

If You Can't Beat 'Em..... let the Beetles Eat 'Em!

Using Biocontrol to Conquer Invasive Plants in the Ausable Watershed

Some of our readers may remember "If You Can't Beat 'Em, Eat 'Em!" published in the ASRA summer 2008 newsletter. This tongue in cheek title introduced a factual article with recipes for cooking with invasive plants. Below we highlight a beetle that consumes purple loosestrife. The *Galerucella pusilla* beetle doesn't require sugar and salt for its invasive recipes, it just eats 'em raw!



The Culprit:

Purple loosestrife was introduced to the U.S. and Canada in the 1800's from Europe as seed in soil used in ship ballast. It was also imported as an ornamental and medicinal plant.

Once established in North America, this invasive quickly spread to wetlands and waterways in all 50 states except Florida and Hawaii. Purple loosestrife quickly crowds out most native wetland plant species, such as sedges, rushes, cottontails. The result is loss of waterfowl nesting habitat, amphibian and algal communities, reduced water flow and quality, disruption of transportation, and degradation of hunting and fishing areas.

Once established, purple loosestrife is difficult to get rid of; hand pulling is ineffective and without continued use of herbicides, purple loosestrife is reestablished and spreads (Gabor et al., 1996).



ASRA was awarded a grant from the Lake Champlain Basin Program to purchase and distribute *Galerucella pusilla* (purple loosestrife beetles) (see above).

The Project Area: The beetles will be released into four dense stands of purple loosestrife on the shore of Mill and Power Ponds in Lake Placid. The stands are upstream, up gradient, and upwind of the West Branch of the Ausable and could easily spread rapidly into pristine wetlands if not checked now. The West Branch is relatively "weed free" and early intervention could eliminate costly and more



The Hero:

Galerucella pusilla (Golden loosestrife beetle) is a leaf feeding beetle and the larval feeding is especially destructive to purple loosestrife (Wilson et.al, 2004). *Galerucella pusilla* feeds only on purple loosestrife so once the loosestrife population disappears the beetles either die out or move on to another infested wetland (Wilson et.al, 2004).



Biocontrol is far more beneficial than hand pulling or herbicide application for several reasons: 1) it requires fewer human work hours 2) it eliminates the need for introducing harmful chemicals into sensitive wetland areas (Blossey, 2002), and 3) it is economically more beneficial because beetle populations are self-perpetuating thus eliminating repeated herbicide purchases.

In favorable conditions, the beetles will eliminate an overgrowth of purple loosestrife within 4 to 5 years. The beetle population will then decline unless they move on to nearby purple loosestrife stands.

Blossey, B., 2002, www.invasiveplants.net/InvasivePlants/purpleloosestrife.asp.

Wilson, L, 2004, Biology and Biological Control of Purple Loosestrife: U.S.D.A. Forest Service Publications, FHTET-2004-12.

widespread damage later.

Beetle releases in nearby areas have proven to be a successful management tool –examples include a wetland at Saranac Lake High School and a wetland in Waddams, New York (Steven Flint, Adirondack Park Invasive Plant Program, and Meiyin Wu, SUNY Plattsburgh, oral communication).

ASRA will be working with the Mirror Lake Watershed Association to distribute and monitor beetle consumption. If you would like to volunteer call 873-3752.