

# Watch out Loosestrife, the **BETTERLES ARE COMING**

by BARB SCHROEDER

The next time you want to step on that beetle, give it a second thought! Not all beetles are pests and some might even be beneficial. Consider the beetle *Galerucella Calmariensis*, commonly known as the Loosestrife Leaf Beetle. It is the biological control that has been proven to manage the destructive effects of the invasive Purple Loosestrife plant that thrives in water-rich places such as wetlands.





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The Julian Wetlands, the northern parcel of the 55-acres of wetlands gifted to the Wildlife for Everyone Foundation by the WHM Group in 2010, has a Purple Loosestrife problem. Purple Loosestrife is a tall, spiky plant with purple flowers that stands out in a garden, which is why settlers imported the plant from Europe and Asia as early as the 1800s. It's also believed that Loosestrife seeds were embedded in the soil used as ballast in the European sailing ships that traveled to North America some 200+ years ago. The ship's load was discarded on our shores, and that was the beginning of the unchecked spread of this highly invasive pant.

Without a natural predator, Purple Loosestrife growth will engulf an area quickly, displacing native plants and reducing the ecological function of the host ecosystem. Several factors make this plant particularly problematic. First and foremost, there is no insect native to the United States that eats Purple Loosestrife. To compound that

disadvantage, each plant produces hundreds of thousands of seeds per year; and those seeds are hardy, surviving in the soil up to seven years until conditions are ripe for germination. To make matters worse, a single plant can produce as many as 30 stems from its central root mass, resulting in a dense thicket that blocks the sun from shorter plants and ultimately chokes them out. In addition, there is loss of critical habitat for ducks, birds and other animals that are unable to move through the impenetrable root system. Furthermore, the food sources that a wetland provides for a myriad of insects, birds and mammals are eliminated. As a result, biodiversity suffers as the variety of plants and animals that once populated the wetlands vanishes.

Enter the WHM Group, an environmental resource solutions company with an office in State College, PA. Guided by the expertise of Peter Backhaus, a wetlands scientist for WHM, the *Galerucella Calmariensis* beetle

was chosen as the bio-control method of treatment. Native to Europe, this beetle eats only Purple Loosestrife leaves, and in 1992 it was allowed into the United States as part of a program to control Purple Loosestrife. Since then, the Loosestrife Leaf Beetle has been released in over 27 states.

Other options for controlling Purple Loosestrife are hand-pulling and herbicides. Of course, administering an herbicide could negatively affect other plants and in turn, the animals that feed on them. Backhaus will purchase his environmentally-friendly beetles from a private vendor who breeds the beetles as well as collects them from large populations released to control the rampant Loosestrife.

According to Backhaus the tricky part is calculating the number of beetles to order because of the variables that need to be considered. Stocking density is extremely important. This number is affected by the concentration of Purple Loosestrife. If the plants are compact, a couple of acres of Purple Loosestrife can be cleared out in a year with fewer beetles. In the case of the Julian Wetlands, the plants are scattered and it will take longer. The climate also plays a role. If it's a particularly cold winter, the beetles may die and more will be needed. Backhaus estimates it may take 2–3 years to control the problem.

In preparation for the arrival of the beetles, Backhaus took a survey of where the Loosestrife plants are located on the property and marked them with stakes for easy



Photo © John Pogue/nik

*Eaten plant*

identification. He hopes to secure the help of Penn State students to release about 500 adult beetles in late spring and to monitor their activity through the summer months. In fall, when the plants begin to die, Backhaus will check the area and ascertain whether he needs to order more beetles.

“I really hope this will have an educational component in the future, perhaps as part of the educational mission of the Wildlife Center,” comments Backhaus. The Wildlife Center will be developed on the Ridge and Julian Wetlands site and is projected for opening in spring 2019. “It has potential as a project for independent study, as well as for classes to administer and monitor the program’s progress. With the proper permits, school-age children can grow the beetles in class and release them at the end of the school year,” he adds.

“The Loosestrife Leaf Beetle is the best option for Loosestrife plant management because it has been shown to have no effect on native plants and it’s cost effective,” concludes Backhaus. Neighbors needn’t worry that the Loosestrife Leaf Beetle will eat their crops. Although the beetle can travel up to ½ mile, it eats Purple Loosestrife exclusively. By utilizing this biological control method, the Wildlife for Everyone Foundation will maintain a healthy wetland ecosystem that optimizes habitat and food sources for all species living within it.

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*–Peter Backhaus, WHM, Wetlands Scientist*

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