



THE 500-YEAR FOREST FOUNDATION

Newsletter

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With your donation you pay for the care of our forests that store one ton of carbon per acre annually.

Botany Blitz



Botany Blitz Participants David Ledbetter, Peter Fields, Andrea Berardi, Peter Mehring, Ted Harris, Lincoln Brower, Jordan Ledbetter, Carolyn Phillips, Kim Gilbert, and Jeff Smith. Not pictured are Kathryn Kolb and Rick Helms.

No mere April shower but a torrential downpour postponed the Botany Blitz by one week to April 23rd. The washout shrank our forces to twelve, as some who were set to participate—director Jim Murray, a blitz planner, director Kay Van Allen, Miranda and Jonathon Yost among them—had other commitments for the alternate date, Easter weekend.

The next Saturday was a sunny, cool, low humidity day increasing the spirits and eagerness of the group assembled for the task at hand—mapping plant and tree specimens along the northwest flank of Long Arm Mountain. Two other directors, Lincoln Brower and David Ledbetter, were on hand. Rick Helms and Carolyn Phillips, our hosts, set up tables, chairs, drinks and snacks at the entrance to their property. Box lunches, ordered earlier from the nearby Batesville Store, were distributed.

Foundation president, Ted Harris, gave the group an orientation based on his and Jim Murray’s earlier reconnaissance visits in preparation for the day. Jeff Smith, former program chairman, provided quick instruction on using the hand-held Garmin GPS devices on which each team would record location of especially noteworthy, interesting or rare trees and plants. There was a focus on ephemerals, wild flowers that bloom briefly in early spring, and the largest, oldest trees. The assignment was perfect for amateurs and budding botanists alike.

See *Botany Blitz*, page 2

Miranda Yost, Our New Counsel



We are pleased to announce new pro bono counsel, Miranda R. Yost. She replaces David Ledbetter, recently retired, who continues to serve on our Board of Directors. We continue to be most grateful to the Hunton & Williams law firm for being so generous with their free counsel to us and many other non-profits.

Miranda spent her childhood exploring the forests of central Virginia in and around her hometown of Gordonsville, Virginia.

For college, her central Virginia exploration took her to gorgeous University of Virginia. She then attended The George Washington School of Law, graduating with honors and a focus in environmental legal issues.

Currently for the last five years, Miranda works at Hunton & Williams, LLP. Her practice is focused on regulatory issues of environmental law, particularly client representation in administrative agency rulemaking and enforcement proceedings. During the past couple of years, Miranda provided pro bono assistance to the Capital Region Land Conservancy. Miranda lives in Richmond, Virginia with her husband Jonathan Yost, who is currently finishing up William & Mary’s masters programs in Public Policy and American Studies. She is very enthusiastic about her new role as pro bono counsel to The 500-Year Forest Foundation.

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Reports from our new 500-Year Forests

Helms Phillips 500-Year Forest



Jeff Smith, instructing on the GPS use
Lincoln Brower, Peter Fields, and Andrea Berardi

Botany Blitz, continued from page 1

By 11:30 am, we were on the mountain. Divided into three teams, we tackled 55 acres of forest with each team responsible for one of the three swales located in this parcel of land. With the GPS devices, tree diameter tape, clipboards and box lunches, the teams scaled Long Arm—quite steep in places—covering elevation ranging from 1200 to more than 1600 feet, the mountain's crest. In team two, photographer Kathryn Kolb (whose parents own the very first private 500 Year Forest) chronicled the ascent. Jordan Ledbetter, son of director David, ably assisted with lugging photographic equipment in addition to mapping and measuring trees.

By 3:30 pm, all teams were back from the field, having made more than 150 recordings. Some tree diameters hit 48 inches and are likely more than 120 years old—already with an aura of old growth. Three University of Virginia graduate students—Kim Gilbert, Andrea Berardi and Peter Fields—helped on the project, as did a prospective 500-Year Forest owner, Peter Mehring. The day ended back at Rick and Carolyn's home with cider and cookies. Everyone kept a tree diameter tape and some lucky participants were mailed the Garmin's. After the event, one of the graduate students wrote, "Thanks for having us at the BioBlitz. I had a ton of fun!" She spoke for us all.



Carolyn Phillips,
Kim Gilbert and
Jordan Ledbetter
measuring the
tree diameter

Observations by Peter Mehring

Peter Mehring was a member of Botany Blitz Team 1. Afterwards he wrote thoughtfully about his experience.

"What is it?" is an important but sometimes difficult starting point. Exploring the forest with others who appreciate the mysteries of life is a delight. Just as we are about to enter the woods we spot a large *Polygonum*, or so I think. My snap identification comes out as "an invasive" thinking we have found Japanese knotweed that is such a problem in this part of Albemarle County. However, the leaf shape appears to match that of Buckwheat, genus *Fagopyrum*, perhaps seeded in with grass that helps hold soil in open areas of the property.

We see seven young jack-in-the-pulpit plants in a patch. Were these from seed from one adult plant from a previous year or did they grow from one animal dropping? Do raccoons, 'possums and other smaller animals contribute to the reintroduction of native plants as much as one wide-ranging bear?



Lincoln Brower and Peter Mehring

As we climb the mountainside we notice an open zone. Lower, where top soil is richer and deeper, spicebush dominates below tulip trees. Higher, where the slope is steep, mountain laurel dominates below oaks. Between the two zones is an area with no shrubs. Why does this no-shrub zone exist and how will it change as years pass?

Wind-blown leaves contribute to the growth of top soil on slopes eroded by the activities of humans. Stems of spicebush, maple-leaved viburnum and other perennials slow the movement of leaves driven by wind and water. And when tree twigs, branches and, finally, whole trunks fall, more leaf traps are made. Over the years these leaves rot and provide moisture for an increasingly diverse assemblage of spring ephemerals.

Toward the end of our walk we observe a colony of early saxifrage plants growing at the base of a mature northern red oak. We wonder how these plant communities will change as the years go by. We like searching for plants but sometimes find as many questions as well as species.

Reports from our new 500-Year Forests

Sunshine 500-Year Forest

319 Ailanthus trees get a dose of Roundup

A key element in our program is controlling the invasive plants in each of our forests so that the native plants will not be over-run and forced from their natural habitat. In the case of one of our new forests, that of Donald and Joanna Sunshine, we agreed that our first effort should be to reduce the numbers of Ailanthus trees, also known as Tree of Heaven and Paradise. This spring Donald set out to determine with whom he might contract to begin this eradication program. After several tries he was fortunately referred to Neil Ames Horticultural Services.



Donald Sunshine, Deb Weissenborn, and Neil Ames



Ailanthus injection



Ailanthus marked and treated

Neil Ames Horticultural Services

Neil began this firm in 1996. According to his associate, Deb Weissenborn, Neil's "knowledge of plants is amazing, forged by avid raw interest and 35+ years in the business." Deb has been with the firm since 2007. Prior to this she earned a post doctorate degree from Virginia Tech specializing on the molecular response to wounding in plants. Moving to Saint Louis, she "spent quite a bit of time creating Roundup-resistant plant lines for some of the major seed companies." Their business focuses managing flower gardens for their clients in the Blacksburg area. In addition to their horticultural services a unique aspect is their creation of copper sculptures for gardens.

According to Deb in two days in mid June 319 Ailanthus trees "were girdled and treated, the majority of which were 2-3" or 3-4" in diameter. The trees were girdled by cutting a channel approximately 3/8" deep using a battery-operated chainsaw. Using a 20 ml syringe with an 18-gauge needle, we applied 48% (Roundup Power Max) at a rate of 1 milliliter/2" diameter directly into the cuts, flooding the cambium."

An inspection two weeks later revealed the effects of the girdling. Every tree with the exception of two was entirely brown. The remaining two trees still had a few green leaves but were obviously dying. Clearly, this first step in eradication of the Ailanthus was a success and will result in a reduction of the seed load this summer.



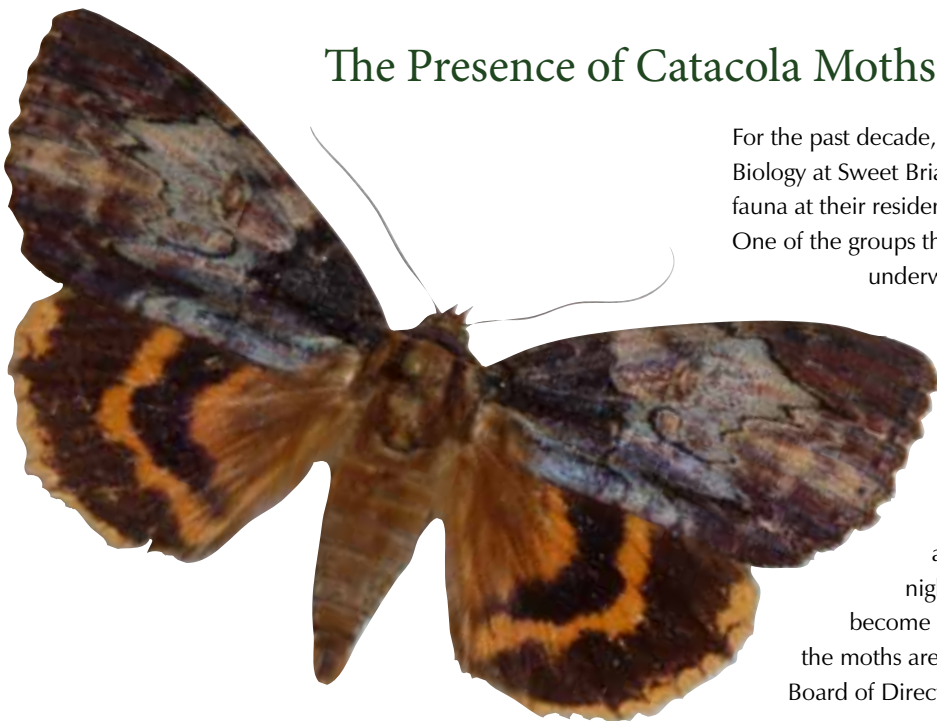
Ailanthus two weeks later

A Walk in the Woods for Wonderful Well Being

The Japanese have been studying what they call “forest bathing” (*Shinrin-yoku*). The purpose of which is spending time in nature for its therapeutic effect. The Japanese researchers found that walking through the forest can help reduce stress, lower blood pressure, and heart rate and improve various aspects of the immune function for anywhere from a few hours to a few days afterwards — while walking in the city does not. They suggest that various airborne chemicals emitted from plants may play a role. (These remarks by John Swartzberg, MD, Chair, Editorial Board, UC Berkeley are excerpted from the December 2010 Wellness Letter.)

Other studies show:

- Five to twenty minutes in nature boost mood and energy levels somewhat.
- People do better on tests involving memory or attention after trekking through the woods than after walking in the city.
- Patients in hospitals tend to recover more quickly when they can see trees from their windows.
- People have increased vitality (that is, physical and mental energy) and a greater sense of well being after walking through a tree-lined river path than after walking indoors.



The Presence of Catacola Moths, a Forest Quality Indicator

For the past decade, Lincoln Brower and Linda Fink, Professors of Biology at Sweet Briar College, have been censusing the native moth fauna at their residence in the Blue Ridge Mountains near Nellysford. One of the groups they are especially interested in is the very beautiful underwing moths in the Genus *Catacola*. The presence of these moths is an indicator of the quality of the temperate forest ecosystem.

In Lincoln's words, “We are happy to report that we have attracted at least 27 different species. We have set up a white sheet with an ultraviolet lamp and two floodlights that we turn on at dusk and off at 1 AM. We would attract even more species if we left the light on all night, but we don't do this because the moths would become an avian smorgasbord at dawn! The news is good: the moths are doing well!!” Lincoln is also a member of the Board of Directors of the 500-Year Forest Foundation.

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500-YEAR FOREST
FOUNDATION

President's Letter



Ted Harris



Wild Azalea photographed during the Botany Blitz

From our humble beginning in 1998 for our first six years we seemed clueless on how to identify potential 500-Year Forests. Our first success was with Hal and Jean Kolb in 2004. Then came the forests of Steve Brooks and Maxine Kenny, followed by Bob and Daralinda Gilvary. Last year we added two new forests one owned by Donald and Joanna Sunshine and one owned by Rick Helms and Carolyn Phillips. We now have another two prospects. It has really been fun to be a part of an effort that is gathering momentum.

More than ever we are dependent on you for the sustenance we need to support our invasive control and our biotic inventory programs. Our forest owners are such a dedicated group having all given up the right to harvest their forest and subdivide their land. In addition three of our forest owners are currently matching our annual support for invasive control. Won't you join them in our unique effort to create old-growth forests?

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Phone: 434.384.2324 • Fax: 434.384.3268
E-mail: highview@ntelos.net
Website: www.500yearforest.org