ADKINS ARBORETUM

NATIVE SEED

ADKINS ARBORETUM, A 400-ACRE NATIVE GARDEN AND PRESERVE, PROMOTES THE CONSERVATION AND RESTORATION OF THE CHESAPEAKE REGION'S NATIVE LANDSCAPES.

Volume 17, Number 1, Winter 2012

CONTENTS

PROGRAM LISTING INSERT

Art as Nature, Nature as Art

By Mary McCoy

One of the environmental movement's greatest challenges has been to shift the way we look at the earth. Instead of thinking of it as pieces of real estate that can be bought and sold, it is much healthier to recognize our landscape as a dynamic, interconnected ecological system. For artists interested in developing this kind of understanding of the land and the environment, painting the landscape isn't always enough. *(continued on page 4)*

Dear Members and Friends,

Here is your clue: it is funded by

- National Parks Service Chesapeake Bay Gateways Program,
- Federal Highway Administration,
- Chesapeake Bay Trust,
- National Fish & Wildlife Foundation,
- Institute for Museum and Library Services,
- Maryland Capital Bond Bill Fund, and
- More than three dozen corporations and private foundations,
- 350-plus generous individuals

Can you guess what it is?

The new Arboretum Native Garden Gateway, scheduled to begin construction this year, is supported by resources far, wide, and deep, with gifts as small as $25 to six-figure multiyear pledges. The shared interest of these generous donors is Adkins Arboretum and an appreciation of our native landscape and land stewardship practices. But each donor has his or her own motivations and desires—protecting birds, butterflies, and pollinators, improving water quality, studying local history, documenting museum collections, enhancing the traveler's experience, supporting alternative transportation, involving volunteers, interpreting environmental lessons to the public, creating wildlife habitat, strengthening rural communities, and the list goes on.

What makes Adkins Arboretum successful is its ability to instill enthusiasm in all ages for the pleasures of the natural world. When we are fortunate to take for granted fresh air, stunning sunsets, morning light, the sounds of geese and other migrating birds, and the smell of fecund earth, we need to understand what is necessary to protect these pleasures of living in our community and to commit to learning, teaching, and practicing the lessons that ensure that generations to come will also enjoy these qualities of our natural environment. This is the urgency of Adkins Arboretum's work.

The community has rallied to support the Campaign to Build a Green Legacy and to make possible Phase I, the Native Garden Gateway, of an ambitious long-term goal to enhance the Arboretum's 30-year-old facilities.

In 1983, when the Arboretum's entrance and parking lot were constructed, a conventional stormwater management system was installed to collect runoff and direct it into a one-acre pond in front of the Visitor's Center. The pond was dug from a natural stream, the Blockston Branch, a small tributary that transects the Arboretum, flowing west to the Tuckahoe River. Based on a recommendation adopted as part of the **Arboretum's 1999 Master Plan**, the pond was redesigned in 2001-2002 as a wetland to showcase native plants that thrive in wet conditions. The wetland construction was made possible through a partnership with Maryland State Highway Administration and the Department of Environment. This was the first step in redesigning the Arboretum's entrance to demonstrate low-impact or sustainable practices.

The next step will begin this year with the construction of the Native Garden Gateway. The removal of the one-acre asphalt parking area and the conventional underground stormwater management system will bring dramatic change to the Arboretum entrance. Parking will soon line a new one-lane circular drive, significantly reducing the impervious surfaces. The drive and parking will showcase ornamental native plants, wildflowers, grasses, trees, and shrubs, immediately immersing visitors into the rich plant life of our native woodlands and meadows. These new plantings will heighten Arboretum visitors' awareness of the benefits of native plants in providing habitat for wildlife, beauty, shade, and celebrating the region's uniqueness. Where the asphalt parking lot now stands, a native meadow will be established. Gentle swales will be graded and planted to slow, filter, and absorb runoff.

Chesapeake Bay Trust and the National Fish and Wildlife Foundation have invested in the project in support of its environmental goals to improve water quality. The Federal Highway Administration is committed to working with

Adkins Arboretum is operated by the not-for-profit Adkins Arboretum, Ltd. under a 50-year lease from the Maryland Department of Natural Resources.

Adkins Arboretum, a 400-acre native garden and preserve, fosters the adoption of land stewardship practices for a healthier and more beautiful world.

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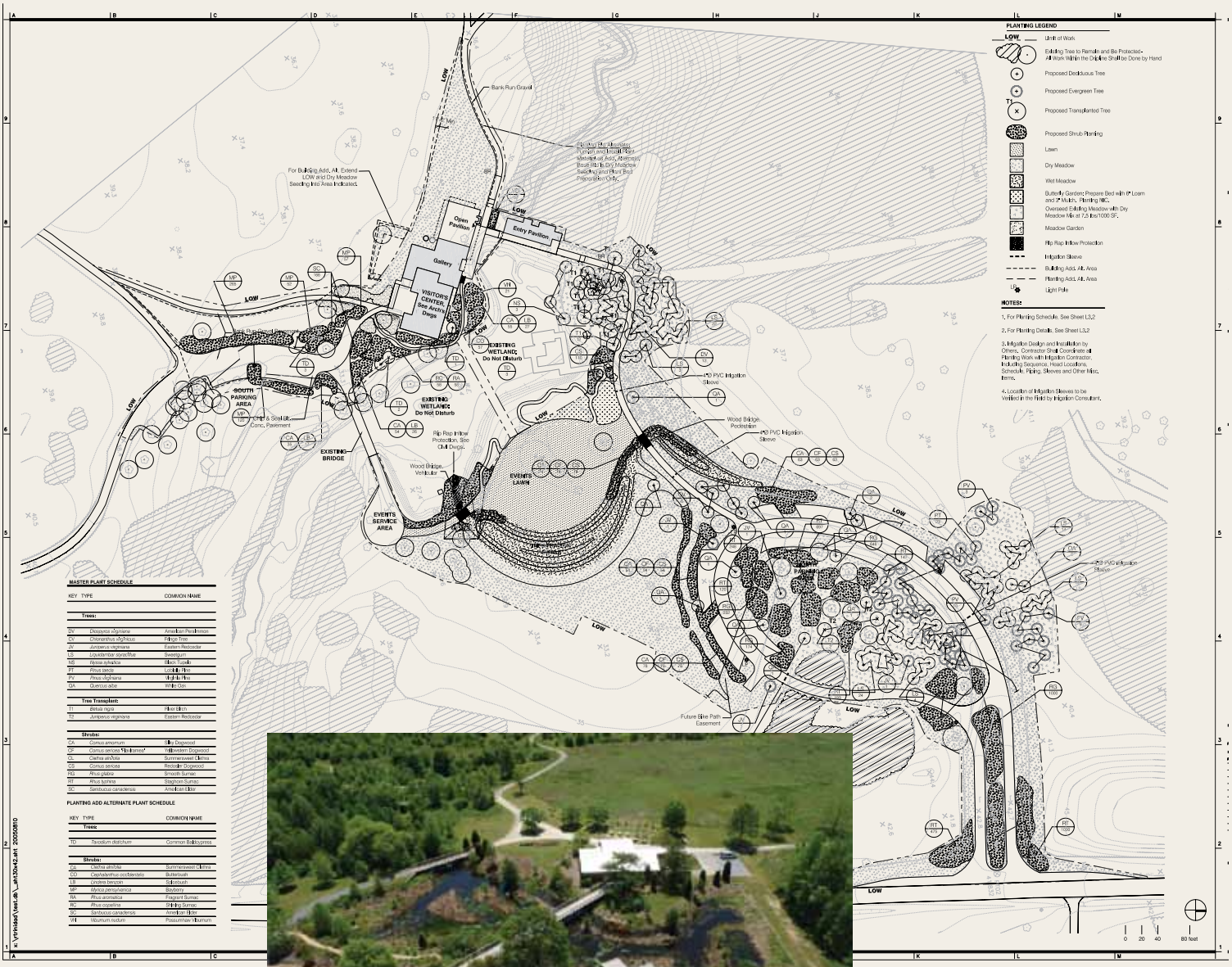
HOURS
10 a.m. to 4 p.m. daily except Thanksgiving and Christmas

ADMISSION
$5 for adults
$2 for students ages 6–18
free to children 5 and under
Admission is free for members.



the Arboretum to enhance facilities for those who use alternative transportation, bicyclists, and pedestrians.

An important responsibility of an arboretum is to document its collection of plants, just as a museum documents its collection of art, artifacts, memorabilia, bones, and books. Funding from the Institute for Museum and Library Services will enable the Arboretum to meet this critical collection responsibility with new software that will feature a web-based component for public access.

And 350-plus generous individuals who have supported the Campaign to Build a Green Legacy for these and many other reasons are helping to further the Arboretum's mission and build its capacity to serve all ages.

For those of you who count yourselves among the 350-plus, thank you for your support of the Campaign. And for other members and friends, please consider becoming a part of this transformational project by making a gift.

If you would like additional information about the Campaign, contact me at 410-634-2847, ext. 22 or ealtman@adkinsarboretum.org. I look forward to sharing these exciting plans with you.

My best,

Ellie Altman, Executive Director

(Art continued from page 1)

Most of us artists do start out drawing and painting. (From age ten, I always carried a sketchbook so that I could practice drawing as much as possible.) It's the work of a lifetime to develop these skills, and there's nothing so intimate as drawing and painting the landscape and getting to know its every detail.

But while many artists want to go deeply into representing nature, for the past half century—and, as we'll see, for much, much longer—artists and people of many traditional cultures have sought a number of ways to study the environment.

Environmental Art made its official debut in the heady days of the 1960s when, thanks to generous arts funding, artists began creating monumental works of art in the landscape. These include Robert Smithson's huge "Spiral Jetty," built from truckloads of stone in Utah's Great Salt Lake, and Michael Heizer's "Double Negative," a broken line "drawn" in a Nevada mesa by bulldozing trenches in the dry earth.

The wow factor of these massive works was somewhat offset by criticism of their destructiveness to the sites involved, but Earth Art or Earthworks, as these forms of Environmental Art were dubbed, was not all macho. For "Time Landscape," proposed in 1965 and planted in 1978, Alan Sonfist researched the native plants that would have grown in pre-colonial New York City and planted a replica forest on a small plot in lower Manhattan.

With today's exploding interest in ecological issues, Environmental Art is flourishing and diversifying. Many of the larger projects of recent years involve the healing of landscapes devastated by mining or toxic waste. One of the best known, Mel Chin's "Revival Field," is a partnership between art and science in which plants are being used to naturally extract heavy metals from a Minnesota landfill.

A strong current in Environmental Art aims at drawing attention to the environment itself. Often this includes an activist approach whose roots go back to the late nineteenth century, when painters of the Hudson River School used their breathtaking landscapes to warn of the danger of, in Thomas Cole's words, "the wilderness passing away and the necessity of saving and perpetuating its features."

Familiar art forms, such as painting and photography, fall into the category of Environmental Art when they are used to expose environmental problems. Mierle Ukeles uses photos and video, as well as interviews, performance art, and community involvement, to put the spotlight on urban ecology in her unsalaried position as the artist-in-residence of the New York City Department of Sanitation.

Of course, most Environmental Art projects are more low-key, whether they carry a specific "message" or simply work to stimulate people to look closely and interact with particular landscapes and their ecology. Most of the artworks in the summer Outdoor Sculpture Shows at Adkins Arboretum fall into this category. If you're watching the water in Blockston Branch rippling over one of Tazuko Ichikawa's submerged sculptures or are searching for all seven bronze wire "nests" that Elizabeth McCue has perched in the trees along the Upland Walk, you're bound to become very aware of the environment around you.

Howard and Mary McCoy—For Shamans Use Only

This area of Environmental Art harks back to the Romantic tradition of landscape painting of the late eighteenth and nineteenth centuries that includes the sun-illumined seascapes of J.M.W. Turner and strongly influenced the artists of the Hudson River School. A similar feeling for the sheer beauty of nature is revealed in such ephemeral sculptures as Andy Goldsworthy's line of autumn leaves whose brilliant red sings out against the dark grays of bare, wet stones.

When Environmental Art is created outdoors, the artist must make peace with the inevitable changes that nature will impose. Goldsworthy embraces change and allows his sculptures made with icicles to melt and fall apart and his sculptural cones of driftwood to wash away in the tide.

The Arboretum welcomes and gratefully acknowledges its new members.

Nancy Allred
Tristan Arthur
Jacob and Elizabeth Bauer
Mary Beam
Charles A. Bethel
Christine Betley
James Blair
Cheryl Bratz
Jessie E. Browne
Laurie Burr
Lou Cadwell
Lauren Calia
Dana Callahan
Joan Campbell
Angie Cannon
Teresa Catucci
Edward Cipro
Lisa Daffin
Paul Derdul
Jeanne Drewes
Wick Dudley
Mary Beth Durkin
Alfred L. Evans
Maureen Fine
Kathryn Fischer
Brian Francis
Justus Gellert
Mary Gibson
Peter Gilmore
Robert & Diane Gras
Jennifer Gundersen
Alan Hais
Jane Halpin
Patricia Hamsher
Elizabeth Hollomon
Patrick Holmes
Lisa A. Horton
JoAnn Hunley
John T. Hurley
Frank Hurst
Kelly Ireland
Lynn Irwin
Jeanne M. Johnson

Nature's cycles and changes are inspiration for many Environmental Artists. David Nash planted a circle of ash trees in 1977 and over the years has pruned them so that they have grown into a living dome. Openings in Nancy Holt's hemispherical sculpture, "Annual Ring," frame the North Star, the rising and setting sun on the equinoxes, and the sun's zenith at summer solstice, much as Neolithic stone monuments, such as Stonehenge, mark the movements of the sun, moon, and stars.

These are natural ways of relating to the environment, and they can be traced back into prehistory all around the globe. In an echo of the Australian Aboriginal custom of "walk-about" following age-old paths to mythic sites in the landscape, Richard Long walks the landscapes of England, Africa, Bolivia, and Iceland. Sometimes he makes straight lines across the land by simply moving stones he finds there—the same method that ancient people used to create the Nazca Lines in Peru. *(cont. on page 6)*

Howard and Mary McCoy—Fallen Up

Making the most of your Arboretum Membership

AHS Reciprocal Admissions Program

Did you know that your Adkins Arboretum membership is your passport to America's most outstanding garden treasures?

As an Arboretum member, you are automatically enrolled in the reciprocal admissions program administered by the American Horticultural Society (AHS).

Use your current Arboretum membership card to gain free admission to a wide variety of public gardens, arboreta, and conservatories from coast to coast. Just show your card at the admissions entrance or gift shop to receive free or discounted admission or discounts on gift shop purchases, education programs, audio guides, plant purchases, and more.

As you plan an early spring getaway or a summer vacation, consider using your Adkins Arboretum membership to visit the Coastal Maine Botanical Garden in Boothbay, ME, Winterthur Museum, Garden, and Library in Winterthur, DE, the Arboretum at Flagstaff, AZ, or even the Lady Bird Johnson Wildflower Center in Austin, TX. More than 200 horticultural organizations across the United States provide reciprocal privileges.

For more information about the AHA reciprocal admissions program, visit ahs.org/events/reciprocal/raplist.pdf.

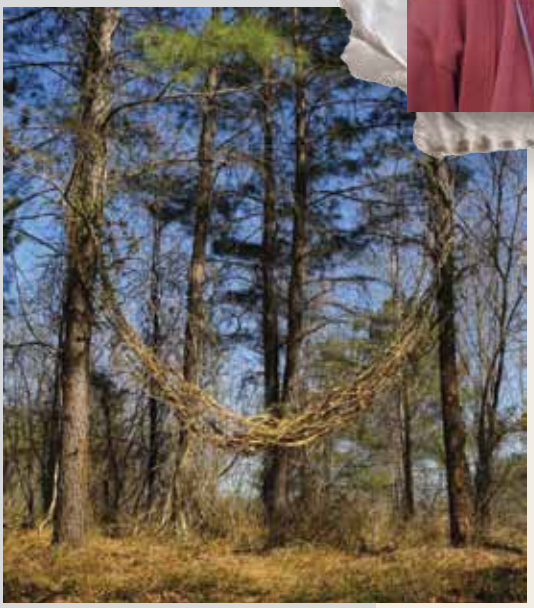
To join or to renew your Adkins Arboretum membership, contact Meg Gallagher at 410-634-2847, ext. 23 or mgallagher@adkinsarboretum.org.

Ben Joiner
Howard Joseph
Tim Junkin
James Keeney
Nancie Kennedy
Cindy King
Judith King
Pat W. Kingman
Lucy Klakring
Kimberly Knox
Richard Leonard
Shelley Lippincott
Freda K. Lusby
Beth Ann Lynch
Kathleen A. Mackel
Peggy Markman
Eileen Marx
Thomas McCarriar
Charles McPherson
Diane Mullaly
Wendy Ng
Heather J. Norfolk
Mark C. Palmer
Linda Parker
Ellen Petre
Walt and Laura Plosica
Steve Quillen
Jeanette R. Rodman
Martha K. Sadler
Connie Scott
William Shane
Carrie Simons-Sparrow
Nancy Smith
Lydia Smithers
Ned Southworth
David W. Stevens
Robert Stolz
Maureen Syracuse
Chase Tanner
Tom Tate
Lynda J. Tison
N. C. Vasuki
Elizabeth Villar
Mark K. White
Kathryn Wood
Peter Zieger
Herb Ziegler

(Art continued from page 5)

Like the enormous hummingbird and spider drawn alongside the Nazca Lines, huge drawings on the earth are a hallmark of both Environmental Art and the ancient past. Many Native American effigy mounds, such as the Serpent Mound in Ohio and Iowa's Great Bear mounds, are preserved as parks. But nowadays, it's easy to find huge land drawings on YouTube. Just Google Stan Herd and you'll see enormous images of President Obama and Van Gogh's "Sunflowers" "drawn" on the land with plantings or even stones and bricks.

We walk, we garden, we observe. It's our fundamental human urge to know our landscape. Environmental Art has blossomed into a broad spectrum of forms aimed at



Howard and Mary McCoy—Swing

experiencing the beauty, power, intimacy, and interconnectedness of nature. Whether it's a beautiful plein-air scene or a sculpture made with fallen branches, art invites us to look closely at the earth and come to know it well.

Howard and Mary McCoy Named 2011 Volunteers of the Year

For more than a decade, visitors have marveled at the art created in the Arboretum forest by Howard and Mary McCoy. Composed primarily of elements found naturally in the landscape, and drawing attention to the inextricable connection between nature and art, the artists' work is in harmony with the Arboretum's conservation mission. Few may know, though, of this husband-and-wife team's work behind the scenes. From coordinating invitational shows to hanging countless exhibits to arranging the annual Art Competition, they are the very lifeblood of the Arboretum's thriving arts program.

Introduced to the Arboretum by Marion Price, the late artist and gallery owner who initiated the Arboretum's art program, Mary and Howard exhibited their first Arboretum show in 1999. They brought the idea of outdoor art to the Arboretum, creating installations in the forest and meadows and curating an every-other-year outdoor sculpture invitational that draws artists from around the country. The McCoys also serve on (and Mary chairs) the Arboretum Art Committee, the panel that selects artists for future exhibits.

"Talented artists in their own right, Howard and Mary have been involved in curating the Arboretum's art exhibits for more than a decade and have been involved in attracting more than 100 of our region's most creative artists to exhibit at the Arboretum," says Executive Director Ellie Altman. "They are a constant at the Arboretum. Without them, the art program would not exist."

As the Arboretum values Howard and Mary's involvement in the art program, so do the artists benefit from the opportunity to work and create at the Arboretum. "We get to work outside and have the freedom to do what we want," says Mary. "We can go out into the woods and experiment. Over the years we have gotten to know the forest and many individual trees. The Arboretum gives us the chance not only to bring art to people but to interact with other artists who exhibit at the Arboretum. We've made some wonderful friendships that way."

"Working in the woods has been a golden opportunity for us," says Howard. He tells of his interest in the evolution and deterioration of subject matter and how that interest led him from working with industrial materials to working in and of nature. "One of the things that fascinates us is how nature reclaims our sculptures. You see the cycles of nature, and we like how the sculptures change as nature changes."

This natural progression is one of the reasons the McCoys created their most recent sculpture installation (*Second Sitings*, June–September 2011) entirely with materials found at the Arboretum. "Creating with materials on the site and of the site makes people stop and consider what is natural and what is art," says Mary.

"One thing that we really enjoy is when people tell us the thing they found interesting about an area where we do a sculpture at the Arboretum," adds Howard. "It gives them the opportunity to pay closer attention to what's going on in that area around the sculpture. That resonates for us, to have that response. It's really quite wonderful."

And so are the McCoys. Their creativity, their vision, and their kind and gentle nature make them assets to the Arboretum community. This lovely couple has truly mastered the art of volunteering.

Howard and Mary McCoy live near Centreville in a house designed in the 1930s by Mary's grandmother on the banks of the Chester River. They will be honored at the Arboretum's Annual Volunteer Recognition Brunch in January.

Lily

Joins the Arboretum's Battle Against Invasive Plants

By Nevin Dawson
Forest Stewardship Educator, University of Maryland Extension

Have you met the newest member of the Arboretum's maintenance staff? Her name is Lily, and her qualifications include excellent climbing skills, a spunky attitude, and a big appetite. She also has a full coat of hair and four legs. Lily the goat was born at the Arboretum in early June during her mother's visit as part of a crack team of invasive species management specialists.

Goats can be a great tool in efforts to control the spread of many invasive plants. Under the direction of Brian Knox, the supervising forester of Eco-Goats, the goat herd made significant progress in the battle against invasive weeds in several areas on the Arboretum grounds. Lily and her future companions will continue that fight as permanent residents.

Traditional measures for controlling invasive plants can be effective, but they do have drawbacks. Herbicides are generally effective in killing plants, but they may inflict collateral damage on desirable species and are viewed negatively by many landowners, managers, and citizens. This is especially true in cases where control is needed in riparian buffers or other sensitive areas. Hand-pulling is great for targeting a single species but is very labor-intensive. Mowing is a good way to treat large areas but only works on sites with easy access.

Goats are browsers by nature—similar to deer—and happily munch on many exotic and invasive plants without the hazard of herbicide or the labor of hand-pulling. Some of their favorite foods include multiflora rose, kudzu, Phragmites, and Johnson grass. Goats are a great option on sites that would be difficult to access with traditional control measures, like steep slopes or thick jungles of thorny vines.

(continued on page 8)

The Story of Lily

By Allison Yates, Facilities Maintenance Coordinator

During May and June 2011, with funding from Shared Earth Foundation, the Arboretum sponsored a pilot targeted goat grazing project on its grounds. Two herds of 30 goats each, supplied by Eco-Goats, Inc. of Davidsonville, MD, were fenced in several locations on the forest edge along the South Meadow where invasive species were encroaching and creating an impenetrable thicket. In a short time, the goats cleared the areas of the most offensive briars and aggressive growers, including multiflora rose, Japanese honeysuckle, black locust, and Oriental bittersweet.

The day before their scheduled departure, one goat delivered triplets. One of the kids was unable to nurse and was becoming quite weak. It was apparent that it would not survive without supplemental feeding. Having had some experience with goats, the Arboretum's Facilities Maintenance Coordinator, Allison Yates, feared the worst for the baby goat and contacted her owner to inquire if she would be bottle fed. Hearing the dreaded answer of no, Allison went into high gear and made a plan to protect the goat. With support from the Arboretum staff, she adopted the goat with plans of starting a small herd to live permanently on the Arboretum grounds.

Born on June 7, 2011, this little darling was named Lily. After a few weeks of round-the-clock bottle feedings, Lily grew healthy and strong. With daily interaction with the public, she has become very friendly with adults and children alike. She quickly became the beloved mascot for the summer campers, as each camper vied for her attention.

Lily made her public debut at the fall *Magic in the Meadow* gala and inspired donors to pledge nearly $20,000 to support the Arboretum's targeted goat grazing project. These funds will enable the Arboretum to create a large fenced enclosure and shelter, as well as provide care and feeding for a small herd of goats.

To pledge support for Lily's future at the Arboretum, contact Kate Rattie, Director of Advancement and Planning, at 410.634.2847, ext. 33 or krattie@adkinsarboretum.org.

(Lily continued from page 7)

There are some sites where goats are not a good choice. Goats should not spend long periods in wet or boggy areas where hoof rot could become a problem. They can spend some time in wet areas grazing species like Phragmites, but they should always be able to retreat to dry ground.

Areas with lots of beneficial species dispersed among the invasives may not be suitable, unless the desirable plants are protected with tree tubes or exclosure fencing.

Invasive species control by goats can be an effective public relations tool and a method of raising awareness about invasive species issues at agritourism and nature centers, as Lily and her mother's herd can attest. Although some time and money are required for a successful operation, a visiting goat herd still meets the owner's primary objectives—meat, dairy, etc.—while simultaneously providing the grazing service.

Goats should be contained in a temporary enclosure when they're working in the woods. Stakes and tethers almost always lead to hopeless entanglement. The type of fence chosen to contain the goats will have a big impact on the ease with which the temporary enclosure can be set up and torn down. Electric netting with self-staking posts works well in most situations. It is lightweight, fairly easy to maneuver, and affordable. Power can be supplied by a portable battery pack or by a solar charger if no outlet is available. Because the netting extends all the way to the ground, it is effective in excluding most predators as well as in keeping goats from ducking under it. This type of fence requires at least a three-foot-wide clearing to keep leaves and branches from touching the fence and creating a short circuit. Hog wire panels are another option, but they are heavy and do not have an electrical deterrent.

Because many goats are physically able to jump over temporary fencing, it's important to establish the fence as a psychological barrier before relying on it in the woods. Goats can be trained to respect the fence by setting it up in their normal enclosure. After curiosity gets them close enough for a few zaps, they will learn to avoid the fence, and it should be able to contain them even in a new setting where they may get spooked.

Once a browsing project is underway, monitoring is essential. Just like people, goats keep an ordered list of foods in their heads, with their favorites at the top and their least favorites at the bottom. They'll generally eat their favorite plant until it's gone, and then start moving down the list. Luckily, many of our least favorite species are at the top of their list.

Leaving them in a certain area once the good browse is gone may lead them to nibble on the bark of young trees, possibly inflicting serious damage. Horned goats may also damage trees by rubbing. There should be a plan in place for moving the fence to a new area before they run out of browse material—a second fence system can be helpful for this reason. It's also important to ensure that a native species takes the place of the exotic species that the goats remove. It may even be necessary to plant desired species to give them a head start over the invasive exotics. Even complete eradication may be useless if the site is left open to a new infestation.

As with most mechanical methods of vegetation control, a single season of browsing will generally not be enough to eradicate a problem species. Most plant species require at least two or three consecutive seasons of defoliation before their energy reserves and seed banks are exhausted.

Lily had her social debut at the Magic in the Meadow annual fundraiser on September 24, where she received her introduction to 200 guests with poise and grace. A request for help raised $20,000 almost instantly to fund the construction of her half-acre pen and a barn. So far, her favorite invasive snack is Japanese honeysuckle. A search for a companion for Lily is currently underway, and the Arboretum plans to increase the herd to six in the coming year. Donations are currently being accepted to help with the purchase of a temporary fencing system and a walk-behind brush hog for clearing fence lines.

If you're interested in using goats on your land but aren't sure where to start, contact your county extension office to be connected with a local goat producer who may be willing to transport their animals to your property for a fee. You can also search the producer directory at sheepgoatmarketing.info. A comprehensive handbook is available at sheepindustrynews.org/Targeted-Grazing/target.pdf.

Teach. interpret. plant. enjoy!
VOLUNTEER OPPORTUNITIES

The Arboretum's volunteers are a committed, energetic, and talented group involved in all aspects of the Arboretum—from maintenance to program development, from propagation to fundraising. They generously donate their skills, knowledge, and experience and are essential to the Arboretum's smooth operation.

As a young not-for-profit organization with a small staff, the Arboretum could not provide its current level of services without volunteers. Your contributions make an important and significant difference.

Visitor's Center Receptionist
Welcome and assist visitors at the Visitor's Center, answer phones, and cashier.

Children's Programs and Summer Camps
Be creative! Help to educate children about native plants and the environment. Volunteers can assist instructors, as well as plan and help to teach classes.

Special Events
Volunteer for annual events: Arbor Day Run, spring and fall Plant Sales, Magic in the Meadow, Master Gardener Advanced Training Symposium, Holiday Wreath Sale, and 'Tis the Season holiday evening.

Community Outreach
Promote the Arboretum's mission at community events: Chesapeake Bay Maritime Museum's Bay Day in St. Michaels, Chestertown Tea Party, Rural Heritage Day in Centreville, and Waterfowl Festival in Easton.

Nursery Work Crew
Help plant, propagate, water, weed, and prune. Learn about sustainable gardening practices and the use of native plants. Volunteers are welcome to assist staff from March through December to prepare for the Arboretum's spring and fall native plant sales and to make decorations for the annual Holiday Wreath Sale.

Grounds Work Crew
Help to maintain the woodland and meadow paths and assist with other maintenance projects. Get a good workout, and help keep the Arboretum looking its best!

Docent Program
Discover nature by becoming an Arboretum docent naturalist. Learn the principles of environmental interpretation, ecology, plant communities, the role of native and invasive plants, geology, and soils and conservation. Lead visitors on tours of the meadows, wetlands, and woodlands, and work with education, research, and community outreach programs. Maryland Master Naturalist Training is offered annually at the Arboretum, and docent mentorship is provided.

Individual Volunteer Projects
Propose your own volunteer project. Ongoing projects include creating educational publications and teaching the public about native plants and sustainable horticultural and gardening practices.

Maryland Master Naturalist Program Coming This Fall

The Arboretum will offer the Maryland Master Naturalist Program for the Coastal Plain this fall, Thursdays, October 4 through November 15. This program engages citizens as stewards of Maryland's natural resources and ecosystems through science-based education and volunteer service in their communities. First offered in 2011, Maryland Master Naturalist training also serves as the Arboretum docent training program.

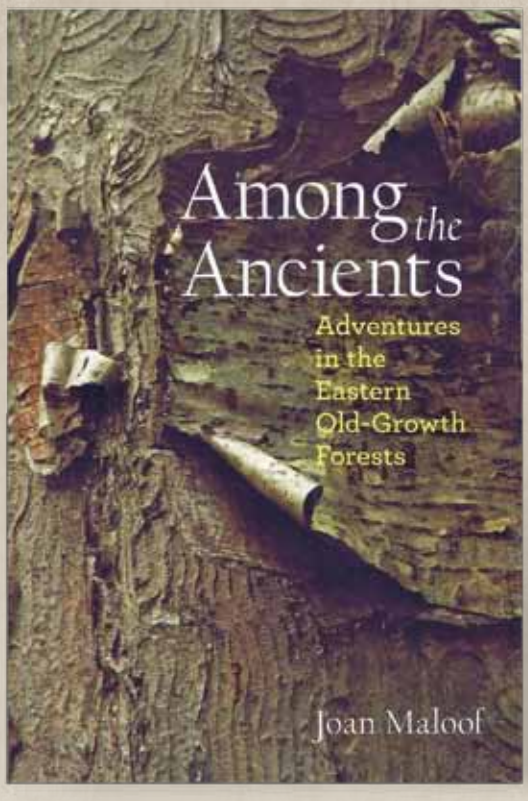
Participants will learn about Maryland's natural history, flora and fauna, principles of ecology, human interaction with the landscape, the science of science, and teaching and interpretation. Following completion of the program, trainees must complete 40 hours of volunteer work for the host.

For more information about volunteer opportunities, contact Ginna Tiernan, Adult Program Coordinator, at 410-634-2847, ext. 27 or gtiernan@adkinsarboretum.org.

From the Bookshelves

By Carol Jelich, Arboretum Librarian and Maryland Master Gardener

***Among the Ancients: Adventures in the Eastern Old-Growth Forests*. By Joan Maloof. Ruka Press, Washington, DC, 2011. 237 pages.**



A favorite book of Adkins Arboretum Book Club members was Joan Maloof's *Teaching the Trees: Lessons from the Forest*. That book explores the fascinating biotic relationships in the forest ecosystem. It also examines the special experience of being in an old-growth forest and breathing in the air, which actually evokes a beneficial physiological response. The Japanese have a name for it—*shinrin-yoku* (wood-air bathing). Along with many others who read *Teaching the Trees*, we wondered where old-growth forests existed and whether we could visit. Dr. Maloof's new book is a response to these requests. She selected and traveled to an old-growth forest in each of 26 states east of the Mississippi River. The book provides details on how to find each one and what the author found when she got there.

Dr. Maloof notes that there are 98 definitions of "old-growth forest." In her travels, she found that some of the tracts stretched the definition while others embodied it. The reader experiences both joy and sorrow as the diverse old-growth forests are revealed—some intact, if reduced in area, some woeful remnants of their former majesty. The author explores how each forest came to be in its current condition. By the end of the book, you may feel that, regardless of the various definitions, you will know a real old-growth forest when you see one (hint: it's not just about how many big old trees there are).

Along the way, there are stories of the critters and plants that make Dr. Maloof's books so interesting to read. The book includes maps, driving directions, detailed chapter notes, and a list of additional forests of interest in each of the states.

Dr. Maloof encourages people to visit old-growth forests so they may understand how important it is to preserve them. While I was reading this book, the human population of the world grew beyond 7 billion. It is somewhat disturbing to think of all those people trekking into the remnant forests described in the book. But perhaps equally disturbing is that most people will not have this experience. I think that anyone who reads this book, at least, will certainly want to visit a truly old-growth forest, inhaling deeply as they go.

Joan Maloof has created a nonprofit organization dedicated to preserving at least one old-growth forest in each county in the U.S. Learn more about it at **oldgrowthforest.net**.

Dr. Maloof will speak at the Arboretum on Wednesday, March 14 from 1 to 2:30 p.m.

See listing on page 6 of the program insert.

My Favorite Blogs

Much of my reading these days is done online. Since I suspect that I am not alone in this, I am sharing some of my favorite nature- and horticulture-themed blogs. For those who are unfamiliar with blogs, these are web-based journals. You may choose to read them online or have individual posts delivered to you by e-mail. Here are the ones that I enjoy reading:

- **adkinsarboretum.blogspot.com** Written by staff and volunteers. This is the blog of Adkins Arboretum and has interesting posts about seasonal walks, events, and general happenings at the Arboretum.
- **easternshoregardener.com** Written by noted horticulture author Barbara Ellis, who recently retired to garden in Chestertown, MD. She writes about and photographs her developing garden and plant collections on Maryland's Eastern Shore.
- **gardenrant.com** Written by four "highly opinionated" gardeners: Susan Harris in Takoma Park, MD, Elizabeth Licata in Buffalo, NY, Michele Owens in Saratoga Springs, NY, and Amy Stewart in Eureka, CA. Recent posts include how to store bulbs over the winter and ideas for expanding agricultural output without wrecking the planet.
- **nativebackyard.com** Written by R. K. Young and "Alexandra" of Brevard, NC. I have this one delivered by e-mail daily. Sometimes it is simply a great photo from the wildlife garden of the author. Recent posts have covered watering the bees, greening a wedding, and planning a monarch butterfly waystation.
- **nativeplantwildlifegarden.com** Managed by Carole Sevilla Brown and written by a diverse team that includes authors such as Douglas Tallamy and Sue Reed, professors, landscape professionals, biologists, gardeners, photographers, and more from across North America. Currently this is my favorite blog, and I receive the posts by e-mail. Recent topics include native bulbs, landscaping with native plants, and stories about groundhogs (can't we all just get along?).
- **blotanical.com** and **www.natureblognetwork.com** If you want to search for other garden or nature blogs, these websites are a good place to start.

If you have a favorite blog, I would love to know about it and perhaps share in a future newsletter. Please send me the link at carol.jelich@gmail.com.

beebalm—*Monarda didyma*
an easy-to-grow summer bloomer

Summer Internship Announcement

Adkins Arboretum is offering a six-month paid internship beginning April 1, 2012 to college students or recent graduates with experience in horticulture with strong interests in ecology, wildlife biology, environmental science, or related fields.

Interns become valuable members of the Arboretum's professional staff, participating in all aspects of the organization's operation. Responsibilities include working in the Native Plant Nursery and greenhouse, landscape and wetland maintenance, and assistance with visitor services.

Interns also conduct an independent project selected in collaboration with staff and plan their own field trips to other conservation organizations, natural areas, and public gardens.

This is an excellent opportunity to learn about the operation of a small nonprofit organization, while gaining practical 'hands-on' experience in areas of native plant care, propagation, and sales, plant identification, landscaping practices, and environmental education.

Applicants must demonstrate that they are self-motivated, independent, professional, and enthusiastic about working outside and participating in a wide variety of tasks.

Summer housing is needed for interns. If you have an extra room or apartment available and would be interested in hosting one of the Arboretum's summer interns, please contact Nursery Manager Joanne Healey at jhealey@adkinsarboretum.org or 410-634-2847, ext 32.

To apply, send a cover letter, résumé, and three references by Friday, February 3, 2012 to Joanne Healey, Nursery Manager, Adkins Arboretum, P.O. Box 100, 12610 Eveland Road, Ridgely, MD 21660 or jhealey@adkinsarboretum.org.

Native Plant Lore

Those Magnificent Miniatures—Mosses

By Beverly Gemmill
Arboretum Docent and Delaware Master Gardener

Winter is a wonderful time to walk at Adkins Arboretum. Trees are bare and sunlight filters down on the paths, while the trees moderate the cold wind. The summer green is gone and brilliant fall colors dominate—tans and browns and bright blue sky—but if we look carefully, there is green.

Mosses stay green in winter, and without color competition, we notice their beauty. To really see mosses, we must get close and pay attention. In her book *Gathering Moss*, Robin Wall Kimmerer writes, "Attention alone can rival the most powerful magnifying lens." Some common places to look for moss at the Arboretum are at the edges of paths, on living and downed trees, in the meadows, and along streams. Once the eye becomes used to their shapes, colors, and textures, you will see them in many more places at the Arboretum, as well as on brick walls, in cracks in rocks, and on flowerpots, to name a few. You will notice a whole world of textures: fernlike, spiky, wavy, and smooth as velvet.

Mosses are the most primitive of land plants. They lack roots, fruits, and seeds but are unique in that each succeeds in its own niche in the plant community. Approximately 22,000 species of moss grow all over the globe, from the peat bogs of the far north to Antarctica, from the Australian deserts to the moss favorite, rain forests. Since they grow at the Arboretum, we know they grow in the coastal zone at sea level, but they are also found high on mountaintops, and some even grow in water. Mosses that grow with the support of deep water can grow very tall, so they can't be called miniatures. Each moss has a specific substrate or surface where it will grow. Some need limestone areas, while others need a very acid substrate. Some mosses live on rocks where larger plants can't grow and act as pioneers in the plant community, building up organic material for soil formation. Sphagnum moss grows in wetlands and is a very valuable resource for humans. It is used for heat, is used to improve the moisture-holding capacity of soil, and even was used during the First World War for bandaging wounds. Not only did the moss keep the wound dry, its acidity prevented bacteria and fungi from growing in wounds that were often very dirty.

Mosses do not have vascular systems or lignin in their cells to support the plant. Since water is vital to fill their cells and maintain their shape, they have special water-conducting tissues instead. Mosses grow in communities, and the shape of their leaves, called microphills, optimizes the collection of water. Some species have grooved leaves that cause the moisture to travel from the leaf tip to the center of the plant, while others have leaves that are cupped at the base of the leaf. They are so good at collecting water that even after several days of dry weather the soil remains damp under the plant.

Mosses living in deciduous forests—such as the Arboretum forest—must grow where leaves do not fall and smother them, such as shady clearings, under pines, on tree bark, in crevices, and on downed logs. Mosses living in these shady wooded areas have specialized chlorophyll in their cells that is finely tuned to use the filtered light that comes through the leaves. Wherever it chooses to make its community, its small size helps it survive. It must have moisture to thrive. Scientists have described air above the earth as divided into several layers. The air just above an object such as the ground or a rock is called the boundary layer. The wind is less turbulent in this layer, and at this level the moss retains moisture and is protected from dehydration. Moss is most abundant in moist areas near streams, splash zones, and areas with seeping water.

Moss will grow rapidly during times of frequent rainfall, but when there is a drought these amazing plants are immune from death by drying. They simply shrink and shrivel. Some change their color and shape as they shrivel, while others darken and twist their leaves in a spiral around their stems. Crisp and dry, the cell membrane shrinks and collapses, the enzymes of cell repair and regeneration are stored, and they can survive in this desiccated state for many years. H.S. Conard, a bryologist (one who studies moss), wrote in his 1956 book *How to know Mosses and Liverworts* that

iverwort—*Conochephalum conicum*

mosses are good herbarium specimens because many different kinds may be stored in a small space, but when they need to be studied, they can be restored to life by soaking in water.

Like ferns, mosses reproduce by spores, but their lifecycle differs from that of ferns. The small plant that we see as a moss is the gametophyte, the male and/or female generation, and does not grow the spores on its leaves. Some moss plants are male and sprout antheridia filled with sperm; others are female and produce archegonia containing the egg. That's when things get interesting because the sperm must swim on a film of water to the egg. Once they have combined, the female moss plant sprouts a stalk called a seta that rises above the boundary layer and a capsule filled with spores grows. In my opinion, this is when the moss is most beautiful, because the seta is usually a reddish brown and really makes the green moss plant look special. At the tip of the capsule is a little cap that falls off when the spores are ripe, and under that is a circular row of teeth called the peristome teeth that can open and close, depending on the moisture in the air, and sprinkle the spores into the breeze. When the spore lands on an optimal spot, such as damp earth or a spongy piece of bark, a new moss plant called a prothallus will grow, and from the prothallus a new moss gametophyte will grow. Mosses often spread without spores simply by regenerating from a bit of stem. Ball mosses form a modified stem in order to reproduce asexually. Called a brood body, it is designed to break off and begin a new plant nearby. Gardeners sometimes use mosses' ability to regenerate to age ceramic pots by growing moss on them and to grow mossy areas in their gardens.

Mosses benefit the environment by slowing running water and capturing rainwater and nutrients. They provide shelter for microfauna such as rotifers, neat microscopic creatures living in water-filled spaces in the moss (if you had a microscope, you could see them spinning their tillers to capture food). Another creature living there is the tardigrade, which is a big word for waterbear. The waterbear's life is completely involved with mosses. It walks on eight stumpy legs and noses among the foliage for food. He (or she) looks like a microscopic polar bear, using the claws on his legs to cling to the leaves as he uses his mouth parts to suck out food from the moss cell. Interestingly, when the moss dries out so do the rotifers and waterbears, but when moisture returns, these microscopic creatures return to life. Another way mosses help the environment is serving as nurseries for seedlings, aiding in the process of forest regeneration. Downed trees are often called nurse trees, but if you look carefully, those downed trees have moss growing on them. The seeds are caught by the moist moss and have an easier time germinating, growing, and using the moss's moisture to survive.

Ending the walk makes you think, just what were the names of the mosses we saw? Many common names of plants have moss in them: Spanish moss, reindeer moss, Irish moss, club moss, hairy cap moss, and fern moss are a few. Spanish moss is a pineapple relative that grows from trees in the Deep South. Irish moss is a seaweed, *carrageen*. Reindeer moss, which grows in Nancy's Meadow at the Arboretum, is a lichen, and club moss is a fern ally, *Lycopodium obscurum*. Hairy cap moss is a true moss; its Latin name is *Polytrichum commune*. Ferny moss is also a true moss named *Thuidum delicatulum*. You may have seen another moss, the cushion moss, whose Latin name is *Leucobryam albidum*. These are just three of the magnificent miniatures to be found on a walk at Adkins Arboretum.

Resources:

Conard, H.S. *How to Know the Mosses and Liverworts*. Wm. C. Brown Company Publishers, Dubuque, IA, 1956.

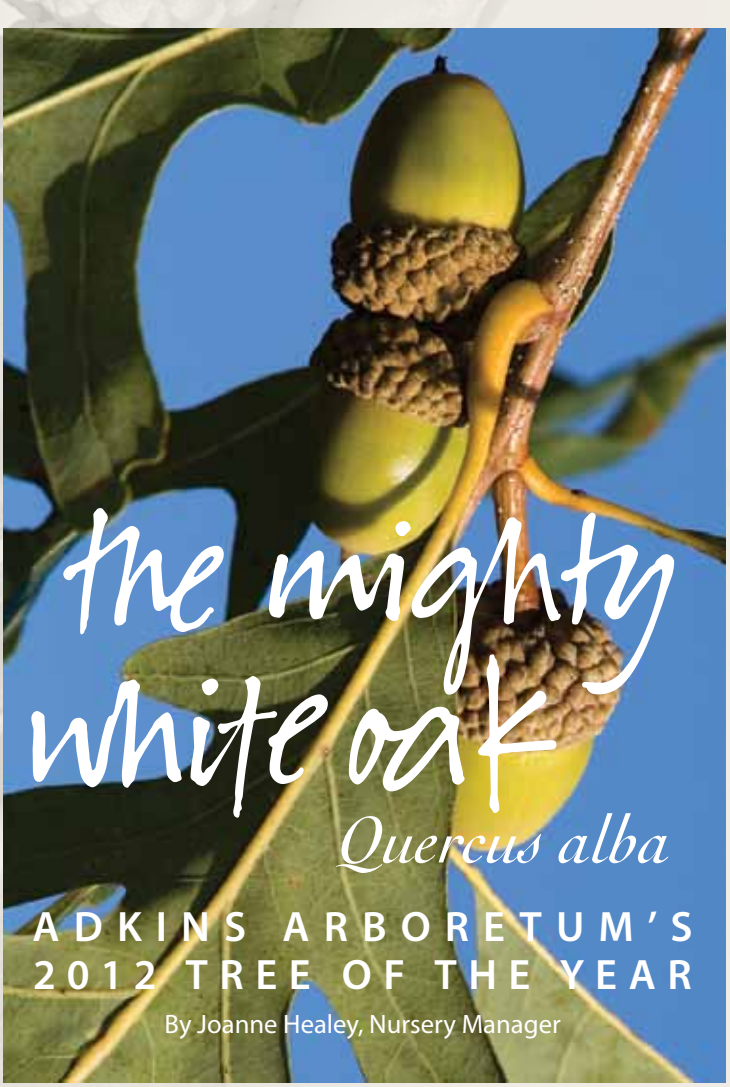
Cullina, William. *Native Ferns Moss and Grasses*. New England Wildflower Society, 2008.

Kimmerer, Robin Wall. *Gathering Moss: A Natural and Cultural History of Mosses*. Oregon State University Press, Corvallis, 2003.

Munch, Susan. *Outstanding Mosses and Liverworts of Pennsylvania and Nearby States*. Albright College 2006.

There's a reason they call it the mighty oak. It is a dignified tree with a long romantic, economic, and ecological history—all arising from that little acorn.

Selecting the white oak *(Quercus alba)* as the Adkins Arboretum 2012 Tree of the Year was a natural choice because this oak is already revered as the state tree of Maryland. (The historic Wye Oak and former State Large Tree Champion was once located only a few miles from the Arboretum.) But most important of all, woven among the branches of the white oak are livelihoods and folklore and an ecological refuge for Delmarva's animals and insects.



Quercus alba, one of many trees belonging to the beech family (Fagaceae), can grow to be a majestic specimen that is often wider than it is tall. Under ideal conditions, this slow grower can reach 100 feet in height, thriving in a wide range of soils and doing exceptionally well in drier locations. In *A Natural History of Trees*, author Donald Culross Peattie writes, "… the fortunate possessor of an old White Oak owns a sort of second home, an outdoor mansion of shade and greenery and leafy music. So deep is the taproot of such a tree, so wide the thrust of the innumerable horizontal roots, that if one could see its whole underground system this would look like a reflection, somewhat foreshortened, of the giant above ground."

The white oak ranges from Maine to northern Florida, with the largest trees found in Delaware and on Maryland's Eastern Shore. The acorns it produces have taken over as a major food source for squirrels, turkey, quail, raccoons, woodpeckers, and a host of other wildlife since the decline of the American chestnut. According to Dr. Doug Tallamy, in his book *Bringing Nature Home*, a single white oak tree is a mini-universe to thousands of insects, including more than 500 butterfly and moth species. He writes, "Oaks are the quintessential wildlife plants; no other plant genus supports more species of Lepidoptera (butterfly), thus providing more types of bird food, than the mighty oak."

Historically, white oak has been used in shipbuilding, in the flooring and furniture industries, for basket-making, and to make barrels for wine and whiskey. In northern Cecil County, at the head of Chesapeake Bay, the Day Basket Factory is still making baskets from split white oak, much as they have done since 1876. A dying art, white oak basket-making is kept alive through grassroots local artisans. The acorns of oaks, high in tannic acid, are used in leather tanning. Native American people collected acorns and made flour from them through a process of leaching out the tannic acid.

Come celebrate the white oak at Adkins Arboretum. The Native Plant Nursery will offer for sale white oak trees of all sizes in the coming year. In addition, at the Arbor Day Run on April 7, white oak seedlings will be given to participants as awards that are more environmentally friendly than medals or T-shirts. Several children's programs this summer will focus on the white oak, and a walk focusing on big trees, planned for June to highlight the Arboretum's largest species, will include this mighty tree.

The Arboretum gift shop offers many books on trees, one being *Seeing Trees* by Nancy Ross Hugo, an intimate account of looking—really looking—at trees. Another recommendation is Peattie's book, *A Natural History of Trees of Eastern and Central North America*. In this enjoyable read, each tree is treated like an old friend. Finally, Doug Tallamy's *Bringing Nature Home* is the book to learn how native insects are struggling with the proliferation of non-native plants in our landscapes.

Every oak tree started out as a couple of nuts who decided to stand their ground. —UNKNOWN

Left to right, Meg Gallagher, Advancement Assistant and Robyn Affron, Receptionist

Meg Gallagher and Robyn Affron Join Arboretum Staff

The Arboretum recently welcomed two new members to its staff. With a bright smile and a tremendous zeal for nature, **Meg Gallagher** joined the staff in September as Advancement Assistant. With a corporate background and fifteen years as a corporate event planner in the Baltimore area, Meg brings a fresh perspective to the Arboretum, and her thoughtful nature and wonderful sense of humor make her a welcome addition to the staff. The Eastern Shore's big skies, waterfowl, and colorful landscape led Meg and her husband, Pat, to settle in Hillsboro in 2001, and they joined the Arboretum as members shortly thereafter. "I'm thrilled to be the Arboretum's new Advancement Assistant and am happy to spread the word about this beautiful place!" she says. Meg and her husband live with their two cats, Frankie and Sophie, who enjoy helping Meg with her knitting.

Robyn Affron joined the staff as Receptionist in September. Robyn is a lifelong gardener, a certified professional horticulturist, a Master Gardener, a Master Naturalist intern (to name but a few), and a welcoming presence who greets each visitor with great enthusiasm. "My friends and family will tell you that the Arboretum is the perfect place for me to be," says Robyn. "I hope my passion for nature comes through to each person who walks through the Visitor's Center door." A native of the Washington, DC, area, Robyn lives with her husband, five chickens, two goats, two cats, rabbits, and a beagle on a hobby farm in Chestertown.

ADKINS ARBORETUM

MEMBERSHIP FORM

By becoming a member of the Arboretum, you are making a significant contribution to the conservation of the natural heritage of the Chesapeake Bay. For your convenience, you may join online at www.adkinsarboretum.org.

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Make checks payable to Adkins Arboretum and mail to:
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