



# take action

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New England Wild Flower Society's mission is to promote the conservation of North American flora through education, research, horticulture, habitat preservation, and advocacy.

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## With your support, the mission carries on

The Society continues to protect native plants and their habitats through the efforts of the deeply committed Conservation Staff and volunteers of New England Wild Flower Society.

This team performs this critical work with the help of many collaborators, including federal and state agencies, sister conservation organizations, professionals, and citizen groups. Funding comes from a variety of sources, including the U.S. Department of Agriculture Forest Service and the Massachusetts Environmental Trust, plus the generosity of individuals and private foundations. **Some projects receive partial or no outside funding at all**—like the drive to rid New England of mile-a-minute vines.

Please help us realize our many conservation goals in New England through your financial support. **We must not only continue our current initiatives but expand our efforts in the face of climate change.**

## Grant for Botanical Education

The Society just received a 4-year \$2.49 million grant from the National Science Foundation (NSF) to develop an education program to increase botanical learning. Based on our soon to be published new flora for the New England region, Go Botany is a multi-faceted program designed to improve informal scientific education in botany among novice learners and citizen scientists in New England and also train educators to integrate innovative web tools into lessons in botany and plant identification.

The grant, given through the Informal Science Education Division at NSF examines the use of web-based resources to increase the public's interest and ability to learn botany. Currently, many informal science educators are not trained in botany and do not feel comfortable teaching plants to their students. For individual learners, botany is often difficult because there are so many species to learn and the vocabulary is difficult. The challenge is to develop an educational system on the web that can help both teachers and students.

Currently, the Society is completing an online key to the over 300 woody plants of New England through a grant from the

Institute of Museum and Library Services (IMLS). The NSF grant allows the Society to expand this simple online key to the over 4,000 plant taxa along with developing two other types of keys so that the full range of users from amateur to professional will be able to use the key which best suits their level of expertise. Our partners for this project include the Montshire Museum in Norwich, VT; the Yale Peabody Museum in New Haven, CT; and the Chewonki Foundation in Wiscasset, ME. These three institutions will test the educational components and keys on a variety of users from beginners to experts and from urban to rural. Part of the online program tailors a customized version of the flora for a defined area, allowing visitors to learn the plants that are found at a particular site.

Of particular interest is the display of keys on mobile devices such as mobile phones. As many people have experienced, learning botany by identifying plants in the field with a mentor is often the best way to learn a science that has many species and a difficult vocabulary. The Society will also test this web-based resource on mobile devices to see if an electronic field guide can act as a mentor. ●

By Bill Brumback, Conservation Director

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Photo: page 3 by Betty Wickis



We are grateful to Massachusetts Environmental Trust for continued funding of our conservation programs.

## Society to develop Alert system on website

The Conservation Policy Committee of the Society has recommended the construction of a Plant Action Alert page for the website. An Alert would be issued when the Society wants its membership to take action in support of an issue. Typically, the Society asks its membership to write in support (or condemnation) of legislation or regulations. (Example - Supporting the U. S. Endangered Species Act by writing to your Representative or Senator in support of reauthorization of the Act). Society members will be able to sign up to automatically receive alerts, as would any visitor to the website Alerts page.

## YOU CAN HELP

### By Supporting Our Efforts

Both the work and YOU are important. Your support helps us protect native plants across New England. To make a contribution, call Karen Pierce at 508-877-7630, ext. 3801.

### By Volunteering

Our many conservation volunteers work tirelessly throughout New England in the field or by doing administrative tasks. Join a remarkable, dedicated community and receive full training—no previous experience required. To volunteer, contact John Burns at 508.877.7630, ext. 3204. ●

## MEET A VOLUNTEER: Nancy Goodman



Queen of the Liparis!  
Lady of Lygodium!  
Crown of Corallorhiza!  
Any of these would be suitable titles of distinction for Nancy Goodman, an extraordinary Plant Conservation

Volunteer (PCV) from the Pioneer Valley in Hadley, Massachusetts.

In 1999, after one class at Garden in the Woods, Nancy found the Society's PCV Program and hit the ground running, monitoring her area's rare plant populations. She quickly found that not only did she like it but she loved it.

Over the years, she became very familiar with the various hot spots and returned annually to survey some other populations nearby. As her fondness grew for certain species, Nancy learned more about their ecology, growth patterns, and characteristic habitats. She now climbs mountains to assist the Commonwealth in management projects and to clarify the locations of some harder to see plants. She'll even travel to the far reaches of the Berkshires or the eastern part of the state to learn new species.

There are many PCVs throughout New England who contribute time, miles, and knowledge to the Society's conservation mission as Nancy Goodman does. However, Nancy is exemplary in her attention to detail, quality of her field forms, and the spirit she brings to the field of conservation.

## Climate Change

Climate change is coming to New England, and the Society has been examining its role in the conservation of flora in relation to the various lists of changes. Although no one can predict for certain what changes will occur, the Northeast Climate Impacts Assessment (NECIA) predicts that at a minimum the Northeast will be 2–4° C warmer with more extreme precipitation events (more rain than snow). Summers will be hotter and drier with more days over 90 and 100° F, and the chances for drought are increased. The character of our seasons will change, with spring arriving earlier and summer extending later into fall.

As a result of this climate shift, changes in New England vegetation patterns have been projected, most dramatically in forest types, which could shift northward as much as 100–300 miles by the end of the century. Changes include the likely extirpation of the spruce–fir forest types from New England; the reduction, but possible retention of aspen–birch; a large reduction in maple–beech–birch; and an increase in oak–hickory and oak–pine types. Maple–beech–birch is very likely to be completely displaced by more southern forest types by the end of the 21st century.

Plant species are expected to shift with their climate zones. The new plant communities that result from these shifts are likely to be different from current plant communities because individual species will very likely migrate at different rates and have different degrees of success in establishing themselves in new places. Moreover, an increase in diseases, parasites, and invasive species can be expected. Temperature changes can weaken the immune systems of many species, while encouraging the growth of many pests and parasites to flourish.

In response to these changes, the Society developed a Climate Change Policy (<http://www.newfs.org/protect/rare-plants-and-conservation/policies-issues/climate-change-policy.html>) that was adopted by the Board of Trustees in 2007.

Recently a group of ten non-government organizations (including the Society) and state agencies sponsored a groundbreaking conference entitled *Responding to Climate Change: Working Together to Conserve Wildlife*,

*Plants and Habitat*. Held at Bentley College in Waltham, Massachusetts, the conference was the first of its kind in the nation. It brought together nearly 200 conservation leaders from across 60 organizations.

Out of this Conference came the Climate Change and Wildlife Alliance—Massachusetts. The mission of the Alliance is to

- promote and facilitate the dissemination of climate-related impacts and adaptation information,
- advocate for the development and implementation of science-based adaptation strategies,
- conserve Massachusetts' ecosystems and the array of services they provide in the face of climate change,
- engage in partnerships, communications and policy venues that enhance attention, planning, policy, and funding for wildlife resiliency.

There are essentially two responses to climate change; mitigation and adaptation. Many organizations are working on mitigation strategies, which are intended to reduce climate change by limiting the build-up of greenhouse gases in the atmosphere. On the other hand, adaptation is any action or policy intended to reduce the vulnerability of natural systems to actual or expected climate change effects and can include the following:

- Reducing the effects of non-climate stressors such as contaminants or invasive species
- Promoting or protecting biodiversity Establishing plant and wildlife corridors that bridge habitat patches
- Preserving large blocks of habitats and buffer zones
- Reducing climate change impacts via proactive habitat management

The net effect of these actions will be to increase the resilience of natural systems — that is, to enhance their ability to recover from a climate change impact and return to their natural state.

New England Wild Flower Society looks forward to working with the Alliance and developing strategies for dealing with climate control. Our expertise in seedbanking, invasive species control, and restoration will prove valuable to the scientific community as we face coming changes. ●

By Bill Brumback, Conservation Director

## August 2009 Conservation Updates

Society staff has been surveying and managing invasive species for two regional land trusts in central and western Massachusetts. For the Metacomet Land Trust, we have been documenting all the invasive species populations on properties in the towns of Blackstone and Sutton. Assisted by Land Trust and Society volunteers, we have mapped populations of multiflora rose, Japanese barberry, common buckthorn, oriental bittersweet, and other invasive plants on the site's woodlands and wetlands. At the end of the field season, we will develop a management plan with Metacomet to minimize the impacts of these invasive plants.

In western Massachusetts, we have been fighting invasives for the second consecutive year on land owned and managed by the Minnechaug Land Trust in Hampden and Wilbraham. Conservation Fellows Glenna Belton and Jordan Takvorian have spent a month of weekend days with Kathy and Bill Barz, Kate Leary, and other Land Trust volunteers muscling out invasive shrubs from the Rice and Minnechaug Mountain Preserves. The Metacomet and Minnechaug projects were supported by The Massachusetts Land Trust Coalition.

For seven years, the Conservation Staff has been removing Asian water chestnut (*Trapa natans*) from Upper and Lower Mill Ponds in Rowley, Massachusetts. On August 6, five volunteers joined 3 staff in canoes to pull this invasive and let it rot in the woods, away from the water's edge. In the morning, the crew was pleased to clear the entire lower pond in less than two hours. Since there were few problems around the periphery of the upper pond,, Monday's team focused on those in the center and we were able to clear the pond of the invasives quickly. The project was funded through a grant from The Entrust Fund of Gloucester, MA. ●

By Ted Elliman, Vegetation Manager, Coordinator/IPANE



Trail maintenance workday at the Coffin Sanctuary in Maine: (left to right) Kermit Smyth, Coffin Steward; Jim Wickis, committee member and Rob Held, Sanctuary Committee Chair.

## 2009 from a Fellow's Point of View

This year, staff members of New England Wild Flower Society's Conservation Department conducted botanical surveys at the Society's Plainfield Sanctuary, at seven Massachusetts state forests, and at several Trustees of Reservations properties. These surveys document every plant species found on site, including common, rare, and invasive species.

Before starting a survey, we carefully reviewed topographic maps and charted a course that would permit us to visit all the varying habitats on site from seeps to rocky outcrops. With GPS, hand lens, and various plant keys in hand, we traversed the landscape documenting the species and community types we encountered. Typically, we would revisit a site several times during the season to locate both early and late blooming plants. This year over 660 species were found including several listed as endangered.

Over the course of these inventories, I dramatically increased my knowledge of plants native to New England, learned a myriad of botanical terms that improved my ability to use plant keys, and had a great time wading waist deep through bogs and climbing mountains in search of unique flora. ●

By Jordan Takvorian, Atkinson Conservation Fellow

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## Society enters into Sudbury-Assabet-Concord (SuAsCo) Watershed Invasive Agreement

On May 1, 2009, conservation colleagues from a variety of non-profit, municipal, state, and federal organizations and agencies gathered to launch the SuAsCo Cooperative Invasive Species Management Area (CISMA), an exciting new effort to manage invasive species in the Sudbury-Assabet-Concord rivers watershed. This is the first such formal collaboration in Massachusetts. The agreement, signed by New England Wild Flower Society Executive Director Debbi Edelstein, reflects two years of planning by over 20 organizations and allows a collective, regional approach to invasive species management across ownership boundaries.

Over 30 towns lie partly or entirely within the SuAsCo watershed which covers approximately 377 square miles and includes a variety of upland and wetland habitats, historic sites, and recreational areas. A portion of the watershed has been designated as "wild and scenic" under the Wild and Scenic Rivers Act. Approximately 23 % of the land in the watershed is considered to be permanently protected open space.

Invasive species do not pay attention to town or public/private boundaries. Without a coordinated effort across the watershed, they will continue to invade. The CISMA has developed a strategic plan for invasives in the watershed along with an Annual Priority Action List. Goals include

- preventing the introduction of new invasive species within the watershed,
- coordinating appropriate invasive species management, sharing resources among partners,

- providing education to the local community, and
- sustaining the CISMA organization to continue its invasive management efforts.

Regarding this last goal, the CISMA also opens the door to a variety of funding opportunities for invasive species control.

One of the most cost effective means of controlling invasive plants is to locate incursions of invasives that are relatively new to an area, and quickly remove them before they have a chance to spread. New England Wild Flower Society expects that its expertise in invasive plant identification and control will be a large part of the CISMA's efforts to train and coordinate volunteers throughout the watershed, particularly in this area of early detection/rapid response. ●

By Bill Brumback, Conservation Director

## RARE & INVASIVE PLANT SURVEYS

The number in each of the square boxes on this map represents the number of rare plant populations in each county which New England Plant Conservation Program (NEPCoP) volunteers and Plant Conservation Volunteer (PCV) Corps volunteers and staff pledged to survey during the 2009 field season. The population data for each of these populations is held by the state natural heritage programs, and Society volunteers visit the populations and gather data to update these records. Some of the populations have been observed fairly recently, in the last five to ten years, others are quite old records which may have been last observed eighty to one hundred years ago.

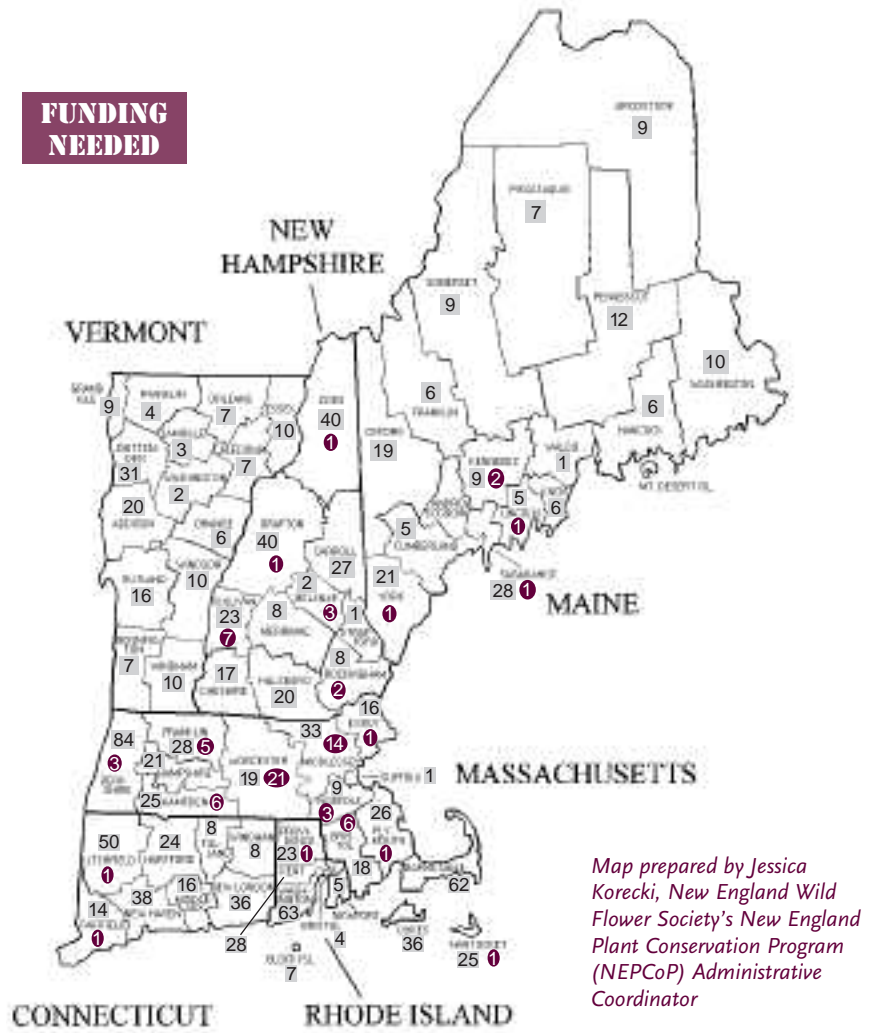
There are 438 active trained PCVs and NEPCoP volunteers throughout New England.

In addition to rare plant surveys, volunteers can take part in the many botanical inventory and invasive plant management days which take place every year. On the map, these days are represented by the numbers in the ovals in the counties in which the activities take place.

These activities include glossy buckthorn (*Frangula alnus*) removal on the Society's Arbutus Sanctuary in Winchendon, MA, adding to the botanical inventory list for the Society's Plainfield Sanctuary in Plainfield, NH, and removing Himalayan jewel-weed (*Impatiens glandulifera*) at a site in Farmington, ME, among many others. Many of the management projects involve removing invasive plants in order to save rare plants and habitats.

Visit [www.newenglandwild.org](http://www.newenglandwild.org) for a larger, full-color version of the Rare & Invasive Plant Survey map

### FUNDING NEEDED



Map prepared by Jessica Korecki, New England Wild Flower Society's New England Plant Conservation Program (NEPCoP) Administrative Coordinator

## REGIONAL REPORTS

### FUNDING NEEDED Mile-a-Minute in Massachusetts

A recent invader in Massachusetts, mile-a-minute vine (*Polygonum perfoliatum*) is on the conservation community's radar screen as a primary target for eradication. This herbaceous vine with barbed stems and petioles scrambles over and chokes other vegetation, including shrubs and small trees. Mile-a-minute was first documented in Boston's Blue Hills Reservation in 2006, where New England Wild Flower Society's Conservation staff worked with MA Department of Conservation and Recreation (DCR) to eradicate it. At that time, it was thought to be limited to several patches along a grassy trail near the Neponset River, but this year, Alexandra Echandi, a DCR Forester in the Blue Hills, reported that it occurs over more than 50 acres. In 2006, mile-a-minute was also

found in Falmouth, and in the past several weeks, populations have been documented in Greenfield and Erving. To combat these infestations, Echandi has received a permit to release a weevil that has been effective in controlling mile-a-minute in mid-Atlantic states. Also, State Botanist Bryan Connolly has organized work crews to pull out the Greenfield and Erving populations. The Society will continue to survey for and control mile-a-minute—with a broad collaborative effort across the state, we should have a fighting chance! ●

### Maine Sanctuaries

In the past two years, New England Wild Flower Society's Conservation staff and the Society's Sanctuary Committee have been hard at work at the Society's

### FUNDING NEEDED

Maine sanctuaries. At the Wayne Sanctuary, with hands, tools, and a lot of sweat, we have been removing the invasive Morrow's honeysuckle (*Lonicera morrowi*) and oriental bitter-sweet (*Celastrus orbiculatus*) which have spread along the sanctuary perimeter. At Coffin Sanctuary, with our neighbor's kind permission, we have extended our trail system along the Kennebec estuary into adjoining land north of the sanctuary. Maintenance on the Butler Sanctuary deer fence continues this October—it has held up with minor fixes for the last three years. We will install a new gate and repair several sections damaged by falling trees. At Sturgis Sanctuary, we have re-routed trails around aging bridges; continuing bridge and trail work is on the Sturgis agenda for 2010. ●

By Ted Elliman, Vegetation Manager  
Coordinator/IPANE

## Important Notice: No 2010 Seed Sales

Our native plant seed sale program is taking a year off in 2010 while we move the entire seed operation from its former location at Garden in the Woods in Framingham to our new Native Plant Center at Nasami Farm in Whately, MA. Over the course of the year our stock beds will be moving to Nasami, and state of the art seed processing equipment will be installed at the Native Plant Center allowing us to offer a wide selection of difficult-to-find native seeds.

We apologize for any inconvenience this hiatus might cause, and we ask for your patience as we improve our seed program for future years.