

Native Plant

FALL/WINTER 2016

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NEWS

*How the
Endangered Species Act
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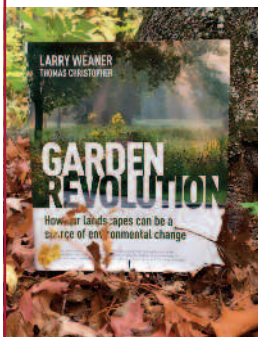
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Native Plant News

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Crataegus oakesiana



© Don Cameron

On the cover:
Seed pods of Jesup's milk-vetch (*Astragalus robbinsii* var. *jesupii*)



From the Executive Director

FOCUS ON POLLINATORS

By the time you read this, the nation will have reached another grim milestone. On October 31, seven species of yellow-faced bees (*Hylaeus* spp.)—the only bees native to Hawaii and critical pollinators of imperiled native plants—became the first bees officially protected as endangered under the federal Endangered Species Act (ESA). Others will follow soon: a week before the September 30 publication of its final rule on the *Hylaeus* species, the U.S. Fish and Wildlife Service (USFWS) announced that it was proposing the first bumble bee for listing as well. The rusty patched bumble bee (*Bombus affinis*), once common in the upper Midwest and the Northeast, is one of 47 species of bumble bee native to the United States and Canada. A quarter of those bees are at risk of extinction, due to an increasingly familiar litany of threats: habitat loss and degradation, intensive farming, disease, pesticides, and climate change. Bees are not only keystone species on which entire ecosystems depend, but also the primary pollinators of crops worth \$3 billion a year in the United States.

The bees got the headlines, but in that same final rule, USFWS also listed 27 species of Hawaiian plants as endangered, citing their vulnerability to “the impacts of climate change in addition to the other threats these species face.” As I mentioned in my last letter, the plants will receive less protection than the bees, because **plants are protected only on federal land**. The lead article in this issue of the magazine examines that discrepancy and the advocacy needed to gain some parity between plants and animals under the ESA.

The collapse of bee populations also got federal attention in May 2015, when President Obama unveiled a national pollinator strategy that created a multifaceted, interagency approach to restoring landscapes and improving habitat for pollinators (but stopped short of banning systemic pesticides that are demonstrably killing bees and other pollinators). Now we are pleased to announce our own multifaceted program—a new “Pollinate New England” initiative (see “In Brief”) to encourage homeowners across the region to build pesticide-free, native plant gardens for all the bats, bees, beetles, birds, butterflies, flies, moths, and wasps on which wild plant life depends. The program is also a reminder that while we’re working on—and waiting for—regulatory changes, we can all put our hands in dirt to save the planet.

Sincerely,

Debbi Edelstein

The Big Brown-out: Drought Hits New England, Low Rainfall Stresses Plants

By Jane Roy Brown, Writer-Editor

© Peter Burr/www.discoverlife.org



Juncus greenei

“Greetings from very dry eastern Massachusetts,” said David Celino, chief forest fire warden for the Department of Conservation and Recreation, as he joined a September webinar hosted by the Northeast Regional Climate Center at Cornell University.

As experts reported on topics ranging from fire danger to apple crops, red hotspots flared across a map: western New York; eastern Massachusetts, Connecticut, and Rhode Island; southern Vermont and New Hampshire; and Maine’s southwestern coast. Scorching heat compounded a four-month, roughly 50-percent rain shortfall. Connecticut and Rhode Island felt their hottest summers since 1895.

At Garden in the Woods, the drought struck in year two of a sustainable watering regimen, with staff irrigating plants only until they are established. “We scrambled to maintain new plantings, and some poorly sited, older established specimens nearly died,” says Director of Horticulture Mark Richardson. Many plants went dormant early. “But we learned a lot about which plants will perform best in drought, like the *Dicentra eximia* [wild bleeding heart] that bloomed into August in the Rock Garden, one of our driest, most exposed sites.”

In the wilder landscape, grasses, rushes, and sedges produced less seed than usual, and some

herbaceous annual flowering plants went to seed nearly a week early. Greene’s rush (*Juncus greenei*), a rare and threatened species in Vermont, browned early in the parched southern part of the state, where it grows in power-line corridors, says Bob Popp, botanist with the Department of Fish and Wildlife. But, he says, “I don’t think there will be long-term impacts unless the drought becomes a multi-year event.”

The likelihood of that happening is unclear. The National Oceanic and Atmospheric Administration forecasts a 50-percent chance of above-average temps for the region during the next 12 months, but precipitation remains a wild card. When rain does fall, groundwater levels will take time to recover, says hydrologist William Coon of the U.S. Geological Survey in Ithaca, N.Y. “Intense rainfall tends to run off dry, hard ground,” he says. “And a steady, gentle rain penetrates the surface but has to fill the spaces between soil particles before reaching the water table.”

When rain does fall, groundwater levels will take time to recover.

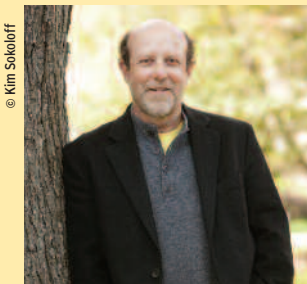


Thirsty *Rhododendron maximum* in Massachusetts

© New England Wild Flower Society

New Award Goes to New Directions

By Jessica Pederson, Director of Public Programs



Larry Weaner

© Kim Sokoloff

At the Smaller American Lawns Today (SALT) conference in November, Executive Director Debbi Edelstein will present the Society’s first Regional Impact Award, which recognizes exceptional leadership and achievement in native plant conservation, horticulture, or education with regional significance. This inaugural award honors New Directions in the American Landscape, a nonprofit organization that presents

symposia and workshops dedicated to advancing the art and science of natural landscape design. Landscape architect and founder Larry Weaner, of Larry Weaner Landscape Associates, will accept the award on behalf of New Directions.

Weaner, who also will give the SALT conference’s keynote speech, is a long-time champion of native plants. “I’ve learned to treasure the subtle, sometimes

unanticipated beauty of designed landscapes and gardens that interact with local ecology,” he says.

New Directions partners with the Connecticut College Arboretum as well as Morris Arboretum of the University of Pennsylvania to present an annual symposium for landscape professionals to explore design, implementation, and management of landscapes based on natural models.

Restoring Rare Species: From *Astragalus* to *Zizania*, a Regional Wrap-up of Summer Field Work

By Bill Brumback, Director of Conservation

Vermont and New Hampshire: Conservation staff botanists continued to bolster the world’s only known populations of Jesup’s milk vetch (*Astragalus robbinsii* var. *jesupii*) by introducing young, seed-grown plants in two of the three locations on the Connecticut River where they occur naturally. We also introduced young plants in experimental plots. During a year of drought, staff watered only one experimental site, leaving the three other sites unwatered. While more than half of the newly introduced plants at the three unwatered sites survived, the new plants at the watered experimental site did not fare as well. Is the habitat unsuitable? Is the drought to blame? Maybe answers will come next season.

Maine: After finishing a botanical inventory of the summit of Cadillac Mountain in Acadia National Park, the

Conservation staff laid out plots in which to sow seed and plant 15 to 20 alpine species within enclosures—in this case, to keep the summit’s 500,000 annual visitors at bay. Fall will find us sowing seed. The National Park Service and Friends of Acadia are funding this multi-year project to restore the flora on the summit.

Massachusetts: In an ongoing experiment to reintroduce wild rice (*Zizania aquatica*) on the Sudbury River, we set up enclosures at new sites in Great Meadows National Wildlife Refuge. Later this fall, we will return to sow seed in the enclosures, which fence out waterfowl and carp. The U.S. Fish and Wildlife Service contracted with the Society for this restoration. 🌱



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Conservation staff members thrashed through a watery jungle of American lotus (*Nelumbo lutea*) to set up sites for planting wild rice.

SOCIETY STARTS WORK ON “POLLINATE NEW ENGLAND”

By JRB

In September, the Institute of Museum and Library Services (IMLS) awarded the Society a grant to develop a comprehensive educational outreach program called “Pollinate New England” during the next two years. The program includes a suite of free educational offerings, including an online course; 12 pollinator garden workshops and installations throughout New England; and other elements. Instructors and workshop leaders will encourage participants to share what they learn with their communities and social media networks.

“We are excited to be able to start developing this program right away,” says Jessica Pederson, Director of Public Programs. “With scientists reporting drastic drops in populations of pollinators, including native bees, homeowner education is urgently needed.” 🌱

All grants from IMLS require matching funds. To support this program, contact the Philanthropy Department: 508-877-7630 x 3802; gifts@newenglandwild.org.

Interns Gain Experience, Share Wisdom

By Anna Morrison, Philanthropy Coordinator

“What I’ll remember most aren’t the things I expected to learn, but the things I didn’t expect,” says Kate Brittenham, the 2016 Chester B. Allen Jr. Native Plant Propagation and Horticulture intern, who worked at Nasami Farm this summer. “For instance, I found out that my passion for plants isn’t just about the plants, though that was what brought me here. It’s about the life they support, the drama they bring. It’s all been a wonderful surprise.”

Brittenham was among the conservation and horticulture

interns who presented to their peers and guests at the Society’s annual Intern Walk in August, at Garden in the Woods. Each intern presented a project prepared during the season. Invited guests included Contributor, Supporter, Sustainer, and Conservation Circle members, whose personal philanthropy helps underwrite the internships. This summer’s projects ranged from creating a new entrance garden at Nasami Farm to collecting seeds to restore coastline damaged by Hurricane Sandy. 🌱



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Interns gathered to present their projects at the Curtis Woodland Garden.

The Society is seeking to raise \$650,000 to underwrite future internships. To donate or request information, please contact the Philanthropy Department: 508-877-7630 x3802; gifts@newenglandwild.org.

Double Standard: How the Endangered Species Act Shortchanges Plants

By Jane Roy Brown, Writer-Editor

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Back in the 1990s, Emily Roberson was working for the California Native Plant Society when she learned that the federal Endangered Species Act (ESA) does not protect endangered plants growing on private land—even though the act protects all other endangered organisms, regardless of who owns the land they live on.

“Outside of federal lands, these endangered plants can be destroyed without permit or penalty,” recalls Roberson. “That seemed ridiculous to me. Without full protection for plants under the federal act, its promise of a safety net to prevent extinction goes unfulfilled.” Roberson subsequently founded the Native Plant Conservation Campaign (NPCC), a national network of 40 affiliated native plant societies (including New England Wild Flower Society) and related conservation organizations, which she now directs.

More than two decades later, that hole in the safety net still gapes—60 percent of the 1,300 species listed on the ESA are plants, but more than 70 percent

of imperiled plants grow beyond the reach of federal protection, on private land—and Roberson has dedicated her career to mending it. Her efforts include the NPCC’s Equal Protection for Plants project, which aims to amend the federal ESA, improve federal budgets, and change state species protection laws where necessary—all long-term goals, given a reigning political climate hostile to the ESA.

“The idea is to have support for equal protection for plants in place among the public, environmental organizations, and the scientific community,” Roberson says. “When the political climate changes, we will have a strong constituency in place to improve the law and support funding for the state and federal agencies that manage endangered plants.”

Other plant advocates agree that to push for sweeping change now would not only fail, but also draw more fire to the ESA, which has been assailed in Congress with increasing fury since 1993. According to the Center for Biological Diversity, a national nonprofit organization that advocates for endangered species, that year the number of introduced bills relating to the ESA more than quadrupled, from 86, in the previous session, to 374. Ever since, the annual number of such bills has exceeded 300. By September 2016, the current (114th) Congress had introduced

Jesup’s milk-vetch
(*Astragalus robbinsii*
var. *jesupii*)

372 ESA-related bills. The vast majority of these attempt to defang the ESA by weakening species protections and increasing states' power to exempt species from protection.

Meanwhile, the Equal Protection for Plants project is trying to raise awareness among legislators and their constituencies about the ESA's unequal treatment of plants. According to a systematic review of the ESA recently published by the Ecological Society of America, this inequality is enshrined in law dating back to medieval England, when feudal lords owned the rights to game in their domains. On Crown-owned lands, the king appointed stewards to maintain game species in trust. In the U.S., this evolved into a public trust doctrine that gives states the power to manage wildlife in the public interest. English law treated plants as part of the land, governed by property rights, and this tradition also carried over into U.S. law.

Although ecological science is now in a very different place than it was in the Middle Ages, it was still just catching up with plants in 1973, when President Nixon signed the ESA into law, preserving the status of plants as property. "Today, we know so much more about how ecosystems work, about the interdependence of plants and animals, and that plants help to buffer climate change, stabilize food and water supplies, and are generally essential to human survival," Roberson says.

Regardless of these and other advances in plant science, the legal status of plants as property is unlikely to change, says Bill Snape, an attorney specializing in biodiversity law who serves as general counsel and policy committee chairman of the board of the Endangered Species Coalition, a national advocacy network that works to safeguard and strengthen the ESA. "To take plants out of the private-property realm would raise centuries-old legal issues. You're not going to see any serious effort to do that, partly because it means getting into legal battles with millions of private landowners," says Snape. "The issue with plant conservation is to make sure threatened and endangered plants get better protection under the federal ESA. That, along with better state laws, is the ticket."

Noah Greenwald, endangered species director for the Center for Biological Diversity, offers an example of how federal protections for endangered plants can fail even on public lands, where the law clearly applies. Between 2000 and 2008, Greenwald says, the Center successfully sued to ban off-road vehicles from a 50,000-acre corridor of California's Imperial Sand Dunes Recreational Area to protect the world's only

Plants and the Federal ESA

Since 1900, global mean temperatures have increased by 0.7 degrees Celsius, and approximately half of all species studied have shifted their ranges to higher latitudes or elevations. This threat alone signals greater need for plant protections. Highlights from a recent analysis published by the Ecological Society of America* illustrate stark discrepancies in federal ESA funding for plant and animal species:

- Since 1994, listed plants have outnumbered animal species and are concentrated in areas with high levels of endemic species—species that occur nowhere else.
- Species listed at the end of 2013: 93 birds, 152 fishes, 89 mammals, 29 amphibians, 37 reptiles, 240 invertebrates, and 871 plants and lichens.
- Plants comprise more than 50 percent of all listed taxa, yet less than 12 percent of federal funding from 1998 to 2012 went to recovery efforts. Only invertebrates and amphibians received less funding.
- Plants received only 0.1 percent of the total state spending for the recovery of listed species.

* "Species Recovery in the United States: Increasing the Effectiveness of the Endangered Species Act," Evans, et al., *Issues in Ecology* 20, Winter 2016.



© New England Wild Flower Society

Small whorled pogonia (*Isotria medeoloides*), globally rare and federally endangered, grows only in New England.

ENDANGERED SPECIES ACT

known population of Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii*), a federally listed species. The court forced the federal Bureau of Land Management (BLM), which manages the popular recreation area, to close about 50 percent of the dunes, where as many as 150,000 vehicles roll in on weekends. Off-road user groups kept pushing to reopen the area. In 2013, the U.S. Fish and Wildlife Service, one of the agencies that administers the ESA, allowed BLM to reopen part of the plant's habitat against scientific advice. The Center then sued to close the reopened portion, and the case is still cycling through the courts.

In Greenwald's view, this example illustrates how the two agencies that administer the ESA—the U.S. Fish and Wildlife Service for terrestrial species, the National Marine Fisheries Service for ocean species—are vulnerable to political pressure. The authors of the

recent study published by the Ecological Society of America agree and find additional systemic issues that hobble the act's effectiveness, including internal biases, inadequate funding, and "highly uneven" distribution of money among listed species (see sidebar). That includes animal species. In 2012, for instance, the two administering agencies, both of which have names containing the word "fish," directed more than 60 percent of their funds to . . . fish. (Both agencies were established in 1871 to manage fish species commercially harvested for human consumption.) But more broadly, funding may reflect a bias toward organisms people relate to, consciously or not.

"In funding shortfalls, people gravitate toward species they care about the most," says Loyal Mehrhoff, a botanist who has worked for three federal agencies, most recently the U. S. Fish and Wildlife Service. "Rarely are they plants."

He adds that within the agency, making the case to devote scant resources to plant protection is tough, partly "because plants are not causing the biggest political headaches. The top ten or fifteen species don't usually include plants, and the portion of expenditures across all endangered species is low for both plants and invertebrates."

According to Mehrhoff, who now works in Honolulu as endangered species recovery director for the Center for Biological Diversity, the bias favoring fauna extends to the agency's formula for calculating funding allocations. "Right out of the gate, a plant gets one

Mehrhoff adds that within the agency, making the case to devote scant resources to plant protection is tough, partly "because plants are not causing the biggest political headaches. The top ten or fifteen species don't usually include plants, and the portion of expenditures across all endangered species is low for both plants and invertebrates."

State Protection in New England

Although all six New England states have state laws governing rare and endangered plants, only two protect them on private land.


CT: The state can protect plants on private land only when a state agency performs, funds, or authorizes an action that would jeopardize the species.

ME: Listed plants on private land receive no special protection.

MA: On both public and private land, the state provides equal protection for endangered plants and animals, prohibiting the taking of species and authorizing the state to acquire land containing rare plants. The law also authorizes the state to protect an endangered species' "priority habitat," which may include a larger area.

NH: The state extends no protections to plants on private property, although it prohibits state agencies from jeopardizing endangered plants during their projects.

RI: A generally worded state law prohibits only the trafficking of endangered plants, providing no protection on private land.

VT: No listed plant may be "taken" (harmed, removed, or injured) without a permit, either on public or private land. However, protection of a listed species may not "interfere with normal agricultural or silvicultural practices." The state can set up conservation programs for threatened or endangered species conservation, including buying land or aquatic habitat. A 2016 revision now also allows officials to protect a species' "critical habitat." 

point, an animal gets two,” he explains. Migratory, aquatic, and geographically dispersed species receive additional points for each of these categories, whereas a highly endemic species—one that inhabits a narrow geographical range—gets just one additional point.

In the face of overwhelming need and chronic funding shortages, “there currently is no good formula,” Mehrhoff says. “You wind up trying to go where can do the most good, given available access, which tends to be on public land. This doesn’t always result in the most important projects being funded.”

This is bad news for the 387 globally and regionally rare plant species in New England, where most of the land is privately owned, and federal holdings are scant. According to the Congressional Research Service, Connecticut is one of three states tied for the lowest percentage of federal land in the U.S., at 0.3 percent. In the region’s five other states, federal land ownership ranges from 0.8 percent (Rhode Island) to 13.7 percent (New Hampshire). At nearly 20 million acres, Maine is the region’s largest state, but the federal government owns just 1.1 percent of its land.

As Snape points out, state endangered species laws could go a long way to plug the holes in the federal ESA. At the moment, however, most do not. Forty-six states, including all six in New England, have enacted laws to protect species at risk of extinction within their borders; but, like the federal version, most state ESAs also fail to protect plants on private land (see sidebar). State laws also are wildly inconsistent: only 15 include plants in the definition of “species,” and 17 protect plants under separate laws. According to the USDA Forest Service, only a few states require agencies to consult on projects that may harm endangered plants, and fewer still require land managers to designate critical habitat or develop recovery plans for endangered plants. Those who violate the law receive little more than a wrist slap.

While advocates like Greenwald and Roberson maintain a staunch optimism in the face of legal challenges and dire statistics, they are counting on the rest of the public to educate friends and neighbors, planning boards and garden clubs, and, most important, legislators. “I like to hope that we’re building toward a tipping point,” says Roberson. “The best thing people can do is let their elected officials know that their constituencies are aware of the connection between biodiverse plant communities and the essential services they provide.” 🌱

Banking Seeds to Save New England’s Imperiled Plants

The Endangered Species Act protects fewer than 5% of the nation’s 19,000 native plant species, even though scientists classify approximately 25 percent as rare, threatened, and endangered in their core ranges. In New England, 17 percent of the native plant species are on the brink of being lost, and another 5% have already vanished from the region. Rare plant species in New England have lost, on average, 67 percent of their known range and face threats including invasive species, habitat conversion, and climate change.

The numbers reveal compelling patterns: The Sedge, Grass, and Aster families have large numbers of rare species. Sixty percent of the species in the Adder’s Tongue family, 43 percent of Saxifrages, 41 percent of Broom-rapes, 36 percent of Orchids, and 32 percent of Gentians are endangered. A disproportionately high percentage of declining species requires insect pollination, and pollinators are themselves in jeopardy.

Seed banking is one critical strategy for conserving rare plants, as it preserves the full range of genetic diversity in each species and enables strategic augmentation or restoration of populations in the wild. A national leader in rare plant conservation, the Society is now accelerating its program to bank seeds from at least two-thirds (about 2,000) of the populations of the region’s 387 globally and regionally rare plant species by 2020, the target date established by the United Nations’ Convention on Biological Diversity in its “Global Strategy for Plant Conservation.”

To date, the Society has collected seeds from approximately 550 populations of 200 species. To meet the goal, we must collect from 350 populations annually over the next four years. Please help us reach the goal by contributing to the Seed Ark project, building on the \$1 million in “seed money” generously donated by two foundations.

Please donate online at www.newenglandwild.org/support, or contact the Philanthropy Department: 508-877-7630, x3802; gifts@newenglandwild.org.



Purple milkweed (*Asclepias purpurascens*) is endangered in Massachusetts and a species of special concern in Connecticut.

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Unpacking a Botanical Time Capsule:

A Researcher Plumbs an Early Guide to Boston's Native Flora

By Judith S. Pinnolis
Photos by Ari L. Fertig © 2016

This spring the author discovered a copy of an antique book, *Florula Bostoniensis: A Collection of Plants of Boston and Its Vicinity*, in the Society's rare book collection. Turning the pages of this 1824 edition, she was amazed to find intact specimens of field-collected flowers and even more captivated with the story that unfolded in the handwritten margin notes.

The story in the margins begins in 1831, the date of the first field jottings. Andrew Jackson is president. William Lloyd Garrison publishes the first issue of his abolitionist journal, *The Liberator*, in Boston. Charles Darwin embarks on his voyages aboard the *HMS Beagle*. This is the Jacksonian era, when amateurs and professionals are not yet clearly delineated, and botany is a popular pastime

on the path to becoming a science. Inspired by discoveries of exotic plants and animals abroad and in the American West, middle-class Americans and their British counterparts explore the natural world with new zeal. Americans also regard "botanizing" as a mode of spiritual, intellectual, and physical self-improvement, even as a mark of refinement. Botanizing requires no special equipment, and, at a time when most people live in rural areas, the countryside is not far away. Thousands of botanizers troop to the wilds to identify and collect plants, and meet at newly founded natural-history societies to compare specimens.

The first edition of *Florula Bostoniensis* came out early in this surge of botanical enthusiasm, in 1814. Researching its author, Jacob Bigelow (1787–1879), proved relatively easy, as his accomplishments are amply documented. A highly regarded physician, civic leader, and medical reformer, Bigelow taught medicine and botany at Harvard College. He co-founded the innovative Mount Auburn Cemetery and presided at the American Academy of Arts and Sciences for 17 years. A native of Sudbury, Bigelow graduated from Harvard College in 1806 and studied medicine and botany in Boston and Philadelphia, where he trained under the eminent medical botanist Benjamin Smith Barton (1766–1815). (Bigelow went on to make significant contributions to this field, including writing the three-volume *American Medical Botany* [1817–1820].)

An unidentified flower collected and pressed between 150 and 180 years ago



Courtesy The Bigelow Society, 2015



In Boston, Bigelow began to collect and classify the native flora, focusing only on the local area. “The field of vegetation, which has already been explored, is so vast, that an universal botanist is a character now unknown,” he explained. “The most useful and satisfactory pursuit of the science . . . will be found in attention to the native plants of a limited district.”

In 1824, Bigelow published a revised, expanded edition of *Florula* that contained many more descriptions of plants he had collected over a two-year period, “growing spontaneously or in their wild state” within a 10-mile radius of Boston. In this edition he also notes that many foreign plant species had escaped cultivation and migrated into the landscape. This volume became a standard field guide for local nineteenth-century botanizers, including Thoreau.

The owner of the 1824 edition in the Society’s collection had penned “A. L. Russell” in the front. Intrigued by the trail of jottings, I wanted to learn more about this person. After combing census data and other sources, I identified the book’s first owner as Andrew Leach Russell, of Plymouth, Massachusetts. Later, the book belonged to his son, Andrew Howland Russell, who continued recording the dates and locations of his botanical finds.

Andrew Leach Russell was born in 1806 to a prominent Plymouth family. His father, Captain Nathaniel Russell, prospered as a shipping merchant and manufacturer, with businesses that included factories and mills. The family’s brick house stood on the corner of Plymouth’s Court Square. Andrew Russell attended Sandwich Academy and went on to Harvard College, graduating in 1827. Afterward, save for a few years in Boston, he worked in his father’s businesses in Plymouth for his entire life. Because of his local prominence, newspapers document his active civic and political affairs. We know, for example, that he



was a Whig who switched to support Martin Van Buren in his second bid for the White House. Russell was a Free Soiler, opposed to further expansion of slavery into U.S. territories, and during the Civil War, he volunteered to inform local families of soldiers killed in battle. Unlike many wealthy people, he did not keep his sons from entering the war.

As a naturalist, Russell was known in eastern Massachusetts for his knowledge and expertise in botany and landscape gardening. From newspaper accounts, we know it was Russell who planned and planted rows of elm trees to beautify Court Street in Plymouth. The gardens around his home were noteworthy enough to be mentioned in his obituary. Letters by Ralph Waldo Emerson record that he sought out Russell’s advice on plants.

Clockwise: Author Jacob Bigelow; a field-collected specimen of mountain cranberry (*Vaccinium vitis idaea* var. *minus*); field notes by the book’s owner

BOTANICAL TIME CAPSULE

Russell's link to one of the period's intellectual and literary lights through botany is fitting. At a time when the popular press promoted botany as a means to family happiness, intellectual development, and an antidote to "moral turpitude," Americans embraced Romantic attitudes about nature, which were widely expressed in popular literature and art—from the poetry of Longfellow and Wordsworth to the landscape paintings of the Hudson River School. Drawing-room wallpaper and framed parlor prints depicted botanical motifs. Everyday readers found nature poetry in the daily newspapers.

Florula became a standard field guide for local botanizers, including Thoreau.



A stem of *Clematis virginiana* plucked by A. L. or A. H. Russell

Russell jotted quotations in the margins of *Florula Bostoniensis* that capture this romantic connection between the American landscape, flora, and the arts. They also reveal his own relationship with the natural world. Tracking down the original sources was one pleasure of unpacking the book's historical nuggets. For instance, I learned that Russell read *Journal of a Naturalist* (1831) by John Leonard Knapp, a title then popular in New England (and also owned by Thoreau). From Knapp, he quotes: "None can respect the works of creation more, but it is not with an ecstasy that glows, fades, and expires, but with a calm deep-rooted conviction implanted in the boy, and increased by years of notice and experience."

Other quotations come from periodicals, such as one by Eliza Cook (1818–1889), an English author, poet, and newspaper columnist who published a periodical called *Eliza Cook's Journal*: "The love of flowers seems a naturally implanted passion without any alloy or debasing object as a motive. Watching them in youth. We admire them in declining days." When I found Cook's original text, I noticed that Russell had creatively condensed it into this pithier version.

Another quote appears on the book's front leaf: "Flowers in all ages have been made the representations of innocence proffered for decorating the bride and strew her path with flowers: we present the undefiled blossoms as a similitude of her beauty and untainted mind trusting that her destiny through life will be like their[s,] grateful and pleasing to all." I traced it to an 1856 article in the *Genesee Farmer*, a monthly journal on agriculture, horticulture, and rural life.

Most exciting are the dozen or so specimens Russell, and perhaps his son, pressed between *Florula's* pages. Now between 150 and 180 years old, these are older by half a century than many preserved in the nation's great herbaria. With the accompanying notes on location, they compose a true time capsule of the flora growing in the places the Russells rambled: the Plymouth coast, Cape Cod, the banks of various rivers. Several notes identify a location as "B. C."—was it Boston Common? This and other intriguing questions remain.

For now, this researcher has found much in the book to delight and inspire. As we work to clean the land, air, and water after a century of industrial pollution and explore ways to safeguard species during rapid climate change, I contemplate what a gift it is to find a record of our botanical and cultural heritage preserved in this historical volume. 🌿

—Judith S. Pinnolis is an academic research librarian recently retired from Brandeis University. She now volunteers as a rare-book archivist at Garden in the Woods. She lives in Newton, Massachusetts.



The Trillium Society: Why Planning for the Future Makes Sense Today

“I don’t think a day goes by when I am not reminded of my appreciation for New England Wild Flower Society, and the splendid donations that support the good work that the Society does.” Those words tumbled out of my mouth when I spoke recently with Tracey Willmott, who tends the philanthropic vineyard for New England Wild Flower Society. We were reflecting on the navigation of a generous planned gift completed earlier this year.

Not every organization can say that their gift-planning program is shipshape, but the Society certainly can. This cost-efficient organization accomplishes important work with an extraordinary team of talented, hard-working people. You can take it from someone who knows! I spent 40 or so happy years in this specialized area of fundraising before I retired in 2015, and now I help organizations with their gift-planning programs. I am also a proud member of the Trillium Society, the group of supporters who have included the Society in their estate plans.

So, when invited to share a few thoughts about gift planning, I was pleased to offer my advice and encouragement. Contrary to the impression the legal language may suggest, the process doesn’t have to be difficult or dull. Although the typical way of marketing involves eye-glazing excursions into the netherworld of charitable trusts and various subspecies of life-income gifts, I find that discussing gift planning in the context of assets is much easier. I enjoy seeing someone beginning to realize a dream for a beloved and respected organization like the Society.

When people think about their assets, more often than not they find at least one that is no longer a good fit. Perhaps an investment yields disappointing returns or involves a deteriorating relationship with a stock broker. Or someone might own a seldom-used ski house or lake cottage with burdensome property taxes. Does an investment that is stuck at 2 percent still make sense when some life-income gifts can double or triple the

dollar flow? Depending on the assets involved, the discussion may yield exciting possibilities.

For example, it often plays out that the income beneficiary of a planned gift is a person other than the donor, perhaps a loved one who needs supplemental money. I love those gifts! Creating a life-income gift can establish security for someone who will be grateful to receive a check via the Society every 90 days for the rest of his or her life, while also generously supporting the Society’s mission. And for those who enjoy relationships with several nonprofits, the Society does not have to be the only ingredient in your planned-giving recipe. In some cases, the Society can oversee an arrangement that also includes another qualified charity.

Planned giving can offer practical solutions to emotionally charged estate issues and open the door to myriad possibilities. It is so satisfying when someone tells me that their gift-planning experience was not only meaningful, but a pleasure as well. That is how I felt when I made my own arrangements to support the Society.

I would be delighted to answer your questions and explore ideas for benefiting the Society as you plan your estate. To schedule a confidential discussion with me about the Society’s gift-planning program, please contact Tracey Willmott, director of philanthropy: 508-877-7630 x3502; twillmott@newenglandwild.org. I never bill the Society; it means that much to me. Please join me in the Trillium Society today and support this organization’s important work long into the future. ☺



Peter V. K. Doyle is an Overseer at New England Wild Flower Society and a gift-planning specialist who worked for Harvard Business School and Wellesley College before retiring recently and becoming a consultant.

Members Make the Difference

Your kind annual contributions help make our successes possible. To show our heartfelt appreciation, we offer exciting opportunities for you to get together with like-minded people and learn something new while having fun. From the stampede of the Plant Exchange to the serenity of Sanctuary Stewardship Days, there is something for everyone to enjoy at each of our membership levels. From all of us to all of you, thank you!

To join, renew, or upgrade your membership, please contact the Philanthropy Department: membership@newenglandwild.org; 508-877-7630 x3801.



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1. Thanks to volunteer stewards Roni Skerker and Irma Graf, members had a great time visiting the Eshqua Bog Natural Area for the Vermont Sanctuary Stewardship Day.
2. Good choices require close scrutiny! Bill Copeland at the Members' Plant Exchange.
3. Robin Wilkerson gives a container-gardening demonstration at the Members' Open House at Garden in the Woods.
4. Volunteer stewards and sisters Lynn-Marie Kikutis and Gail Brum share their knowledge about the flora of the Annie Sturgis Sanctuary with David Soule and friends at the Maine Sanctuary Stewardship Day.

Overgrowth: A Private Viewing for the Conservation Circle

At its annual Behind-the-Scenes event, the Conservation Circle explored the *Overgrowth* sculpture exhibition at the deCordova Museum in Lincoln, Massachusetts. Julie Bernson, the museum's deputy director for learning and engagement, and Mark Richardson, the Society's director of horticulture, led an exclusive tour of the exhibition, which examined how artists represent growth and transformation in the natural world. Conservation Circle guests—the Society's most generous donors—also enjoyed a guided walk through the museum's grounds to more fully appreciate the designed landscape and plantings that form the backdrop to the outdoor art.

To join the Conservation Circle with your gift of \$1,000 or higher, please contact the Philanthropy Department: gifts@newenglandwild.org; 508-877-7630 x3802. We look forward to welcoming you to this special group and inviting you to these events.



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1. Sturdy and Carrie Waterman enjoy a bird's-eye view of the deCordova Sculpture Park.
2. Mark Richardson answers questions and discusses the flora as our guests explore the grounds.
3. Kim Burns wonders if we can make one of these impressive sculptures in our own gardens.
4. Winnie Parker takes close note of how to turn old newspapers into artistic compost.

MORE WEBINARS FOR FAR-FLUNG LEARNERS



We've expanded our lineup of webinars nearly sixfold since spring, so you can take more of our classes right from your desk.

Choose from 23 webinars, including 18 live, hour-long classes by the Society's experts in botany, horticulture, and ecology.



Six more free, on-demand programs—streamed at your convenience—are available only to members.

Peruse all of our fall programs in the *Learn + Grow* catalog or at newenglandwild.org/learn/programs.



Fruiting Oakes's hawthorn in the Connecticut River Valley in Vermont
© Arthur Haines

RARE PLANT SPOTLIGHT



Crataegus oakesiana
© Arthur Haines

Oakes's Hawthorn (*Crataegus oakesiana*)

By Arthur Haines

Crataegus oakesiana was named in 1907 by Willard Eggleston, a careful student of the genus who collected extensively in Vermont and beyond. When Eggleston first described it, this species was found in four towns straddling the upper Connecticut River in Vermont and New Hampshire. This was the full limit of its known range when this and many other hawthorn species faded into obscurity during the twentieth century, when most field botanists stopped studying hawthorns. As a result, botanists lost knowledge about how to identify the rarer species. Several species vanished from the region, and at least one extinction occurred.

One of the chief reasons for this was the excessive naming of species by Boston botanist and horticulturist Charles Sprague Sargent, which discouraged scientific engagement with these plants until quite recently. (See my post on “The Understory,” newenglandwild.org/blog.) One such “lost” species was Oakes's hawthorn. Since 2006, I have confirmed that the original population is still

extant in the upper Connecticut River Valley of Vermont and also discovered two colonies in the St. John River Valley of northern Maine. Even with these additions, this species still merits a G1 ranking, which indicates five or fewer populations in the world.

Oakes's hawthorn and many others deserve more study. But first, botanists need to change the habit of ignoring the genus and learn to differentiate its species. Only then can we advocate to conserve rare species. Fortunately, there are signs of change: I have learned recently that some botanists are collecting hawthorns for field research and monitoring rare species in some New England states—good news for hawthorns, indeed. 🌿

—Arthur Haines is the Society's research botanist and author of *Flora Novae Angliae*. Visit www.newenglandwild.org/blog for the full story of how hawthorns fell into obscurity.

We rely on your generous support to sustain this research.