



Vermont-New Hampshire Chestnut Notes

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VT/NH CHAPTER PLANTS RESTORATION CHESTNUTS

Kendra Gurney, TACF New England Regional Science Coordinator

In September of 2009, long-standing TACF member and VT/NH TACF Director James "JP" Powers helped plant some of the first Restoration chestnuts in VT. JP received two Restoration chestnuts from TACF, which he chose to donate to the VT/NH Chapter. The thrilled Chapter found a permanent home for these special trees at the US Forest Service Northern Research Station in South Burlington, VT.

What is a Restoration chestnut? Previously referred to in breeding terms as the BC3F3 generation of TACF's 6-generation breeding program, Restoration chestnuts are the first 6th-generation chestnuts to come out of TACF's Meadowview Research Farms in Meadowview, VA. These chestnuts are what TACF members have been waiting for. These trees should be highly blight-resistant and indistinguishable from pure American chestnut. However, while the TACF breeding program was designed on sound genetic theory and good science, these Restoration chestnuts provide the first chance to actually test that theory in the field.

The exciting opportunity to plant and help test the Restoration chestnut has been extended to TACF members through two different programs. First is a long-standing member program. TACF intends to offer a small number of Restoration chestnuts to every current member in the order in which they joined, so that every interested member has the chance to assist with the testing and evaluation of these trees. So a sure way to get the opportunity to plant a few of these potentially blight-resistant trees is to maintain membership in TACF and be patient. The trees producing these special chestnuts are young, so production is currently low, but should increase every year. As production increases, TACF hopes to get more and more of these Restoration chest



VT/NH Director James "JP" Powers and TACF Regional Science Coordinator Kendra Gurney plant one of the first Restoration chestnuts in VT.

Photo courtesy of Will Young.

(Restoration Chestnuts, Continued on page 3)

JOIN US FOR OUR SECOND ANNUAL MEETING!

The VT/NH Chapter will hold their second Annual Meeting on April 10, 2009 at the Harris Center for Conservation Education in Hancock, NH. The meeting will include exciting presentations about American chestnut, updates on the work of your local VT/NH Chapter and an afternoon field trip to a new orchard site with a remnant chestnut population. Please see page 3 for more information. Hope to see you there!

PRESIDENT'S CORNER

Grace Knight, VT/NH TACF President

Dear Members,

My favorite chestnut quote from this past growing season came from Jason Lyver, Forester for Central Vermont Public Service. With just a day's notice, Jason arranged a bucket truck to pollinate a tree along CVPS power lines in Springfield, VT. When I told how grateful we were for his help, he smiled and said, "**I spend most of my working days cutting trees down. It feels good to spend a day saving a tree.**" I think he summed

up the feelings of all the utility crews who worked so tirelessly to pollinate chestnuts in June and July, and harvest in October.

And here are the results of the trees your chapter pollinated:

The Fells, Newbury, NH—81 nuts to be planted at Shieling State Forest, Peterborough

Valley Road, Washington, NH—115 nuts to be planted at Otter Brook Farm, Peterborough

Ballard Forest, Derry, NH—40 nuts to be planted at Shieling State Forest, Peterborough



Skitchewaug Trail, Springfield, VT—6 nuts to be planted at Pikes Peak Farm, Weathersfield

Crosstown Road, Berlin, VT—165 nuts to be planted at High Shelter Farm, Weathersfield

Lavigne Road, Colchester, VT—97 nuts to be planted at High Shelter Farm, Weathersfield

The work of pollinating and planting is carried out by a few dozen volunteers, but supported by our whole membership, **197 strong** (112 of us in Vermont and 85 of us in New Hampshire). By this spring, a total of 24 of our members have been offered a chance to plant their own BC3F3 Restoration Chestnuts, developed in Meadowview, VA as the culmination of the science program's breeding work. These members represent 22 who have been continuous members since before

VT/NH Chapter Vice-President Randy Knight pollinates the chestnut on Skitchewaug Trail in Springfield, VT. Randy got to work from a bucket truck thanks to the support of CVPS.

Photo courtesy of Benedict Hudson.

1992, and 2 who have qualified due to their level of sponsorship of the TACF breeding program.

A day in the woods is always well spent, and a day pollinating or planting chestnut is the best spent day of all. Come out and join us at our second annual chapter meeting, as we plan how to cover our states once again with American chestnuts growing tall and healthy in our woodlands. Or, come get your hands in the dirt during one of our spring planting days in May (details on the back page). **This is your chapter, and we would love to see you.**



Arborist Scott Davis of Bartlett Tree Experts pollinates the Ballard Forest tree in Derry, NH. This forest tree requires a skilled climber to complete pollination, which Bartlett generously provided.

Photo courtesy of Kendra Gurney.

JOIN US FOR VT/NH TACF'S SECOND ANNUAL MEETING!

The VT/NH Chapter's Second Annual Meeting will be held on Saturday April 10, 2010 at the Harris Center for Conservation Education in Hancock, NH. We hope you can join us!

Specifics:

The meeting will start at 10:00 am and will run into the afternoon.

Please bring a bag lunch. Coffee and light snacks will be provided.

A field trip is planned to a nearby orchard site. Directions to the site will be provided—please dress for the field if you plan to join the field trip.

This year's keynote speaker will be Dr. Charlotte Zampini, a professor and chestnut researcher at Framingham State College. Dr. Zampini will discuss considerations for the restoration of the American chestnut.

The Harris Center is located at 83 Kings Highway, Hancock, NH 03449.

Stay tuned for a complete agenda and directions.

See you soon!



www.harriscenter.org

MEMBER PROFILE: JAMES "JP" POWERS

Kendra Gurney, TACF New England Regional Science Coordinator

James "JP" Powers has been supporting TACF's work for over 10 years. He has pollinated trees for the VT/NH Chapter's breeding program, planted orchards, joined mid-summer orchard work parties (read: hand weeding), and travelled through snow storms to attend chapter meetings. In short, he is a chestnut hero from VT. What drives his enthusiasm for this special tree?

JP became interested in Forestry while in high school, however was advised against forestry school. So he compromised and went to school in a state with a lot of forest: Vermont. He was always interested in natural history and when he read about the American chestnut and work of TACF in National Geographic back in 1990 he was hooked. When

asked about his long-term support of TACF, JP shared his motivation. **"It was such an important tree that even the remote possibility of having a small part in restoring a tree of such significance appealed to me."**

JP's volunteer spirit is inspiring. Aside from his tireless support of the VT/NH Chapter, he has coordinated the community garden in Essex Junction, VT since the early '80's, regularly donates blood and enjoys nature and the outdoors whenever he can. The VT/NH Chapter is thrilled that he has chosen to spend so much of his time and energy on American chestnut restoration. Thank you JP!

If you'd like to nominate a VT/NH TACF Member to be profiled in our newsletter, please contact Grace Knight at 802-263-9613 or gsknight@tds.net

RESTORATION CHESTNUTS (Continued)

(Continued from page 1)

nuts into the willing hands of members.

In addition, TACF has started an Annual Sponsor program. If patience is not one of your virtues, this may be the program for you. This level of support comes with the benefit of a small number of Restoration chestnuts available now, and every year that the Sponsor-level of support is maintained. The number of Restoration chestnuts harvested is still low, so this program has had to start on a first-come, first-served basis. More information on membership and availability of Restoration chestnuts is available at: www.acf.org/membership

So how did JP get his hands on Restoration chestnuts? JP has been supporting TACF since 1990 and was included in the first round of long-standing member offers in 2009. His generous donations and long-term support are greatly appreciated by the VT/NH Chapter. If you would like to view the Restoration chestnuts JP donated, please contact Kendra Gurney (kendra@acf.org, 802-999-8706) for more information.



This Restoration chestnut is being planted with care by JP Powers.

Photo courtesy of Will Young.



Bags over the female chestnut flowers keep blight-resistant pollen in and unwanted pollen out.

Photo courtesy of Don Richard.

“Being both a conservationist and a hobby woodworker, I can appreciate the value of the American chestnut.”

Don Richard shows off the Washington, NH harvest.

Don took a ride in the bucket truck thanks to the support of PSNH and Asplundh.

Photo courtesy of Grace Knight.



NH SPOTLIGHT: ADVENTURES IN THE BUCKET

Don Richard, Volunteer pollinator and VT/NH TACF Director

Ever wonder what it would be like to ride in the bucket you see tree service crews using to clear branches from power lines? In 2009 I had that chance. What a thrill if you're not terrified by heights! Not only did I get to see a bird's eye view of the forest around my property, but also I participated in the important work being done by TACF to restore a blight-resistant American chestnut to the Northeast.

Two years ago, while walking the path behind my home in Washington, NH, I discovered several of these magnificent trees. I did some on-line research, realized how lucky I was and immediately contacted the VT/NH Chapter of TACF. I learned that American chestnut was among the fastest growing hardwoods in the eastern US, and that today our forests are left with few re-

maining trees, all struggling against the scourge of chestnut blight.

Today, through the combined efforts of TACF and collaborative researchers, there is hope that this majestic tree will again be a presence in our forests. The timber from American chestnut is durable and rot resistant. The abundant nuts produced each year are nutritious to humans and wildlife alike. The owner of a woodlot of blight-resistant American chestnut could have a valuable cash crop and a source of valuable timber and fuel. The fast-growing American chestnut could be of great use to help mitigate accelerated global warming through the uptake and storage of carbon. Being both a conservationist and hobby woodworker, I can appreciate the value of the American chestnut.

So what am I doing in the bucket, besides enjoying the scenery? The VT/NH

Chapter organized the pollination of one of the chestnuts on my property, in order to include it in their breeding program for blight-resistance and regional adaptability. Just before the flowers were fully developed and ready for pollination, I removed all the male flowers and covered the female flowers with bags. This protected the female flowers from pollen produced by any surrounding trees. We pollinated a little over a week later with blight-resistant backcross pollen, produced at TACF's research farms. In the fall I harvested 117 plump seeds, which will be planted in a local breeding orchard. While working in that bucket, 65 feet above the forest floor, I couldn't tell whether the thrill I felt was from swaying in the wind on a beautiful fall day or from taking part in the important effort to restore a majestic tree to its former status in the ecosystem of our forests.

MANY THANKS FOR POLLINATION DONATIONS!

The VT/NH Chapter received some very generous donations in support of their 2009 pollination season. A special **thank you** goes out to Bartlett Tree Experts, Green Mountain Power, Central Vermont Public Service, Public Service of New Hampshire and Asplundh Tree Expert Company! Anyone interested in donating their services to the VT/NH Chapter, please contact Kendra Gurney: kendra@acf.org, (802) 951-6771 x1350 (office) or (802) 999-8706 (cell).

NH SPOTLIGHT: POLLINATION ON THE SHORES OF LAKE SUNAPEE

Mary Kronenwetter, Education Director for The Fells

The Fells, located on the shores of Lake Sunapee in Newbury, NH, is one of New England's finest examples of an early 20th-century summer estate. Built in 1891, The Fells was the summer retreat for three generations of the distinguished Hay family. Statesman and diplomat John Milton Hay began building the 1,000 acre rustic retreat, complete with working farms, in the 1890s. John's son, Clarence Hay, a noted archaeologist, developed the formal gardens with his wife Alice Appleton Hay after the turn of the century. Clarence and Alice's son, John Hay, is a contemporary renowned nature writer.

When John Milton Hay bought the land that eventually became The Fells, he was seeking to establish a summer home for peace, relaxation, and simple comfort. Clarence and wife Alice Hay took the property in a different direction, turning former pastures and fields into Colonial Revival style gardens and renovated the estate house in the same period. Clarence was very interested in native plants and used extensive plantings of native trees, shrubs, and groundcovers, throughout the property. He was very much aware that the edge of the forest provided a backdrop to the formal gardens and selected and introduced native specimens to soften and work with the edges.

According to the Society for the Protection of New Hampshire Forests' (SPNHF) Direc-

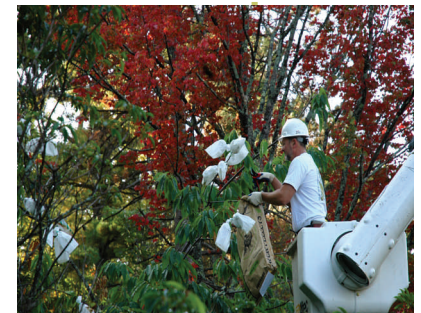
tor of Education & Volunteer Services, Dave Anderson, the chestnuts at The Fells are most likely naturally occurring root sprouts from pre-blight chestnuts stock. If planted, the seed source was native, collected at The Fells by Clarence Hay. Anderson was told by John Hay, Clarence's son, that in the first half of the 1900s, Clarence collected chestnuts from his property and tried to propagate them in cold frames and then planted them. According to John Hay, they always succumbed to the blight eventually. Anderson noted that there are also dead and living chestnuts that have produced infertile nuts in the past on the Hay Reservation, across the street from The Fells. This property is 712 acres of the original 1,000 acres John Hay purchased in the 1890s and was donated to SPNHF in 1960 by Clarence Hay.

Alert TACF member Todd Ross noticed the flowering chestnut at The Fells tree while he was visiting the estate in early summer. "I have visited The Fells a few times over the years and always enjoyed the property's diverse forest ecology and wild lakeshore. I had heard there were wild chestnuts on the property but I had never actively looked for them. Scouting the area close to my home for chestnuts one day I decided to visit The Fells. I quickly discovered one tree located at the edge of the field

along one of the trails. This tree would not prove useful; however I located another not far from the driveway." Although covered with blight, the 30 foot tall tree was flowering profusely. VT/NH Chapter President Grace Knight and Vice-President Randy Knight prepared the tree for pollination and on July 13, the tree was pollinated by Todd Ross. On September 29, 2009, Todd harvested 81 nuts, which will be planted at the Shieling Forest orchard in Peterborough, NH in the spring. The use of bucket truck equipment in both the pollination and harvesting efforts was donated by Public Service of New Hampshire (PSNH) and Asplundh Tree Expert Company.

Today The Fells operates as a national historic site, arboretum and education center. The Colonial Revival Main House is open for historic tours and art and history exhibits from Memorial Day through Columbus Day. A system of hiking trails and extensive formal gardens can be enjoyed in every season. Classes and camps in ecology, horticulture, history and the arts are offered year-round. For more information about The Fells, please visit www.thefells.org.

"I had heard there were wild chestnuts on the property...I quickly discovered one tree located at the edge of the field...another not far from the driveway."



Todd Ross harvesting from a bucket truck donated by PSNH and Asplundh.

Photo courtesy of Craig Putnam.

BOARD UPDATES: ADOLESCENT VT/NH CHAPTER IS GROWING!

Spencer Brookes, VT/NH TACF Secretary



VT/NH Chapter Secretary Spencer Brookes spreads the word about American chestnut at the NH Farm and Forest Expo in Manchester, NH.

Photo courtesy of Kendra Gurney.

The two-year-old VT/NH Chapter is in an adolescent phase of development. The Chapter is guided by a volunteer board, which meets at least twice each year to plan for chapter development and activities.

A recent growing step for the young Chapter was approval at this winter's board meeting to file for 501(c)(3) non-profit status, which would allow for tax-deductible chapter donations. The board also approved a new orchard site in Perkinsville, VT, where a test planting will be established this coming spring.

A nominating committee of Grace Knight (gsknight@tds.net or 802-263-9613), Will Guinn (Will.Guinn@dred.state.nh.us) and Kendra Gurney (kendra@acf.org) will develop the slate of officers and directors to be recommended for election at the upcoming Annual Meeting on April 10. If you are interested in nominating yourself, or another

member of the chapter, for service to the board please contact Grace Knight. Board meetings typically alternate between locations in VT and NH and the Annual Meeting is held in the spring.

Board members are working on many projects and are always looking for new volunteers. The biggest needs currently are:

- An events coordinator!
- Assistance locating, sampling and collecting data on American chestnuts native to VT or NH (http://www.acf.org/ChapterNews_vt.php - Print a Locator Form).
- Educating others about the American chestnut and local efforts to restore the species.
- Participating in chapter events and activities, such as plantings, orchard maintenance, pollinations, outreach events and local/national meetings.

"The pie makes a regular, welcome and brief appearance at many VT/NH Chapter meetings!"

Maple chestnut chess pie.
Photo courtesy of Kendra Gurney.



COOKING WITH CHESTNUT: MAPLE CHESTNUT CHESS PIE

Terry Gulick, VT/NH TACF Director

VT/NH Chapter Director Terry Gulick first discovered Chess Pie while stationed with the U.S. Army at Fort Knox, KY in 1958. At the time, the nearby Joplin Hotel and Restaurant was a great place for a meal and their Chess Pie was a favorite! Now, 50 years later, Terry has adapted this pie to honor his love of chestnuts and local maple syrup. The pie makes a regular, welcome and

brief appearance at many VT/NH Chapter meetings!

Maple Chestnut Chess Pie was adapted by Terry Gulick from the recipe for Lemon Chess Pie, provided by the former Joplin Hotel and Restaurant in Elizabethtown, KY (1958).

Lemon Chess Pie:

1 unbaked pie shell (prepared or homemade)

1 ½ cups sugar

4 eggs

¼ cup of butter, melted

2 TBS lemon juice, fresh

2 TBS cornmeal

Preheat oven to 400°F. Mix ingredients thoroughly and pour into a 9-inch pie crust. Bake for 10 minutes, then reduce oven temperature to 300°F and bake for an additional 40 minutes, or until pie is done (toothpick inserted in the center should come out clean).

Maple Chestnut variation:

Substitute 2 TBS dark maple syrup (grade A or B) for lemon juice

Add 4 oz of coarsely chopped chestnuts

EXPERIMENTAL CHESTNUT PLANTING ESTABLISHED ON VERMONT'S GREEN MOUNTAIN NATIONAL FOREST

Dr. Paul Schaberg, US Forest Service Research Physiologist and VT/NH TACF Director

The restoration of American chestnut to the Northeast is highly desirable to human and wildlife populations; however evidence from the laboratory and field indicates that limited cold tolerance could complicate restoration here. Research from a joint TACF, U.S. Forest Service, and University of Vermont working group indicated that the shoots of American chestnut saplings are significantly less cold tolerant than at least two similarly-aged native competitors: sugar maple and red oak (Gurney et al. in press). Importantly, this vulnerability to the cold can result in significantly greater freezing injury in the field

(Gurney et al. in press), which has been noted in cold portions of the range, including New York, New Hampshire, Vermont and Maine, by TACF volunteers.

To foster a better understanding of the vulnerability of American chestnut to cold temperatures we established a range-wide progeny planting of this species on the Green Mountain National Forest (GMNF) in Vermont. The goals for this planting are to 1) identify natural genetic variability in cold tolerance, which could inform breeding for blight-resistant trees in the Northeast and 2) better understand silvicultural practices most appropriate to northern chestnut restoration.

In early June, 2009 we planted about 770 seedlings on the GMNF, including pure American chestnut seedlings from 5 northern, 4 mid-Atlantic and 4 southern sources and two sources of Chinese chestnut. Seedlings were distributed in a replicated design under three levels of silvicultural overstory removal (full removal, moderate

removal, and a no-removal, closed canopy setting). By replicating plantings over silvicultural treatments we will be able to statistically assess how genetics and the environment (over-story retention) influence the growth and cold tolerance of planted stock. Seedling growth and signs of winter injury (terminal shoot dieback) will be assessed for several years before seedlings are large enough to be used for laboratory tests of cold tolerance. This study will increase the understanding of important details pertinent to the restoration of this species to the Northeast, so that the timber, carbon storage and nut production benefits provided by American chestnut may once again be realized by the people and wildlife of the region.



Crew of USFS, TACF, UVM and Student Conservation Association (SCA) employees planting American chestnuts on the Green Mountain National Forest as part of collaborative research.

Photo courtesy of Paula Murakami.



Tom Saielli (UVM graduate student) planting American chestnuts on the Green Mountain National Forest in June 2009.

Photo courtesy of Paula Murakami.

“This study will increase the understanding of important details pertinent to the restoration of this species to the Northeast...”

If you'd like to learn more about volunteer opportunities or report an American chestnut tree that may be useful for our breeding program, please contact Kendra at 802-951-6771 x1350 (office), 802-999-8706 (cell) or kendra@acf.org

OR VT/NH Chapter President Grace Knight at 802-263-9613 or gsknight@tds.net

VT/NH CHAPTER



**VT/NH Chapter of
The American
Chestnut Foundation**

Care of:

Kendra Gurney

The American Chestnut Foundation

New England Regional Science Coordinator

USFS Northern Research Station

705 Spear Street

South Burlington, VT 05403



CALENDAR OF EVENTS

Saturday, April 10, 2010

Second Annual Meeting!

10:00 am—2:00 pm

Harris Center for Conservation Education

83 Kings Highway, Hancock, NH

Join the VT/NH Chapter for our second Annual Chapter Meeting!! The meeting will begin with a series of informative presentations, including a keynote address by Dr. Charlotte Zampini. An afternoon field trip to a new orchard site supporting native chestnut will finish out the event! For more information see Annual Meeting on page 3. A complete meeting schedule and directions will be available soon.

Saturday, May 15, 2010

Orchard Planting at High Shelter Farm

9:00 am—2:00 pm

Orchard planting with lunch provided.

328 Gravelin Rd, Perkinsville, VT

Please contact Grace Knight for more details:
gsknight@tds.net or (802) 263-9613

Friday, May 21, 2010

Orchard Planting at Shieling Forest

10:00 am —2:00 pm

Orchard planting and maintenance.

Old Street Rd, Peterborough, NH

Please contact Kendra Gurney for more details:

kendra@acf.org, (802)951-6771 x1350 or
(802)999-8706

July 13-15, 2010

17th National Tree Farm Convention

Join the VT/NH Chapter at our display tables!

We could really use your help!

Burlington (meeting) and Shelburne (field day), VT

Please contact Grace Knight for more details:

gsknight@tds.net or (802) 263-9613

Summer 2010: Pollinations!

We will continue pollinating VT and NH mother trees this summer. To learn more, please contact Kendra Gurney: kendra@acf.org, (802)951-6771 x1350 or (802)999-8706