

## Invasive Purple Loosestrife (*Lythrum salicaria*) and Biological Control in Ontario

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**Our Key Initiative:** To provide biocontrol agents (*Neogalerucella spp.* beetles) and monitoring support to governments, conservation groups and land stewards who engage in purple loosestrife biological control following the guiding document [“Purple Loosestrife: Best Management Practices in Ontario” Ontario Invasive Plant Council, 2016”](#)

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Adult beetles feeding, mating, and laying eggs on PLS at a well-established release site

**Background:** Ontario’s biocontrol program for purple loosestrife (PLS) using *Neogalerucella* beetles began in **1992**. It was approved by Agriculture Canada, led by researchers at the University of Guelph, and further implemented by Ontario Beetles. By **1998**, monitoring results from over 50 beetle release sites showed **effective control** of PLS by the beetles, and confirmed the research, showing that the beetles were **host specific** to PLS.

By **2004**, targeted releases of *Neogalerucella* had been done at over 200 locations across the watersheds of Ontario. Beetles were dispersing naturally along watercourses and control of PLS

was becoming widespread. As of **2022**, Ontario Beetles had released beetles at more than 500 locations around Ontario. Targeted releases of the beetles continue yearly.

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### Goals and Tasks of the Ontario initiative are to:

- keep beetle populations robust, and at effective levels across Ontario,
- identify where PLS is spreading and establish new beetle release sites,
- identify where re-introductions of beetles might be needed since beetle populations will naturally wax and wane, responding to changes in host plant availability and varying environmental conditions,
- work with groups, governments, and landowners to release and monitor beetles where they’re needed, and in targeted areas.



A Beetle Release with the Nature Conservancy of Canada, 2022

All government approvals are in place for this work to continue as needed.

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PLS in flower, prior to a targeted release in Cambridge, ON

**Guiding Principles:**

**A: Early Detection Rapid Response.** EDRR means **locating invasive species just as they are beginning to invade and quickly treating the new infestation.** This concept is fundamental to effective invasive plant management, makes successful control more likely, and can save critical funding and resources. The preferred time of year for *Neogalerucella* releases is during the month of June.

**B: The [“Purple Loosestrife: Best Management Practices in Ontario” Ontario Invasive Plant Council, 2016](#)”** document delineates that distinct

**areas with more than 50 PLS plants** are suggested for a **release of beetles.** We work with groups and individuals to further discern their release needs based on plant community features and history. Multiple releases of effective populations of beetles at targeted locations can be recommended. Adult beetles disperse and release sites can link up over time as beetle populations build. Reducing PLS can make way for native plants and can enhance biodiversity, a key goal in good land stewardship.

***C. Education, Sharing, Appreciation***

We welcome opportunities to discuss, educate and explore hands-on with groups and individuals, sharing biocontrol and biodiversity principles, celebrating the value of native



*Neogalerucella* larvae feeding on PLS

plant communities, and supporting the conservation and restoration of precious ecological landscapes for future generations.



Showing the beetles at a release event in London, ON.

Information on release procedures, *Neogalerucella* beetles, and pricing can be obtained from Donna MacKenzie at:

[ontariobeetles.ca](http://ontariobeetles.ca), or by contacting [r57337r5@yahoo.ca](mailto:r57337r5@yahoo.ca)

**ontariobeetles.ca**  
*Neogalerucella* beetles for Purple Loosestrife Biocontrol  
~Since 1992~