In defence of Purple Loosestrife (Lythrum salicaria) [II]

by Art Drysdale

by **Art Drysdale**

email: art@artdrysdale.com

Art Drysdale, a life-long resident of Toronto and a horticulturist well known all across Canada, is now a resident of Parksville, British Columbia on Vancouver Island, just north of Nanaimo. He has reno-vated an old home and has a new garden there. His radio gardening vignettes are heard in south-western Ontario over radio station Easy 101 FM out of Tillsonburg at 2 PM weekdays.

Art also has his own website at http://www.artdrysdale.com

July 2, 2017

Following on from my article last week, "In defense of Purple Loosestrife", in checking this Website I find that while three or four other writers have offered short pieces on the topic no one else have written as much (or as often!) about the plant as I have. That prompted me to take a further look at just where we are now—two decades later!

The negative campaign by so-called environmentalists who would see us—every one of us—going out and ruthlessly pulling out all purple loosestrife plants along waterways, roadways and fields, as well as not planting (or not even being allowed to plant) it in our gardens, is actually diminishing—finally. I've been writing and broadcasting in defence of this non-native plant now for over two decades!

The most interesting newer data comes from two studies done at the University of Guelph and completed in late 1997. Each was published in a professional journal, and I recently spent a half-day reviewing the manuscripts in detail. I can tell you at the outset, they are not good news for the do-gooder so-called environmentalists!

The first released appeared in the journal *Biodiversity and Conservation* 7, issued in September 1998. It's entitled "The implications of accepting untested hypotheses: a review of the effects of purple loosestrife in North America." Authors Heather A. Hager and Karen D.

McCoy were then at the University of Guelph department of zoology; Heather is now at the University of Regina, department of biology and Karen at l'Université Pierre et Marie Curie, laboratoire d'écologie, Paris.

The abstract of their paper reads: "The acceptance of poorly tested hypotheses has adverse scientific consequences, and may have adverse ecological and social consequences. The hypothesis that purple loosestrife has deleterious effects on North American wetlands is an example. We traced the history of purple loosestrife and its control in North America and found little scientific evidence consistent with the hypothesis that purple loosestrife has deleterious effects. The most commonly cited study of the effects of purple loosestrife on native flora and fauna produced inconclusive results. The general acceptance of this hypothesis, however, has resulted in the introduction of non-indigenous insects for biological control.

"Efforts to control purple loosestrife may be misplaced and may have long-term ecological consequences if loosestrife does not have the impact it is believed to have. The acceptance of this hypothesis using scientific justifications may affect future scientific credibility. Careful evaluation of the precautionary principle is necessary when considering the control of non-indigenous organisms."

If you have any doubt about this, I would encourage you to read the entire item.

The second study is perhaps even more interesting. It is entitled "Relationship between the abundance of purple loosestrife and (other) plant species richness along the Bar River, Canada." Its authors are Michael A. Treberg and Brian C. Husband then both of the department of botany, University of Guelph. Michael is now at the University of British Columbia, department of geography.

The study was carried out along a 2.5 km section of the Bar River, about 30 km east of Sault Ste. Marie, Ontario. This river is described as slow moving and its banks vary from gentle slopes to steep banks of up to two metres in height. The steep banks often collapse into the river, providing new areas for plant colonization. The soil is heavy clay with very little organic matter near the water's edge and with increasing organic matter content further up the bank.

The authors point out that they chose the site for a number of reasons, not the least of which were: 1) Loosestrife has colonized the river for about 12 years and thus sufficient time has likely passed for the impacts of loosestrife invasion to develop; and 2) the river offers a wide range of densities of purple loosestrife.

Their paper appeared in its entirety in the journal Wetlands, published by The Society of Wetland Scientists (you certainly couldn't ask for more credibility on this topic than this group!) in March 1999.

Here's their abstract. "Purple loosestrife is a perennial herbaceous plant that was introduced in the 1800s into North America. Its geographical expansion has generated much concern, in

part because its spread may lead to a reduction in the diversity of plant species in wetlands. We tested this hypothesis by examining the association between the abundance of loosestrife and vascular plant species richness in 41 2m2 plots along the Bar River. No significant differences in mean species richness were found between plots with and without loosestrife. For those plots containing loosestrife, species richness was not related to the percentage cover of loosestrife. Furthermore, there were no significant differences in the number of introduced plant species between plots with and without loosestrife, nor were there differences with increasing percent cover of loosestrife. [Some] plant species such as [three] *Scirpus* species were more likely to be found in plots with loosestrife than without. However, no plant species were significantly more likely to be found in plots without loosestrife than with it.

"Collectively, these results provide no support for the hypothesis that the number of species in wetlands is decreasing in association with the invasion of loosestrife in Ontario."

Even before they began this significant study, the authors noted that in issue 19 of the journal Environmental Management, professor M.G. Anderson had found, during his review of literature (in 1995), "that studies of competition between loosestrife and other plants are few, but of those conducted in the field, some have shown that loosestrife seedlings cannot compete with native species and that stands of loosestrife were frequently invaded by native species.

"These results are inconclusive and suggest that the impact of loosestrife in North America may be more complex than was originally suggested."

This latter observation: stands of loosestrife being invaded by native species is exactly what was observed back over two decades ago by my late colleague H. Fred Dale, gardening columnist for the *Toronto Star*. Fred's observations were based on his personal experience along the stream and pond on his own rural farm. If only Fred were alive now to see his and my comments of the time being confirmed by "ivory tower academics!"