

7.0 Beaver Dam Lake Invasive Species

Three invasive species are currently present in Beaver Dam Lake: purple loosestrife, curlyleaf pondweed, and Eurasian watermilfoil.

7.1 Purple Loosestrife

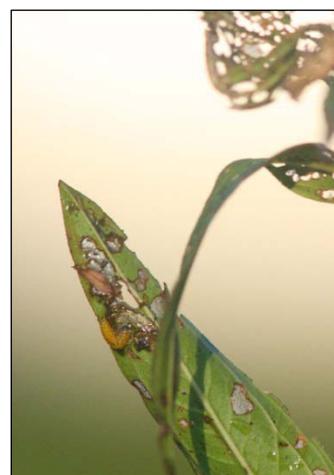
Purple loosestrife, an emergent plant, is native to Europe and the temperate regions of Asia. Once introduced into an area, the plant typically replaces native vegetation and rapidly becomes the sole emergent species.

Although it is not known when purple loosestrife (*Lythrum salicaria*) was first introduced to Beaver Dam Lake, WDNR records indicate it has been observed in Library Lake since the mid-1990s. Volunteers and WDNR staff have used and monitored purple loosestrife biological control using beetles on Library Lake since the mid 1990s. The WDNR used the Library Lake floating bog as one of the early release sites for the beetles (*Galerucella californiensis* and/or *G. pusilla*) in the 1990s when the beetles were first approved for use. (Harmony Environmental and Emmons & Olivier Resources, Inc., 2010).

WDNR staff worked with a (now retired) teacher in the Cumberland schools to set up a beetle rearing station in 1998. Beetle rearing stations are established by collecting wild purple loosestrife plants and releasing a stock of beetles on the plants to allow them to multiply. Dave Blumer (former WDNR staff) reports that the purple loosestrife rootstock collected from Library Lake already had abundant beetles. This was very good evidence of a well-established beetle population on the bog in Library Lake. Library Lake was then used as a collection location for starter beetles for the Cumberland rearing program. Cumberland Middle and High School students assisted with rearing and distributing beetles to other locations on Beaver Dam Lake through the early 2000s. (Harmony Environmental and Emmons & Olivier Resources, Inc., 2010).



Purple loosestrife-eating *Galerucella* beetles in Library Lake control purple loosestrife by inflicting damage on purple loosestrife plants, shown in the pictures above and below. Photo Credit: Endangered Resource Services, LLC.



Recent plant surveys document purple loosestrife continues to be present in Library Lake (Appendix C). A recent beetle survey documents the presence of a high to moderate number of purple loosestrife-eating beetles on purple loosestrife plants in and near Library Lake (locations shown on Figure 15). Although the beetles have not eradicated this invasive species from the lake, the damage they have inflicted upon the purple loosestrife plants has effectively managed purple loosestrife such that its area of infestation has been contained. Because the beetles have effectively contained purple loosestrife coverage in Library Lake, no other management measures have been used nor does there appear to be a need for additional management measures.



Figure 15 2010 Locations and Density of Galerucella Beetles in Library Lake (Map Credit: Endangered Resource Services, LLC)