

**Invasive Plants -
the good, the bad, and what you can do.**

Thousands of plant species have been imported to the U.S. from all over the world to be used in agriculture or horticulture. Although most never escape the control of humans, some of these non-native plants have escaped captivity and of these, a few "invasive" species have spread aggressively in the wild, unhindered by their natural enemies from their native habitats.

The result is major economic and ecological damage. Each year the U.S. spends roughly 137 billion dollars to control invasives, with a large chunk of this money going to fight foreign agricultural weeds. Even more devastating are the dramatic effects of invasive plants on our natural ecosystems, such as when Purple Loosestrife (*Lythrum salicaria*) out-competes native wetland plants creating a carpet of purple that some admire for its color and others call "Purple Rage".

Native plants and animals have evolved together for thousands of years, developing inter-dependencies that are crucial to the success of local species. When invasive plants take over, they disrupt this system. Invasives may reduce the specialized nesting and hiding places that native plants provide for native wildlife, invasives can lure pollinators away from native plants hindering their reproduction, and invasives can disrupt bird migration patterns by bearing fruit in the summer where birds depend on native plants that bear fruit in the fall migration season.

Nationwide we lose 4,600 acres of conservation land a day to invasives during the growing season. Physical alteration of the land, climate changes and pollution are all linked to the invasion of non-native plants. Some ecosystems, such as forests and rivers, are susceptible to invasions after natural disturbances.

On conservation land, fighting these species requires both money and manpower, two things often in short supply. Some simple tips to help stop the spread of invasives are:

- ☐ Check your shoes and vehicle for plant seeds or fruit on your clothing or contained in mud when entering or leaving a site. Also check your boat for fragments of invasive aquatic weeds.
- ☐ Select native species for your garden.
- ☐ Consider planting native species whenever possible, to help you and your family gain a better appreciation for our beautiful local flora and benefit native wildlife as well.

For more information visit www.invasivespecies.gov, the Federal government clearinghouse for all kinds of information about invasives. This article was written by Jennifer Forman, an invasive plants specialist and PhD candidate at UMass Boston.



Purple Loosestrife blankets the Fowl Meadow.

**Controlling Invasives in the
Neponset Watershed**

Purple loosestrife has invaded many of the wetlands in the Neponset River Watershed. Conventional means for managing this invasive, European weed, such as water level management, burning, herbicides, direct digging, and cutting have proven impractical. One alternative is the biological control of purple loosestrife by the introduction of European enemies.

Three species of plant feeding beetles are being tested for use in controlling purple loosestrife. These beetles feed on bud, leaf and stem tissue, preventing the plant from reproducing. These beetles cannot eliminate purple loosestrife but experts believe that in combination they are capable of reducing the density of purple loosestrife by 90% giving native wetland vegetation an opportunity to regenerate.

The Massachusetts Wetlands Restoration Program (MWRP) released 10,000 beetles during 2000 in Walpole and 2,000 beetles in June 2001. Other successful beetle test sites in Massachusetts include the Parker River Wildlife Sanctuary in Newburyport, which released beetles in 1996, 97 and 98 and now have no evidence of loosestrife left in the release area. For more information about this project, visit the Association of Massachusetts Wetlands Scientists website, www.amws.org.

Another habitat restoration project in the Neponset River Watershed is the Dorchester Saltmarsh Restoration. When the Neponset was last dredged in the 1950's, the dredge spoil was dumped and spread on top of the marsh, raising the soil elevation and reducing the amount of time that the marsh is inundated by the salty tides. This allowed the growth of common reed or Phragmites, which today dominates the site offering little habitat value to native birds and fish. The project, in the final stages of the planning process, will scrape up the dredge spoil from the marsh and consolidate it into a small hill, bringing the saltwater back into most of the marsh and thereby drying out the invasive but salt-sensitive phragmites. Some 23 acres will be restored in all.

Kayak Winner

Tim McManus of the New England Patriots was the lucky winner of the Kayak Raffle at this year's Annual meeting in June. Tim was honored at this year's meeting for his work in restoring a section of the Neponset River near the new CMGI stadium in Foxboro. NepRWA raffles off a Walden Sports "Experience" Kayak each spring.



"Baker Dam" continued from front

The Neponset is uniquely well situated to take advantage of dam removal as a way to restore its hydrology, water quality, and fish to a more natural situation. Like most rivers in eastern Mass. the Neponset has been heavily dammed over the years with at least 65 dams on the main stem and tributaries. However, because of the unusual flat section in the middle of the Neponset, removing just the two most downstream dams will open up 15 miles of free-flowing, main stem spawning habitat, and dozens more on the tributaries.

The Neponset also differs from other heavily dammed rivers in that its flows are not severely regulated for human uses such as hydropower. Radical water fluctuations often caused by dams can make a river unsuitable for all but a few types of fish. With the Neponset's two downstream dams removed, flows will be regulated by the remaining dams, but the flows will be more steady than on other rivers.

Dam removal would also improve water quality and quantity in the river by restoring the appropriate flow, resulting in improvement in water temperatures, oxygen levels, distribution of natural sediments (following remediation of any contaminants that may linger in the sediments of course), and improved water quality due to aeration, within this area of the Neponset River.

Finally, dam removal would make recreation on the river both safer and more enjoyable, since it will contain contaminated sediments, eliminate two large waterfalls that pose a hazard to canoeists, and do away with the need to get off the river and carry your canoe around the dams. These recreational benefits are especially exciting since the restored Neponset would be the only free flowing recreational river in the City of Boston and conveniently accessible to so many people.

There's also been progress in answering the first question everyone asks about a restored Neponset River: "What will the river look like if the dams are removed?" This fall, the River Restore Program will fund a series of "renderings" to visually interpret the various alternatives for fish passage - fishway, partial dam removal, full dam removal. These renderings will be informed by not only the technical data on the depth of the existing and original river channel and predicted changes in water levels and velocities, but also public concerns and questions.

We will keep you posted as more news about the Baker Dam becomes available.

Sponsorship Opportunities

NepRWA is seeking support for two public outreach endeavors - revision of our *Explorer's Guide to the Neponset Watershed* and the annual *River Art Festival*. These projects are a perfect opportunity for local businesses to get involved in the community while gaining some publicity. Might your company be interested in sponsoring one of the projects?

The Explorer's Guide to the Neponset Watershed is one of NepRWA's most important educational materials. The Guide features information about recreational opportunities, natural resources and watershed function that gives citizens the necessary background information to make sustainable choices about how they live and work in the Watershed. We are in the process of completely revising the Guide and we will be printing and distributing at least 3,000 copies in the near future. Sponsors will be recognized at the front of the Guide, offering continued visibility each time we distribute a copy.

For the past eight years, NepRWA and the Captain Forbes House Museum in Milton have presented *River Art*, a juried exhibition of paintings and photography in the plein air style featuring landscapes of the Neponset Valley. The event includes a sneak preview evening reception with the artists, a children's art contest, and the Opening Festival/Fall Family Day. The Opening Festival attracts some 500 attendees each year, with 20 to 30 artists and 150 students participating. The event is a unique way to convey the natural beauty of the Watershed and to interest local residents in NepRWA's conservation efforts. Sponsors will be prominently noted on all event-related materials, on the NepRWA website, and in local media coverage.

Contact Ian Cooke or Laura Raymond.

Calendar of Events

- Aug. 16 Canoe along the Neponset Estuary**
John Kovich, MDC Neponset River Reservation Ranger, will lead a beginners tour of the Neponset River. The tour will meet at Pope John Paul II Park. Registration is Required. This is one of a series of events organized by the Boston Naturals Areas Network as part of the Neponset River Greenway Festival. To learn more about other events happening along the shores of the Neponset visit their website at bostonnatural.org, or call 617-542-7696.
- Sept. 21 COASTSWEEP 2002**
Join The Massachusetts Office of Coastal Zone Management, CZM, for the 15th annual COASTSWEEP cleanup. Throughout the second half of September, CZM organizes thousands of volunteers to participate in this statewide effort to clean up our shoreline. Last year, over 4,000 volunteers scoured 180 miles of coastline and removed close to 70,000 pounds of trash and marine debris! To form your own cleanup team, visit CZM's website: www.state.ma.us/czm/. To join an existing cleanup team, check out CZM's website in mid-August, when all the cleanup dates and info. will be listed. Call COASTSWEEP Coordinator Carey Gordon at 617-626-1223 for more info.
- Sept. 25 CWMIN Water Quality Sampling Event**
- Sept. 29 RiverArt Fall Family Day**
Noon - 4, Captain Forbes House Museum, Milton. Celebrate the public opening of RiverArt 2002 at this community-wide event featuring children's activities, refreshments and music to compliment the exhibition.