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From the President

On June 19, Frank Coolidge stepped down after serving five years as President of the Boxborough Conservation Trust. As a founding member of the Trust, he has been pivotal in guiding the Trust through all of its key projects over the years, especially the town's recent acquisition of the Patch Hill Conservation Area. Frank has always kept the Trust focused on its primary mission: conserving open space. He is a man of uncompromising integrity, keen intellect, and strong devotion to the mission of the Trust. We owe him a tremendous vote of gratitude for putting the Trust soundly on its feet, and equipping us to move forward with the many conservation challenges that still face our town.

One such challenge going forward is the care and feeding, or "stewardship," of the town's conservation land. While the responsibility for organizing all such efforts will rest with the town, the BCT has pledged to assist where appropriate.

If you have an interest in helping to maintain trails or other aspects of land stewardship, please contact the BCT or the Conservation Commission.

Beginning this fall, we will be contacting our membership about additional opportunities to get more directly involved in the conservation work of the BCT. We thank you for the support that you have provided to date, and we look forward to working with you more directly.

- Jeff Fuhrer

Our Wetlands: A Vital Resource

BY DAVID KOONCE, BCT BOARD MEMBER

The importance of wetlands was not recognized for the first few centuries following the European colonization of North America. Quite the opposite -- it was thought that wetlands were areas to be generally avoided, where the air was unhealthy to breathe and where dangerous insects bred. Prevalent opinion was that wetlands were best drained or filled, thereby removing the threat of disease while increasing the amount of land for agriculture and development. It was felt that wetlands were useful only as dumping grounds for human and animal waste. It is estimated that as much as 50% of North America's original wetlands, both coastal and inland, have been eliminated outright, while many more acres have been significantly degraded.

It is only relatively recently, in the last thirty years or so, that the environmental value of wetlands has been realized and they have come to receive some measure of protection under federal, state, and local laws. Still, approximately 60,000 acres are lost each year in the United States, many of them to new driveways and sub-division roads.

The truth is that wetlands have great intrinsic importance in maintaining a healthy natural environment, which, in turn, is necessary for a healthy human habitat. The various types of inland freshwater wetlands include, but are not limited to, lakes, ponds, rivers, streams,

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Alien Invaders - Part 3

Purple Loosestrife

BY GLYNIS HAMEL, STAFF WRITER

The discussion of wetlands in this issue of *Common Ground* would not be complete without mention of purple loosestrife, *Lythrum salicaria*. This spectacularly beautiful invader of freshwater wetland habitats puts on a late-summer show of deep magenta flowers on elongated 4- to 10-foot spikes. Like other non-native invasive plants, purple loosestrife is extremely prolific. The flowers on one plant can produce as many as 3 million seeds in one season; in addition, the plant spreads through underground rhizomes and the rooting of buried stems and cuttings. Now found in every state in the continental U.S. except Florida, purple loosestrife is most abundant and is wreaking the most havoc with ecosystems in the Northeast. Once established, purple loosestrife can dominate an area to the complete exclusion of other plants, reducing biodiversity and degrading habitat quality. The displacement of native vegetation results in the elimination of food and shelter for wildlife; the density of growth impairs the recreational use of lakes, ponds, and rivers, and impedes water flow in drainage ditches.

Purple loosestrife was brought to the U.S. from Europe in the 1800's, valued as an ornamental garden plant. Unbelievably, the sale of purple loosestrife is still legal in Massachusetts (its sale is banned in many other states). Although many growers claim to supply only sterile forms of the plant, there is evidence that these "sterile" cultivars hybridize with the wild variety producing even more tenacious offspring.

Once established, purple loosestrife is extremely difficult to eradicate. Conventional methods of control such as cutting, burning, use of herbicides, and digging are either labor-intensive and not practical on a large scale, or have proven ineffective because of the plant's rapid

growth and spread (the seeds have a 60-70% survival rate and can remain viable in the soil for several years). The most promising method of control is biological. In 2000 and 2001, the Massachusetts Wetlands Restoration Program released 10,000 plant-feeding beetles of the genus *Galerucella* in Walpole. A similar release was conducted in the Parker River Wildlife Sanctuary in Newburyport from 1996 to 1998; currently, there is no evidence of purple loosestrife remaining in the release site. The Association of Massachusetts Wetland Scientists is working to expand these efforts, which are authorized by the USDA Animal and Plant Health Inspection Service, Plant Protection and Quarantine. Unfortunately, expansion of the program to include additional sites is on hold due to constraints in the Massachusetts state budget.

As I write this article in the last days of July, purple loosestrife is putting on a spectacular show in the wetlands surrounding the Boxborough Fire Station. The plant's beauty is undeniable. So, too, is the destructive potential of this aggressive alien invader.

Sources:

Association of Massachusetts Wetland Scientists, "Beetles on the Loose!" http://www.amws.org/loosestrife_project.html

Swearingen, Jil M., "Purple Loosestrife," Plant Conservation Alliance, Alien Plant Working Group, <http://www.nps.gov/plants/alien/fact/lysa1.htm>

*Randall, John M. and Janet Marinelli, editors, **Invasive Plants: Weeds of the Global Garden**, Brooklyn Botanic Garden, 1996*

Many thanks to Michelle Robinson of the Department of Environmental Management, Office of Water Resources, for her answers to my questions; and to Linda Coe, member of the BCT, for the drawing that accompanies this article.

Wetlands

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swamps, marshes, and bogs. Some wetlands hold standing water year round, while others only during the wet seasons. The environmental importance of wetlands lies in what are termed their "functions and values." Boxborough's wetlands serve us in the following ways:

- **Water recharge** - Underground sources of drinking water are replenished by rainwater falling into surface wetlands and then percolating down to aquifers and bedrock wells below. Interestingly, the source of a drinking water well's recharge area can be geographically quite distant from the actual location of the homeowner's well. Protecting Boxborough's drinking water is the reason behind the stringent bylaw requiring a 100 ft. buffer between a wetland and any type of construction.

- **Pollution removal** - Many commonly used natural and artificial substances that are known to be harmful to humans and wildlife can enter the food chain or water supplies via wetlands. Certain species of wetland plants have, to some extent, the ability to detoxify and filter contaminants, thereby improving water quality.

- **Flood prevention** - Since wetlands are usually situated at a lower elevation than



Purple loosestrife

the surrounding topography, rainwater and snow-melt have a natural tendency to flow into them, rather than onto roads or homeowners' property. In fact, some types of wetlands are defined and characterized exclusively by their capacity to collect and hold water during sudden heavy rainfall events and the typically wet seasons of the year. Under state law, flood storage is considered so important that it is illegal to impair a wetland's ability to prevent flooding, even if the wetland serves no other purpose and doesn't support vegetation or wildlife.

• **Wildlife habitat** - Many species live out their entire lives in wetlands and cannot survive for even a short time in upland habitats. Some species of amphibians and insects spend most of the year on dry ground, but annually reproduce in wetlands. Nearly two-thirds of Massachusetts' rare plant and animal species are absolutely dependent on wetlands at some stage of their life cycles, and most of the common species of birds and mammals benefit by living in close proximity to wetlands.

In Boxborough, we depend on underground aquifers fed by rainfall for all our drinking water. Therefore it's imperative that we protect our wetlands. We can help by reducing or eliminating use of pesticides and fertilizers, and by properly maintaining our septic systems. Also, we should not use wetlands for disposal of animal or yard wastes.

Nationwide, wetland loss has slowed in recent years, but there is still much to do. Locally, the Conservation Commission and the BCT are actively working to protect our wetlands and we appreciate your ongoing support. For more information, check out any of the publications listed below.

Sources

The U.S. EPA, "American Wetlands," www.epa.gov/owow/wetlands/vital/toc.html

"Handbook for Conservation Commissioners," published by the Massachusetts Association of Conservation Commissioners, www.maccweb.org (Or call 617/489-3930 to order a catalog.)

Got Leaves?

BY GLYNIS HAMEL, STAFF WRITER



In New England we pay a price for the splendor of autumn – lots and lots of fallen leaves. Those of us living on wooded lots find ourselves wondering how we are going to find the time and energy for raking, shredding, and carting the leaves away. Let me make a couple of suggestions that, while perhaps not eliminating the amount of time and energy expended, will at least provide a satisfying answer to the question: "What on earth are we going to do with all those leaves?"

One thing you can do is leave them where they drop. This is not recommended if you are trying to establish a lush, healthy lawn. If, however, you are trying to reduce the size of your lawn (what a great idea!), a covering of leaves over the winter is a good way to start killing off unwanted sections of turf grass. I have taken this approach in my own backyard with good results. Leaving the leaves on the lawn is a real time-saver in the fall, but I do spend time in the spring shredding the now-dried leaves with a small electrically-powered shredder, and spreading them over the area in a layer several inches thick. Shredded leaves are more attractive as a mulching material, and the smaller pieces break down more quickly, providing valuable nutrients to the soil.

OK, so you're not interested in killing your lawn, you're trying to improve it. If you don't have a lot of trees on your property, you can use your lawnmower to shred the few leaves that do fall and leave them on the lawn where they will decompose. If you have an abundance of leaves shred them with the lawnmower and rake them into piles. These piles of shredded leaves can be put to good use in several ways:

• **Use them as mulch in the flower garden.** They are especially attractive in woodland gardens and will save you the expense of commercial mulches. The

New England Wildflower Society uses them exclusively at the Garden in the Woods in Framingham.

• **Create leaf mold.** If you don't know what leaf mold is, walk into the woods and scrape away the fallen leaves from the forest floor. Leaf mold is that black, crumbly layer of topsoil underneath. You can generate this nutrient-rich compost by filling a black plastic bag with leaves, adding a little water if the leaves are dry, and tying off the top of the bag. Poke a few holes in the sides of the bag and store it in an out-of-the-way place for about a year. The result will be a compost as rich as any you can buy at the store.

• **Create, or add to, your compost pile.** Volumes have been written on the "right" way to compost. If you want to get technical, you can buy or build a compost bin, add "green" and "brown" organic waste in precise amounts, introduce compost activator, water the pile periodically, turn it frequently, place the pile in a location where it will receive some sun, and monitor its temperature. But, guess what? Compost happens. If you wait long enough, any pile of organic matter will eventually decompose. My compost pile is not large enough to generate lots of heat, it's situated in complete shade, I never water it, I only turn it when the spirit moves me (about once a year), and I throw garden and kitchen waste and leaves into the pile in whatever proportions are available. To prevent attracting pests, I do not add any animal products, nor do I add weeds that have gone to seed. Despite this lazy approach, my compost pile provides me with a yearly supply of "black gold" that I use to top-dress my flowerbeds and the lawn.

So enjoy the blazing colors of the foliage this fall. And when the leaves drop to the ground, don't curse 'em, shred 'em!



New Member Registration



BCT welcomes new members to join in the effort of preserving and protecting Boxborough's undeveloped land. Anyone may join. Voting members must be 18 years of age or older and residents of Boxborough. All others are nonvoting members. Membership is on an annual basis. There are several giving levels. Please indicate the level of your tax-deductible contribution.

Name(s) _____ Date _____

Address _____

Telephone _____ Email _____

- \$25 - Individual
- \$50 - Family
- \$75 - Friend
- \$100 - Associate
- \$250 - Patron
- \$500 - Sustaining
- \$1000 - Sponsor
- \$2500 - Preservationist
- _____ Other

Please make your check payable to: The Boxborough Conservation Trust, and mail, with this form to: Treasurer, BCT, 110 Barteau Lane, Boxborough, MA 01719

An acknowledgement of your tax-deductible contribution will be mailed to you.

Please contact your employer to see if matching funds are available.

The BCT does not release information about members to third parties.

Boxborough Conservation Commission Has Openings

The Boxborough Conservation Commission has openings for two new members. The major responsibility of the Commission is the enforcement of the state Wetlands Protection Act and the Boxborough Wetlands Protection Bylaw. Other activities include the management of town conservation land, purchase of new parcels, wildlife studies, vernal pool protection and public education.

The Board of Selectman make appointments to the Commission for a three-year term. The Commission meets the first and third Wednesday of each month at 7:30 PM at the Town Hall. All meetings are open to the public and we encourage you to attend a meeting to learn more about this interesting and important volunteer work. Please contact Norm Hanover, Conservation Commission Chair, at 978/263-3250 or any Commission member for more information.



Correction:

*Our sincerest apologies to Jon and Jessie Panek, whose generous contribution made the acquisition of the Patch Hill Conservation Area possible. We regret misspelling their names in the May issue of **Common Ground**.*

- Editor



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