

The Tree Urchin

Newsletter of the Maine Chapter of the American Chestnut Foundation

Volume 15, Issue 1

Spring 2012

Seed Orchards Are Starting

This spring, the Maine Chapter of TACF will plant its first seed orchards. This is a big step for our organization; the seed orchards will produce B3F3 American chestnut seeds, the end product of our journey of more than twenty-five years.

The seed orchards are located in Phippsburg, Hartland, and Stetson. More information about these locations is available on Page 2.

These orchards will be planted with 6,000 B3F2 seeds that were harvested last fall from breeding orchards in Camden, Union, and South China, Maine. Over the next ten years we will plant eighteen units, each about $\frac{3}{4}$ acres in size and having seeds from our 40 breeding lines.

Once these trees are large and well-established enough, they will be evaluated for blight resistance, and the best one of each 150 trees will be kept and allowed to pollinate. Within seven to ten years, Maine should be producing blight-resistant Restoration chestnuts. Because these trees should produce seeds for many years, their locations have been carefully chosen.

If you can help with these plantings, please contact Eric Evans (belevans@roadrunner.com) or Glen Rea (glenrea42@msn.com, or 207.945.6945)



EarthVision students at Camden Hills Regional High School planting chestnut seeds.

Coming Events

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| May 9 | ME Chapter Board Meeting, Viles Arboretum, Augusta |
| TBA | Planting seed orchard at Basin Preserve, Phippsburg |
| May 5 | Planting seed orchard at PCCA, Stetson |
| May 12 | Planting seed orchard at Huff Hill, Hartland |
| June 15 | Restoration Gathering, Freeport (by invitation only) |
| June 23 | American Chestnut Celebration, Viles Arboretum, Augusta |
| Sept. 4-8 | International Chestnut Symposium, Shepherdstown, WV |
| Sept. 21-23 | Common Ground Fair, Unity (We will have a display in the Environmental Concerns tent.) |
| Oct. 18-19 | Fall TACF Board & Cabinet Meetings, Asheville, NC |
| Oct. 20-21 | American Chestnut Summit, Asheville, NC |

Please Renew Your Membership!

Your membership benefits include:

1. You will be eligible to receive highly blight-resistant B3F3 Restoration seeds or seedlings.
2. You will continue to support the work of The American Chestnut Foundation.
3. You will help feed thousands of wild turkeys, deer, bears, and other Maine wildlife. Almost every form of wildlife will benefit from our restoration program.

Three New Orchards

Each of the new seed orchards being planted in 2012 is on land belonging to a non-profit organization, and each site has its own interesting history.

Stetson The Richard Macleod Wildlife Management Area contains about 1,300 acres in the southwestern corner of the Town of Stetson, in Penobscot County. The Penobscot County Conservation Association originally bought 300 acres in Stetson in 1989, and has added to it over the years since then.

THE PCCA itself started in 1928, when 100 local sportsmen met and formed the Penobscot County Fish and Game Association. Its members have been very active in preserving the area's sporting heritage. The Association now emphasizes environmental education, habitat improvement, hunter safety, and public access to recreational lands. The PCCA has sponsored the Eastern Maine Sportsmen's Show since 1933, and also sponsors the Bangor Gun Show. Each year, PCCA gives 40 scholarships to students at the University of Maine, Unity College, and the University of Maine at Machias.

Richard C. Macleod (1937-2011) served as president and treasurer of PCCA and was actively involved with the Sportsmen's Show for many years. More information about the Association is available at <http://conservationassociation.org/>

Hartland Huff Hill is the highest point in Hartland, with an elevation of 692 feet. This location in southeast Somerset County should be excellent for growing American chestnut trees.

The 200 acres on Huff Hill were donated to the University of Maine in 1962 by the heirs of Rupert H. Baxter, a half brother of Percival P. Baxter, the Maine governor and founder of Baxter State Park. The H.C. Baxter & Bro. canning company once canned peas, corn, and green beans in the Hartland area; it is possible the Huff Hill property was used for this operation, since the land was the site of an old farmstead.

When the property was first given to the University, it was used by the Plant and Soil Science Department. When they stopped using it, responsibility for the land was turned over to the Forest Management Department.

More information about the Baxter family's food processing industry is available at the University of Maine's Fogler Library Special Collections. For details, see

<http://www.library.umaine.edu/speccoll/FindingAids/BaxterCanningCorecords.htm>



Larry Totten preparing the Basin Preserve orchard / Phippsburg for spring planting

Phippsburg The Nature Conservancy is owner of the land where our fourth orchard will be planted this year. The Basin Preserve consists of 1,900 acres of land donated to The Nature Conservancy by Richard L. Hatch of Topsham in 2006.

This tract of land is especially interesting because of its geographical diversity. Hiking trails are being cleared through hemlock forests and stands of red and pitch pines, abandoned farms, and significant wildlife habitat. The Basin itself is a saltwater inlet on the New Meadows River, long used as a mooring spot for yachts, canoes, and kayaks cruising the Maine coast. Eagles, ospreys, and many other animal species call this area home. The Nature Conservancy web site is at <http://www.nature.org>. Larry Totten's article on page 3 details the process of negotiating this important orchard site.

We thank the owners of these properties for permitting the use of their land for TACF's seed orchards. These nonprofit organizations make ideal partners for us.

Negotiations are underway for other seed orchards in Maine.

The Midcoast Gets an Orchard!

By Larry Totten

In 2011 the Maine chapter of The American Chestnut Foundation began to look for land for seed orchards. They had land available in the Bangor area but not in southern Maine. I went to The Nature Conservancy (TNC) almost immediately and asked for help. I have worked with TNC since 1999, when they acquired 185,000 acres on the St. John River. I have come to know and like them as possibly the most flexible environmental group out there. Nancy Sferra is the land management director at TNC in Maine. She and I started to look at the possibilities. Not only did I get her help, but she was very enthusiastic about the idea of bringing back the American Chestnut tree in North America.

When TNC acquired 1900 acres in Phippsburg around the Basin in 2006, I went to the dedication and had a brief tour of the property. I liked the idea of the Basin Preserve for an orchard because it was near my home and in an area of the state where we did not have any potential land as a site for a chestnut seed orchard.

After acquiring the property, TNC developed a management plan. TNC's first issue was an old gravel pit that was being used by locals as a rifle range. Over the course of a few years, TNC transformed it into a field with a slight slope. Eric Evans and I toured the property and took soil samples in mid-summer of 2011. The soil tested a pH of 5.5, which was perfect. A well-drained acidic soil on a slope: this looked like the perfect spot.

I thought we had more than a year to get things lined up for an orchard, but then some of the other plots that TACF Maine had planned on were not ready for planting this spring. Nancy and TNC rose to the occasion and we hustled to get a site and agreements in place. At first she was taken back, but after recovering from the schedule shock she went to work. In the usual TNC fashion, she found some start-up funding and talked to lawyers, after which we developed an MOU (Memorandum of Understanding) - the first for TACF Maine.

Then the fun part began-preparing the site for spring planting! Eric and I surveyed the land and laid out a plan. I mowed and roto-tilled the orchard area last fall.

By the end of spring this year, we will have 1,500 B3F2 American Chestnut seeds in their new nursery B3F2 surroundings. Then Mother Nature becomes involved. We hope that the coastal warmth, great drainage, and loving care by all involved will produce a healthy crop of young trees.

The Basin Preserve will support two seed orchard units, each about ¾ acres in size. A total of 6,000 seeds will be planted over the coming two to four years. After evaluation for resistance to the chestnut blight, we will reduce these numbers to the best forty trees. Those trees will open-pollinate each other to provide the highly blight resistant seeds to repopulate the mighty American Chestnut tree to the Maine landscape.



Glen Rea and Rosalynn Carter

Maine Chapter President Glen Rea attended a chestnut gala February 16 at the Carter Center in Atlanta. At the event Glen met Former President Jimmy Carter, a longtime supporter of TACF and an honorary member of the national board, and Former First Lady Rosalynn Carter. The event was sponsored by the Georgia Chapter of The American Chestnut Foundation.

Notes from Our Science Coordinator

By Eric Evans

Seed Orchards

We passed a milestone last fall by harvesting our first crop of seeds from four of our breeding orchards. Our eleven breeding orchards in ME represent the fourth generation in TACF's six-generation backcross breeding program, coordinated in the research farms in Meadowview, VA. Our orchards are populated with trees that have inherited varying degrees of blight-resistance from their single Chinese great-great-grandparent. Last year we finished selecting the thirty best trees out of the 900 trees originally planted in these four orchards in Camden, Union, and China in 1999-2003. When they bloomed in July, a small percentage of the new seeds got blight-resistance genes from both parents, and so could be as blight-resistant as the original Chinese.

The harvest in October was exciting for the twenty courageous volunteers who dodged the needly burs flying earthward as they plucked them from the trees with twelve-foot long pole-hooks. Then as they finished ripening, we wore thick gloves and pried the thousands of pretty brown chestnuts out of their needly cradles.

This spring we will plant over 6,000 of these seeds into three new seed orchards to begin generation #5 of our breeding program. Chapter President has established partnerships with the University of ME for a ten-acre site in their research forest in Hartland, and with Penobscot County Conservation Association for a site on their land in Stetson. Chapter Board member Larry Totten led the way to create an agreement with The Nature Conservancy in which TNC will share responsibility for maintenance of a seed orchard on two acres of a reclaimed gravel pit in Phippsburg.

Our seed orchard plantings this year will be only about 8% of the total seed orchards that we will plant in the next ten years, as all of our breeding orchards mature. Eventually there will be eighteen replicated "units", each about 3/4-acre and having seeds from twenty of our forty breeding lines. Each line is planted in a "plot" of 150 seeds in a 40'x40' area. When the trees are two to three years old, we will evaluate their blight resistance by injecting lab-grown blight fungus into the bark of each tree, then comparing the resulting

infections over the course of the following twelve months. Then all but the best single tree in each plot of 150 will be removed, leaving twenty trees, each representing one of our fourth-generation breeding lines. These twenty trees will constitute a mature seed orchard "unit", and could produce highly blight-resistant seeds for many decades.

Pollination

Maine Chapter volunteers pollinated five native-Maine chestnut trees last July, hoping to complete our goal of creating forty third-back-cross breeding lines. Our harvest in October was actually better than in most past years -- we got usable crops of seeds from four of the five trees we pollinated. Glen Rea harvested his third small crop from the tree in Orono, which will go with the others from that tree into the Mosher orchard in Hope. Eric harvested seeds from Cyndie Lamereau's tree in Bowdoinham with the help of Kyle Rosenberg's Well Tree bucket truck, and from one of the trees in the chestnut gene-bank collection at the Viles Arboretum in Augusta. Sue Sved harvested seeds from her twenty-five-year old "planted" tree in Witopitlock. We will divide these last three lines between the Reed orchard in Unity and a new location not yet determined.

Maine Chapter Board of Directors

Glen Rea, President
Eric Evans, Vice President, Science
Coordinator
Nick Rockwell, Vice President,
Operations
Charles Hudson, Secretary
Joseph Conwill, Treasurer

Aaron Grim
Peter Kliem
Jay Lindsey
Alan Markert
Harold Mosher
Ray (Bucky) Owen
Ann Rea
Larry Totten
Roger Willby



These are two of the 6,000 B3F2 seeds to be planted in our seed orchards this spring. The white radicle, which will become the tree root when the seed is planted, shows that this seed is ready to GROW. Come help us with planting!

President's Message

A Call for Volunteers

By Glen Rea

Members and Friends.

We have achieved great success over the past thirteen years with a hearty band of willing volunteers to manage our orchards and to handle other duties needed in a volunteer organization such as ours. We thank those volunteers for their outstanding contributions. In this issue you will see information about the new SEED orchards that we are planting this year. This will be in addition to the breeding orchards that have already been established and are being maintained by volunteers. In order to keep costs under control we are hoping to have these new seed orchards and existing breeding orchards supervised by volunteers. A new volunteer form is enclosed in this issue and we are asking that you take a look at a site near you to consider volunteering to help in one of the breeding or seed orchards. A common reaction is "I don't think I can manage an orchard". To help overcome this problem the Maine Board established two new positions at our last Board meeting and it calls for the establishment of two area managers who will be responsible for all orchards in their geographical area. Eric Evans will be responsible for the coastal area of Maine and most of the area east of I-95. I will be responsible for the area to the west of I-95 with

certain exceptions. This means the volunteers will get their guidance from the area managers and not necessarily be an expert in managing an orchard. Over the years we have found that the average person can learn easily the tasks needed to work in a chestnut orchard. Please look over the list of orchards and see if you can assist us and we can have multiple workers at any of the orchards.

This is an exciting time in the life of our Chapter and even though we have made great progress we have a great deal of work to be done in the near future as we seek to have potentially blight-resistant seeds from Maine trees.

Some Web Sites of Interest

<http://www.acf.org> is the URL for the national The American Chestnut Foundation URL.

TACF-GROWERS@LISTS.PSU.EDU is a discussion listserv for chestnut growers.

Mark Banker, the national TACF Development Director, has a blog at <http://livingchestnuts.wordpress.com/>. A relative newcomer to our organization, his blog shows his growing enthusiasm for the American Chestnut tree and the organization working to restore it.

<http://www.forestsformainesfuture.org> is sponsored by the Maine Department of Conservation, University of Maine Center for Research on Sustainable Forests, SWOAM, and the Maine TREE Foundation. If you wish, you can sign up to receive weekly updates by e-mail.

SWOAM, the Small Woodlot Owners Association of Maine, has a website at <http://www.swoam.org>.

The Maine Chapter has a long-standing relationship with the Maine Organic Farmers and Growers Association, at <http://www.mofga.net>.

Sometimes we are asked about the restoration of American elm trees. A good source of information is <http://www.elmwatch.org/index.html>.

The Maine Chapter's new website is currently under construction. When it's ready to see, we'll share it with you.

The Perfect Wildlife Food

By Ray "Bucky" Owen

Abundant, dependable and nutritious, that's the perfect wildlife food and that's what American chestnuts were. Chestnuts dominated the eastern deciduous forests from the southern Appalachians to south-central Maine. In the core of its range 1 out of every 4 trees was an American chestnut with stand volumes often approaching 50% of total stand basal area; abundant they were!

Late frosts can affect pollination and greatly reduce fruit production of beech and oaks, making their mast less dependable for seed predators. Chestnuts, on the other hand, flower in early summer and produce an abundance of fast maturing seeds every year, a dependable food source for many wildlife species. Oaks, beech, and chestnuts all produce a highly nutritious seed. However, acorns have a hard shell making them less available and palatable. Also, acorns of red oak contain tannins, an anti-seed predator adaptation. Beechnuts, like chestnuts, when released from the husk or burr are easily digested.

However, chestnuts offer a much larger food package than beechnuts and would have been preferred. The importance of hard mast to wildlife is illustrated in the relationship between beech mast production and bear reproduction. Historically, beech produced in alternate years and so did black bears. Fall mast was the key to the physical condition of bears going into hibernation and their successful rearing of young. With the advent of beech bark disease this relationship is breaking down and the northern forests are losing another key mast producing species. Certainly chestnuts played a similar role for wildlife throughout their range. A highly nutritious, dependable fall food enabled many species of wildlife, from squirrels and grouse to deer, to enter the winter months in excellent condition, ensuring greater survival and high reproductive rates. One only has to go to Atkinson and observe the beaten paths to individual mature chestnut trees to appreciate their importance to wildlife. Chestnuts are the perfect wildlife food; they are abundant, dependable and nutritious.

It will be many years before chestnuts again assume their former role as a major source of food for wildlife in the east but we are beginning that process now as we plant our first seed orchards this spring.

Tree Urchin Mailing

Printing and mailing the Tree Urchin is a major cost for our chapter. To reduce this expense, we would like to try using e-mail instead of regular mail to distribute the newsletter. If you have an e-mail account, please notify Ann Rea at annrea44@msn.com.

Seedling Sales

Each year we sell native Maine chestnut seedlings to support our breeding program and give Maine folks the opportunity grow our favorite trees. These are from seeds we collect from some of the few remaining wild chestnut trees in ME, which have survived due to their isolation from the Asian chestnut blight that is so much more common farther south. Maine has many of the largest American chestnut trees in the native range -- about a dozen locations with trees over sixty feet tall and eighteen inches at chest height. These trees do not have guaranteed resistance to chestnut blight infections. Nevertheless, seeds from these wild chestnuts have grown into many trees that have thrived for twenty to thirty years without blight. When you plant native chestnuts, you and your friends and neighbors will enjoy watching these magnificent, fast-growing trees.

You can buy new March-planted native chestnut seedlings in 1-quart pots from:
Eric Evans in Camden, 236-9365,
belevans@roadrunner.com
Viles Arboretum in Augusta, 626-7989.

We also have a limited quantity of two- and three-year old chestnut whips in three-gallon pots. For these and for larger quantities of seed or seedlings in 2013, contact Eric Evans.

Native American chestnuts can also be bought from Fedco Seeds in Waterville, Maine, or online at <http://www.fedcoseeds.com>.

At this time, highly blight-resistant hybrid American chestnuts can only be obtained from the national American Chestnut Foundation. The website is <http://www.acf.org>. If you are a dues-paying member of the organization, you are in line to receive highly blight-resistant seeds or seedlings.



Harvesting B3F2 seeds at the Merryspring breeding orchard in Camden.

Volunteer!

Volunteer!

Volunteer!

Volunteer!



Hardy volunteers remove seeds from prickly burs. Each bur contains one to three seeds; this task requires sturdy gloves.

Volunteer!

Volunteer! Volunteer!

Volunteer! *Volunteer!*

VOLUNTEER!

Volunteer!

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American Chestnut seedlings

Volunteer! Volunteer!

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Volunteer!

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Volunteer!

VOLUNTEER!

Volunteer!



Camden Hills Regional High School teacher and EarthVision advisor Jon Kerr tending chestnut seedlings.

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