THE AMERICAN CHESTNUT FOUNDATION®

# 2017-2027 STRATEGIC PLAN

## The American Chestnut Foundation

Our **Vision** is a robust eastern forest restored to its splendor.

Our **Mission** is to return the iconic American chestnut to its native range.

## The American Chestnut Foundation Core Values:

OPTIMISM

PATIENCE

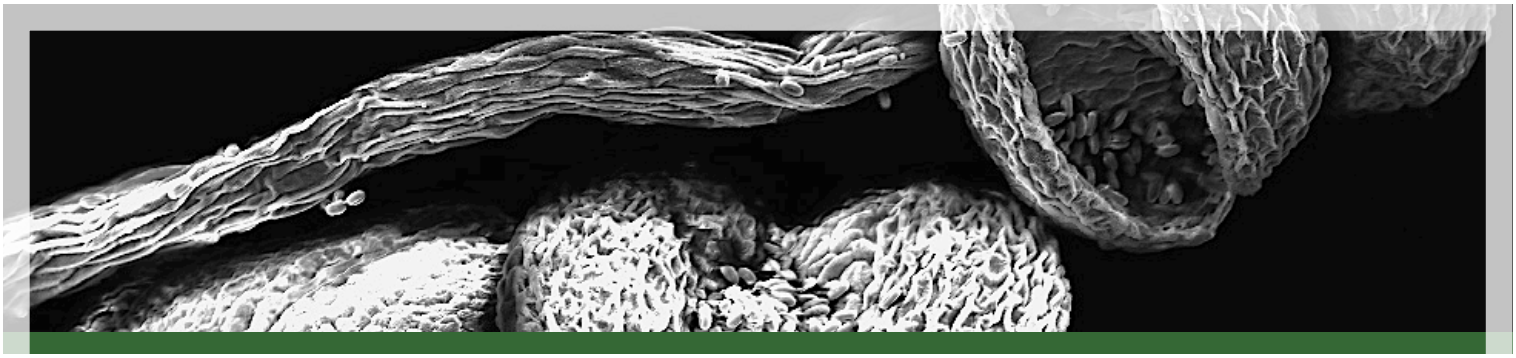
SCIENCE-BASED DECISIONS

INNOVATION

INTEGRITY

COLLABORATION

Adopted by TACF Board of Directors, these core values are organizational guidelines to ensure the mission to restore the American chestnut to the Eastern forests is a success. Because this mission involves a long journey and is the most complex rescue effort of any plant species ever undertaken, the organization will persevere with **patience** and **optimism**. To accomplish its goals, TACF will make **science-based decisions** with the **integrity** necessary to evaluate its work and represent it to the public with transparency. Because of these ambitious goals and ever changing science, TACF must continually **innovate** and **collaborate** with its key stakeholders and overall constituency to remain open to new technologies and ideas.



## Science and Technology

Successful restoration of the American chestnut across its former range requires the development of a population of genetically diverse American chestnuts that are resistant to at least two imported pathogens, *Cryphonectria parasitica* (chestnut blight) and *Phytophthora cinnamoni* (ink or root rot disease). While TACF is encouraged by the progress of its traditional backcross breeding program, and the large-scale volunteer engagement it created, it is committed to incorporating the rapidly advancing knowledge and capabilities of the biological sciences and the techniques of modern biotechnology to achieve this goal. To ensure that TACF's science programs are aligned with its goals and mission, TACF regularly evaluates it programs internally, and also periodically conducts comprehensive external peer reviews.

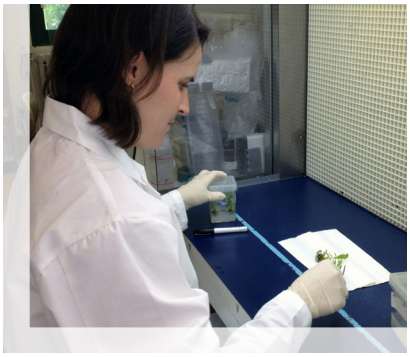
Since its inception, TACF has pursued several different major paths to restore the American chestnut (**Appendix A.**) These have included the backcross breeding program, biotechnology, and hypovirulence.

The backcross breeding program uses traditional plant breeding techniques to move genes for pathogen resistance from resistant chestnut species into American chestnuts. It has been implemented by TACF at its research farm in Meadowview, VA, and at orchards planted by sixteen different state chapters. The backcross breeding program is focused on identifying both blight and root rot resistance, and incorporates genome mapping and marker assisted selection to further refine and identify its most disease resistant trees suitable for large-scale restoration.

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 tested for their ability to enhance pathogen resistance in American chestnut using the tools of genetic engineering and molecular biology. Through this search, a gene has been found and incorporated into American chestnut that enhances blight resistance significantly.

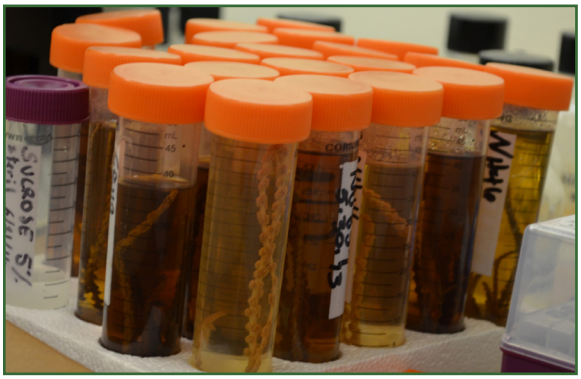
Hypovirulence is a persistent viral infection of the blight fungus that reduces its virulence, and has resulted in the biological control of chestnut blight in several regions of the world. Hypovirulence and future biological controls may best be used when combined with the increased resistance afforded by the breeding and biotechnology advances.

These programs are now reaching such a point of maturation that TACF is integrating them to shorten the time to achieve a population of trees of regeneration with the form and function of the original American chestnut for restoration.



## Science and Technology Cont.

| GOAL | STRATEGY |
|---|---|
| 1. Develop a population of genetically diverse American chestnut trees resistant to chestnut blight and ink disease. | 1.1. Encourage and support the development of fundamental genetic information about American chestnut and chestnut resistance to blight and ink disease.<br>1.2. Use advances in biotechnology and knowledge to increase the accuracy, efficiency, and cost effectiveness of TACF's programs to develop disease resistant American chestnuts.<br>1.3. Work to further the use of genomics and genetic engineering in TACF's mission.<br>1.4. Ensure that TACF's programs for the development of trees for the restoration of American chestnut are based on the best available scientific information, use efficient technologies for production, and are responsive to new findings and techniques.<br>1.5. Monitor and support basic research on the use and efficacy of bio controls, such as hypovirulence, in controlling blight and ink disease. |



## Restoration

Restoration will be accomplished when the American chestnut can continuously and sustainably evolve in the wild to reassume its former ecological role. TACF's goal is to reestablish the American chestnut's function in its native range.

The work-to-date (science and technology) will eventually progress into broad-scale production and ultimately natural regeneration. Our goal is to create viable plantings of trees that can spread naturally or with human help, each with the genetic variability necessary for long-term success under natural selection. This section sets goals and strategies explaining how the existing resources will be used in preparation for seedling and nut production at the level our developed science and proven silvicultural practices allow. Restoration will involve increasing seedling and nut production at a large scale and will be a broadly cooperative venture. Partnerships are necessary across a variety of public and private entities, in full cooperation and coordination with the existing strong chapter, volunteer, and donor base.

## Organizational Advancement

The effectiveness of an organization is based on how well its parts function individually and as an integrated unit. The American Chestnut Foundation is a strong, multi-faceted non-profit organization comprising a board of directors and committees, professional and scientific staff, volunteers, members, partners, and donors. These organizational constituents and ambassadors depend on each other for clear and consistent communication, sharing of resources and technology, and building from existing and future collaborative efforts toward a shared mission and vision. TACF is committed to advancing the efficient and effective function of each of these entities, individually and collectively, and to the overall advancement of the Foundation as a whole. TACF also recognizes that its current structure may require reorganization as the Foundation grows and evolves.

National TACF will work with chapters in a collaborative process to streamline administrative operations, and to develop an action plan for the existing chapter-sponsored orchards. Along with the board and its working committees, we will ensure consistency of messages and communication across chapter and regional boundaries. This coordination will enhance the effectiveness of TACF and prepare all entities for the challenging work ahead.

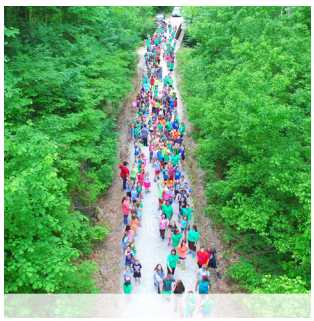















## Organizational Advancement Cont.

| GOAL | STRATEGY |
|---|---|
| 1. Encourage and coordinate collaboration, innovation and exploration of new scientific approaches and processes among the organizational entities. | 1.1. Aggressively seek new partnerships and respective sources of funding with cutting-edge academic institutions, public agencies, and private technology firms.<br>1.2. Share TACF national and chapter initiatives with each other and with the board. |
| 2. TACF staff provide necessary administrative services (e.g., financial) to merged state chapters as well as other chapters. | 2.1. National administrative staff to work with affiliated chapters to explore merger potential.<br>2.2. Launch, test, and continually maintain the revised TACF website. |
| 3. All TACF National staff and chapter leadership remain responsive, diverse, and flexible in all aspects of operations, administration, and communication, with safety and wellbeing emphasized as the core of all actions. | 3.1. Conduct a periodic assessment through a scorecard, 360 feedback, or similar instrument across all entities of TACF.<br>3.2. Maintain and strengthen a talent retention strategy to ensure we recruit and retain the best possible staff members. Use strong performance criteria when recruiting and retaining staff and volunteer leaders.<br>3.3. Monitor and evaluate implementation of this strategic plan.<br>3.4. Develop new field safety standards at Meadowview and disseminate to chapters. |
| 4. An incrementally stronger and more diverse board is effective in all aspects of TACF science, business, operations, and development. | 4.1. The full TACF board of directors prepares for a significant and comprehensive capital campaign to achieve the strategies, actions, and outcomes identified in this strategic plan.<br>4.2. As vacancies occur on the TACF board of directors, the Executive and Governance Committees will assess the range and identify gaps of skills, knowledge, and expertise of the existing board. |
| 5. TACF maintains its fiscal responsibility and leverages resources to the extent appropriate and possible. | 5.1. TACF staff and board of directors prepare three-year budget projections, anticipating all aspects of operations and growth, identifying financial needs for research, restoration, promotion and outreach.<br>5.2. To the extent possible, partners are sought to collaborate and contribute to mutual successes while leveraging financial resources of both parties. |