

Noxious Weed Biocontrol Agent

Agent: Leaf beetle
Galerucella californiensis

Plant species attacked: Purple loosestrife,
Lythrum salicaria



Impact on target plant: Young larvae feed in and on the developing buds, often destroying them, which may stunt plants and delay or prevent flowering. Adults and older larvae feed on leaves and cause severe defoliation.

Collection and release: Adults can be collected with a sweep net in the spring (May and June) when they are laying eggs. The first generation adults can be collected in July. Releases should consist of 250 – 500 adults..

Distribution: This beetle has been released in 21 counties and is established in 17.

History: Two leaf beetles, *Galerucella californiensis* and *G. pusilla* were released at several locations in 1992. At the Baskett Slough National Wildlife Refuge in Polk County, spectacular control occurred in 1997 reducing plant density and flowering spikes by more than 90%. In 1999, plant density had increased about 10%, following the crash of the beetle population. In 2000, beetle numbers increased, leading to severe damage again. Spectacular outbreaks and defoliation have become more common. Cooperative studies with OSU and USFWS were conducted to determine the cyclic nature of the plant-insect relationship. Nontarget impacts on crape myrtle during outbreak numbers were shown to be minor and transitory (Schooler et al. 2003).

Regional redistribution began in 1997. In 2005 and again in 2008, and 2009, outbreaks of beetles totally defoliated purple loosestrife at the Horseshoe Lake site in Marion County, where purple loosestrife biomass and density have declined and native vegetation has significantly increased. Since 1998, hundreds of thousands of adult beetles have been collected and distributed to numerous locations throughout Oregon and to other states. Off-site management is important near release sites to insure that flooding or farming does not disturb adults overwintering within 100 feet of the high water level. The beetles produce two generations per year.



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