

# New England Wild Flower

Conservation Notes of the New England Wild Flower Society



100 YEARS

# New England Wild Flower

Conservation Notes of the  
New England Wild Flower Society

Volume 5, No. 3, 2001

*New England Wild Flower* is published three times a year by the New England Wild Flower Society, an independent, nonprofit, member-supported organization whose purpose is to promote the conservation of temperate North American plants through education, research, horticulture, habitat preservation, and conservation advocacy. **Subscriptions** to *New England Wild Flower* are included in membership dues which start at \$42/year for individuals.

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**Printing:** Bay State Press

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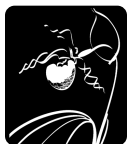
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We dedicate this magazine to

*Juliet Richardson  
Kellogg French*  
1909-2001

Educator, friend, and  
former president of the  
New England  
Wild Flower Society  
who passed away as this issue  
was going to press.



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# *Memory is a strange bell Jubilee and knell*

Emily Dickinson

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**O**rganizational memory is wealth, especially when that memory spans an entire century. The past is too often reduced to a mere chronicle of events, leaders, successes, and a few near-disasters. Much of the New England Wild Flower Society was formed by strong personalities and the shifting American environmental movement, seasoned with Yankee tenacity and sheer luck. Through it all the Society has struck clear and consistent notes in both agenda and philosophy. In this issue we explore the historical bedrock on which the modern Society stands. The story unfolds across five eras representing the Society's 100 years.

The Society for the Protection of Native Plants, which evolved into today's New England Wild Flower Society, was conceived and informally organized in 1900. In 1901, the group published its first pamphlets. Jane Gray, widow of the famous 19th Century botanist Asa Gray, was the Honorary Chairman. The Trustees were a "Who's Who" of the region's best-known botanists, including Merritt Fernald, George Lincoln Goodale, George E. Davenport, B.L. Robinson, and Robert T. Jackson.

The Society's beginnings were sparked by the ardent but destructive over-collection of the region's most beautiful native plants. The irony of the situation was well illustrated by a cartoon from the early 1920s, reproduced on page two, in which wildflower lovers decimate the countryside with trowel and saw. We use this image to introduce the Society's beginnings, when its mission to protect our native treasures foreshadowed the comprehensive and broad-reaching conservation programs to come. The image became even more appropriate when we noticed that the trowel appears again on page 22. This photograph introduces the fifth and last era of the Society's history, a period marked by a renewed emphasis on conservation. This time the trowel is wielded by U.S. Fish & Wildlife Botanist Suzi von Oettingen on New Hampshire's Mount Washington as she reintroduces Robbins' cinquefoil (*Potentilla robbinsiana*) to its native habitat. The seedlings were grown by the New England Wild Flower Society.

We will explore the Society's legacy from its birth in the early conservation movements of the 19th Century, to consolidation and retrenchment in the middle years of the 20th Century, and on into today's period of expansion and inter-organizational collaboration. Along the way, many stories will illustrate the conservation, education, land acquisition, and horticultural missions of the past and present. Current leaders of the Society and friends from throughout the conservation community will also offer their educated visions of the future.

We are grateful for the stewardship of our predecessors and we have here an opportunity to acknowledge their many accomplishments. Though the future is uncertain, we can be sure that the new century will bring formidable new challenges. Through it all—root and branch, flower and fruit, in many seasons and changes of weather—the New England Wild Flower Society will remain adaptable, strong, and productive, helping to protect the native plants of New England for the generations to come.

*David L. DeKing*  
*Executive Director*





WE DO HOPE THE WILD FLOWERS  
APPRECIATE HOW ARDENTLY WE LOVE THEM



**A**my Folsom, one of the Society's founders, wrote: *"It was 1900 that my aunt, Miss Jackson, and I, being distressed at the way people thoughtlessly picked wildflowers, said 'there ought to be a society for plants like the Audubon Society. . . . That winter a small group came together in Boston. . . . Membership meant pushing the cause any way one could.'"*

# Pushing the Cause

## *Advocacy: 1900-1922*

The first mission of the new Society for the Protection of Native Plants was to stop the wholesale picking of native flowers for the florist trade and for seasonal decoration. At that time, most of the cut flowers sold were wild-collected. Florists paid new immigrants to harvest millions of flowers, ferns and flowering shrubs. Each spring, going back to colonial days, teachers, church auxiliaries, village improvement societies and everyday citizens waited eagerly for the first trailing arbutus (mayflower) to bloom and gathered bushels of the tiny fragrant blossoms. Changing these entrenched customs was a major challenge for the Society. The weapons were publications, lectures, word-of-mouth, and legislation to protect native plants in each New England state. By the 1940s, the florist industry had completely changed, and cultivated flowers had become the new traditions of the American cut flower aesthetic.

## The American Philanthropic Movement

by **George McCully**

Historian and Trustee, New England Wild Flower Society

Virtually every reform movement in American history since the Revolution—anti-slavery, women's rights, religious and educational reforms, the environmental and anti-nuclear movements—has been philanthropy in action. The New England Wild Flower Society, in its founding, its long history, and its achievements, is a fine example of the continuing tradition of American philanthropy.

The word "philanthropy" comes to us from the Greek, meaning literally, "the love of mankind." The history of philanthropy reveals its richer meaning and its relevance to the Society.

In ancient Greek thought, philanthropy was associated with freedom and democracy, and opposed to tyranny. The first English Dictionary (1622) cited

"philanthropy" as a synonym for "humanity" ("humane-ness"). When English settlers came to America, they understood philanthropy to be synonymous with humanity, and associated it, as the Greeks had done, with freedom and democracy. Here in the "New World," the long history of humanity and philanthropy together took a new turn. In everything from barn-raising and road-building to the founding of new churches, schools, hospitals, orphanages, and cultural organizations, Americans solved community problems through "voluntary associations" of every imaginable kind.

In the 1830s, when Alexis de Tocqueville set out to discover what made American democracy work so well, he pointed to voluntary associations as a key and uniquely American factor. Its basic impulse was the voluntary assumption of public responsibilities by private individuals and groups. It is continuous with the entire philanthropic tradition reaching back to the ancient Greeks.

In the late 18th century, after nearly two centuries of experience, the colonists applied the new American philanthropy

to politics. The American Revolution was conceived, planned, organized, funded, and implemented, as a philanthropic project—a "private initiative," funded by private donations focusing on quality of life, for the good of all mankind. Contemporary philanthropy—volunteers institutionalizing a stated mission—acquired revolutionary significance: we were the first nation on Earth in which statements of purpose (the Declaration of Independence and the Preamble to the Constitution) preceded the governmental institutions.

The women who in 1900 founded the Society for the Protection of Native Plants exemplify how intelligent, competent, and sensitive American women, denied full participation in government and industry, often applied their talents and values philanthropically, as if regarding their communities and societies as their extended families. In particular, our founders' explicit and frequent association of their cause—plant conservation—with moral values, was classic philanthropy. †

# FUTURE

## Challenges for Conservation Advocacy

by James R. Gomes

President, Environmental League of Massachusetts

I've never been very good at predictions. I predicted Jimmy Carter would defeat Ronald Reagan. I thought the Red Sox would beat the Mets. I was sure Titanic would flop at the box office since everyone already knew the ending.

But here are three predictions you can bank on. First, an array of new, high stakes conservation issues will confront us in the years ahead. Second, powerful new technologies of communication and persuasion will be available to us as we seek to resolve these issues. Third, even with the new issues and tools, the fundamental rules of advocacy will remain pretty much the same as they have always been.

**New issues:** I first heard about the "greenhouse effect" in 1975 when a friend told me about a new theory that mankind's emissions of carbon dioxide and other gases were, little by little, turning up the thermostat on Spaceship Earth. It was a disturbing idea even then, before another two billion people with their cars, factories, and power plants had arrived on the scene.

The Intergovernmental Panel on Climate Change (IPCC), an international body made up of hundreds of the world's most eminent climatologists, issued a new forecast earlier this year that the Earth's average temperature would rise between 3 and 11 degrees Fahrenheit before the end of this century. What makes this prediction particularly disturbing is that just five years earlier the IPCC had estimated the likely increase at between 2 and 6 degrees Fahrenheit. If anything like the more recent forecast comes to pass, the next few generations will inhabit an Earth unlike any ever known to humankind. The natural systems that support life, the balances that have developed over thousands of years between ice caps and oceans, diseases and immune systems, soils and plants, will change in ways no one can predict.

While climate change may be the biggest challenge for future conservation advocates, there will be other new issues as well. We are already seeing some of them: invasive alien species supplanting the natives, the unknown and synergistic effects of man-made chemicals on people and nature, and the emergence of biotechnology with all its promise and risks. Around the world, tensions are rising and wars will be fought over water rights. Even here in Massachusetts, decisions about development turn on issues of water supply.

It doesn't take Nostradamus to know that some very big changes are underway. And they're mostly changes that humans are bringing about through our own actions. That means we can still do something about these changes, and that there will be ample work for conservation advocates in the years ahead.

**New tools:** Advocacy always involves finding information that can advance one's point of view, conveying information to whomever one is attempting to influence, and sharing information with allies or potential allies. The last two decades have taken us from typewriters to ubiquitous computers more powerful than those that planned the Apollo moon landings. The new technologies are making research, communication, and organization more effective and efficient than our forebears could have imagined.

It wasn't that long ago that if you wanted to tell 100 people about a meeting you would make 100 phone calls or make 100 photocopies and address and stamp 100 envelopes. Today a person can inform as many people as she has e-mail addresses for in less time than it takes to make one phone call. We can make our opinions known to neighbors, government, and the media with a few mouse clicks. We can transmit pictures, documents, data, and sound; have meetings with people in remote locations without anyone traveling; and access more information than is contained in the largest library.

We are still learning the full potential of these new technologies. Those of us who advocate for the environment have no choice but to master and use these technologies, since those who advocate against us are already using them.



**1900** Amy Folsom and a group of Boston women found the Society for the Protection of Native Plants.

**1901** Society formally christened as the Society for the Protection of Native Plants. Jane Loring Gray, 19th century botanist Asa Gray's widow, is first honorary president; first president is botanist Robert R. Jackson, 1901–1921.

**1901-1922** Society publishes 26 different leaflets and pamphlets advocating the halting or moderation of wild-collecting native plants.

**The same old rules:** Even with all the changes, future conservation advocacy will resemble the past in important and fundamental ways. While the world as it existed in the Society's early years would seem strange to us today, the ways in which we make our laws and petition government—the framework within which advocacy takes place—have changed far less in the past century than our technology, economy, or culture. I expect that over the next hundred years the rules of advocacy and lawmaking will change less than these other aspects of society.

I am old enough—just old enough—to have taken part in the first Earth Day in 1970. And I have had the good fortune to spend much of my career working on environmental issues as an advocate. In the past thirty years, there have been two developments in our field that I believe dwarf all others.

The first is the crystallization of public opinion in America about the importance of clean water, clean air, greenspace, and safety from hazardous chemicals. In the early 1970s some people speculated that “ecology” would be just another fad, like bell-bottoms.

They were wrong. Public opinion surveys tell us that more than 80% of the American people now strongly favor taking whatever steps are necessary for a clean environment. It is the opponents of environmental protection who have come to occupy a fringe position in our society.

The second important development is the considerable body of laws and regulations, at the federal, state, and local levels, which have been put into place to protect natural resources and public health. These laws, imperfect as they are, are the primary reason why America's water, air, and land are so much cleaner than China's, Russia's, Eastern Europe's, or any other country that has tried to run a modern industrial economy without environmental controls.

These two great achievements were, of course, interrelated, because the first rule of public policy advocacy remains this: when enough people get sufficiently excited, frightened, or angry to let their leaders know about it, things will change. In the twentieth century, the conservation movement's public policy successes came about in just this way: enough people telling their leaders and representatives what they wanted. The environmental movement has advised us to “think globally, act

locally,” but successful advocacy requires us to also act politically.

The dreaded “P” word! I'm afraid so, for it is in the world of politics that our conservation concerns will be determined. Someone is going to make the rules about carbon dioxide emissions and non-point source pollution and wildlife habitat and sprawl and all the other issues facing us. And someone is going to influence those rule makers.

During America's revolutionary period, John Adams wrote to his wife Abigail explaining how he was spending his time: “I must study politics and war, that my sons may have liberty to study mathematics and philosophy . . . commerce and agriculture, in order to give their children a right to study painting, poetry [and] music. . . .” I submit that we must practice advocacy and politics so that our children can enjoy drinkable water and breathable air, and their children can enjoy a world where the climate is stable and the full diversity of life can flourish.

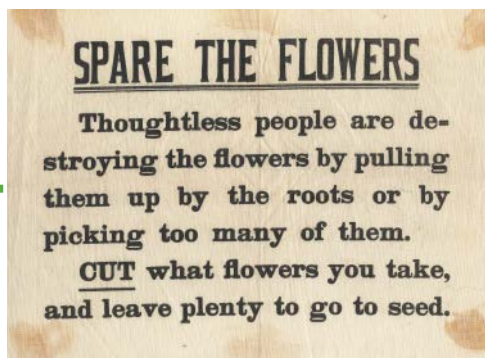
I don't mean to suggest that we must all sign petitions endorsing candidates, give money to campaigns, or otherwise act in partisan ways. But there are three simple and powerful things that all of us can do as citizen-advocates:

- inform ourselves as to what is happening on environmental issues we care about;
- communicate our views on these issues to public officials and candidates;
- ask officials and candidates to tell us their positions on these issues.

If a dozen members of NEWFS asked their representatives to support increased funding for the state's endangered species program, they would certainly understand the implicit political message. You don't have to spell it out for politicians. Most are likely to ask “Who's for this?” before they ask “Why is this a good idea?” We simply have to tell them what we think and let them know that we will be watching them.

I'll make just one more prediction: If enough of us take this kind of action on the issues we care deeply about, future generations will look back on how we met the conservation challenges facing us now to see victories won rather than opportunities squandered. ♣

**1904-1922** Society prints thousands of muslin broadsides that get tacked on trees and fence posts urging care and moderation in the collection of wildflowers.



**1920** Membership dues \$1; \$25 for life membership.

**1916** The Society considers disbanding or becoming a chapter of the national Wild Flower Preservation Society of America.



## PLANT PORTRAITS

# W

hen it began, the New England Wild Flower Society was unified by opposition to the popular practice of wild-collecting wildflowers and flowering shrubs for horticulture and home decoration. Partly as a result of the early Society's efforts, newspapers of the day took up the cause and the public responded. These accounts testify to the power of grass-roots advocacy. Here is a sampling of news clippings from scrapbooks compiled by Margaret E. Allen, the Society's first Corresponding Secretary.

***Boston Transcript***, Aug. 16, 1900

It has in the last years become a matter of comment among students and lovers of field and forest life that many of our most exquisite wild flowers, formerly met with in profusion even in the vicinity of large cities, are now rarely seen, and that in general, many kinds of wildflowers are decreasing noticeably in quantity.

***The Springfield Daily Republican***,  
Aug. 20, 1900

Mt. Tom, since it became a resort, is not only almost denuded of arbutus...but the walking fern, one of the most curious and interesting of plants, has nearly disappeared, and the cardinal flower is quite extinct. It is the common fate of lovely things in the rush of human greed. Connecticut was so alarmed over the plunder of the beautiful climbing fern and the arbutus...that the Legislature put both under protection by statute; Massachusetts ought to do the same.

***Boston Transcript***, Sept. 5, 1900

One day there got onto the train six young women loaded down with vast sheaves and bunches of trailing arbutus. Each one of them had enough for forty... They had apparently made a clean sweep of the woods.

***Boston Transcript***, April 27, 1901

### THE EXTINCTION OF WILD FLOWERS

To the Editor:

I would indorse every word that your correspondent says in regard to the destruction of the mayflower, and I would add to it the fringed gentian. Both



## Trailing Arbutus

*Epigaea repens*



## Mountain Laurel

*Kalmia latifolia*



## Fringed Gentian

*Gentiana crinita*

are sure to disappear utterly unless protected by public sentiment or legislation. I have seen the gentian disappear from meadow after meadow, and it has made my heart ache, "That there has passed away a glory from the earth." W.R.

***Boston Transcript***, July 9, 1902

The appeal of the Society for the Protection of Native Plants to protect the laurel deserves the thoughtful attention of all intelligent people, who when they come to recognize the danger of the extermination of this beautiful shrub from New England will not only give it a chance so far as they themselves are concerned, but will also make themselves missionaries and guardians in its behalf.

***Boston Herald***, June, 1902

The older citizens of Boston tell us that there was a time when the arbutus or mayflower grew bountifully about the environs of Boston...but that year by year it was ruthlessly pulled up by the roots, until now it is found but rarely in this section. Other wild flowers are being treated in the same manner, and the desire to protect and preserve them has brought about the organization of the Wild Flower Preservation Society of America.

***Boston Evening Transcript***,  
March 26, 1904

### TOO MUCH LAUREL IS CUT

The Society for the Protection of Native Plants held its annual meeting yesterday... [The Society has issued] over 40,000 leaflets during the year. Hon. Allen T. Treadway, Representative from Stockbridge, spoke of the injury to the local beauty of the hillsides in Berkshire through unhindered cutting of laurel and evergreens for sale in New York and Boston. Only last Monday, he had seen a truck piled high with short branches of laurel. There are two ways of trying to check this destruction—one through legislation, the other through general education, especially of children.

***The Beacon, Boston***, June 14, 1902

There are many people who think that a flower has rights of its own.‡





# A New Start

## *Education: 1922–1948*

World War I and its aftermath was not an easy time for the Society for the Protection of Native Plants (SPNP). Interest waned significantly, as many early sustaining members and officers passed away or moved on to other causes and careers.

Fresh from a term as the Garden Club of America's national president, Henrietta "Rita" Crosby envisioned a new Society working in collaboration with the Garden Club of America and local horticultural societies. She and Amy Folsom of the SPNP corresponded and soon the SPNP disbanded in favor of the new "Society for the Preservation of Native New England Plants," established in 1922. The new Society took over the SPNP's membership, publications, and legislative agendas, and a new Board was established, with only Amy Folsom remaining from the original Society.

The SPNP was principally sustained and directed by professional and amateur botanists. The new Society, in both name and lead-

ership, would be increasingly associated with the garden club movement and largely horticultural in outreach. Located at Horticultural Hall in Boston, membership was recruited from within the established horticultural circles of the time.

In 1925, the Society changed its name to the New England Wild Flower Preservation Society. Their founding advocacy on behalf of native plants was extended to include botanical education and the appreciation of native plants. This marked the beginning of the Society's contemporary education programs. Glass slide-illustrated lectures on native flora were offered from Providence to Boston and as far as southern Maine. Natural history workshops for teachers were co-sponsored in New Hampshire. As the era continued, the emphasis gradually shifted from changing the public's behavior to the encouragement of learning and discovery.

# From Magic Lanterns to Digital Projectors

## The Evolution of NEWFS Educational Programs

By **Bonnie Drexler**

Program and Volunteer Coordinator, NEWFS

One hundred years ago, the founders of the New England Wild Flower Society set out to educate the public on the importance of preserving New England's native flora, using pamphlets, buttons, posters, and lectures. The same message continues today for a national audience, with the technological support of digital projectors, web sites, and full-color publications.

The Society's current programs reach thousands of people of all ages. The varied offerings include courses such as wildflower propagation, invasive plant management, and an intensive three-day course on the genus *Carex*; field trips and excursions ranging from an afternoon trip to the Boston Harbor Islands to a ten-day trip to Costa Rica; and lectures on such topics as color in the shade garden. Children's programs include everything from puppet shows to week-long sessions of Cattail Nature Camp. Organized symposiums have ranged from a one-day focus on moss gardening to last year's traveling Centennial Symposium, "Untaming the Land," which attracted a total 1,000 people in four New England States.

The centerpiece of our educational efforts is the Certificate Program in Native Plant Studies, which offers serious students a comprehensive palette of programs on the identification, ecology, cultivation and conservation of northeastern native plants. Graduates of the program inevitably become native plant advocates in their own communities throughout New England.

The Society's Education Center offers amenities such as Internet access, digital projectors, dissecting zoom microscopes, and video microscopy. The new Education Resource Center houses our library and herbarium.

In the early days of the Society, Juliet Kellogg French lectured with her "Magic Lantern Show" in Massachusetts, New Hampshire, and Rhode Island. Today the Society offers courses in every New England state. Whether near or far, for the professional or the amateur, our programs support the same mission that guided Juliet and our founders: to stimulate an appreciation of the importance of native plants, so that they and their habitats will continue to flourish into the future.☘



### *The Girl with the Magic Lantern*

by Juliet Richardson Kellogg French, Honorary Trustee and Society President, 1973 to 1977

I was nineteen years old and barely a year and a half out of school when I first worked for the Society. I had no degree in botany or teaching; but then, it was an era when you didn't need advanced degrees to secure interesting jobs. What you did need was the respect of someone who knew someone who knew you could be useful. I was lucky to have earned that respect from Aunt Rita Crosby, who just happened to be the president of the Society as well as my mother's dear friend. She had to have known that I was in need of a job, and she must have assumed that I had absorbed from my parents all the knowledge and love of wildflowers that would be needed. My father's passion was collecting any native American plants he could possibly grow down in the bank behind our house in Brookline. People came from far and wide to visit the garden, and from the age of twelve on, I was often the only available guide.

Lecturing for the Society, however, plunged me into a much larger world. Instead of leading a few friendly botanists down my favorite paths, I found myself making my way on trolleys and trains to towns and cities as far away as Providence, Rhode Island. I was weighed down by boxes of glass slides as well as the Society's projector, which I prayed would perform without a hitch. I strained my voice speaking in high school auditoriums where students made no secret of their restlessness and lack of interest in wildflowers. On the other hand, there were good audiences too, and these were a joy. These audiences helped me know I was part of the mission of the Society to spread the appreciation and love of wildflowers as well as the awareness that their preservation would require effort and respect.☘

**1922** Society for the Protection of Native New England Plants is formed from the original Society's membership. Henrietta Crosby is the new president, 1922-1948.



**1925** Junior membership pin, enlisting students in the native plant protection cause.

**1922** New Society recruits 800 new members at 1922 native plant flower show extravaganza created by Albert Burrage in Horticultural Hall.

**1925** Society changes name to New England Wild Flower Preservation Society.



# Stage Directing Nature

## Education and Flower Show Exhibits

In early 1922, the nation's first native fern and wildflower show opened at Horticultural Hall in Boston and caused a major sensation. The inspiration of Albert C. Burrage, president of the Massachusetts Horticultural Society, the display was an array of lush ferns and the region's showiest plants in a series of nature-inspired indoor "habitats," all blooming together without regard to season. The effect was dazzling. In popularizing the allure of the nation's indigenous flora, it was, among other things, a stunning public relations triumph.

The centerpiece of the exhibit was a rustic bridge crossing a stream with pitcher plants, lady-slippers, blueberries, and masses of ferns planted along its banks. A photograph captures Burrage surveying the scene from the bridge in company with Henrietta Crosby, Evelyn F. Thayer, and Professor Charles Sprague Sargent, leaders of the horticultural community. The image was highly symbolic; as a result of this flower show, these four became the founders and trustees of the Society for the Preservation of Native New England Plants. The new Society grew from the original Society for the Protection of Native Plants, invigorated, through Crosby, with the enthusiasm of the Garden Club of America.

Subsequent flower shows proved excellent showcases for the goals of the Society, attracting new members and spreading the word about the value of native plants to an ever-wider audience. The unique and highly detailed exhibits were, and still are, labors of love as well as collaborative works of art and science. The immense efforts involved require rare dedication, knowledge, and skill. The Society has always excelled at these shows, garnering numerous major awards, year after year. A personal account of working on one of the Society's flower show entries in the 1960s follows at right.

### The Making of a Flower Show Exhibit

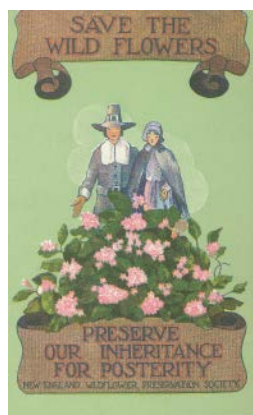
by Susan E. Dumaine, Honorary Trustee, NEWFS

Good flower show garden exhibits are the ultimate exercise in supremely rationalized and exquisitely constructed fakery, but for the designers, builders, and maintainers of these magical moments the process can be almost demonic in its complexity. One of the first volunteer opportunities I had with NEWFS came in the late 1960s, when Beverly Ryburn orchestrated an exhibit of dioramas showing native violets growing in woodland, bog, and alpine habitats.

The challenge began with the design of the cases to fit our assigned area, and the accumulation of stones, soil, and debris typical of each habitat. Next, we had to locate and acquire the appropriate violet species. An unexpected crisis arose when we had difficulty assigning valid botanical names to our specimens. Experts were consulted to resolve disparities between the literature and our enigmatic little plants, but even they were unable to agree on every point. At last, we toilers in the dirt had to put aside the tangled knots of nomenclature for the more pressing jobs of chilling and then forcing our plants in a dank corner of a leaky Woburn greenhouse.

As show time approached, we began weekly inspections to monitor the progress of our potted treasures. Some weeks found pots mysteriously tipped over. Others saw violet crowns rotting under dripping irrigation. Miraculously, a sufficiency of plants began their march from bud to flower in time to be packed into cartons for the snowy trip to Suffolk Downs, site of that year's Flower Show. After days of construction, and frantic reconstruction, our mini-habitats were created. Replete with violets of all descriptions—but possibly uncertain names—they sparkled like brilliant little jewel boxes, capturing the public's imagination and, perhaps, conferring a little knowledge with a large measure of delight.‡

**mid-1920s** Florist industry begins responding to advocacy efforts. Carbone Florist of Boston advertises: "In furtherance of the aims of the Society for the Preservation of Native New England Plants, we have decided to discontinue entirely the sale of Mountain Laurel, Princess Pine and Trailing Arbutus."



**1930s** Society produces first fundraising product: color postcards.

**1935** Flower Show exhibit. Society receives Massachusetts Horticultural Society Flower Show award—first of many more to come.



**1927 & 1934** After 20 years of effort, the Society is instrumental in passing state legislation to protect arbutus, mountain laurel, and azaleas.

**1938** Massachusetts Conservation Council, co-sponsored by the Society, establishes a Conservation Van as a mobile educational unit to take conservation message throughout the state.

# FUTURE

## Challenges for Conservation Education

by Gregory Lowenberg  
Education Director, New England Wild Flower Society

A new century frees the imagination and reveals vast possibilities as well as unexpected challenges. Even while the Internet brings conservation education to people everywhere, the connection between people and place weakens. Young people spend less and less time outdoors and development fractures and homogenizes our natural communities. Now is a good time to ask some questions about the future of conservation education.

*Will people in 2100 need to learn more about environmental conservation than they do today?* Yes. And no. Today's complex issues already require us to learn as much as possible. This is not going to change, but what we learn will change. We seem to be caught up in a "supply-side" paradigm, cramming more and more into the curriculum. I believe it's time to take a different approach by weaving conservation themes into all aspects of learning. Here are some suggestions:

**1) Remember History and Civics.** Let's use conservation themes and values to develop and renew our sense of identity as a people. Our democracy gives individuals a strong voice in the use of natural resources, and conservationists have a place among our heroes and role models.

**2) Start a "Race for Green Space."** Like all great scientific and social issues, conservation can be a national intellectual challenge—equivalent to the space program or medical research—which requires our best thinking.

**3) Cooperate and Share.** Science museums, botanical gardens, nature centers, and professional societies should team up with traditional schools as never before. We should expect our foundations and government to increase their future support for these efforts in the coming decades.

*How can we strengthen conservation education in urban and culturally diverse communities?* We have a terrible paucity of naturalists, environmental educators, and Ph.D. scientists from minority communities. If we can't turn this around in the next few decades, we may lose the conservation issue for good.

**1) Keep it local.** Students learn better when the focus is on their own communities. As young people develop a "sense of place," their enthusiasm increases. Schools that have used the local environment as a comprehensive framework for learning have achieved higher scores on standardized tests across disciplines, not just in science.

**2) Keep it relevant.** The environmental justice movement was a response to disproportionate threats, caused by pollution, to economically disadvantaged communities. But less attention has been paid to creating or restoring natural

habitats within densely populated areas. Access to natural areas reveals their value as community resources.

**3) Bring it home.** Create opportunities for students to become directly involved in science and nature efforts where they live in order to stimulate interest in environmental professions.

*Will new technology enhance environmental education?* Soon, computer-based technology could allow you to tour a "virtual" New England forest, complete with 3-D images of trees, wildflowers, buzzing insects, sounds of birds, and maybe even earthy smells—no ticks or mosquitoes allowed! Do we want these technically miraculous, yet indirect experiences? Or is virtual nature a self-defeating concept? I'm not sure, but I believe there are ways we can use computer technology to complement and build on direct experience.

The Internet can help create lifelong learners and conservationists by combining a wealth of useful and relevant content with an interactive format that involves participants in a larger learning enterprise. Monarch Watch ([www.monarchwatch.org](http://www.monarchwatch.org)) and Journey North ([www.learner.org/jnorth](http://www.learner.org/jnorth)) involve hundreds of schools in exploring the spectacular phenomenon of seasonal animal migrations. Seasonal Investigations ([www.arboretum.harvard.edu/csc/seasonal/cshome.htm](http://www.arboretum.harvard.edu/csc/seasonal/cshome.htm)) is a similar curriculum emphasizing plants. They engage students across wide geographic areas in observing nature, collecting data, and fashioning conclusions based on shared information. We should expect to see variations on this theme in the future.

The Internet is becoming a virtual research library. Here again, informal education organizations will play a leading role, with online herbaria, rare and endangered species information, invasive plant and animal alerts, regional biodiversity surveys, and a wealth of natural history resources. Web-based courses are available on a wide range of topics, but to be useful in conservation and natural science education, curricula will still need to have a hands-on component that connects students to the real world of nature.

The New England Wild Flower Society once used "magic lanterns" to project black and white images of native plants to help students recognize species in need of special protection. In the future, we will continue to reach out with the best tools available, combining a hands-on approach with up-to-date resources. We will always encourage people to learn more, experience nature directly, and to become teachers of others, for it will take many well-educated people from diverse backgrounds to ultimately sustain the growing conservation movement.‡



## PEOPLE PORTRAITS

**H**enrietta “Rita” Marion Grew Crosby was the second president of what was then the New England Wild Flower Preservation Society, serving for twenty-six years until 1948. As a pioneer and leader, she helped spread the idea of plant conservation through campaigns against waste, cooperation with other conservation agencies, and by fostering conservation education in the schools and in the rapidly growing garden club movement.

The organization’s purpose was to bring an end to the indiscriminate harvesting of New England’s wildflowers, a common practice at the time. People knew that animals such as the passenger pigeon had been hunted to extinction. On Martha’s Vineyard, the heath hen had suffered the same fate. But, when bundles of trailing arbutus and lady-slippers were offered for sale on the street corners of Boston, most saw it merely as a welcome sign of spring.

Rita Crosby knew the right people, or she soon got to know them, and her drive was crucial in the early efforts to pass plant protection legislation. At a time when few women spoke in public, Crosby went from school to school



### Henrietta M. Crosby

President, New England  
Wild Flower Preservation  
Society, 1922–1948

lecturing on conservation. Her forthright manner and warm personality won many young people to her cause.

In 1922, Crosby engaged Lilly S. Tobey as the Executive Secretary of the new New England Wild Flower Preservation Society. Crosby and Tobey worked together from 1922 to 1948 laying the foundation for the

future of the New England Wild Flower Society. The two women remained devoted friends, sharing a common interest throughout their lives, which ended within a few months of each other in 1957.

Crosby had served as second president of the Garden Club of America (1920-21), where she was also a director for several terms. The Garden Club of America, at its 22nd annual meeting, awarded her the Achievement Medal, with the following citation:

“Through your untiring efforts the New England Wild Flower Preservation Society has attained leadership in this field [of native wildflower preservation] and furnished inspiration for similar undertakings both here and in England. You have carried the aims and ideals of the Garden Club of America into other organizations with far-reaching influence” (1936 *G.C.A. Bulletin*).

Since Crosby’s death, the Society has continued her work, teaching, inspiring and slowly but surely enlarging its sphere of influence.‡

*Adapted from articles by Esther G. Parker, Elizabeth Richardson, Ruth Grew Cutter, and Kathryn S. Taylor.*



## Lost River

By Christopher Mattrick

Senior Conservation Program Manager, NEWFS

I was working for the Society for the Protection of New Hampshire Forests (SPNHF) at the Lost River Reservation in North Woodstock, New Hampshire, when I first heard about the New England Wild Flower Society.

Two women introduced themselves as members of the Society and politely, but quite firmly, told me I had to “do something about the condition of the mayflower in the Lost River Nature Garden.” At that point, I had no idea that mayflower even grew there. Later, I learned much more about NEWFS and its connection to SPNHF. From 1932 through 1967 (except the years of WWII), the two organizations co-sponsored the New Hampshire Nature Camp at Lost River. The camp’s goal was “to train teachers, scout counselors, and club organizers in all branches of nature study and in methods of presenting the subject to their pupils.” Teachers attended weeklong sessions at Lost River. Instructors came from NEWFS and local universities.

Cooperation between SPNHF and NEWFS continues through the New England Plant Conservation Program (NEPCoP) and the Plant Conservation Volunteer Corps (PCV). Both groups are celebrating centennials this year.‡





By the end of WWII, membership had declined. Overcollection for the floral trade, the foundation of the Society's mission, had been substantially eliminated, due in part to the Society's influence. The Society might have vanished, becoming just a footnote in New England's natural history archives.

# Finding Sanctuary

## *Land Acquisition: 1948–65*

But by 1954, as the nation entered a period of prosperity and optimism, the Society began a comeback. Katherine “Kitty” Taylor was president, and Persis Green was hired as Secretary. State chapters attracted members from beyond the Boston area. The Society established a land acquisition fund to protect such unique habitats as Bartholomew's Cobble in the Berkshires and Bugbee Bog in Vermont. Preservation of rare plant habitats rekindled the Society's mission.

Ultimately, only a small number of acres would remain under direct Society control as sanctuaries, with the bulk passing into the management of local and regional land trusts. But the connections between land protection, land management, and plant protection were inextricably forged during this era, and the Society had found a new rallying call.

## Land Trusts: Origins, Progress, and Prospects

by **Wesley T. Ward**  
Director of Land Conservation  
The Trustees of Reservations

Perhaps the first organization to protect a landscape as well as a building of historic value was the Mount Vernon Ladies Association of the Union, founded in 1854 to save Washington's estate and surroundings from neglect and incompatible development.

Modern land trusts are non-profit organizations working to conserve land of value to nature and society. Most land trusts are legally not trusts, but are organized as corporations.

The first example we have found in Massachusetts of a private trust set up primarily for the conservation of land is Ravenswood Park Trust, founded by philanthropist Samuel Sawyer in Gloucester in 1889. A notable feature of the property was a northernmost population of sweetbay magnolia, *Magnolia virginiana*.

Two years later, Charles Eliot—landscape architect and partner of Frederic Law Olmsted—founded The

Trustees of Public Reservations “for the purpose of acquiring, holding, maintaining, and opening to the public, under suitable regulations, beautiful and historic places and tracts of land within the Commonwealth.” New legislation established that the Trustees' properties would be exempt from property taxation. Eliot's innovation was the notion of a statewide conservation organization that would hold and manage selected properties “for public use and enjoyment.”

In addition to the founding of The Trustees and the New England Wild Flower Society, between 1891 and 1914 the Audubon Societies of Massachusetts, Rhode Island, and New Hampshire; the Society for the Protection of New Hampshire Forests; and the Squam Lakes Association were also founded.

Between 1891 and the beginning of World War II, the advocacy and educational roles of land trusts may have been even more important than the amount of land they were able to protect. During this period, New England conservation organizations grappled with most of the issues that would need to be resolved as these organizations became larger and more professional.

After World War II, in response to

the pressures of development, The Trustees and other land trusts began to hire professional staff to provide stewardship of their holdings and assist landowners in carrying out conservation plans. The Nature Conservancy incorporated in 1951 and soon after emerged as a national organization.

In the 1970s, a flexible new tool became available. Perpetual conservation easements (also called “conservation restrictions”) allowed landowners to retain their land while ensuring its conservation. With this tool, land trusts could protect much more land than through outright acquisition.

Beyond the exquisite scenery, rich history, and critically important habitat protected by land trusts, is there an overriding purpose in all this effort? As The Trustees recognized in its current strategic plan, “We believe respect and stewardship come with understanding and appreciation. Our challenge today is to learn how best to conserve the land and not diminish its irreplaceable resources. Our vision is to use our collection of exceptional landscapes to teach about living in harmony with nature.”‡

# FUTURE

by **Stephen T. Johnson**  
Executive Director, Sudbury Valley Trustees  
Chairman, Massachusetts Land Trust Alliance

## *Challenges for Land Trusts*

Land trusts now number over 1,200 nationwide, up from just 53 in 1950. They are supported by about a million people and have helped to protect nearly 5 million acres of land. Land trusts protect wildlife habitat and wilderness areas, scenic and historic landscapes, watersheds and water supplies, urban parks and community gardens, and provide access to hunting, fishing, and other forms of outdoor recreation.

According to the Massachusetts Audubon Society in their report *Losing Ground*, in just fifteen years developed land in Massachusetts increased 43% although population increased only 6%, consuming land at the rate of 109 acres per day. Increasingly, land trusts are involved in the debate about sprawl. By giving voice to the tremendous sense of loss that is felt when development changes the essential qualities of our communities, land trusts have been able to motivate voters and political leaders to commit ever more substantial fiscal resources to conservation. The Nature Conservancy and The Trust for Public Land have been very successful working with states to design and enact new funding sources for land conservation. Conservation is expensive and there just are not sufficient funds to protect everything worthy of protection through simple purchase.

Nor can land trusts continue to rely on gifts of land to protect meaningful portions of the landscape.

Land trusts and public agencies can be important partners with farmers, ranchers and timberland owners. In some cases, it may be inappropriate for a land trust or public agency to own the land outright. Many land trusts now focus on privately owned lands that are actively managed as farms or ranches or forestlands, yet are protected through permanent conservation easements that prohibit development and encourage good stewardship. These “working lands” provide connections among other protected habitats, water resources, or parklands.

Land trusts are also providing the vision for large-scale conservation that helps to focus conservation investments made by local, state, and federal governments, addressing the gaps between what is conserved in parks and wildlife management areas and the habitats that actually sustain our threatened and endangered species. The community of land trusts has forged a strong national organization, the Land Trust Alliance, to provide opportunities for continuing education, promulgation of professional standards, and advocacy on issues affecting land conservation, especially federal tax policy. The Land Trust Alliance is aided by statewide



**1948** Kathryn “Kitty” Sears Taylor is third president, 1948-1973.

**1950s**  
Society offers first courses in plant identification and propagation as well as first garden tours and trips.



coalitions and service providers that provide an important communication link and keep land trusts working together within each state.

### Challenges for Land Trusts

On average, a new land trust is formed every week somewhere in this country. And the interest is not limited to the United States; land trusts or similar organizations are being formed in Latin America, Canada, and Europe. Even within this country, land trusts are being formed by ranchers, sportsmen, Native Americans, churches, and even real estate developers. This is an exciting and potentially positive development, but it raises questions: Should there be a continuing proliferation of small, specialized land trusts, or should larger, established land trusts broaden their mission to embrace these other community goals? Are all these organizations dedicated to permanent conservation, and are they sustainable over time?

In an increasingly pluralistic society, land trusts are community-based organizations that should be well-suited to represent this diversity of interest, but historically have been less diverse and less active in urban areas than they will need to be in the future. Will land trusts be as engaged in conserving urban spaces for community gardens as they are in conserving scenic orchards and dairy farms? Will the “urban wilds” receive appropriate attention along with the Yukon and Yellowstone?

As private lands figure more prominently in conservation plans, the task of enforcing conservation easements looms as perhaps the largest threat to the continued success of land trusts. In the face of increasingly complex and expensive negotiations, and occasionally litigation, to defend these easements, in the future it will be more cost-effective to invest in good relationships with landowners. But this will require community support. The outcome will hinge on how clearly the restrictions are tailored to prevent the destruction of key resources without undue burden on the private landowner. However, achieving effective conservation of private lands for biological values will require moving beyond strict compliance to a deeper engagement of the landowner in the stewardship of sensitive habitats in order to ensure

their viability. A wet meadow, for instance, cannot be “saved” simply by preventing it from being paved. In New England it must be managed to keep it open, free from invasive species, and undisturbed.

For one goal of land trusts, the preservation of native biodiversity, the challenges are immense and urgent. How will land trusts respond to the pervasive development pressures on key habitats (both in the U.S. and in other countries), the global transport of invasive species, and climate change in order to safeguard all biodiversity for the indefinite future? Determining which lands and how much land to protect are critical elements of the strategy.

Differences exist between land trusts and some recreational users, as well as with the extractive industries, such as hydroelectric plants and strip mines. Groups such as The Nature Conservancy and The Conservation Fund have led the way toward finding points of agreement and forging partnerships that will enhance the sustainability of their conservation work.

### The Future

How will this work be sustained into the future? Will we be able to save “enough” land? What do we mean by “save land”? And how much is enough? Will we have the knowledge and resources to effectively manage what land we have saved? Will the public support these programs?

If biological diversity is to be preserved, land trusts will need to be more engaged in educating landowners, public conservation agencies, and the public at large about these matters. The stewardship challenges facing land trusts are serious and expensive. Ignoring them will make them even more costly.

What will the 21st century bring? The pace of land protection must increase to at least match the rate of development. Public funding for land conservation and stewardship must increase significantly and be better coordinated through more effective public involvement and accountability. Although the challenges are immense, land trusts have a unique opportunity to transform the good work of the recent past into the great works that will sustain our communities into the next century.‡

**1958** Using its new Wild Flower Area Fund, the Society helps establish its first sanctuary, Bugbee Bog in Vermont.



**1960** Society begins presenting annual awards for conservation. In years to come, awards for education and service to the Society, as well as state awards for environmental advocacy, will be added.

**1960s** Society helps protect thousands of acres of habitat in New England, including establishing seven Society sanctuaries.



**1956** Society's lending Library opens at Horticulture Hall.

## PEOPLE PORTRAIT

**K**athryn “Kitty” Sears Taylor was a woman of singular enthusiasm and energy. It was Kitty who guided the Society to first acquire sanctuaries and a botanical garden, the Garden in the Woods. She served as President of the Society from 1948 to 1973.

A New Englander through and through, Kitty grew up in Taunton, one of two much-loved daughters. Her enthusiasm for horticulture and her writing skills were kindled early and by the age of ten she had been published in a popular garden magazine.

Like most young women who grew up before World War I, she never attended college. Perhaps because of that she never stopped learning. When she wanted to know something she would seek out teachers to help her. Stephen Hamblin, Professor of Horticulture at Harvard, was one such teacher. Professor Hamblin and Kitty later co-authored a *Handbook of Wildflower Cultivation*, still an indispensable book for the wildflower gardener. When she and Edith Gregg were unable to identify a plant they found on Naushon Island, they sought out Professor Hollis Webster to learn botany.

Her garden was her laboratory, and



### Katharine “Kitty” Taylor President, New England Wild Flower Preservation Society, 1948–1973.

by Jonathan Shaw  
Former Executive Director, NEWFS

while she learned from her friends and their gardens, her best teachers were the plants themselves. In the early thirties she created a naturalistic garden at

her home. Years later she wrote: “Practically every wild plant brought into the garden since it was started, about twenty-five years ago, is still flourishing.” She and her Harvard-educated physicist husband, Lucien, did their gardening themselves. When his beloved Kitty determined where a plant should be placed, Lucien followed her commands to the last letter.

When she began to give illustrated talks and lectures, Boston Brahmins as well as prison inmates were recipients of her knowledge and tongue-in-cheek wit. Of her combat with slugs, she said: “Some people like to put beer in a saucer, but of course, I don’t have any beer. I like to go out at night with a flashlight and a long hat pin.” Her articles appeared everywhere, from gardening magazines to plant society bulletins.

Conservationist, wildflower gardener, inspiring lecturer and writer, Kitty Taylor’s enduring legacy would be the expanded role of the New England Wild Flower Society. In 1954, as president of the Society, she made a significant management decision. Miss Tobey, who had served as the Society’s secretary for 33 years, fell ill and had to retire. In 1954 Kitty chose Persis Green as the new executive secretary and wrote enthusiastically to Society members of how Green was able to “give expert advice to those seeking help in many conservation problems . . . [and] . . . has the imagination to initiate new activities and the energy to carry them through. . . .” Kitty stepped down as president in 1973 and Persis Green retired as executive secretary in 1974, but before they were through, the Society was managing hundreds of acres of sanctuaries, a botanical garden, and extensive education programs.‡

**May 8, 1965** Garden in the Woods is deeded to the New England Wild Flower Preservation Society on Will C. Curtis’s 82nd birthday. The Garden was started in 1931 by Curtis, later working with his partner, William (Dick) Stiles.

Because Curtis was aging and the garden was increasingly vulnerable to pressure from real estate development in the area, Curtis and Stiles proposed, through Homer C. Lucas, that the garden be offered to NEWFS as a permanent sanctuary. The Society embarked on its first capital campaign, raising \$250,000 to ensure the survival of the Garden, thus establishing its first endowment. Thousands of contributions came from individuals, as well as from foundations, national gardening organizations, local businesses, and community bake sales. Homer C. Lucas was the largest donor.



Pictured at left, from left to right: Howard Stiles, Katharine Taylor, Will Curtis, and Persis Green.



**1960s** Society produces its first educational film.





# Merging Kindred Spirits

## *Horticulture: 1965–1985*

The Garden in the Woods was, for over thirty years, the shared dream and labor of love of its founders, Will Curtis and Dick Stiles. The two men dedicated the Garden to the propagation, display, and conservation of native plants.

By the early 1960s, the Garden had become an impressive showplace of plantings covering nearly every New England habitat, but the dream was in danger. A suburban housing boom was rapidly encircling the Garden. Both men were aging. Will Curtis, entering his eighties, feared to see his crowning achievement leveled by the bulldozers of progress. When longtime friend and patron, Homer Lucas, began a campaign to save the Garden as a public asset, his search among influential horticultural and conservation organizations ultimately led him to the New England Wild Flower Preservation Society. In 1965, the Society acquired the Garden in the Woods to

preserve as a botanical and conservation resource. This land acquisition gave the Society a new home, reinvigorating its public image as well as its self-image.

During this era, the Society entered a period of growth reflecting a more traditional non-profit model. The first endowment was raised, the first executive directorship was established, and the first program staff members were hired. Successful capital campaigns followed, new buildings were constructed, and membership grew. Society publications reached wider audiences, sanctuaries were added, and the emphasis on promotion of native plant horticulture was expanded. With the acquisition of Garden in the Woods, horticultural interests gained a stronger voice within the Society.

In 1970, reflecting a new sense of purpose, the Society shortened its name to the current “New England Wild Flower Society.”

# Historical Trends in Public Gardens

by **Thomas Smarr**  
Horticulturist, New England  
Wild Flower Society

Horticulture, as a science and art, evolved over several centuries of cultural influences and discoveries. The “New World” evoked great scientific curiosity in 15th century Europe, including a desire to collect and garden with exotic American plants. The first European botanical garden was established in 1543 at the University of Pisa in Italy. As a craze for large exotic plant collections swept through the wealthy social classes of Europe between the 16th and 19th centuries, elaborate landscapes and conservatories were constructed.

Early American colonists saw a vast wilderness in need of taming. As the land was settled, interest in ornamental gardening grew, but gardeners often chose familiar plants from the Old World. The native New England plants that were planted became acceptable only after first being cultivated in European gardens and imported back to North America.

During the 18th century, naturalistic designs incorporating both ornamental and native plants became popular, but it was not until the 19th century that

natural landscapes were much appreciated in North America. The Romantic era of the 19th century conceived of nature as an idealized, picturesque landscape. While this reflected the beauty in nature, it was a distorted mirror.

Also in the 1800s, industrialization and urban growth encouraged development of parks to counter the crowding and filth that typified cities of the day. These were designed as naturalistic landscapes, with both ornamental and native plants. This new landscape concept was promoted in North America by Fredrick Law Olmsted, who borrowed many of the principles from the earlier naturalistic designs popular in Europe. Naturalistic design concepts also influenced private estate landscapes, further encouraging the use of native plants.

Ralph Waldo Emerson and Henry David Thoreau included preservation of the natural landscape in their influential writings. Since the dawn of the 20th century, writers such as Aldo Leopold, and later Rachel Carson, have encouraged the public to celebrate and protect the unique aspects of North American flora. An early and prominent expression of this interest was the founding of the New England Wild Flower Society.

The 20th century marked the most significant growth of public gardens in North America. Many private estates in America were transformed into public gardens and museums during the latter half of the century, due in part to

changing economics, but also to social acknowledgement of the value of botanical artistry, and a desire to preserve it for posterity. Will Curtis’s “Garden in the Woods,” founded in the 1930s, was a prime example of a private vision finding salvation in a wider audience.

In the 1960s and 1970s, public interest in environmental issues expanded. During these decades, naturalistic elements using native plants appeared even in middle-class urban and suburban gardens. The 1980s and 1990s saw an increase in this environmental awareness, paralleled by the growth of native plant display gardens.

Today, public gardens have taken on leadership roles in horticulture and plant conservation, often featuring native plant displays and environmental education. In 2000, it was estimated that there were 40 native plant display gardens in North America. Of those 40 displays, only 10 gardens could be considered to “specialize” in North American native plants.

Local and national programs developed by organizations such as the Center for Plant Conservation, New England Wild Flower Society, and The Nature Conservancy have encouraged public gardens to apply their resources and knowledge to plant conservation and education. This has greatly expanded opportunities for the public to experience regional ecosystems and learn about native plant cultivation. These will surely play a part in defining the public gardens of the future.‡



**1968** Society's headquarters moves from Horticultural Hall in Boston to Garden in the Woods in Framingham, MA.



**1974** Society presidents begin serving three- to five-year terms:

Juliet Richardson  
Kellogg French  
1973–1977

Beverly Ryburn  
1977–1980

Ellen West Lovejoy  
1980–1983

**1970** Society renamed New England Wild Flower Society.



# FUTURE

## *Perspectives from the Public Garden Field*

Interviews by Cheryl Lowe

Horticulture Director, New England Wild Flower Society

The past creates the foundation for the present, and the visions of today's leaders will sculpt the future. What issues and challenges will confront public horticulture in the next century? We asked four leaders in the field of public horticulture to lend us their perspective.

*Dr. Peter Wyse Jackson is the Executive Director of Botanic Gardens Conservation International (BGCI), an organization founded in 1987 as part of The World Conservation Union (IUCN), to encourage botanic gardens and arboreta to work together as a global network for conservation. NEWFS is a member of BGCI.*

Dr. Jackson: I'm very hopeful about the future. We have seen tremendous growth in the numbers of botanic gardens—54% of the world's botanic gardens were started in the last 50 years. I am very concerned, however, about the vast amount of genetic erosion taking place—dwindling numbers of so many species means decreased genetic diversity.

This goes hand-in-hand with the rapid pace of land development. In the future we will need to create a much greater linkage between conservation and sustainable development. Plants are vital resources for the support of human society, but the vast majority of people don't understand this. The perception is that plants and botanic gardens are luxuries. We need to promote a concern for the biodiversity of ecosystems and make conservation a global priority. The formation of BGCI in 1987 served as a stimulus for networks and national associations around the globe, strengthening existing botanic gardens and creating new ones.

Technologically, I see the collections at botanic gardens around the world becoming part of a global plant collections

record system. Within ten years you will be able to locate any plant in a botanic garden anywhere in the world. This will be a fundamental tool of restoration efforts. Botanic gardens will truly be botanical resource centers.

*Carla Pastore is currently Executive Director of the American Association of Botanic Gardens and Arboreta (AABGA), with members throughout North America.*

Ms. Pastore: Public gardens are really a reflection of the times and society in which they exist. In the past, botanic gardens were more focused on collections and research, but now they are growing and changing to meet today's challenges. Baby boomers are much more aware of health and environmental issues than past generations, and I see that reflected in their participation in horticultural activities and botanic gardens. Over the next 40 to 50 years, this will certainly influence how botanic gardens operate.

Botanic gardens are taking advantage of new technologies such as Internet access to serve their current audiences and reach new ones, and I think they will continue to use new advances to manage internal data systems as well as improve interpretive programs. Botanic gardens will also expand their role as models for environmental stewardship: developing codes of ethics, making use of "green" architecture, and incorporating sustainable design into their sites.

Gardens are beginning to understand the important and varied relationships between plants and people, and developing programs to highlight and serve those connections, from rehabilitation programs to restoration efforts. Gardens are becoming a vital part of their communities, and I expect that role will continue to grow in the future.

Continued next page



**1974** First annual NEWFS plant sale, the Society's major one-day fundraiser and publicity vehicle for native plant horticulture, begins.



**1975** Slide and image collection established.

**1975** Society hires first Executive Director:

Ann Spence Dinsmore  
1975–1977

Jonathan Shaw  
1978–1983

Tom Buchter  
1984–1987

**1978** Society receives first federal grant.

*Dr. Peter S. White is the Director of North Carolina Botanical Garden, a part of the University of North Carolina at Chapel Hill.*

Dr. White: The dominant theme for the future of plant conservation will be development, sprawl, and loss of nature itself. North Americans still think that wild nature and human landscapes are exclusive domains, but this separation is breaking down. Humans, too, need nature—a continuous series of green spaces of various sizes, ranging from backyards and city parks to greenways to wild lands of 20 to 10,000+ acres. All lands along this continuum, including backyards, can be used to protect plant diversity, native pollinators, and birds. Horticulturists must conceive sustainable designs that integrate nature, and nature’s beauty, into human lives.

In integrating humans and nature, one conclusion is inescapable: we need to find ways to build at higher density on a smaller portion of available land, creating village-like places embedded within protected green spaces. Such planning will make public transportation easier to design and use, integrate green surroundings into human settlements, and enhance human community.

Because of the ongoing loss of species from even our largest natural areas, botanical gardens must continue to preserve genetic diversity (which is lost decades before a species makes it to the endangered list). They must collaborate with natural area managers to reintroduce species to the wild, and participate in efforts to restore natural areas. People love to study natural history, and botanic gardens have a real opportunity to break down the distinction between academic and professional science and public interest. This is, of course, something I’ve learned especially from NEWFS! By extending the opportunity for such learning to the public, I think that we will be training botanical surveyors, land stewards, nature enthusiasts, and conservationists who will go on to play crucial roles.

Technology, like any other tool, can be good or bad for us, depending on how it is used. For example, the Internet makes it easier to learn about medicinal plants, but also facilitates their illegal trade. The issue of biogenetics is an emotional one, and public gardens need to involve themselves in that debate. We are, historically, plant breeders, selecting and manipulating desirable genetic characteristics. Biology is not an unfathomable mystery and I am optimistic about our ability to assess the risks versus the benefits.



**1981** Society expands propagation and retail sales of native plants and begins mail order seed sales.



**1984** Center for Plant Conservation (CPC), co-sponsored by NEWFS and Arnold Arboretum, founded as national consortium of leading botanical organizations dedicated to the study and habitat management of endangered flora of the U.S.

*Dr. Nancy Morin is the Director of the Arboretum at Flagstaff in Arizona and a Taxon Editor of Flora of North America. She is also the former Executive Director of AABGA.*

Dr Morin: In a nutshell, I think that horticultural skill and knowledge are going to become incredibly important for native plant conservation and habitat restoration. Up until now, plant conservation has focused on the traditional issues: loss of habitat or habitat fragmentation, competition from invasives, grazing, etc. But our environment is changing in so many ways—through pollution, altered water and fire regimes, changes in climate and rain patterns, and loss of pollinators and other important plant partners such as microorganisms. We need to understand much more about the factors that influence survival of specific plants in specific places. I also think that society increasingly is going to demand restoration of habitats as a quality of life issue. Collection of appropriate native plant material, propagation, nursery production, and successful establishment of those plants, as well as the control or inhibition of invasive exotic plants—all will require horticultural knowledge and facilities. Developing countries will face the same issues, with added pressure because they depend more heavily on wild-growing native plants for food, fiber, medicines, and spiritual needs. For this reason, the importance of plants is real and clear to them. Countries of origin will need the capacity to grow medicinal and otherwise economically important plants themselves so they can reap the economic benefits, but developed countries should help however they can to build that capacity.

I’m afraid that 100 years from now we will be managing the few remaining relatively small tracts of natural areas as city parks are managed today. Some large areas may still be set aside for preservation, but there will be a constant battle to keep out invasives, and the percentage of plants native to those areas (compared with the present) will be fairly small. On the upside, I think that community involvement in saving what little is left will be very high.

Probably the only way to prevent a devastating loss of native plant diversity is to incorporate native plants into every aspect of human habitation. Ideally, the direction of the future will include allowing native plant habitats to survive on the edges of golf courses and corn fields; encouraging neighborhoods to have contiguous plantings of native plants; encouraging schools to plant native plants or restore surrounding habitats; as well as mandating that federal lands use and protect native plants.‡

**1985** Society establishes the Certificate in Native Plant Studies Program.



## PEOPLE PORTRAITS

**T**his was a place to explore. Ages ago, glaciers had laid down the terrain: eskers with deep, steep-sided valleys between, a pond, a wooded bog, numerous springs and an ever-flowing brook. Here was a naturally beautiful place with interesting contours, many old trees and a variety of typical New England vegetation. Here, in a relatively small compass, were diverse soil types necessary for the support of native plants from many habitats far and near. . . . just the spot for a wild flower garden.” Will C. Curtis, describing the property that was to become Garden in the Woods.



### Will C. Curtis and Howard Stiles

In 1931, Will C. Curtis, a graduate of the Cornell University School of Landscape Architecture, purchased 30 acres to create his dream of a “big wild-flower sanctuary in which plants will be grown, their likes and dislikes discovered, and the knowledge gained passed on in an effort to curb the wholesale destruction of our most beautiful natives.” Two years later he was joined by Howard (Dick) Stiles. For more than 30 years the two men laid out gardens and trails and cultivated thousands of wildflowers, ferns, shrubs, and trees in a variety of settings.

Curtis was a sensitive artist, using wildflowers, trees, flowering shrubs and

ferns to create landscape tapestries of exquisite color and design. Plants flourished under his hand and when new wildlings were brought into the Garden for transplanting they settled in happily, appearing to have been there forever. He was also a determined man of strong opinions and sturdy beliefs, with a brusque manner and often sharp tongue. However, those who were fortunate enough to become his friends and associates soon learned that beneath his sometimes fierce exterior lay a tender heart.

Stiles’ job was to maintain and develop various plant collections throughout the sanctuary. When he first joined the operation, he claimed he could not tell a potato from a petunia. Soon he became a horticultural wizard, exploring and discovering myriad wild plant species. His affinity for acquiring new plant species and knowledge kept him at the leading edge of horticulture in New England for several decades. He lectured widely on the subject and conducted hundreds of tours through his “living museum.”

As the years advanced, the two men realized that the world about them was fast changing, and their beloved Garden was extremely vulnerable to the march of “progress,” as housing developments crept closer to its boundaries. So, in May 1965, on Curtis’ eighty-second birthday, they turned Garden in the Woods over to the New England Wild Flower Society. The responsibility for protecting and maintaining this magnificent Garden was assumed with dedication and sincere intent to instigate as little change as possible in its design.

By increasing the Garden’s size from the original 30 acres to 45, the Society has been able to establish new plantings along new trails and in extended habitats. However, the beauty and charm of the original Garden, with its winding paths and choice collection of rare and beautiful plants, is still as Will Curtis and Howard Stiles made it, a living memorial to the extraordinary men whose artistry and vision have enriched the lives of so many.

**H**omer C. Lucas was a central figure of the New England Wild Flower Society during the time it was making the transition to a modern organization. Lucas was the Society’s first patron, generously sharing his enthusiasm and interest in the Society until his death in 1985. He was especially instrumental in acquiring the Garden in the Woods as the Society’s headquarters and botanic garden.

Lucas moved to the Boston area in 1959, settling in Weston. He hired Will C. Curtis, owner of the Garden in the Woods, to design his garden, and the two



### Homer C. Lucas

became fast friends. As Curtis was getting older and the surrounding land was being rapidly developed, he shared with Lucas his concern for the Garden’s future. Lucas took up the challenge to secure perpetuation of the Garden, and it was largely through his efforts that the New England Wild Flower Society and the Garden in the Woods were brought together.

In 1982 the Society dedicated its newest building to Homer C. Lucas. A plaque in the entrance reads, “With affection and respect this building is dedicated to Homer, whose vision preserved the Garden in the Woods and whose leadership inspires the New England Wild Flower Society to continuing growth. The greatness of a man is defined by what he loves.”

*Adapted from NEWSLETTER Vol. 1, Summer 1985, written by Thomas Buchter, Executive Director*







By the 1980s, the environmental movement had found a national voice. Rachel Carson's *Silent Spring* portrayed a nature dying from toxic overload. The first Earth Day in 1970 was followed by the Endangered Species Act of 1973. While native plants had been among the earliest conservation causes, charismatic fauna such as eagles, whales, and wolves attracted most of the attention,

# Back to the Future

## *Return to Conservation: 1985-2000*

funding, and regulatory energy.

Recognizing these realities, in 1984 the Society helped found the Center for Plant Conservation, a national collaboration of like-minded organizations. In 1985, the Certificate in Native Plant Studies Program rekindled the interest in amateur field botany that had energized the early Society. By 1991, the New England Plant Conservation Program crystallized this impulse into a collaboration of professional botanists across New England.

Entering its second century, the New England Wild Flower Society has expanded its founding themes—conservation of native flora and habitats—and incorporated them into its modern mission. What began a century ago as an urge to preserve the natural legacy of a region has forged itself into an influential 21st century organization, merging 100 years of individual and institutional energy into one unified and powerful force.

## The Invisible Kingdom

by Donald A. Falk

Science and Policy Director  
Society for Ecological Restoration

It is easy to forget how quickly society can change. When I was growing up, many people in our neighborhood had been prisoners in concentration camps in Eastern and Central Europe. In the 1950s and 60s, WWII was closer in time than the first Reagan administration is today.

The same may be said for other momentous changes. Many people living today grew up in the Great Depression, and only two generations ago we were in the Great War, supposedly the war to end all wars. Only a couple of generations before that our nation was deep in civil war. Unbelievably enough, with an average generation of 20–30 years, it is only six to eight generations since our nation was founded.

A long view puts contemporary events in perspective. Since 1945, global population has more than doubled, and fossil fuels are our main source of energy. Family farms have declined by more than 90 percent, while urban populations have skyrocketed. Global distribution of wealth has become increasingly inequitable; while in 1950 the CEO of a major corporation might have made 15 times as much as the average employee, today he (rarely, she) may earn more than 120 times as much.

What does all this have to do with the conservation of plant diversity? In 1970, at the time of the first Earth Day, there was no national or international advocate for plants, the basis for all life on Earth. Elephants, pandas, whales, and baby seals all had their constituencies. All of the main conservation organizations of the time were focused on animals. Nature programs on television were a great place to see lions, but liverworts or lilies were just part of the scenery. If conservation was mentioned at all in schools (even colleges), the

focus was on animals, which kids could “relate to.” Plants were the Invisible Kingdom. At the base of the pyramid of life, there was a gaping hole in global conservation strategies.

There are more than a quarter of a million species of plants and they perform one task that is utterly central to life on earth: photosynthesis. Because, for the most part, they perform this task silently and unobtrusively, it is easy to forget how quickly ecosystems would grind to a halt if plants stopped doing what they do.

While most plants do pretty much the same basic biochemical task, it would be a mistake to think that they all occupy the same ecological niche. There are plants adapted to nearly every ecosystem on Earth, from deserts that see rain only once in a few years, to forests so wet and dense that sunlight never reaches the forest floor. There are plants that live in the sulfur fumes of volcanic steam vents, plants that live in the microscopic crevices in caves, and seeds that remain dormant underground until just the right conditions occur for

Continued next page

# FUTURE

## *Plant Conservation in New England*

By William Brumbach

Conservation Director, New England Wild Flower Society

In the countdown to the year 2000, a rash of predictions appeared in the media. While predicting the future can be a useful exercise, more often than not these predictions are wrong. Even short-term (one- to five-year) prognostications based on our best logic can turn out to be errant (remember the dreaded Y2K bug?).

Similarly, most predictions for the future of plant conservation will likely be wrong, but the exercise of examining our past conservation efforts in order to forecast our activities 50 to 100 years from now can help put our current actions in perspective. A century ago, when the New England Wild Flower Society began, the main concern of its founders was the overcollection of showy plants for horticultural purposes. Although overcollection of showy, relatively common plants remains an issue today, most of NEWFS' current plant conservation energies are spent mobilizing professionals to protect rare plant species and their habitats. The Society accomplishes this largely through the New England Plant Conservation Program (NEPCoP) and trained volunteers, principally the Plant Conservation Volunteer Corps (PCVs). In 1900, nobody could have predicted this scale of effort. And who, 100 years ago, would have predicted the great importance of private land trusts

such as The Nature Conservancy, the Massachusetts Audubon Society, and The Society for the Protection of New Hampshire Forests, or the value of the state heritage programs in tracking rare plants and animals?

So despite overwhelming odds that I'll be wrong, here are some predictions for the future of plant conservation in New England in the next 50 to 100 years. For a broader view I asked members of NEPCoP's Regional Advisory Council (RAC) to jot down their own predictions, and many of their comments are included here. I didn't warn them that their responses would be used for this article, so if you are reading this one hundred years from now (or perhaps scanning it directly into your brain via cybernetic linkage), all the accurate predictions came from RAC members. The nonsensical ones are entirely my own.

### **The New England Landscape**

The future of plant conservation has to be based on New England's future landscape. In the next 50 to 100 years, all presently available habitat will be either protected or developed (i.e., destroyed). Few undeveloped areas will remain within 30 miles of the coast, and south of Concord, New Hampshire, Montpelier, Vermont, and Augusta, Maine. The

### **The Invisible Kingdom, continued**

them to germinate and reproduce. Plants are among the first organisms to recolonize after cataclysmic events such as volcanic explosions and forest fires. Some plants live less than a year, and others, such as the bristlecone pines of the western Great Basin, live more than 4,800 years. The smallest plants, like the aquatic *Wolffia*, are less than a millimeter in length; a single sequoia can be 100 meters tall and weigh more than the largest whales.

The Endangered Species Act (ESA), passed in 1973, did offer some protection to rare plants. But American law is largely based on the English legal system, under which animals were collectively the property of the Crown (or the State), while plants belonged to the individual owner of the property on which they grew. In the United States too, plants were included in private land ownership, making

them harder to protect and regulate than animals. Under the ESA, rare and endangered animals could be protected wherever they lived, on public or private land—which is why a pair of Spotted Owls can stop urban sprawl in its tracks, or at least slow it down. Plants, however, remain under private control, and as a result the ESA does a relatively poor job of protecting them. Many of us saw this in the early 1980s, adding fuel to our conviction that plants needed their own advocates.

The initial plant conservation advocates were botanists, plant systematists, and horticulturists. These were the founders of the Center for Plant Conservation and included the New England Wild Flower Society. Other important partners in this aim were Harvard's Arnold Arboretum and The Nature Conservancy. A few private foundations and trusts—Andrew Mel-

lon, Geraldine Dodge, George Gund, W. Alton Jones, John and Catherine MacArthur, Hewlett-Packard, Pew, and Surdna—supported this relatively new movement, and, without them, plant conservation would have stood much less of a chance.

In the two decades since then, the plant conservation movement has continued to grow. Through such groups as the Center for Plant Conservation, the New England Wild Flower Society and its partner organizations are building strong coalitions of public agencies, conservation groups, and private citizens to protect rare and unusual plant species. While it is true that conservation demands eternal vigilance, plants are no longer the Invisible Kingdom. Our ongoing task is to maintain that visibility by keeping the spotlight focused.‡





*In the next  
50 to 100 years,  
all available  
habitat will be  
either protected  
or developed.*

population of Massachusetts will be five times what it is now and ten to 15 percent of rare plant species will have disappeared from eastern Massachusetts. As a further consequence of development, habitat will be fragmented, isolating remaining populations of rare species.

Large tracts of protected land will still exist, but these will be located primarily in northern New England. These areas will become vital refuges as species retreat further northward to escape the effects of global warming and are in turn replaced by more southern species. Although protected from development, the multiple use concept of public land will make it increasingly difficult to defend rare plants on public land, as habitat areas come under increasing pressure from recreational users. Invasive exotics will be so prevalent that we may be dealing with wholly different “natural” communities. Privately owned land will become even more important to fragmented habitats.

### **Predictions**

By 2100, the flora of our region will be so well botanized that all populations of rare species will be known and their locations will be mapped and monitored regularly, perhaps through satellite imaging. Rare plants will have their DNA sampled and preserved *ex situ* in either seedbanks or cryogenic storage. The preservation of this genetic material, both in the laboratory and in the wild, will be the principal focus of conservation efforts. Our increased knowledge of

genetics may bring about a shift from today’s emphasis on conserving plants at the species level in the wild toward conserving related groups of plants.

As global warming changes plant distribution in New England, conservationists will need to adopt a new concept of “native.” We will probably see the wisdom of conserving all plant species, including those that have migrated here from adjacent areas. And our conservation efforts will expand to include not only vascular plants, but also non-vascular species, such as liverworts, mosses, and fungi.

Under many current laws, animals are protected on private land but plants are not. By 2100, plants will receive equal protection. Private landowners will become important allies in the conservation of rare species and will receive tax breaks or other compensation for their efforts. In fact, private landowners will be trained to manage for rare species and to control invasive organisms on their own properties. Especially in southern New England, where it may not be practical to conserve all plant habitats, some plants will find refuge in botanical gardens, seed banks, and other forms of genetic storage, which will function much like today’s zoos.

Although a large percentage of land will be owned by federal, state, or town governments, non-government organizations, land trusts, and coalitions of private citizens will continue to perform many plant conservation activities. Since all land will be either protected or developed, management will become the main focus of plant conservation

Continued page 28

## PROGRAM PORTRAITS

In a single decade, the New England Plant Conservation Program (NEPCoP) has become a central force for plant protection in New England, so deeply involved in coordinating regional conservation efforts that many people may not be aware of how things used to be.

### Before NEPCoP

By the end of the 1980s, each New England state had some sort of independent plant conservation plan. Separate State Heritage Programs, pioneered by The Nature Conservancy, were geared to aid imperiled species. Individual states had lists of endangered and threatened species, but these lists did not reflect the status of species across political boundaries. Information was exchanged through an informal network and you had to know whom to call. Conservation priorities were based on a species' status in a given state, regardless of its status elsewhere in the region.

Funding was fragmented as well. The U.S. Fish and Wildlife Service (USFWS) enabled states to work on federally listed species, and sometimes species that were under consideration for federal listing. This covered only a handful of species, and some states benefited more than others. The same was true in academic circles, where coordination of resources and effort seldom met regional needs.

### Enter NEPCoP

NEPCoP was founded in 1991 by the New England Wild Flower Society. It was a natural extension of the Society's founding commitment to plant conservation. More than 65 indi-

# NEPCoP

## New England Plant Conservation Program

by **Leslie J. Mehrhoff**  
Collections Manager  
George Safford Torrey Herbarium  
University of Connecticut

viduals and organizations were enlisted to form an organized regional plant conservation effort. Major grants funded staff and support.

William Brumback, the Society's Conservation Director, convened a Regional Advisory Council (RAC) to set NEPCoP's goals and direction. A task force was set up for each state, including NEPCoP staff, State Heritage Program botanists, professional conservationists, academicians, and regional field botanists.

NEPCoP was publically introduced in 1992 in *Wild Flower Notes*, Vol. 7, No. 1, along with a model state conservation plan. *Flora Conservanda: New England*, NEPCoP's regional list of plants in need of conservation, was also proposed at this time as a master list for the region as a whole.

### Flora Conservanda: New England

When *Flora Conservanda: New England* was published in 1997 in *Rhodora*, the *Journal of the New England Botanical Club*, it included 576 species, subspecies, and varieties. It listed globally rare species occurring

in New England, regionally rare species for which there were fewer than 20 occurrences in New England, locally rare species, historic species (for which there were no recorded occurrences in the past 25 years), and indeterminate species. This was not a final product, but a starting place. With periodic updates, it serves as a benchmark, and will help direct NEPCoP and regional conservation efforts.

### It Only Gets Better

NEPCoP has come a long way from its beginnings. Each year the Regional Advisory Council and the state task forces meet to discuss the previous year and set goals for the year to come. NEPCoP Plant Conservation Volunteers visit hundreds of sites across the region each year. Based on their observations, conservation actions are planned and carried out. Seeds from vulnerable habitats are gathered, stored, or planted to produce plants for site augmentations. Herbaria and Heritage Programs also benefit from the data gathered by NEPCoP.

Ultimately, of course, NEPCoP's true value is its effect on the plants themselves. Plant conservation has become more focused within the region. Human and financial resources, always limiting factors, are more effectively deployed, so that more work gets done, planning is coordinated, and better conservation is the result. In its short but productive history, NEPCoP has made a strong and lasting difference, working to unify New England's regional plant conservation landscape.‡

**1983-2001** Geri Payne  
Presidents: 1989-1992  
Polly H. Pierce Edward Dane  
1983-1987 1992-1995  
1995-1996 Molly S. Beard  
Galen Stone 1996-2001  
1987-1989

**1984-2001**  
Executive Directors:  
Tom Buchter  
1984-1987  
David M. Blanchard  
1988-1989

David Longland  
1990-1994

David L. DeKing  
1995-Present



**1991** The New England Plant Conservation Program (NEPCoP) is established.



The New England Botanical Club and Maine's Josselyn Botanical Society have attracted both academic botanists and experienced amateurs throughout their long histories. The accomplishments and survival of these century-old organizations owe much to this diversity. The Society's current Plant Conservation Volunteer Corps (PCV) attracts a similar diversity to the cause of plant conservation.

When the New England Wild Flower Society started the first conservation volunteer corps in 1993, it was known as the Rare Plant Monitor Program. I quickly volunteered on behalf of the Massachusetts Natural Heritage and Endangered Species Program to help train and evaluate this pilot initiative. The conditions were right for success. The Massachusetts Natural Heritage database of 3,000–4,000 rare plant records needed updating, and NEWFS had many well-trained amateur field botanists among its members.

The use of volunteers was not without risk. Unreliable information, such as misidentification of a common species as a rare one, or mismapping of a rare plant population, could seriously hurt the reputation of the Natural Heritage Program and threaten the integrity and future enforcement of the Commonwealth's recently enacted Endangered Species Act. There were reservations about disclosing sensitive plant locations, and concerns about maintaining good relations with landowners. To address these questions,

# Plant Conservation Volunteer Corps

By Paul Somers

Massachusetts State Botanist,  
Massachusetts Natural Heritage and  
Endangered Species Program

NEWFS carefully selected the Monitor Program participants.

The initial success of the pilot Rare Plant Monitor Program in Massachusetts paved the way in 1998 for the establishment of the Plant Conservation Volunteer Corps throughout New England. The Massachusetts PCV Program has grown from 15 to 128 volunteers. Vermont, which started its program in 1996 with five members, now has 31. New Hampshire, in just three years, has expanded from nine to 52 active participants. Last year, Rhode Island's 23 volunteers visited the highest overall percentage of assigned sites. The newest programs, Connecticut and Maine, already have 25 and 29 participants, respectively. The total number of PCVs at the start of the 2001 field season was 301, well on its way to its 400 participant goal.

As the programs have matured, new management concerns have been identified, often by the volunteers themselves. Initially, the focus was on state-listed rare species. Later the emphasis shifted to rare species throughout New England. Control of invasive species at rare plant sites and in managed natural areas or conservation lands has increased in importance, and the data from PCVs will help us determine which nonindigenous plant species pose the greatest threats to natural or minimally managed land.

A primary goal of the Natural Heritage Program Network is to maintain botanical diversity for the future by identifying, managing, and protecting viable populations of all indigenous species in their natural ecosystems. If we are to succeed, particularly where development is fragmenting and disturbing the landscape, we need to spot problems as they arise and respond to them quickly. Natural Heritage botanists, often just one or two professionals in each state, cannot do the job alone. The Plant Conservation Volunteer Corps is leading the way in providing valuable support.

New England's natural landscape is a shrinking resource. Working with NEWFS and other NEPCoP partners and the growing PCV Corps has strengthened Natural Heritage plant conservation efforts in New England tremendously during the past decade. This coordinated effort offers great hope that we will succeed in reaching our conservation goals.‡



**1994-1995** "Seeds of Hope" capital campaign funds new horticulture building, education building, and rare plant garden.

**1996**

*Flora Conservanda*: New England is published in *Rhodora*, the *Journal of the New England Botanical Club*.



**1998**

Society formally establishes the Plant Conservation Volunteer Corps.

**1997** NEWFS Web site established.

on both private and public land. Management plans for all natural areas, both large and small, will have been created. Management will be strongly interdisciplinary, with teams of animal biologists, botanists, mycologists, and insect specialists working together.

Natural areas will be intensively managed for rare species, and full-time staff will be required to control invasive species there as well. Fire, where appropriate, will be an accepted and welcome habitat management tool in the Northeast. As new diseases, insects, and plants are introduced to the landscape, biological controls will be used extensively. Outbreaks of invasive plants will be identified and treated, sometimes with genetically modified organisms, early in the invasion cycle.

Restoration of degraded areas, especially in small parcels at the town level, will naturally follow the preservation of land. Many areas that are degraded, but nevertheless important as “open space,” will be restored by local conservation groups and this restoration will be subsidized by both state and federal agencies. Local genotypes of common plants will be identified by genetic testing, and made available through local nurseries. Because of introduced diseases or insects, several of our dominant tree species (including, perhaps, such familiar and valuable species as sugar maple

or white pine) will have disappeared from the landscape and their replanting will be a major thrust of restoration. Sterile cultivars of exotic species, whether known to be invasive or not, will be developed in response to strict quarantine laws limiting the introduction of all non-native species into the New England region.

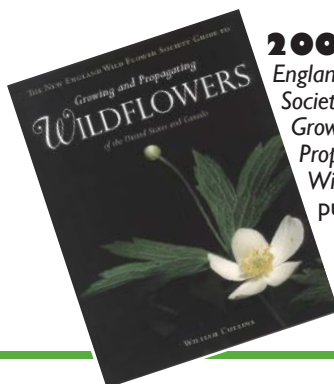
And how will our Society fit into this vision of the next century? NEWFS, through its various programs, will still promote plant conservation in New England. We will still educate the public about the plants, both rare and common, of our region. We will still provide horticultural expertise in the cultivation of native species and the control of exotic species, and these skills will be especially valuable for habitat preservation, management, and restoration. We will still research the conservation and ecology of our native species and advocate for their preservation. In short, just as our activities shifted over the past century in response to the changing requirements of plant conservation, our future programs will adjust to the changing conditions of the new New England landscape. Our mission, to promote the conservation of North American plants, is the one thing that will not change.

Oh, and we'll probably be using jet packs to get to the rare plants. I really wish I could be there for that.‡

**1999** Society acquires Concord Field Station herbarium of eastern New England specimens as a teaching and research resource.



**2000** Society now offers over 250 courses, field trips, and programs annually.



**2000** New England Wild Flower Society Guide to Growing and Propagating Wildflowers is published.

*New England Wild Flower Society*  
100 YEARS

**2000-2001** Society celebrates centennial and completes its Second Century Capital Campaign, raising over \$2 million for its new permanent conservation endowment fund.





*Making Conservation Possible:*

The New England  
Wild Flower Society's

## **Permanent Conservation Endowment Fund**

The New England Wild Flower Society is committed to protecting native plants and their habitats. Please consider sharing in our commitment. For information, call the Society's development officer at 508-877-7630, extension 3801.





*New England*  
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