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Purple Loosestrife Volunteers

Purple loosestrife (*Lythrum salicaria*) is a perennial plant native to Eurasia where it grows along streams, rivers, and wet seepage areas (fig. 1). Seeds were inadvertently brought to North American territories in the ballast water of ships. Purple loosestrife was also intentionally planted throughout North America for its ornamental flowers but has since escaped cultivation to spread to wetlands.

Some purple loosestrife plants release millions of seeds during the summer season, and these seeds readily disperse to new wetlands via water, animals, and even on people's shoes. In addition, both its roots and stem fragments can sprout and begin new plants.

When purple loosestrife invades a wetland, the species sometimes becomes more dominant than the original native wetland species, such as cattails and sedges. While many people think that purple loosestrife reduces the value of wetlands for wildlife, these claims are disputed. Most people agree, however, that purple loosestrife grows more prolifically in North America than elsewhere, probably because the species has left its native enemies behind in Eurasia and Australia. Although we do not understand how well the species grows in various climates, there is some thought that purple loosetrife may never fully invade the southern United States. Studies looking at the species' response to temperature and analyses of its growth patterns across latitudes can help us determine its future threat to uninvaded portions of the United States. This is where volunteers come in.

Volunteers in North America, Eurasia, and Australia are helping assess purple loosestrife growth in their regions (fig. 2). The program is part of Dr. Beth Middleton's project to compare the role of purple loosestrife in its native and invasive habitats. Anyone can participate, and volunteers currently include high school and college students, retirees, professionals from all disciplines, agency personnel, and university faculty. Volunteers collect data by marking off a sampling area, recording the number and height of purple loosestrife, and observing the sunlight and water conditions at each location. Data collection only occurs once in each wetland and takes less than 30 minutes (see form on back). The results of the study will help efforts to control and predict the future spread of this species.

If you would like to become involved in the project, please contact:

Beth Middleton
USGS National Wetlands Research Center
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Lafayette, LA 70506
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Figure 1. Purple loosestrife (*Lythrum salicaria*) along a river in Turkey (photo by Sema Leblebici).

Figure 2. Purple loosestrife volunteer Can Bingol holds a seed trap along the Porsuk River, Eskisehir, Turkey. The light gap behind him shows purple loosestrife in the center of the gap but because the photo was taken in the spring, the plants do not yet have their distinctive purple flowers.

USGS Purple Loosestrife Study, National Wetlands Research Center

Name of volunteer: Email: Telephone: Survey date:

GPS coordinates (if available): Region (e.g., county, parish, province):

Number of individuals in patch:

Soil characteristics (e.g., peat, sand, gravel):

Loosestrife Characteristics Survey Form

Plot #	Loosestrife Stem Number			Height of Loosestrife, centimeters			Tree Canopy Coverage			Water Depth, centimeters			Notes
	Quad 1	Quad 2	Quad 3	Quad 1	Quad 2	Quad 3	Quad 1	Quad 2	Quad 3	Quad 1	Quad 2	Quad 3	
x	10	1	25	100	150	90	F	F	S	0	1	10	Tall trees to east of site.
xx	13	XX	XX	86	XX	XX	F	XX	XX	7	XX	XX	Small clump in ditch.
1													
2													
3													

1) Record your data using one "Loosestrife Characteristics Data Form" for every site.
2) Select a 1-m sampling area by tossing a rock or a stick from the edge of the infestation. A stick with a ribbon tied to it might be best if the vegetation is tall.
3) Mark a 1-m^2 area around the rock (or stick) with a tape or meter stick. If there is purple loosestrife inside of the marked quadrat, then this area is your quadrat for sampling.
4) Record the number of loosestrife stems within the 1-m^2 quadrat in the "Loosestrife Stem Number" column for the appropriate site number and quadrat number on the data sheet.
5) Record the height of the tallest loosestrife plant within your quadrat in centimeters in the "Loosestrife Height" column on the data sheet.
6) Look straight up from the quadrat and estimate how open the tree canopy is above the entire purple loosestrife site. Record "Tree Canopy Coverage" using the following symbols:
   a. If there are no trees present, record F for "full sun."
   b. If there are trees or some other shade-producing structure, such as a bluff or wall, on one or two sides of the site, such that the site receives full sunlight for part of the day, then record S for "some shade."
   c. If trees surround the site so that it receives only dappled sunlight, then record D for "dappled sun."
7) Record in centimeters the water depth in the quadrat, under the "Water Depth" column.
8) Repeat steps 2 through 7 for two additional quadrats in different parts of the patch (for a total of 3 quadrats at each site).
9) Send completed form to Beth Middleton, USGS National Wetlands Research Center, 700 Cajundome Blvd., Lafayette, LA 70506.

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