

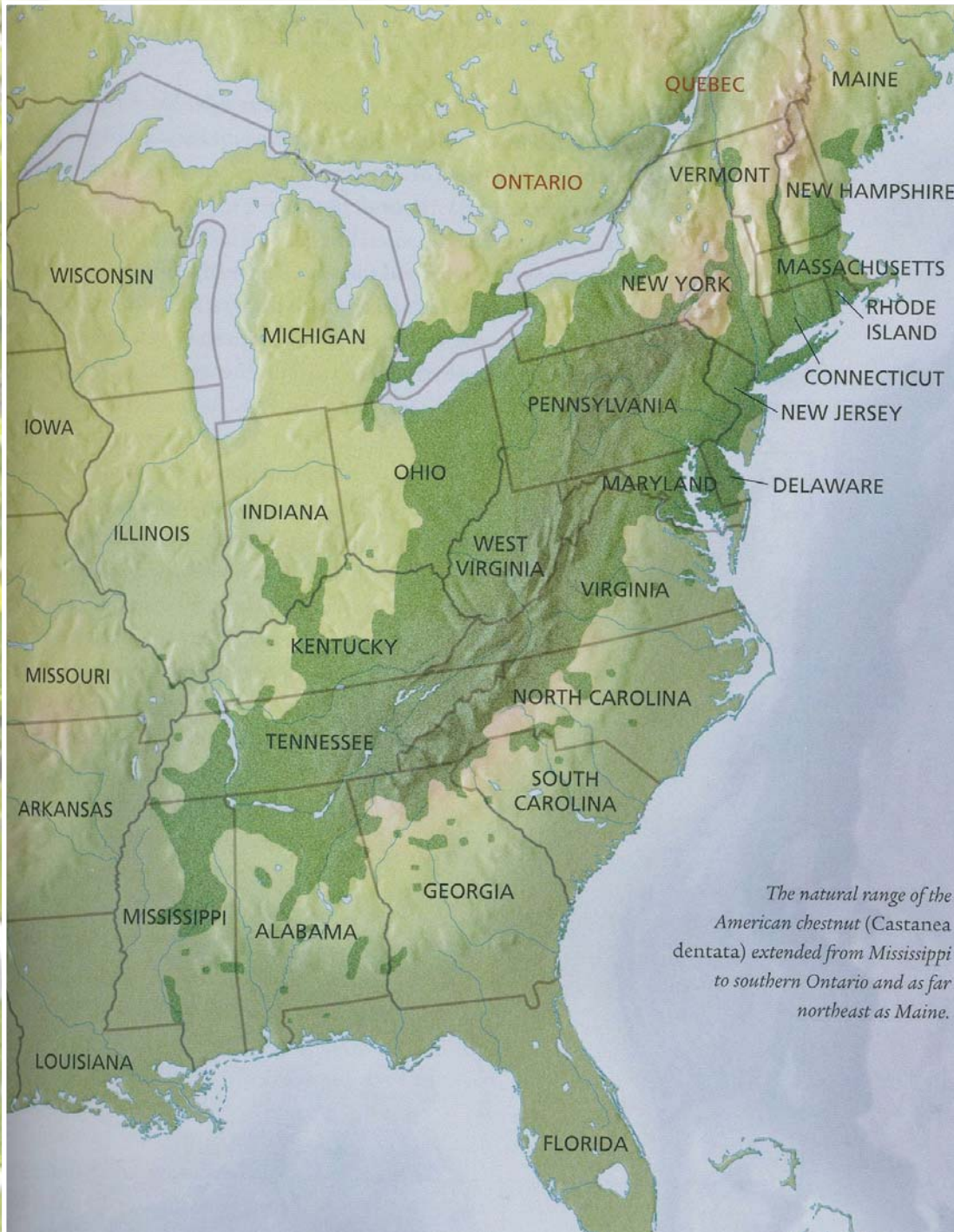
The American Chestnut



The Mighty Giant

The American chestnut tree was once one of the most important trees in our eastern forest. The tree's native range extended from Georgia all the way to Maine and west to the Ohio River Valley. In the Appalachian Mountains, roughly one tree in four was an American chestnut. The American chestnut could grow very large and fast, allowing it to become the dominant tree in many areas. In mature stands,

the tree could grow for 300 years or more, reach over 100 feet in height and more than 6 feet in diameter. These traits inspired the nickname "The Mighty Giant."



Original range of the American chestnut

American chestnut trees bloom in the early summer. Where the trees once grew thickly on Appalachian ridges, their creamy white flowers made the mountainsides appear snow covered. The native wildlife depended extensively on the nutritious nuts, especially deer, turkeys, squirrels and bears.

Gathering chestnuts 1878



The "Cradle to Grave" Tree

Chestnutting (gathering chestnuts) was both a social activity and provided income, particularly in rural communities. Railroad cars were loaded with nuts for shipment to the larger cities, where vendors could sell them freshly roasted. Farmers fattened their livestock on the nuts and used the nuts in traditional recipes, and even ground the nutmeat into flour.

The tree was also an excellent source of lumber. It grew straight, often branch-free for the first 50 feet or more. It was straight-grained, easily split, rot resistant and lighter than oak. Chestnut was known as the "cradle to grave tree," as it was used for both cradles and caskets, as well as many other everyday items.

The lumber was also used for split-rail fences, post-and-beam construction, railroad ties, shingles, panels, and telephone poles; some of which are still in use today.



American chestnuts, Smoky Mountains, circa 1910

Chestnut Blight



Chestnut Blight Strikes!

First identified in 1904 in New York's Bronx Zoological Park, the chestnut blight is caused by an Asiatic fungus (*Cryphonectria parasitica*) and is almost always lethal to the American chestnut. Moving through the range of the chestnut at a rate of up to 30 miles a year, by the 1950s the chestnut blight had devastated over 200 million acres, killing an estimated 4 billion chestnut trees. The loss of the chestnut is often cited as the worst ecological disaster of the 20th Century in the U.S. In fact, because of the unintentional import of chestnut blight, the federal government created its first plant quarantine laws.



An estimated 4 billion American chestnut trees died from blight in the first half of the 20th Century

How The Blight Kills

Chestnut blight is characterized by blight fungus, which feeds on the cambium tissue under the bark of the tree. The fungus creates cankers that break through the bark, cutting off the flow of nutrients between the leaves and the roots, which kills the tree. Typical cankers on young, smooth-barked trees first appear orange in contrast to the normal green or grey bark. Thick bark on larger trees becomes cracked and flaking.



Young American chestnuts killed by blight

Stump Sprouts

The roots of the chestnut are usually not affected by fungus, and may continue to feed new sprouts that arise from around the base of the tree or stump for many years. These sprouts can sometimes grow 30 feet or more before succumbing to the chestnut blight. Sometimes a fortunate sprout will avoid the blight and grow large enough to produce flowers and seed.

Wigwam Brook

Purchased by Litchfield Hills Audubon Society (LHAS) in 2008, the Wigwam Brook's steep but deep and well-drained Charlton-Chatsfield soils seemed ideal for growing chestnuts.

Partnering with The American Chestnut Foundation, LHAS designed and built an enclosure to prevent deer browse, and encourage the growth of native shrubs and forbs – in addition to chestnuts – all of which would provide food and habitat for native birds. Participating in the research orchard has taught us much about the chestnut and growing chestnuts, and further, it provides enhanced birding for our members.

This is truly a win-win partnership. Enjoy your visit!

Restoring the Chestnut



Bringing Back the American Chestnut

In 1983 a dedicated group of scientists founded The American Chestnut Foundation® (TACF) with the mission of restoring the American chestnut to our eastern forests to benefit our environment, our wildlife, and our society.

Centered at our research farms in Meadowview, VA, the goal of TACF's breeding program is to develop American chestnut trees that are resistant to the chestnut blight and able to create a self-sustaining population that can continue to evolve in a natural forest environment. Additionally, in order to breed trees that are regionally adapted to the wide climatic variations found throughout the vast range of the chestnut, TACF state chapters have established over 300 chestnut breeding orchards from Maine to Georgia, containing more than 120,000 chestnut trees.

In 2009, TACF announced the first forest planting of our potentially blight-resistant chestnuts we call "Restoration Chestnut 1.0." Today, planting, testing and evaluating these remarkable seeds continues, while additional breeding and development is underway to produce even more advanced and blight-resistant chestnuts in the future. Much of this work, as well as the tending of breeding orchards is being done by some of the 6000 dedicated TACF members and volunteers in twenty states. These efforts are vital to the foundation's activities.

Recent developments in the science of molecular genetics now offer the promise of accelerating our breeding process by allowing us to screen the genetic sequences of chestnuts, to see if they have the genetic composition desired by our scientists.

Although it will likely be several decades before large quantities of American chestnuts once again populate our eastern forests, the future is beginning to look much brighter for "The Mighty Giant."



Controlled pollination at TACF's Meadowview Research Farms in Virginia



Potentially blight-resistant American chestnut tree at Meadowview Research Farms, VA



"Restoration Chestnut 1.0" seeds hold the promise for the future of the American chestnut



Chestnut catkin