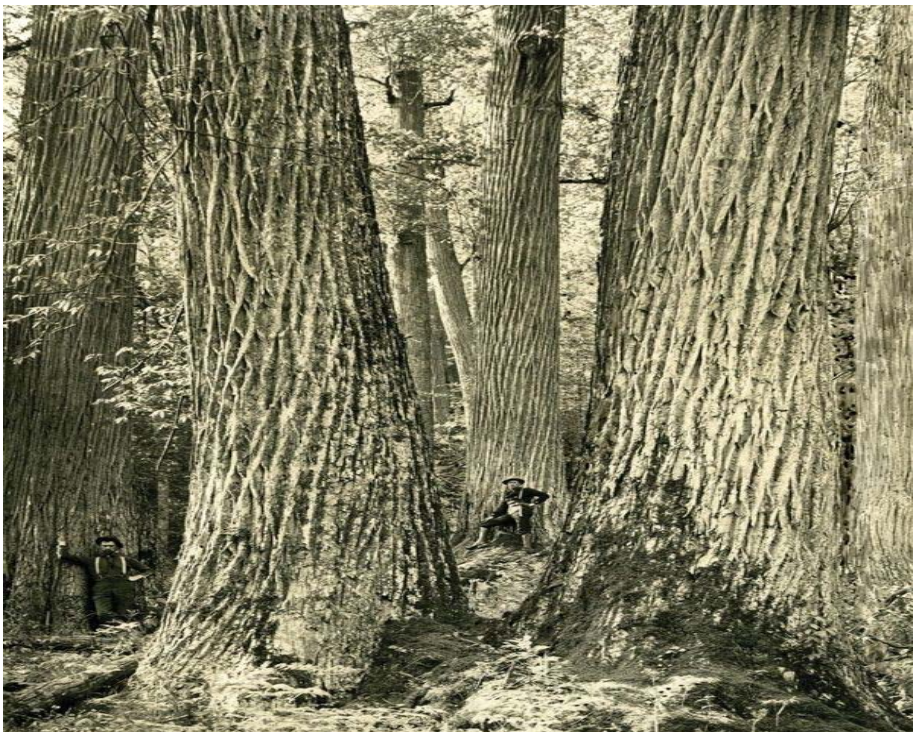


The West Virginia Chapter of The American Chestnut Foundation Newletter

November 2017

MESSAGE FROM THE PRESIDENT-MARK DOUBLE

IN THIS ISSUE:ROWLESBURG CHESTNUT FESTIVAL; NEXT CHAPTER MEETING; CHAPTER OFFICERS; ARMY CORPS PLANTING; SOUTHERN CONSERVATION DISTRICT; MAP OF WV CHESTNUT PLANTINGS; 3BUR

Allow me to introduce myself. My name is Mark Double and I was elected President of the WV Chapter of TACF at the October 8, 2017 meeting in Rowlesburg, WV. I succeeded Robert Sypolt who acted as President for the last two years. Many thanks to Robert for his leadership!

I am an employee of West Virginia University and I have worked on chestnut and chestnut blight for more than 40 years. Our work centers on the virus that infects the chestnut blight fungus—a virus that does not kill the fungus, but slows its growth so the chestnut tree can use is natural defense mechanisms to ward off infections.

I enjoy talking about this magnificent tree and I have spoken at a variety of venues this year—Morgantown Rotary, Izaak Walton League, the Foxglove garden club of Berkeley Springs, Forest Industries Camp and the annual meeting of WV/PA foresters. I hope to be able to provide answers to questions you might have or at least direct you to someone who can answer your questions. My email address is: mdouble@wvu.edu

Mark Double cutting chestut stems.

Boy Scout Jamboree Award

At the WV TACF chapter meeting in Rowlesburg, Robert Sypolt presented an award from the Boy Scouts of America to Charles (Sam) Muncy who organized TACF's display at the 2017 Boy Scout Jamboree at the Summit Bechtel Reserve in Glen Jean, WV. Sam really championed the chestnut booth at the Jamboree. He worked countless hours planning and organizing the display. He managed not only the setup of the booth but the many volunteers. Well-deserved Sam!

Sam Muncy (left) and Robert Sypolt (right)

Rowlesburg Chestnut Festival

There was a lot of activity at this year's chestnut festival in Rowlesburg. Dr. N. Joseph Nassif, a native of Rowlesburg, was named "*Volunteer of the Year*" by the national TACF office. Joe has spent countless hours, along with other members of the Rowlesburg Revitalization Committee planning and organizing a wonderful festival for Rowlesburg, "the small town on the big bend of the Cheat River". Dr. Nassif is an American chestnut Foundation volunteer who has combined two of his passions: the great American chestnut tree and his hometown of Rowlesburg. In doing so, Nassif created The West Virginia Chestnut Festival, a unique one-day event that is both fun and educational. Pictured above is WV TACF President Robert Sypolt (left) presenting Joe Nassif (right) with the plaque from the national TACF office in Asheville, NC. With the help of many co-chairs and volunteers, Rowlesburg established a plan for successfully hosting a one-day festival of interest to both the public-at-large and the scientific community.

Congratulations Joe!

The afternoon scientific session of the Rowlesburg chestnut festival

Sara Fitzsimmons

Amy Metheny

included two wonderful speakers. Sara Fitzsimmons, Director of Restoration for the national TACF office, gave a wonderful presentation on "Conservation of wild American chestnut populations". Amy Metheny, a graduate student in Plant Pathology at West Virginia University gave an intriguing talk: "The super donor: does chestnut blight have a kryptonite?"

One of the highlights of every Rowlesburg chestnut festival is the crowning of Mr. and Mrs. Chestnut. This year, the

recipients were Charles (Sam) Muncy and his fiancée Sharon Reeves Cottrill. Sam and Sharon were instrumental in organizing the TACF booth at the 2017 Boy Scout Jamboree, held at the Summit Bechtel Reserve in Glen Jean, WV that was attended by more than 25,000 scouts. Sam and Sharon not only organized the volunteers who manned the booth, but they helped to cut and stamp 5,000 "cookies" from American chestnut stems that were made available to scouts who stopped by the TACF booth. Sam and Sharon worked nearly every day of the 2-week event; they were certainly worthy of the title of Mr. and Mrs. Chestnut for their extraordinary efforts.

Next WV Chapter Meeting

The next chapter meeting will be held on Saturday, March 10, 2018 in the Forestry Building on the campus of Glenville Stat College. We hope to see you there!

WV TACF Officers

The following officers were elected at the Rowlesburg meeting:

Name	Position	Term Expires
Mark Double	President	October 2018
Robert Sypolt	Vice Pres.	October 2018
Charles Muncy	Treasurer	October 2018
Jeff Kockenderfer	Secretary	October 2018

Directors

Brian Perkins	October 2020
Jimmy Jenkins	October 2019
Jerry Legg	October 2018
William MacDonald	October 2018
Rick Sypolt	October 2019
Ed Grafton	October 2020

Army Corps of Engineers Planting in Barbour County

On August 11, 2017, a ceremonial planting of six B_3F_3s and one American chestnut was held at the U.S. Army Corps of Engineers (USACE) Tygart Lake office in Grafton WV, organized by Manager, Stacy Lewis. Robert Sypolt, President of TACF's WV Chapter made some brief remarks, followed

by Dr. William MacDonald, Mark Double and Amy Metheny from West Virginia University. Their remarks were followed by Colonel John Lloyd of the Corps, who stated that many people think the Army Corps of Engineers only build dams; however, the Army Corps is involved with many sustainable ventures and they are delighted to partner with TACF to help restore American chestnut in eastern forests. A ceremonial tree was planted by Colonel Lloyd, Amy Metheny and Boy Scout Brock Lewis.

Tygart Lake and Dam encompasses nearly 6,000 acres in north-central WV. The dam was authorized by the Rivers and Harbors Acts of 1935, providing navigation and water to downstream locks and dams. The Tygart dam provides flood protection for the lower Tygart River Valley as well as the Monongahela and upper Ohio Rivers.

U.S. Army Corps of Engineers employees involved with the planting included: Ranger Tom Handy, Manager Stacy Lewis, Mark Hancock (Corps Maintenance), John Chopp (Pittsburgh District biologist), Joe Kolodzsiej (area ranger), Kim Poling (area office assistant), Mira Hess, Tygart Lake project assistant, Colonel John Lloyd, Richard Lockwood (Chief of Operations for the Pittsburgh district). The pledge of allegiance was led by Brock Lewis, Webelos II.

Our Mid-Atlantic TACF Regional Science Coordinator, Tom Saielli

TACF's regional science coordinator for WV is Tom Saielli. Tom joined TACF in 2012 and is based in the Virginia Department of Forestry's Central Office in Charlottesville,

Virginia. Tom oversees the organization's Mid-Atlantic region which includes TACF state chapters of MD, VA, and WV. He received his MS in Forest Sciences from the University of Vermont in Burlington after earning his BS in Biology and Environmental Science at the University of Colorado in 2007.

Tom comes to TACF with significant hands-on experience with the Foundation's breeding program, having worked as a research technician with New England Regional Science Coordinator Kendra Gurney. In this role, he investigated chestnut cold-tolerance at the University of Vermont. Upon leaving New England, Tom accepted the role of TACF's Southern Regional Science Coordinator in Asheville until 2016. Prior to joining TACF, Tom served as a crew leader with Wildlands Restoration Volunteers in Colorado, where he managed dozens of large-scale restoration projects and spent nine years as a medic and firefighter with the Nederland Fire Protection District.

Tom can be reached by phone at 828-450-9100 or by email at tom.saielli@acf.org

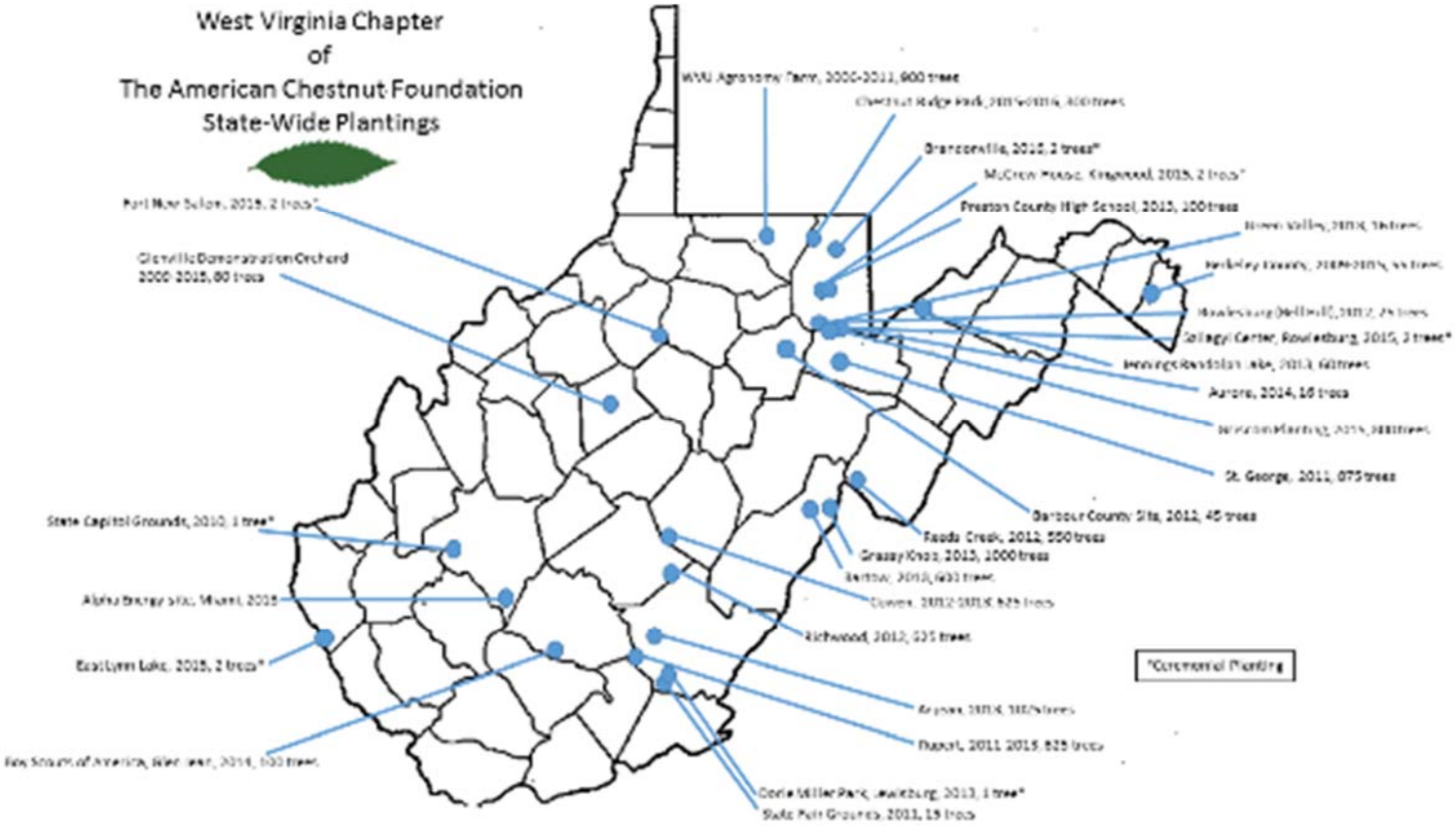
Southern Soil Conservation District

The Southern Soil Conservation District is comprised of six southern WV counties (Fayette, Raleigh, Mercer, McDowell, Summers and Wyoming). This group is on the list for chesntut trees in 2018 as are the following organizations: West Liberty State College; Coopers Rock State Forest; and, the new Proctor and Gamble facility in Martinsburg.

Soil conservation is the best way to make sure that we have the land we need to live in, or on. Protection of soil by planting trees is a tangible method of saving our soil. And what better trees to plant than chestnuts.

Map of WV Chestnut Plantings

Below is a map of chestnut plantings throughout the state of WV, as of 2017. In conjunction with the sites, the date of the planting and the number of trees planted are included.



Mother Trees

West Virginia represents an important region for *Castanea dentata* (American chestnut) genetic diversity. To preserve the valuable gene pool of West Virginia American chestnut trees we must first locate surviving American chestnut trees which are producing flowers. To be useful, the trees must first be positively identified. They must be of bearing age and easily accessible. And, the landowner's permission is needed in order to pollinate the tree.

The West Virginia Chapter of the American Chestnut Foundation (WV-TACF) is hoping to find five-to-ten "Mother Trees" to pollinate each year. The lifespan of each blooming American chestnut tree in West Virginia is brief but each can contribute valuable genetic diversity to the effort to breed a blight-resistant tree.

If you notice any flowering American chestnuts, please send your information to the coordinator of WV-TACF's mother tree program: Melissa Thomas-VanGundy. She can be reached at: mthomasvangundy@fs.fed.us

If you have any items to contribute to the newsletter, send them to Mark Double (**mdouble@wvu.edu).**

From Research to Restoration

(Reprinted from TACF's website, www.acf.org)

The American Chestnut Foundation (TACF) is committed to supporting all approaches toward the ultimate restoration of the American chestnut tree since its inception in 1983.

Our work includes three major research tracks – all of which integrate efforts to benefit American chestnut restoration. These tracks include: **Breeding, Biotechnology** and **Bio-control**. The **3BUR (Breeding, Bio-control, and Biotechnology United for Restoration)** ad-hoc committee was established in 2016 to propose ways that the three major research tracks might integrate their efforts to benefit American chestnut restoration. There are multiple efforts currently underway within each of these tracks such as traditional breeding methods, modern genetic transformation techniques, simple conservation strategies, and biocontrol methods that would reduce the virulence of the chestnut blight fungus. Our backcross breeding program is based on methodology proposed by Dr. Charles Burnham. This breeding program uses Chinese chestnut trees, naturally resistant to the blight, and crosses them with American chestnuts. These trees are then backcrossed to the American species. Each generation is inoculated with the blight fungus and only those trees with the highest resistance are used to breed further generations. This process continues over seven generations to produce an American chestnut tree that retains no Chinese characteristics, other than blight resistance.

TACF has implemented backcross breeding at its research farm in Meadowview, Virginia and at orchards planted by sixteen different TACF state chapters. This program originally focused on selection for blight (*Cryphonectria parasitica*) resistance. More recently, it has been expanded to select for root rot (*Phytophthora cinnamoni*) resistance and to incorporate genome mapping and marker assisted selection. These additional selection criteria and methods will require transitioning the backcross program into a recurrent mass selection program, currently underway.

The biotechnology program has developed under the auspices of the State University of New York, College of Environmental Science and Forestry (SUNY-ESF) and the New York chapter of TACF. In this program, individual genes are being tested in American chestnut for their ability to enhance pathogen resistance using the tools of genetic engineering and molecular biology. Through this search a gene that produces an oxalate detoxifying enzyme has been found to enhance blight resistance significantly.

The breeding and biotechnology programs associated with TACF and SUNY-ESF should be the basis for successful reintroduction of the American chestnut tree. It's also important to consider the genetics and evolution of *C. parasitica*, the fungus that causes chestnut blight. This pathogen population is comprised of genetically different strains that, during the early part of the 20th century, rapidly colonized the entire native range of the tree. It happens that some strains of *C. parasitic*a have been weakened by viruses they carry in their cytoplasm. The viruses, termed hypoviruses, do not kill the virulent strains but significantly reduce their ability to cause lethal infections. When this condition exists the natural defenses of the chestnut may enable the tree to halt canker growth. This phenomenon has been termed hypovirulence and has resulted in some degree of biological control of chestnut blight in several regions of the world. Other bio-control options may prove to be useful in the larger endeavor as well. To the extent that breeding, biotechnology, and hypovirulence individually offer incomplete control of chestnut blight, TACF is committed to studying ways to combine them for a more synergistic result.

As the biotechnology and backcross breeding are reaching a point of maturation, TACF is integrating these programs to plan for the first stages of reintroduction of the American chestnut to American forests. This type of merger will allow stacking of blight resistance genes, combining Phytophthora-resistance with transgenic blight resistance, and increasing the proportion of American chestnut genes in the resulting progeny.

The Gettysburg Project

Adapted from the *Gettysburg Times*

The Gettysburg Nature Alliance (GNA) has plans to incorporate American chestnut into their "Vision", the three **V**'s: amazing **v**isibility; an amazing **v**enue; and, amazing **v**isitation.

The GNA is offering training courses to 15 different schools through 45 school teachers in the Gettysburg area. It is their hope to reach the younger generation by including American chestnut in their educational center on property near the Sachs Covered Bridge. The bridge, built in 1854, spans Marsh Creek, where in 1863 the Union Army crossed as they headed toward Gettysburg. The Confederate Army crossed the same bridge four days after the Battle of Gettysburg as they retreated to Virginia.

Two chestnut orchards, both visible to the community, will be part of the chestnut curriculum for grades 5 through 12.

Appalachian Forest Heritage Area

(Reprinted from AFHA's website: www.appalachianforest.us/visit.htm)

The Appalachian Forest Heritage Area (AFHA) is a regional grassroots effort to integrate central Appalachian forest history, culture, natural history, products and forestry management into a heritage tourism initiative to promote rural community development. Initially supported by a 4-year grant from the USDA to West Virginia University's Division of Forestry and Extension Service, the effort is now implemented by a non-profit organization based on stakeholder partnerships. The goal is to create a sustainable Heritage Area based on forest heritage. Existing and potential forest-based historic sites, artisans, manufacturers and working forests are being developed into a network of attractions providing high-quality products, programs, educational experiences, events and visitor services.

The stories of people are the stories of the land. Settlers cleared the forest for agriculture. Loggers used rivers to bring logs to market, as told by W.E. Blackhurst's book, *Riders of the Flood.*

Logging boomed after the Civil War with the development of railroads into the mountains. Richwood, Davis and Durbin were boom towns. Cass Scenic Railroad State Park is the country's best example of an authentic logging company town, with original houses, company store, and an operating railroad with the world's largest collection of Shay locomotives.

AFHA covers 18 counties in the Highlands of West Virginia and western Maryland.

Joe Lancaster, a WV-TACF member from Lewisburg, was a volunteer for AFHA and he utilized American chestnut as part of the display at the AFHA Discovery Center located at 2 Railroad Avenue, Elkins, WV 304-637-6182. Visit this fascinating Discovery Center in Randolph County.