



September morning fog blankets the West Field.

Celebrating the Impact of Public Gardens

In late June, more than 1,000 attendees gathered in Boston for the American Public Garden Association's national meeting. The theme was "Rooted in Resilience, a Sustainable Future for Gardens." The last national meeting in Boston was in 2004. Since then, public gardens have been established as places that connect people with the green world and address the most pressing environmental challenges we face.

This meeting's programs stressed biodiversity protection and addressed "plant blindness" as important. Plant blindness refers to our cognitive inability to recognize plant diversity and the role plants play in our daily lives and, ultimately, in our survival.

The meeting provided a pause and reflection for PHA staff and board to cele-

brate our institutional growth over 20 years in biodiversity protection (plant conservation) and our educational efforts to share the value of plants as essential to a sustainable world. The event also allowed us to reunite with several colleagues and collaborators both from the Boston region and beyond. PHA's plant collections were well-represented by Curator/Assistant Director Emily Ellingson, who presented a talk titled "Pathways to Practical Collections Development."

With Boston so close at hand, we were excited to host colleagues who travelled to see us before and after the meeting. Our colleagues were impressed by our quality growth since the 2004 meeting, particularly in the areas of collection development. The ability to grow well-documented plants allowed us to share

extra plants of high conservation value with other public gardens. Indeed, this year, we have distributed more than 700 plants to 11 institutions, an all-time high for PHA.

Although it's easy to be captivated by our beautiful living collections, we were also able to share our non-living collections: the archives, library, and herbarium. In late June, the New England Botanical Society held their "away meeting" at PHA. Emily Ellingson and Executive Director Tim Boland shared our floristic work through a tour of our herbarium and a presentation in the Education and Botany Lab on the history and establishment of the Flora of Dukes County, published online in 2022. We are proud to share the impact of PHA with our public garden and botanical colleagues. Your support makes it all possible.

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The mission of the Polly Hill Arboretum is to perpetuate the experimental tradition in horticulture established by Polly Hill by sharing knowledge of plants and scientific procedure through educational programs, research, plant conservation, and exploration. The Arboretum seeks to preserve its meadows and woodlands, to promote an understanding of its collections, and to encourage their utilization for scholarship, observation, and the enjoyment of all.

Meristems

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Individuals from many organizations collaborated to work on preserving a native endemic, cleft-leaved hawthorn (*Crataegus schizophylla*). Photo: Hailey McLaughlin/Vineyard Gazette

Message from the Director

This past season was marked by the success of several key collaborations. Local trees have been on our minds in more ways than one. In 2023 the West Tisbury Tree Advisory Committee successfully petitioned the voters of West Tisbury to provide funds for new tree plantings in the town's historic district.

In April 2024, staff and volunteers gathered to plant these new trees. This included the help of town municipal employees, PHA volunteers, and several local citizens inspired by our efforts to improve the urban forest of West Tisbury.

PHA members and visitors, Island citizens, and conservation partners have faced another year of witnessing beech trees decline from Beech Leaf Disease (BLD). Read more about the status of this disease in this issue. One inspirational local tree story involves preserving a native endemic hawthorn, or cleft-leaved hawthorn, *Crataegus schizophylla*.

The work on this tree started back in 2007, and because of the tenacious work of PHA Research Associates Margaret Curtin and Greg Palermo, a vulnerable population was rescued this year from the negative impacts of aggressive plants. In mid-July, 15 volunteers gathered with full garden armament to clear around the trees. The group included people from PHA, Martha's Vineyard Land Bank,

BiodiversityWorks, and Boston-based Native Plant Trust.

This was a remarkable gathering of conservation partners on a hot, muggy day. The team worked tirelessly to preserve these trees. I am proud of the team representing PHA, which included myself, Greg, Margaret, Grounds Manager/Arborist Ian Jochems, and interns Jamie Chronister and Simon Krukowski.

In addition to a focus on local tree collaborations, PHA partnered with local organizations and received funding through grants to make strides toward healthy and improved biodiversity. We also worked with our land conservation partners supported by funding through a Municipal Vulnerability Preparedness (MVP) grant program.

The Martha's Vineyard Commission received the grant and helped organize the effort. A part of the project involved conducting a comprehensive vegetation survey of Island ecosystems and identifying their short and long-term threats. Grant work also focused on a program to promote the use of local native plants (Plant Local) to reduce fertilizers, excessive and obsessive lawn care, and to support local fauna.

Isabella Colucci Completes Internship and Takes On New Role at PHA



Isabella Colucci collects plants to identify in the North Field.

The nine-month Curatorial Internship has been a mainstay of PHA programs for more than a decade and has produced nationally recognized curators and plant recorders.

In December, Isabella (Bella) Colucci is finalizing a productive and meaningful intern-



Isabella Colucci teaches middle schoolers how to take herbarium voucher specimens on Penikese Island.

ship experience. She dove into a curatorial inventory and review of the North Field meadow and surrounding trees and shrubs, contributed to the organization and data management of the herbarium, updated plant records and made labels for plant identification.

One of the unique experiences of Bella's internship was teaching middle school girls at the Penikese Science and Nature Camp on Penikese Island, toward the southern end of the Elizabeth Islands. She learned about the local flora of Penikese Island and presented on herbaria, emphasizing the importance of place-based learning and plant documentation.

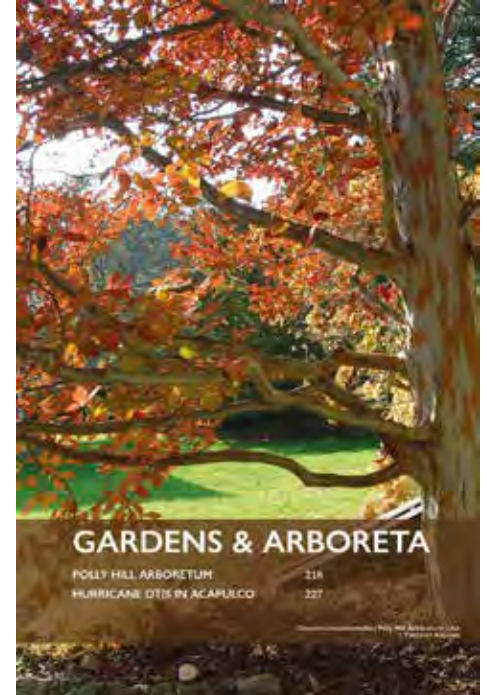
"I am grateful to have had this internship opportunity at Polly Hill Arboretum and have felt completely at home among my fellow plant enthusiasts," Bella said. "I have learned so much from everyone, especially from my mentor, Emily. PHA is a very special environment full of knowledgeable leadership, staff, volunteers, and researchers with a unified mission to conserve Polly Hill's legacy. This internship has both shaped and defined my goals and my career aspirations."

Bella brought a keen eye for detail and curiosity to her work at PHA. We are delighted to announce that Bella will continue at PHA as a Collections Specialist until the end of April 2025, working on projects in the herbarium and the research library.



Isabella Colucci uses the drill press to prepare labels for display.

International Publication Details PHA History



The cover of the International Dendrology Society 2023 Yearbook features the *Stewartia pseudocamellia* in front of the PHA Education Center & Botany Lab.

The mission of the International Dendrology Society (IDS) is to promote the study and enjoyment of trees and other woody plants, bring together dendrologists from all over the world, and protect and conserve rare and endangered plant species worldwide.

PHA has contributed to Tree and Shrubs Online, a large-scale project that attempts to create the most modern reference of trees and shrubs. Executive Director Tim Boland will travel to London, England, in 2025 to give an IDS lecture on PHA's plant conservation activities in North America.

PHA's history was featured recently in the IDS 2023 Yearbook. The accompanying article, compiled by Executive Director Tim Boland with assistance from staff who use the PHA archives, provides an excellent overview of the Arboretum's programs and mission.

The article reflects on 25 years of institutional growth as well as the local and global impact of PHA programs. The International Dendrology Society has more than 1500 members in 50 countries. Read the article online at dendrology.org/publications/gardens-and-arboreta/polly-hill-arboretum/.

A Tribute to Hunter Moorman and Leslie Gray

On June 29, the Polly Hill Arboretum lost a friend in Hunter Moorman. Hunter, a former PHA board president, took joy in our accomplishments and in his retirement, frequently walked our campus. He was active in many charities on Island, and best exemplified living a life of service to his community.

While chairman of the West Tisbury Free Public Library, Hunter worked tirelessly to raise funds for the new library, including its beautiful eco-sensitive gardens for which PHA procured most of the plants and assisted in the design. "Hunter was a steady and calm presence whom I came to admire and develop a friendship with," said Executive Director Tim Boland. "Together, we took pride in the development of the new library and certainly the remarkable landscape that is not only beautiful but protects the nearby watershed through the use of well-adapted native plants."

Hunter's wife, Leslie Ann Gray, preceded him in death in 2021. Leslie was a dedicated grounds volunteer at PHA and served on the board for the West Tisbury Local Historic Commission. She worked diligently with Karin Stanley, Jill Bouck, and Anne Fisher to establish PHA on the National Register of Historic Places in 2015.

It's hard for our community to lose such talented and giving individuals in such a short time span. To honor Hunter's and Leslie's contributions to PHA and our local town, we are dedicating a plaque in their memory to be placed on a picnic table made of local Island sassafras. Hunter enjoyed lunches with friends at this table, which was skillfully crafted by Tucker Hubbell, PHA Facilities Manager.

The Arboretum is accepting donations in memory of Hunter and Leslie to maintain the table and plaque. To donate, please send an inquiry to info@pollyhillarboretum.org.



A unique hand-crafted picnic table will honor Hunter Moorman's and Leslie Gray's contributions to the Polly Hill Arboretum and town of West Tisbury.

The Glorious Goldenrods: In Support

Solidago, also known as goldenrod, is a genus of more than 100 species globally, most of which are native to North America. The genus name *Solidago* means to make whole, referring to how some species in the group have been used medicinally.

Members of the diverse aster family (Asteraceae), goldenrods are generally perceived as weedy plants and are falsely accused of causing autumnal hay fever—they don't have wind-borne pollen. You can thank common ragweed (*Ambrosia artemisiifolia*) for allergies, instead. Thus, many gardeners remove goldenrods despite their late-season nectar benefits to bees, butterflies, and other beneficial insects.

Here on Martha's Vineyard, there are 16 native species that thrive in a variety of habitats including meadows, woodlands, swamps, and even beaches/dunes. Listed below are a few you can find blooming around the Island mid-summer into early fall. If you are interested in learning how to identify this challenging genus, consider checking out the Native Plant Trust's Go Botany website (gobotany.nativeplanttrust.org) for more information.



Minute teeth edge the leaf blade of early goldenrod (*Solidago juncea*).

means rush-like, referring to the plant's rigid stem.

Gray goldenrod (*Solidago nemoralis*) favors disturbed habitats, including meadows, fields, and forests. This perennial grows well in full sun and slightly acidic, dry soil conditions.



The mature flowers of early goldenrod (*Solidago juncea*) form small panicles along stiff stems.

Early goldenrod (*Solidago juncea*) loves fields and woodland borders and is one of the earliest goldenrods to bloom in mid-summer. An easy-to-grow perennial that is drought tolerant at maturity, the species name *juncea*



Despite its common name, gray goldenrod (*Solidago nemoralis*) sports familiar clusters of yellow flowers.

of *Solidago* By Isabella M. Colucci



A honeybee visits the late-summer flowers of gray goldenrod (*Solidago nemoralis*).



The leaf hues of gray goldenrod (*Solidago nemoralis*) give it the common name.

It is named gray due to the hairs on the stems and leaves giving it a grayish appearance.

Common wrinkle-leaved goldenrod (*Solidago rugosa*) likes full sun and moist disturbed areas, such as meadows/fields, swamps, as well as wetland margins. The specific epithet *rugosa* translates to wrinkled as demonstrated by the leaf vein indentations. Another identifying trait is the dense hairs present on the stems and leaves of the plant giving it another common name, rough goldenrod.



The flowers of wrinkle-leaf goldenrod (*Solidago rugosa*) attract a locust borer.

Seaside goldenrod (*Solidago sempervirens*) is extremely salt tolerant and has adapted to growing along coastal beaches, dunes, and salt marshes. This species has distinctive waxy, succulent leaves with smooth edges. It is named *sempervirens*, meaning always green, because the leaves remain green throughout winter.

Goldenrods are a solid choice in the garden. They can even be used as a natural plant dye, producing a beautiful bright yellow similar in hue to their sunshine-colored flowers. As part of our MV Wildtype Program, PHA propagates *Solidago* from seed for our annual online spring and fall plug sales to spread awareness of these gold biodiversity superstars.

So the next time you are weeding your garden, consider leaving or planting a few goldenrods to enjoy their glorious blooms later in the season.



The leaves of wrinkled-leaved goldenrod (*Solidago rugosa*) give it the common name.



Seaside goldenrod (*Solidago sempervirens*) generally stays green throughout winter.

Meeting Polly in the Plant Records By Isabella M. Colucci

Imagine what you can do if you just get started.

—Polly Hill

It was on a rainy Sunday afternoon in April that I first met Polly Hill. Snuggled up on the couch on my first day at Hoft Farm with a mug of tea in hand while it slowly drizzled outside, I picked up a yellow book with a repeating filigree leaf design I'd found tucked away on a bookshelf. As I read *Leaves from a Life* by Ralph Graves, the idea of who Polly was started to take form.

Polly was described as a practical, determined woman who decided at the age of 50 to plant her first tree. Growing up in the Garden Capital of America in Pennsylvania, and eventually moving to Delaware, greatly influenced her views on horticulture. Upon inheriting what had been her family's summer property, she decided to do something about the Vineyard's "horticulturally impoverished" state by experimenting through sowing seeds and documenting her process.

Fast-forward to today, I've worked at the Arboretum for a while and the picture of who Polly was and what she symbolizes to the Arboretum is more complete. However, she remains a mythic legend to those who never had the chance to meet her in real life. As this year's Curatorial Intern, I have enjoyed the opportunity to dig a little deeper and discover more about Polly through the meticulous plant records she left behind.

But what are plant records and why are they important? Plant records help gardens and arboreta keep track of all the plants on the grounds and provide a record of observations, past management, and collections development decisions that align with the mission. Each

plant in the collection is assigned a unique accession number that is entered into our plant records management database, called IrisBG, and is also mapped, so that we know where the plant is. The scientific name, the author(s) who first described the plant, from whom or where the plant was received, and where the plant was collected (i.e., from a garden or the wild) are examples of data recorded and entered into IrisBG. This information is then documented on hard-copy accession cards, a tradition established by Polly back in 1958.



Fagus sylvatica 'Fastigiata' is named for its upright habit.

Polly, a scientist at heart, was one of the first private gardeners to not only have plant records but to also have her records digitized. The first tree Polly planted and made an accession card for was *Fagus sylvatica* 'Fastigiata'



Stewartia malacodendron 'Delmarva', with its striking purple stamens, blue anthers, and a splash of crimson on one of its five petals.

(1958-001*A) located next to the Far Barn. It is because of the notes Polly wrote that we know this European beech cultivar was received as a 2-foot tall, grafted tree on Thanksgiving, 1958.

Polly also collected seed from the wild, a tradition PHA continues to honor. Her records show that the first wild-collected seed she documented came from a "compact plant" of winterberry (*Ilex verticillata*, 1958-004), an Island native collected from Albert Littlefield's pasture in North Tisbury. Unfortunately, no plantings from this accession exist on the grounds today. However, this record is the parent of eight cultivar introductions made by Polly, which she named: 'Aquinnah', 'Bright Horizon', 'Chickemoo', 'Earlibright', 'Quansoo', 'Quitsa', 'Shortcake', and 'Tiasquam'.

Polly selected about 70 cultivars, all of which were grown from seed. For one of her selections, *Stewartia malacodendron* 'Delmarva' (1962-039), Polly had to wait 27 years to see its first blooms. When it finally flowered—at the height of 8 feet in 1989—she recorded this information on

FAGUS SYLVATICA F. FASTIGIATA		Scint. Name	Col.	CC	Scint. Code
K. KOCH.		Author (25 Space Maximum)		6-5	Code L-4
58-1		Accession Number		6-53	Code 1-4
3019		Family Name Code		6-57	Code 1-4
		Enter Family Name Here → FAGACEAE			
UPRIGHT EUROPEAN BEECH		Common Name (25 Space Maximum)			
WEST OF FAR BARN, AND SUBBERT FIELD SOUTH EAST					
Source, Collector		PROBABLY SHERWOOD H. CO.			
1958		Year Received (Use 4 Digits)	THANKSGIVING, 1958		
DIVIDED		How Received (Seedling, Cuttings, etc.)	LARGE GRAFTED PLANTS 2"		
		Country of Origin Code			
		Enter Country Name Here			
0297					

Polly's first accession card was made for the *Fagus sylvatica* 'Fastigiata' she planted. Note received date as "Thanksgiving, 1958."

ILEX VERTICILLATA		Scint. Name	Col.	CC	Scint. Code
(L.) A. GRAY		Author (25 Space Maximum)		6-5	Code 1-4
58-4		Accession Number	ACE → MAYBE LAEVIGATA OR HYSPID	6-53	Code 1-4
0671		Family Name Code		6-57	Code 1-4
		Enter Family Name Here →	AQUIFOLEACEAE		
BLACK ALDER		Common Name (25 Space Maximum)	WINTER BERRY		
N. TISBURY MASS		Source, Collector (25 Space Maximum)	LITTLEFIELD PASTURE ACROSS BRAB		
1958		Year Received (Use 4 Digits)	COLLECTED FROM COMPACT PLANT IN SUN		
SLEEP		How Received (Seedling, Cuttings, etc.)			
921		Country of Origin Code	MASS.		
		Enter Country Name Here			
Additional Information is available in:					
Field-Colors	Date	Item	Field-Colors	Date	Item
1 - 34, 35	7/5	Nomenclature	8 - 45, 49		Herb. Voucher
2 - 36, 37		Localities	9 - 50, 51		Lit. Reference
3 - 38, 39	02	Source	10 - 52, 53		Propagation
4 - 40, 42		Habitat	11 - 54, 55		Performance
5 - 42, 43		Range	12 - 56, 57		Display
6 - 44, 45		Number Rec'd	13 - 58, 59		Generic Data
7 - 46, 47	7/7	Planting Date	14 - 60, 61		Pathogens
					1405

Polly's accession card for *Ilex verticillata* (1958-004) indicates record of collecting from a "compact plant."

West Tisbury Plants Trees for Arbor Day

The West Tisbury Tree Advisory Committee held a joyous Arbor Day tree planting in the West Tisbury Historic District, on April 27. Funds from the town were used to purchase trees, such as flowering dogwoods (*Cornus florida*), shadbush (*Amelanchier laevis*), and American linden (*Tilia americana*) to provide ornamental interest, shade and to increase tree diversity.

The day began with a tree planting demonstration by West Tisbury Tree Warden Jeremiah Brown, followed by 21 volunteers (11 from the PHA grounds crew) planting 15 trees at



West Tisbury Tree Warden Jeremiah Brown demonstrates the correct way to plant a tree.

Brandy Brow, the West Tisbury Town Hall, Music Street, and Mill Pond. We ended the morning enjoying well-deserved coffee and snacks at the West Tisbury Library picnic tables.

The tree planting required months of planning by the committee, which includes Tim Boland (PHA Executive Director), Jeremiah Brown (West Tisbury Tree Warden), Emily Ellingson (PHA Curator/Assistant Director), David Fielder, JT Hunt (Bartlett Tree Experts), and Oliver Osness (Mass Audubon).

The event would not have been successful without help from our dedicated community. Special thanks go out to Vineyard Gardens for providing mulch and technical assistance, Bartlett Tree Experts for watering trees, Ian Jochems and the PHA grounds volunteers for helping prep planting holes, and the enthusiastic volunteers of all ages that showed up to plant trees.



Emily Ellingson, Isabella Colucci, Nancy Rogers, and a volunteer free a shadbush (*Amelanchier laevis*) from its pot for planting.

New Initiative Promotes Native Plants

In a focused effort to encourage the use of local native plants in both residential and commercial landscaping, PHA contributed to several publications as part of the Martha's Vineyard Climate Action Plan.

This effort began by identifying the barriers to using native plants through seven focus groups with landscape companies, Brazilian landscapers, garden centers (or nurseries), landscape designers, Tribal members, gardeners, and homeowners.

The focus groups were led by Sakiko Isomichi, a 2023 MV Vision Fellow and PHA greenhouse and propagation volunteer, along with three community liasons: Cathy Verost, Deborah Silva Duarte, and Jannette Vanderhoop. Sakiko is pursuing her Master in Landscape Architecture at the Harvard University Graduate School of Design.

The series of brochures features plants selected for diverse growing conditions and highlights their benefits to wildlife. Accompanying the brochures is a small booklet titled *Plant Local Martha's Vineyard: A Nature-Based Landscaping Guide*. These publications are part of the Vineyard Way Initiative and can be accessed at: thevineyardway.org/category/plant-local-mv, or by scanning the QR code in the graphic below.



FROM THE LIVING COLLECTIONS *continued*

its accession card. Her records also show it was named after the Delmarva Peninsula in Virginia, where William Frederick acquired seeds, eight of which he gave to Polly in 1961.

Even during what I fondly refer to as the "Polly days," the foundations of PHA's mission and living collections policy are reflected in the historic plant records, as we continue to observe, experiment, record, and share the changes to our collections with our visitors. Her legacy lives on in the plants and people she has impacted. And I thank her for the mark she has made on my life by further cultivating my passion for scientific inquiry and plant records. Although, I may not have met the "real" Polly, one thing I've learned while working in the plant records is that she was curious, dedicated, and patient, and exemplifies that anyone can embark on a journey at any time if they "just get started."



Brilliant fruits shine on *Ilex verticillata* 'Bright Horizon,' one of Polly's eight winterberry cultivar selections.

Beech Leaf Disease Update



Ian Jochems watches over the injection of the significant beech on the north side of PHA's parking lot.



Isabella Colucci drills holes in the base of a beech for insertion of the injection system, which allows fungicide and nematicide to be systemically absorbed by the tree.

The presence of beech leaf disease (BLD) continues to be problematic for Island beech trees. If you've walked through the woodlands around the Island or if you have an American or European beech in your yard or neighborhood, you've noticed thinning canopies and malformed, discolored and banded leaves that are indicative of BLD.

These symptoms are caused by a microscopic worm, or nematode (*Litylenchus crenate* subsp. *mccanii*) that infects the buds of beech

trees, feeding on internal leaf tissues and impairing the tree's photosynthetic capabilities.

BLD first came to PHA's attention in the summer of 2022, and we immediately began seeking treatment possibilities. Beeches are important to the Arboretum; they were some of the first trees planted by Polly and continue to be sentinel specimens. In 2023, we saw significant levels of damage on all our beech trees, and we began a treatment regime of foliar sprays of a nematicide and fungicide (fluopyram; trade name Broadform), recommended by Bartlett Tree Experts for our most important trees.

Treatments at PHA

PHA is now trialing a variety of treatments to help keep BLD at bay in the beeches in our living collection. In spring of 2024, beeches that had been treated leafed out more consistently and the leaves were less damaged than beeches that were not treated.

A study led by Bartlett Tree Research Laboratories found that foliar applications of fluopyram can kill more than 90% of live nematodes when applied at the right time of year (Loyd et. al. 2024), so we continued our treatments.

The treatment plan consists of a cycle of four foliar sprays spaced about a month apart, starting in July and ending in October, when nematodes are migrating from leaves into buds. This timing is very important.

We use two products, a fungicide and nematicide called Broadform and a fungicide called Reliant. These products are rotated with the following program: Broadform in July, Reliant in August, Broadform in September, Broadform in October. Bartlett is treating nine of the largest beech trees in our collection, and we are treating the other four, smaller trees.

We also decided to treat the naturally occurring American beech (*Fagus grandifolia*) trees in the picnic grove near the Visitor Center, an iconic site for shaded respite, and a beautiful tree on the north side of the visitor parking lot. We feel these are good candidates for an experimental treatment for larger trees using a basal trunk injection treatment system and a chemical product called Arbotect 20-S. This is the same product that is used to treat Dutch elm disease and has been approved for use on BLD in Massachusetts.

Injections are systemic—we drill small holes into the base of the tree, inject the product and the natural movement of water from tree roots to shoots transports the pesticide inside the tree. This method reduces the possibility of run-off. A generous donation helped us purchase a new injection system called QUIK-jet AIR from Arborjet, that reduces the time it takes to inject trees.

We will have to wait until next spring to understand the efficacy of our treatments. Every year, we will need to reevaluate our trees



A fern-leaf European beech (*Fagus sylvatica* 'Asplenifolia'), accessioned in 1961 at PHA, treated with foliar sprays has shown improvement of symptoms.

Progress Report: Island Hawthorn

and make decisions on management. Treating trees does not guarantee their survival and we may eventually find that the monetary and environmental cost of treating trees outweighs the benefits. Additionally, it is neither cost effective, realistic, or ecologically sound to treat the American beech in the PHA woodlands.

Recommendations for Homeowners

If you own woodlands, we do not recommend removing beech trees that are living or dead unless they are a significant safety concern. Living trees may not succumb to the disease and dead trees still provide habitat for wildlife and contribute to healthy nutrient cycling in forests. Soil disturbance can also set the stage for the spread of invasive species.

If you have a beech tree in your yard that is suffering from BLD and it is important to you to protect it, you can contact a local arborist to get a professional opinion, estimate on cost of treatment, and treatment plan. Treatment of trees requires a pesticide applicators license and should be done by a professional. We also recommend general



Thinning canopies of the American beech (*Fagus grandifolia*) in the picnic grove prompted action.

Over the past seven years, PHA has identified new populations of the Island endemic tree, the cleft-leaved hawthorn (*Crataegus schizophylla*). PHA Research Associates Margaret Curtin and Greg Palermo, who rediscovered the only previously known population of the species in 2018, have now encountered 28 trees in 11 populations on the Island. PHA has been involved in recent efforts to rescue these populations in different ways.



Volunteers clear overgrown vines from a small population of the critically imperiled Island endemic cleft-leaved hawthorn (*Crataegus schizophylla*).

First, to save a species, you need to confirm its identity. In late May, PHA hosted the legendary New England botanist Arthur Haines to review hawthorns while in flower. He concurred with the hawthorn expert who visited PHA last year, Ron Lance, that the populations that have been found over the last few years are indeed the cleft-leaved hawthorn.

PHA has also been working on propagating the trees. Healthy seed has been difficult to obtain so we have turned to cloning by grafting. In late February, PHA staff took scionwood and sent it to the Arnold Arboretum to graft onto rootstock. The grafts were successful and in July, the Arnold Arboretum delivered three cleft-leaved hawthorn plants to PHA. These

maintenance such as pruning your trees to increase air circulation, properly mulching the base of trees, and watering, especially during droughts.

Citation:

Loyd, A.L., Cowles, R.S., Borden, M.A., LaMondia, J.A., Mitkowski, N., Faubert, H., Durke, D., Hausman, C., Volk, D., Littlejohn, C., Stiller, A., Rigsby, C.M., Brantley, B., & Fite, K. (2024). Exploring novel management methods for beech leaf disease, an emerging threat to forests and landscapes. *J. Environ. Hort.* 42(1):1-13.



Emily Ellingson and PHA Plant Propagator Brittany Clark collect the thorny scionwood of cleft-leaved hawthorn (*Crataegus schizophylla*) for grafting.

plants are in 1-gallon pots in our nursery and can be planted in our living collection as a form of *ex situ* (off-site) conservation. If more grafted plants become available, they can be distributed to conservation-focused botanic gardens and Island organizations.

Additionally, in mid-July, a team of 15 workers from PHA, the Martha's Vineyard Land Bank, BiodiversityWorks, and the Native Plant Trust joined forces to save a population of cleft-leaved hawthorns overrun by vines. The team spent hours cutting, digging, and extracting invasive and aggressive native vines that were preventing almost all light from reaching the trees.

Conservation work is truly a community effort, and we are so grateful for our partners. If you encounter a hawthorn on the Island, please contact info@pollyhillarboretum.org.



Cleft-leaved hawthorn (*Crataegus schizophylla*) was successfully grafted on cockspur hawthorn (*Crataegus crus-galli*) rootstock.

Winter Maintenance Tips for Home Gardeners By Jack Morgan, Horticulturist

As the days shorten and temperatures drop, it is tempting to think that a gardener's job is waning with the season. Although the summer watering and weeding may no longer be necessary, there are many tasks that are best done during the dormancy of winter to ensure the health of your plants. Here at the Polly Hill Arboretum, two of our most important "off-season" tasks are the fencing of plants and winter pruning.

Fencing Barrier

Browsing damage from white-tailed deer is one of the biggest pest pressures we face here on Martha's Vineyard, with deer populations estimated at roughly 50 per square mile. Any gardener on Island knows the feeling of checking in on a new planting only to find it butchered by our furry neighbors. Although deer browsing can occur at any time of the year, it is particularly likely during the winter where there are fewer plants for deer to forage.



Ian Jochems and Jack Morgan stake and fence to protect specimens susceptible to deer browse.

This is especially true when there is a healthy amount of snow on the ground. When unable to access the plants, they typically prefer, deer will go after plants they would normally never eat. Nearly all plants are susceptible to deer browsing, and we have found that maples, as well as ericaceous plants (such as rhododendrons/azaleas and enkianthus) are particularly at risk.

At PHA, we spend considerable time in fall putting up fencing around our plants to protect them from the threat of deer browsing. Doing so often requires multiple individuals and lots of teamwork, and we are indebted to our volunteers who help us with this important task. A 4- to 5-foot wire fence around the plant, held in place by bamboo stakes, ensures almost complete protection from deer for the duration of the winter. Although the fences are unsightly, they are a crucial tool to ensure the health of our trees and shrubs, especially those newly added to the grounds.



Above and right: A depiction of rubbing and crossed branches on witch hazel (left: *Hamamelis x intermedia* 'Barmstedt Gold'; right: *Corylopsis sinensis*).



Dormant Pruning

Pruning is another task that occupies our time during the winter months at PHA. Although dead branches and sucker growth can be removed during the growing season, it is best to hold off on more extensive live-wood pruning until dormancy, specifically between mid-November to mid-March.

Principally, pruning live wood at this time greatly reduces the risk of disease transmission, and there won't be any insects to take advantage of the newly exposed tissue and sap flow. Additionally, it is much easier to judge the form and structure of a deciduous tree or shrub when there is no foliage present, and therefore easier to identify the right pruning cuts to make.

Consider size, direction of growth and structure when deciding which one to remove. Carefully choose the right cuts to make and do so in the correct order.

- First, identify and remove dead and diseased wood.
 - Second, remove crossing and rubbing branches, branches that may develop co-dominance, and branches with acute v-shaped unions with the trunk.
 - Finally, make structural cuts to improve the form of the plant, taking care to preserve its natural form, and thin the canopy as needed.
- Spring-flowering trees and shrubs such as lilacs, magnolias, and rhododendron should not be pruned in the winter. Doing so will remove the flower buds that formed on past year's growth, greatly reducing the number of flowers that will bloom in the spring.

Home gardeners have plenty of tasks to keep up with during the winter months. Keep these tips in mind to ensure the health of your trees and shrubs, take time to plan for the growing season and before you know it, spring will be here once again.



Above and right: Examples of *Acer tegmentosum* 'Joe Witt'. The striped maple on the left displays a structurally vulnerable v-shaped branching with included bark that doesn't fuse and leaves trunks vulnerable to splitting. The example on the right displays a healthy u-shaped branching structure, which has more structural integrity.

PHA Seeks Program Feedback



PHA has family friendly seasonal celebrations.



The Island's habitats and PHA grounds are excellent living laboratories for learning plant identification.

PHA has offered an array of programs for more than 25 years, and we want to hear from you as we plan for 2025 and beyond to meet the needs and interests of our members and visitors. The survey deadline is on January 31, 2025.

Please use the QR code or link to access the online survey. If you don't wish to participate in the survey but would like to provide feedback, please send your comments to info@pollyhillarboretum.org.

We want to hear from you about:

- The types of programs you would like to attend
- Your preferred time of day, year and weekday for programs
- Preferred length of program
- Experiences with PHA programs
- Other comments

Link to Survey:
bit.ly/PHA-Program-Survey



Specialized tours are offered year-round.



Hands-on workshops result in at-home skills.



Art in the Arboretum, 2018.

Chainsaw Safety Class for Conservation Community

This past spring PHA Grounds Manager/Arborist Ian Jochems brought back his popular chainsaw safety class to Island conservation organizations. Chainsaws are an invaluable tool made for arborists, land managers and field crews and require specific personal protective equipment and training to be used safely.

During the class, Ian taught attendees how to safely operate a chainsaw and demonstrated several chainsaw skills, such as how to make

pruning cuts, fell a tree, and safely remove spring-bearing loads in woodland settings.

This free class was held at PHA and attended by staff and interns from PHA, as well as staff from the Martha's Vineyard Land Bank Commission, BiodiversityWorks, and Sheriff's Meadow Foundation.



Ian Jochems demonstrates safe chainsaw operation while felling a Nordmann fir (*Abies nordmanniana*).

THE POLLY HILL ARBORETUM

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FIND US ONLINE

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[facebook.com/pollyhillarboretum](https://www.facebook.com/pollyhillarboretum)
[youtube.com](https://www.youtube.com), search: polly hill arboretum

ADMINISTRATIVE OFFICES

The Homestead
809 State Road
West Tisbury, MA 02575

VISITOR CENTER/ VISITOR ENTRANCE

795 State Road
West Tisbury, MA 02575

ACCESSIBILITY

The Visitor Center is wheelchair accessible.

VISITOR CENTER HOURS

Open 9:30 am–4 pm daily, late May
through mid-October

ARBORETUM GROUNDS HOURS

Sunrise–sunset, year-round
Please note: maintenance is often
performed on Wednesdays.
Check website before visiting for
occasional grounds closures.

ADMISSION

\$5
Free to members & children 12 and under

FREE PARKING

mer.i.stem: *n. botany.* The growing
point or area of rapidly dividing cells
at the tip of a stem, root, or branch.



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ART IN THE ARBORETUM



Artworks from ART IN THE ARBORETUM, 2018

Call for Arboretum Art

Have you taken photographs of the landscape, sketched a flower, or painted a vista of the Arboretum? PHA would like to share your art with visitors in 2025. Seeing the PHA landscape through another's eyes is an insightful way to experience the year-round destination.

How It Works:

- Email a photograph of the artwork you would like to submit for consideration to Erin Hefpner, *Visitor Experience, Membership and Outreach Manager* at: info@pollyhillarboretum.org.
- Deadline for submission: January 31, 2025.
- Reprints of original artwork will be used.
- Staff will help to obtain high resolution photographs to be reprinted and displayed.
- An array of artwork based on subject matter, medium, and location will be selected.