

Fall Member Meeting

Date: Saturday, October 29, 2016

Time: 8:30 a.m. to 2:30 p.m.

Cost: \$10 at door for lunch/coffee

Location:

Weiser District Forest Office, Aristes PA

Please RSVP by 10/27/2016

mail@patacf.org or 814-863-7192



Meeting Program

- 8:30 AM** Social Hour (coffee & donuts)
- 9:30 AM** **Opening Comments:** John Wenderoth, Board President
- 9:45 AM** **Gary Gilmore**, Forester
Charcoal is Amazing!
Demonstration & Presentation /Q & A
- 11:00 PM** **Shorts:** Chris Ditlow (Woodworking); Jim Walizer (Orchard Sharing); Chris Bortz (PARS Schuylkill Co. Coordinator on the PARS Survey)
- 12:00 PM** **Lunch**
- 1:00 PM** **David Crowl**,
Reclamation and Restoration
Presentation / Q & A
- 2:00 PM** **Charcoal Demonstration Wrap Up And Orchard Walk**

Featured Speakers

Gary Gilmore Forester / DNCR

Charcoal is an amazing product. This ancient material provided the fuel that allowed the development of modern living. This product also can mitigate many issues that we face looking to the future. Charcoal can



be used to purify water, retain nutrients on the land, increase soil health, capture offensive odors from farming operations, power motors and sequester carbon dioxide. This demonstration will show how you can make charcoal as well as provide a more in-depth look at the benefits of charcoal.

David Crowl / Board Member Anthracite Outdoor Adventure Area Authority (AOAA)

After 35 years as a contractor, Dave was appointed by the Northumberland County Conservation District to a steering committee looking into developing 7,500 acres of abandoned coal lands which would come to be known as the Anthracite Outdoor Adventure Area.

In addition to AOAA, Dave serves on several other Boards including: the Northumberland County Ag Land Preservation Board, Northumberland County Conservation District, and the PA Association of Conservation Districts. Dave holds a LEED-AP green building certification.



DEDICATION AND PERSISTENCE



More than a decade ago while browsing in a bookstore, I noticed “The Botany of Desire” by Michael Pollan. I remember thinking the book’s title peculiar, by an author I didn’t know. But some months later I examined the book and realized it was a serious work about our relationship with four plant species that has fostered their development. In four essays, the author describes how we’ve assisted and directed the evolution of the apple (for its ability to provide sugar and alcohol), of the tulip (to satisfy our desire for beauty), of marijuana (for its ability to intoxicate), and

of the potato (for our compulsion to control a plant by putting a company brand at the level of the gene). This was my first experience in understanding the breeding of plants and animals as co-evolution — evolution directed by man to serve human needs while facilitating the latent ability of another organism’s genes.

When you look into the eyes of your dog, you are experiencing the result of twenty-thousand years of domestication (i.e., co-evolution) of the wolf. The wolf population of the world is trivial compared to the number of dogs kept as pets and companions. And in the same way, our attempts to breed disease resistance into the genome of the American chestnut, could restore billions of chestnuts to our forests and benefit our lives.

While reading Elizabeth Kolbert’s recent article titled “Unnatural Selection: What will it take to save the world’s reefs and forests?” (April, 2016 -The New Yorker), I was glad to have persisted through the initial pages of the essay about research to select coral strains capable of surviving climate change. The final two pages discuss the work of Drs. Powell and Maynard of TACF’s New York Chapter at Syracuse University. While most TACF chapters have been following a back-cross breeding strategy, the New York Chapter’s research and breeding program at Syracuse has pursued a strategy based on tissue culture and genetic engineering. Both programs are pushing the evolution of the American chestnut toward our desire to make it a more competitive tree species.

Success will require the knowledge and experience gleaned from both these strategies, along with the dedication and persistence to overcome each obstacle. In my brief time as your board president, I’ve witnessed your dedication as members and volunteers, giving your time and financial support; and sharing your passion to inspire new members. Without your support and participation, this task would be impossible. As I prepare to step down as president I look forward to maintaining my commitment to this organization. I will continue to volunteer locally, visit growers around the state, and serve on the chapter’s board. I hope that you will join me in renewing your commitment to work for the restoration of this great native tree.

Sincerely,

John Wenderoth

PA-TACF Board of Directors

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(814)863-7291

Volunteer Spotlight

My experience as a volunteer of TACF — by Tom Trimbur

Hello, my name is Thomas Trimbur. I just graduated from Harrilton High School (located in suburban Philadelphia). Over the past two months, I had the chance to work with The American Chestnut Foundation (TACF) for my senior project, which required 70 hours of experiential learning. With the help of my TACF mentors, Mary Ayres and John Wenderoth, I learned a lot about the current efforts to bring back America's beloved Chestnut tree.

Among other activities, I got to visit Dr. William Powell's laboratory in Syracuse, NY; plant chestnut

seedlings at the Arboretum at Penn State; work in the chestnut orchard at Tyler Arboretum, and visit chestnut specimens in SE Pennsylvania, including the Restoration Chestnut planted at Independence Hall.



Left to right: Mary Ayres, Thomas Trimbur, David Charlton, John Wenderoth, Suzanne Martin, Patrick Burke, William Powell, Jim Searing, and Tim Eck

My time with my mentors was incredibly eye-opening, as I was never one for nature and went into the project knowing almost nothing about the chestnut blight, or any of the other stresses affecting our forests today. Everywhere I went I felt welcomed, and by the end of my project, I started to understand why everybody cared about the revival of the American Chestnut. It was an amazing experience, one that I'll always remember. I hope to volunteer with the Chestnut Foundation again, and invite my friends to help too. Many thanks to all of the people I met for being so extremely helpful and kind.

Our 2016 PA/NJ Chapter Intern — Marlin Graham

Marlin Graham is about to enter his senior year in the Forest Ecosystem Management major at Penn State University. He has spent the summer working with our Orchard Manager, Steve Hoy and even had the opportunity to travel to Maine with Sara Fitzsimmons, our Regional Science Coordinator and participate in her field research.

Marlin says of his experience, "I've had a great time learning about chestnuts and helping maintain the orchards and greenhouses that propagate our research trees. I've had the

privilege to see some large American chestnut, both in our own orchards and in forested natural areas, including some that are an impressive 70+ feet tall, and I've learned a lot of valuable information relevant to my field". In the future he would like to work in timber or natural area management, or perhaps in research.



Chapter Board New Treasurer Appointed

The Board welcomes our new Treasurer, Mr. Andrew Huston. Andrew brings in-depth knowledge of process improvement and financial analysis, as well as complex financial operations experience to the role of Treasurer.



A lifelong advocate for stewardship of the land, Mr. Huston was raised in the hills of Venango and Clarion Counties in Northwestern PA, and has a deep love and appreciation for the history and ecology of the region. There, his family connections trace back to when the hills were covered in American Chestnut trees. The barn on his family farmland was constructed of Chestnut; a single timber of which still is preserved on the farmstead as a memorial. For him, the quest to restore the American Chestnut tree to prominence in American forests is a deeply personal one.

Mr. Huston has participated in and served on the leadership teams of multiple nonprofit organizations and founded an award-winning tax preparation program while serving as an AmeriCorps*VISTA. Partnering with the IRS alongside local businesses and financial institutions, the program nearly tripled IRS projections for site participation, generating nearly \$300,000 in rebates and refunds into the local economy. In 2008, the program was recognized by the IRS as the Best Partner Site in the Pennsylvania-Delaware-Maryland Region. Mr. Huston attended Westminster College (BA) and received his MA in Political Science from The American University in Washington, DC.

John Civitts Steps Down from the Board Thank you for your service!

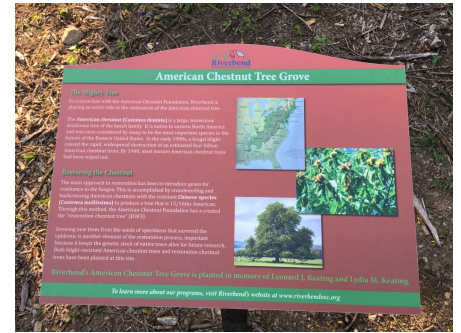
On behalf of our membership and Board of Directors many thanks to John Civitts for his service and dedication. John has served as Treasurer on the Board since 2014. As Treasurer, John helped with the transition into Quickbooks.com and has also served as a member of the executive committee and assisted in interviewing candidates. He has stepped down but continues to be a supportive member of the Chapter.



Riverbend Environmental Education Center Dedicates American Chestnut Grove

By Mary Ayres

The Riverbend Environmental Education Center was one of several American chestnut plantings established in 2016 through our Ceremonial Planting program. The Planting at Riverbend was made possible through a donation from Michelle and Leonard Keating, Jr., to honor the memory of parents Lydia and Leonard J. Keating Sr. As a Ceremonial Planting it will be accessible to the public and interpreted through signage that identifies the American Chestnut Foundation (TACF).



Volunteers are happier, healthier, and better looking than their peers.

So delay joining our volunteer team. Our volunteers help with a variety of activities throughout our Chapter. Whether you enjoy education, orchard work, or research there are opportunities for you! Visit our website to learn more:

www.patacf.org/get-involved/

Allergic to the internet?
Call our office: (814)863-7192 and we will add you to our Volunteer call list.

Join our Board!
Put your passion and expertise to work of restoring the American chestnut!
Join one of the **Advisory Committees** of our Board of Directors.

Science Outreach Operations

Please email Jean at mail@patacf.org or call her at (814)8637192.

Auger Holes and Root Bound Chestnuts.

By Gary Gilmore and Dave Lazor 2/9/2016

In the spring of 2005 an orchard of chestnut trees was planted on the Smith Farm owned by The American Chestnut Foundation. This area was strip mined in the 1980s and reclaimed with a thick layer of grass. A tractor was used to auger a 12" diameter hole about 20" deep at every location a chestnut would be planted. The auger had no problem putting the holes in the ground but there was concern about whether the chestnut trees would be able to move beyond the boundary made by the auger.

The hole was backfilled with a mixture of oak forest soil and composted manure mixed with the native soil displaced by the auger. A chestnut was planted in each location and consisted of a mix of Chinese, American and some backcrosses.



Digging up root system of a chestnut that died within the past two years. Note there are no stump sprouts.



Close up of a strong root system that over ten years extended far beyond the edges of the au-

The trees grew well for several years, but over time, most of them died. Was root binding an issue? Ten years later one of the more recently dead trees was checked by digging up the root system.

The following pictures tell the story. Basically there was no problem with the roots extending beyond any barrier created by the augered hole. The site does have issues with high moisture due to a spring located further up the hill. This has to be considered as a factor that limited the growth of chestnuts, but the effect of using an auger to plant the seeds can be ruled out.



Close up of a strong root system that over ten years extended far beyond the edges of the augered hole .

Ambrosia Beetle: The Latest Invasive Challenge for Chestnut Restoration

By Steve Hoy, Orchard Manager, PA/NJ TACF

The B₃F₂ chestnut orchards in the Arboretum at Penn State are growing, both in number of trees on the site and the size of the remaining trees. Each year brings improvements as well as some challenges and this summer has not disappointed; a new pest arrived in the arboretum as well as at numerous volunteer orchards throughout the state.

The first sign of trouble came in the spring with a few calls to the office - trees that had just begun leafing out were dying suddenly with shriveled brown leaves as well as trees not leafing out at all. The ten-year-old Chinese chestnut in my own backyard showed the same symptoms, ultimately dying by May. In June, there was evidence of the same problem in the arboretum: the trademark tiny holes ob-



Beetle infested tree-early spring.

structed by thin protrusions of sawdust sticking out perpendicular to the stem of the tree. Throughout the state volunteer growers were finding small holes, usually tens to hundreds, in an affected stem. This is the calling card of a family of insects known as ambrosia beetles, in this particular case two species were found: *Xylosandrus crassiusculus* (granulate)

and *Cyclorhipidion pelliculosum*.

While this pest is not new, this summer saw a significant expansion of its range. The beetles themselves are tiny, less than 3mm in



Close-up of beetle entrance holes in chestnut tree.

length, drilling 2mm in diameter holes into host trees. They are native to east Africa and were most likely introduced to the United States in shipping materials. They are an aggressive and indiscriminate pest, known to attack over 200 species of trees. The females typically fly to small trees, less than 3" DBH*, and infest stressed or weakened individuals by boring into the trunk to lay eggs. Age and health cannot protect the trees from this pest - occasionally the beetles will attack large healthy trees. While the infestation itself

may not be enough to kill a tree, a symbiotic fungus carried by the female beetles gums up and stops the flow of nutrients, causing the tree to rapidly decline and die. The ambrosia fungus is the beetles' sole food source and in return the fungus depends on the beetle for protection and transportation to new trees. If the female is killed, the fungus may die, as other fungi outcompete it.

Treatment The peak activity period for the granulate ambrosia beetle is during leaf out, which for our area occurs in March-June. Preventing infestation is difficult at best and especially so during leaf out. Most recommendations are to use a permethrin or bifenthrin-based insecticide applied liberally to the bottom 5



Cross-sectional view of ambrosia beetle infested stem.

feet of the stem. The concurrent use of a sticking agent to extend the presence of the insecticide on the tree can improve results. Reapplication, applied at the intervals specified on the product container, should continue from mid-March through June. There may be cause to complete another round of insecticide in the fall, before the beetles go dormant for the winter.

With over 5,000 chestnut trees currently planted in the arboretum orchards there is the potential for a major infestation to occur. As reports of dead/dying trees began coming in from members any tree in the arboretum in decline was scrutinized to determine the exact cause. This is how the discovery of the granulate ambrosia beetle was made. It was confirmed after Dr. Kelli Hoover from Penn State's Entomology Department took a few samples and raised the larvae to adults. Every tree in the arbo-

Continued on page 7

Fall Fundraising Challenge — Anonymous Matching Challenge DOUBLES the Impact of Your Contributions!

Two anonymous donors have offered a matching challenge for our Fall Fundraising Campaign. They will match up to \$3,500 in donations to help us reach our goal of \$7,000. The money raised will be put toward the purchase of equipment for the management of our Orchard, here at Penn State University including:

- Walk behind tractor with flail mower
- Kiser water wagon 300-500 gallon
- Laptop Computer

Our goal is to raise \$3,500 in matching donations by December 31, 2016. If you would like to contribute to this fundraising effort, please send a check to our chapter office (address below). All donations received at the Chapter office during this challenge will be applied to this fundraising.

**PA/NJ Chapter of
The American Chestnut Foundation
206 Forest Resources Lab
University Park, PA 16802**

Thank you for your support!

Matching Challenge Goal



Continued

return orchard was visually inspected for beetle entrance holes and frass tubes. In total 40 trees were found to be infested, these were cut down and burned to prevent any eggs or larvae from reaching maturity. Traps have been deployed around the orchard to monitor for future beetle activity and will continue into the fall. Since the traps have been in use no granulate ambrosia beetles have been caught.

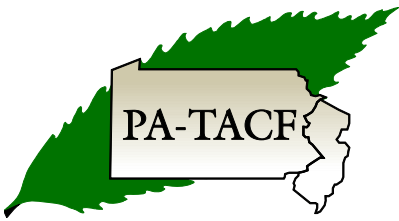
Looking to the future there is no expectation for this pest to leave the area. The chapter is consulting with entomologists and tree care companies to develop a management strategy. The proposed plan is to treat our highest value trees that currently have evidence of beetle infestation in the hopes that these trees



Burning beetle infested stems in arboretum.

are large enough to recover. New plantings will be sprayed until they are out of the size range most readily affected by the beetles (> <3" DBH, or approximately 5 years). Larger trees will be monitored for pest activity using periodic trapping throughout the summer and the highest value trees will be sprayed as needed. Our hope is that this regimen of pesticide application paired with constant vigilance will reduce the beetle population enough to preserve trees through blight resistance testing.

*DBH refers to the tree diameter measured at 4.5' above the ground.



The Chestnut Newsletter

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Pennsylvania Chapter

The American Chestnut Foundation

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RETURN SERVICE REQUESTED

SELECT UPCOMING EVENTS

- * **September 10-11** — **New Jersey Wild Outdoor Expo**, Colliers Mills Wildlife Management Area in Jackson Township, NJ
- * **September 24th** — Penn State Forest Fest, University Park, PA
- * **October 8th** — 22nd Annual Autumn Lights Festival, West Milford, New Jersey
- * **October 15th** — Phipps Conservancy's Native Plant and Sustainability Conference, Pittsburgh PA
- * **October 29** — **Fall Member Meeting**, Conrad Weiser Conservation District Bldg., Aristes PA
- * November 11 — TACF Annual Meeting, Louisville, KY
- * **January 7-14** — 2017 PA Farm Show, PA Farm Show Complex & Expo Center, North Cameron and Maclay Sts., Harrisburg, PA.

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