and disposed of in the household trash bin at the landfill. Late summer/early fall application is recommended as plants are transporting materials from the leaves and stems to the roots at this time allowing for maximum killing of root material. Be sure to remove flowers and fruits during the growing season. Herbicide application prior to seed set may be somewhat less effective but eliminates the need to remove flowers and fruits.

(2) Repeat for three to five years, or until loosestrife has been eradicated.

Appendix A

Massachusetts Pesticide Program
http://www.mass.gov/agr/pesticides/

iMap Invasives: The Nature Conservancy's Element Stewardship Extracts by species
http://www.imapinvasives.org/GIST/ESA/index.html

University of Connecticut's Invasive Plant Atlas of New England
http://nbii-nin.ciesin.columbia.edu/ipane/

Plant Conservation Alliance's Alien Plant Working Group
http://www.nps.gov/plants/alien/factmain.htm

The Red Weeder
http://www.redweeder.com/

New England Wild Flower Society Native Plant Sales
http://www.newfs.org/store

Nantucket Biodiversity Initiative's Invasive Plant Species Committee
http://www.nantucketbiodiversityinitiative.org

Morphological Differences Between Native and Introduced *Phragmites*
http://www.invasiveplants.net/phragmites/morphology.htm