



New England Wild Flower Society

Conservation Programs

Native Plant Conservation Programs and Initiatives at the New England Wild Flower Society

The New England Wild Flower Society (NEWFS), founded in 1900, is the nation's oldest membership organization devoted exclusively to native plant conservation. The Society's mission, *to promote the conservation of temperate North American flora, through education, research, horticulture, habitat preservation and advocacy*, is evident in all of NEWFS' programs.

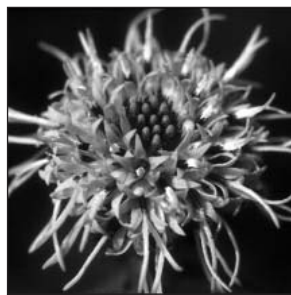
The Challenge

Habitat loss and degradation are the greatest threats to plants worldwide. Plants are adapted to the specific conditions of their native ecosystems and cannot adjust easily to disturbance or move when a habitat is disrupted. As New England's landscape changes, native plants require careful management and monitoring to help maintain their populations.

Consider

● Plant conservation receives less than a tenth of the resources and funding given to the protection of endangered animals. Plants do not seem to attract attention the way animals do, though they are the foundation of all life on earth.

● New England's varied habitats are home to 2,000 species of native plants, 400 of which are known to be under threat. This is a regional expression of a global crisis—more biodiversity has been lost in the last 65 years than at any time in the last 65 million years. An estimated 12% of the world's known plant species, and 29% of those native to the United States, are at risk.



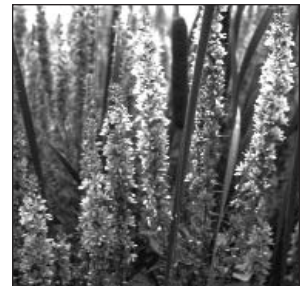
Liatris borealis, northern blazing star is rare globally. The species' stronghold is in New England.

● Land preservation, considered the first step in protecting native plants, is not always enough. Lands preserved after significant disturbance (logging, agriculture) and those affected by adjacent development may require active management to maintain suitable growing conditions.

● New England is home to a relatively large amount of protected land, but management of that land is often inadequate. Many land trusts cannot afford to manage their properties, and most lack personnel trained in plant science or

conservation. In general, habitat management of most lands—public, private, or individually owned—is haphazard, if it occurs at all.

● As one of the earliest settled areas in the country, New England is also the first documented occurrence for many plants brought unintentionally or introduced through misguided horticulture. As a result, invasive species are threatening many of our natural areas.



The invasive purple loosestrife, *Lythrum salicaria*, has come to dominate many of our wetlands.

● Plant conservation is resource and labor intensive. Thinning the forest cover, prescribed burning, and invasive plant control are all methods to help preserve native plants. Before undertaking these tasks, however, inventories and maps must establish the location and condition of plant populations. All of these activities require trained personnel.

In short, successful conservation of New England's native plants requires a coordinated effort to protect habitats, provide trained manpower, support in-depth research, and educate the public. The extensive conservation programs of the New England Wild Flower Society address these needs.

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New England Plant Conservation Program



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The New England Plant Conservation Program (NEPCoP) is a collaboration of professional botanists, state agencies, and conservation organizations in each New England State. NEPCoP's goal is to prevent the extirpation and promote the recovery of the region's endangered native flora.

In 1991, NEWFS invited professionals from organizations and institutions involved in the protection of New England's endangered plants to form NEPCoP. It

became the nation's first regional integrated conservation program. Today, 131 professionals represent 68 different public agencies, nonprofit organizations, universities, land trusts, state parks, and environmental consulting companies. All State Heritage Programs, the U.S. Fish and Wildlife Service, The Nature Conservancy, National Park Service, University of Connecticut, Massachusetts Audubon, and the New England Botanical Club are represented.

NEWFS provides funding and staff for NEPCoP and administers the program with guidance from a Regional Advisory Council (RAC) and Task Forces in the six New England states. Task Forces, made up of experts in each state's flora, are the heart of the program. They select priority species for survey and seed collection, and evaluate results yearly. RAC

sets regional policy and develops the *Flora Conservanda*, a list of regionally endangered plants.

The program integrates *in situ*, field actions (survey, habitat management, reintroduction) with *ex situ*, off-site efforts (seed banking, research, propagation). By coordinating regional, state-based plant conservation, NEPCoP helps avoid duplication of effort, and provides sharing of data, thus making the best use of limited conservation resources.

The collaboration publishes policies on prioritizing species for conservation, taxonomy of rare plants, habitat management and restoration, reintroduction (including augmentation and introduction), collection of plants, and seed banking. The 1996 publication of *Flora Conservanda: New England*, the regional list of plants in need of conservation, was a major milestone, and now guides conservation actions.

Each year, the NEPCoP professionals donate between 4,000 and 5,000 hours completing 250-300 field actions. This innovative and successful program is an example for other regions nationwide, including the Southeast and the Pacific Northwest, where new programs have adopted the NEPCoP model.



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The New England Wild Flower Society is a founding member and active participant in the Center for Plant Conservation (CPC). The CPC is a national coalition of institutions concerned with the protection of native North American plants. Comprising botanic gardens, arboreta, universities, land management agencies, and conservation organizations from across the United States, the CPC works to save plants from extinction. Through its National Collection of Endangered Plants, the CPC maintains a safeguard against extinction in the wild. Participating organizations house live materials, carefully collected from nature as seed, rooted cuttings, tissue culture, or mature plants. NEWFS currently maintains 21 species in its seed bank of frozen and dried specimens.

New England Wild Flower Society Seed Bank



NEWFS maintains a seed bank of plant species representing New England's rare and endangered flora. The primary *ex situ* strategy for plant conservation, seed banks can provide material for research or reintroduction without harming fragile wild populations. This strategy is a complement to, not a substitute for, protecting plants in the wild.

Priority for accession into NEWFS seedbank is given to species that exist at only a few sites, are declining rapidly, or are not currently protected. NEWFS staff and volunteers collect seed from as many individuals as possible without damaging the reproductive potential of the population. They clean and dry the seed and store it in a freezer at -18°C . The viability of the stored seed is tested at regular intervals.

The seed bank is under the direction of NEWFS' Conservation Director with an advisory board made up of NEPCoP members.

Plant Conservation Volunteer Corps



Christopher Mattrick, Senior Conservation Program Manager, oversees the PCV Corps, plans and coordinates habitat management projects, and leads efforts to control invasive plant species.

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The Plant Conservation Volunteer Corp (PCV) is a program that recruits and trains amateur field botanists to perform much-needed conservation work throughout New England. The Corps has grown from a small pilot program in Massachusetts to a regional corps engaging hundreds of volunteers all across New England.

Background

Recognizing the shortage of trained personnel and the labor-intensive nature of plant conservation, members of the New England Plant Conservation Program (NEPCoP) recommend

that NEWFS initiate an effort to train volunteers to perform much-needed plant conservation fieldwork. After a small pilot program in Massachusetts, NEWFS launched the PCVs in 1998. Since then, volunteers have donated more than 30,000 hours of fieldwork and provided invaluable data to State Heritage Programs and NEPCoP professionals. The Corps is established in all six New England states, collecting data, performing management work, working with state Heritage Programs, and building a region-wide constituency for native plants.

Each volunteer receives classroom and field training as well as a comprehensive handbook. All volunteers can take part in special classes, field trips, and symposia. These educational programs, networking opportunities, and a yearly evaluation process ensure the reliability of volunteer work, as well as the enjoyment of the experience.



Management Projects

In addition to the work of the PCVs and NEPCoP, NEWFS staff and volunteers perform a variety of habitat management projects throughout the region.

These efforts include removing invasive plants, pruning trees and shrubs to allow more light, habitat restoration, and reintroducing historic species to a site. Generally, they focus on rare species, unique or highly diverse natural communities, or areas with new invasive species infestation. This work is often done in cooperation with other conservation organizations or public agencies, and funded through state contracts or private foundations.

PCV Activities

Plant Conservation Volunteers are involved in a variety of plant conservation activities vital to the preservation of New England's native flora:

- Rare Plant Monitoring—Volunteers regularly monitor the health of the rarest plants in New England, identifying threats to these populations and building a constituency for natural habitats and plant communities.
- Habitat Management—Volunteers manage lands for rare species and their habitats. Loss of open space through development and natural succession has become a problem as urban areas expand and rural areas return to forests. In the long run, we must focus on protecting entire habitats, rather than single species, but while striving to do this, we must also maintain individual plant populations.
- Survey and Control of Invasive Species—Under NEWFS' guidance, volunteers assist in removal of invasive species from selected natural areas, particularly habitats where exotic species are just beginning to impact native flora.
- General Botanical Surveys—Much of New England, especially privately held lands, has never been surveyed comprehensively. We train PCVs to produce botanical surveys of both native and non-native plants and make management recommendations.



Brandon Mann, Program Coordinator, assists with coordination of PCV Corps and management projects.

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State Natural Heritage Programs

NEWFS has formed partnerships with all six Natural Heritage Programs in New England. These Programs work in each state to preserve native biological diversity through inventory, research, environmental review, habitat protection, and data management. Heritage Programs maintain valuable databases used to track, assess, and provide information on biological diversity.

The collaboration between NEWFS and the Natural Heritage Programs is mutually beneficial. The Heritage Programs share their data with NEWFS. NEPCoP and the PCV Corps update records by visiting known populations of rare plants, performing botanical inventories of natural areas, and sometimes discovering previously undocumented populations in the process!

Invasive Plant Atlas of New England (IPANE)



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In 2002, the United States Department of Agriculture awarded a grant to the New England Wild Flower Society, the University of Connecticut, and the Silvio O. Conte National Fish and Wildlife Refuge, to track the distribution and spread of over 100 invasive plant species throughout New England. NEWFS' role is to identify, recruit, train, and coordinate 450 volunteers over four years. Volunteers will collect information that will become part of the

Invasive Plant Atlas of New England (IPANE) at the University of Connecticut. The data in IPANE will appear on the Internet for use in early detection of problem species, research, and to aid in decision making on how to control invasive species, slow their spread, and reduce their impact on our native flora.

Herbarium Recovery Project



Arthur Haines, Research Botanist, manages the NEWFS Herbarium Recovery Project.

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Research Botanist, noted taxonomist, and author of the *Flora of Maine*, Arthur Haines joined the staff in 2001 to undertake a historic survey of all the major and minor New England herbaria. This project focuses on determining the historic distribution and location of New England's rare and endangered plant populations.

The results of the investigation are impressive and significant. He has discovered many mislabeled specimens and has thus dramatically adjusted the estimated volume of certain plant populations based on the new data. In addition, review of specimens has revealed records for historic but forgotten plant populations. In several cases, label information has allowed botanists to relocate these populations.

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Conservation and Research Plans



Elizabeth Farnsworth, PhD, Conservation and Research Plan Editor, coordinates plans and manages the National Science Foundation grants.

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NEWFS is currently involved in a five-year initiative to publish a comprehensive series of Conservation and Research Plans for more than 100 of New England's rarest plants. Involving over 140 authors and reviewers, these plans represent the first time that a non-governmental organization has undertaken such extensive documentation of a region's flora. The New England Plant Conservation Program chooses priority species and reviews each plan.

The plans help direct conservation of the region's most endangered plant species. Each plan includes a description of the distribution and range of the subject plant; the species' biology; current and historical status of each New England occurrence; goals for the plant's protection; and recommended conservation actions. The plans provide information that public and private landowners can use to help successfully manage rare species on their properties.

The utility and importance of these plans is already apparent. Both state and federal agencies use the findings and recommendations as the basis for management and funding allocation, and NEWFS' large group of volunteers and interns are performing management tasks recommended by the plans at a variety of sites throughout New England.

For some of these species, NEWFS goes a step further. Through a National Science Foundation grant, NEWFS funds students to conduct scientific field research on the biology of these rare plants, producing critical information needed to understand their habitat and management needs.

Conservation Fellowships

Each year, NEWFS selects two individuals to join our staff as conservation fellows or interns. The highly competitive selection process has brought dedicated and knowledgeable individuals who contribute significantly to the success of the conservation programs.

Recently, the **Lovejoy Conservation Fellowship** and the **Herbert J. and Esther M. Atkinson Conservation Fellowship** were established and permanently endowed both to assist our native plant protection efforts and to train future conservation professionals.

For more information on establishing an endowed internship or fellowship, contact ddeking@newfs.org. For a fellowship application contact cmattrick@newfs.org.