

The Canadian Sweet Chestnut



Canadian Chestnut Council

Conseil Canadien du Châtaignie
Restoring the American Chestnut



Issue #95 - Winter 2026

**Council Mission - to promote the preservation and restoration
of the American chestnut (*Castanea dentata*) in Canada**

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Chair's Comments for 37th AGM of the Canadian Chestnut Council By Ron Casier

The 37th year for the Canadian Chestnut Council (CCC) has seen progress continue to be made in our goals to restore native blight resistant American Chestnuts to their ecological, cultural, and economic roles in Canada. There have also been a few setbacks.

Dr. Dragan Galic with various partner groups and our tremendous volunteers have successfully completed another year of germinating seeds, grafting trees, and getting them in the ground this autumn. Inoculations of the F2 generation have continued and measurements taken. Dragan determined the best F2 cross selections for breeding, followed by hand pollinations of bagged flowers, and harvesting of another season of F3 nuts. An additional F3 generation orchard was planted at Simcoe Research Station recently. All the F3 orchards are the next step in our breeding program for resistance and promise to produce a blight tolerant tree. Breaking isolation of select chestnut trees continued as did the establishment of Seed Gene Conservation Colonies. All these works preserve and strengthen the native American Chestnut population in Ontario. Work on large nut production for commercial purposes continues as well. Dragan provided more details in his AGM presentation.

Dr. Brian Husband's Lab and Dr. Sophia Stoltz continued their analysis of the genetic uniqueness and environmental characteristics of the Northwestern population of American Chestnut in Ontario and are providing DNA analysis for submitted specimens for genetic testing. Dr. Husband has also carried out an in-depth analysis of the inoculation data from over the past two decades in regards to the development of blight tolerance in our research trees. Dr. Husband and Dr. Stoltz have presented their current research to the membership.

The re-survey of the native American Chestnuts in Southern Ontario was partially completed this past year to collect new data on the condition of trees by summer students from the University of Guelph. In addition, the surveyors were looking for any signs of hypovirulence present in the population for a renewed investigation. This survey will provide Dr. Husband's lab with another snapshot of the state of the wild population and new insights into the ecology of the species and its survival.

Dr. Greg Boland is revisiting the possibility of using hypovirulence to weaken the blight and provide another survival strategy for the American Chestnut. A key hypovirulent American Chestnut has been under threat of destruction by urban development for the past several years and has not been available for research. Dr. Boland was crucial in developing a three-year plan to archive the Haist Street Chestnut genome, the fungal virus CHV-3, and the fungal blight into three isolated plots for further study and development. Additional hypovirulent trees, their specific viruses and fungal blights will be added as they are identified. Prior to the demise of the Endangered Species Act, the CCC with the aid of the Ministry of Environment Conservation and Parks (MECP) was able to obtain a three-year moratorium to preserve the Haist Street tree so that its important role could be studied and preserved.

Changes in provincial government policy and introduction and passage of Bill 5 have had major negative consequences on the operation of CCC. Neither the Species at Risk Stewardship Fund nor the Research Fund were open to applications this past year, so we have received no new funding for our programs. Our previous Species at Risk Stewardship Fund (SARSF) projects came to their end last March. Fortunately, we had sufficient funds in reserve for this year's operation. The council submitted its concerns and issues to the Environmental Registry of Ontario (ERO) regarding the termination of the Endangered Species Act and the proposed Species Conservation Act to guarantee a seat at the table. Currently, we believe our Stewardship Agreement for the American Chestnut is still in force but our eligibility for funding is questionable. Fortunately, the American Chestnut was not one of the species delisted by the province.

Our social media presence on Facebook and Instagram continues the promotion of the American Chestnut and the work of the CCC. We continue to make improvements to our website. The CCC recently collaborated with CBC journalist Maxime Corneau in the production of a soon to be released presentation. The investigation explored the recovery efforts for the Ash species and the parallels to the recovery efforts of the CCC for the American Chestnut. Similarly, we are currently working with the Global Justice Ecology Project (GJEP) which is producing a documentary on the Recovery of the American Chestnut in North America based on traditional breeding programs. We continue our support of the Canadian Biotechnology Alliance Network and GJEP in opposing the release of any Genetically Modified Organism (GMO) chestnut.

In this regard, in July we submitted our opposition to a renewed application of the Syracuse University of New York and a private biotech company known as American Castanea Inc. for the GMO chestnut, Darling 54 to be released into the environment. A growing number of organizations on both sides of the border are opposing the approval of this application and release of Darling 54.

On other threats to American Chestnuts in Ontario there is some good news. Oak Wilt has still not made any major inroads in the province this year except for two occurrences on the Niagara Peninsula. The Forest Pest and Disease Unit of Ministry of Natural Resources and Forests (MNRF) continues its research of the Asian Chestnut Gall Wasp and have identified that a biocontrol is present in the province. This biocontrol was released in Michigan in 2015 and it has fortunately crossed over the border from Michigan. *Torymus sinensis* is a parasitic wasp that feeds on the Asian Chestnut Gall Wasp and researchers hope it will keep the invasive species from becoming a major problem. Canadian Food Inspection Agency (CFIA) and Agriculture Canada would have required a minimum of ten years to get approval for the introduction of *Torymus sinensis* as biocontrol.

At this time, I wish to acknowledge the work, dedication, and support of the CCC by retiring directors Heather Dover and Nathan Munn. Heather has served as a director for nearly five years and was the lead on the Leaf Project that oversaw the DNA analysis of leaf samples. Nathan has served as a director for seven years and was active in many components of the operation of the CCC. Most recently he served as the secretary for the council. On behalf of the council, I thank them for their service.

The Council has established the John Hill Memorial Fund through the Brant Community Foundation to honour John's contribution to the community and the Canadian Chestnut Council. We are in our first of a three-year campaign to solicit contributions to achieve our \$10,000 goal for the memorial fund. Please consider making a contribution to honour a quintessential Chestnut enthusiast and passionate supporter.

Lastly, I wish to give a heartfelt thank you to all the membership for your continued support of the work of the Canadian Chestnut Council in preserving and restoring the American Chestnut in Canada. Your memberships and contributions to the cause have a major impact on our ability to accomplish the necessary work. To the directors of the council for your continued and tireless work and effort in the operation of the council, I thank you. Thank you to the extraordinary volunteers that have participated in the various work bees i.e., seeding, inoculating, pollinating and planting. Your efforts made for another successful year for the Canadian Chestnut Council this past season. Without you and your generous sharing of time and energy we could not have gotten the necessary work accomplished. ☺☺☺

Submitted respectfully;
Ron Casier, Chair

☺☺☺☺☺☺☺

John Hill Award Fund Appeal By Ron Casier

Friends and Colleagues;

The Canadian Chestnut Council lost one of its foremost supporters and contributors in 2024. To memorialize John Hill's contribution to the Canadian Chestnut Council and to his local community as well, I hope you will consider a donation to establish an Award Fund in John's honour. Please click below to learn more details about the John Hill Award Fund.

The Memorial Fund is administered by the Brant Community Foundation who hold the \$10,000 endowment and provide the annual award money. We are asking our membership to donate to the Memorial Fund to achieve the endowment amount pledged. ☺☺☺



John Hill (Courtesy: Ron Casier)

Here is how to donate:

Donate on line at: www.brantcommunityfoundation.com. Click on the "Donate Now" button at the top of the page. A drop-down menu under the Fund section lets you choose the "John Hill Award Fund." A charitable receipt will be issued for all donations. For further information please contact Brant Community Foundation at 1 (519) 756-2499.

1 - Glen Morris Public School is located at 522 Glen Morris Rd E., Glen Morris, ON N0B 1W0 in the County of Brant.

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The Beauty and Genius By Charles William Beebe¹

The beauty and genius of a work of art may be reconceived, though its first material expression be destroyed; a vanished harmony may yet again inspire the composer; but when the last individual of a race of living beings breathes no more, another heaven and another earth must pass before such a one can be again. ☺☺☺

1- Beebe, Charles William. 1906. **The Bird, its form and function**. Originally published by Henry Holt, New York. Book republished in 1965 by Dover Publications, Inc., New York. Digitized by the Internet Archive in 2013. P.18. Accessed Friday, March 6, 2026.

Long Point Conference By Serina Tourangeau

To produce viable nuts, American chestnut trees must cross-pollinate with nearby individuals. However, following widespread loss from chestnut blight, many of the remaining trees now persist as isolated individuals, mature enough to reproduce, but too distant from one another for successful pollination. This spatial isolation severely limits fertilization, resulting in low nut production and nearly no recruitment of new individuals into the population.

On November 8th, 2025, I presented a poster at the 13th Annual Long Point Biosphere Research Conference in Port Dover, Ontario. The poster, titled “*Connectivity & Isolation: How Fragmented Are Our Remaining American Chestnut Populations?*,” showcased recent work examining how isolated wild American chestnut trees are across Norfolk County and what this means for long-term restoration efforts.

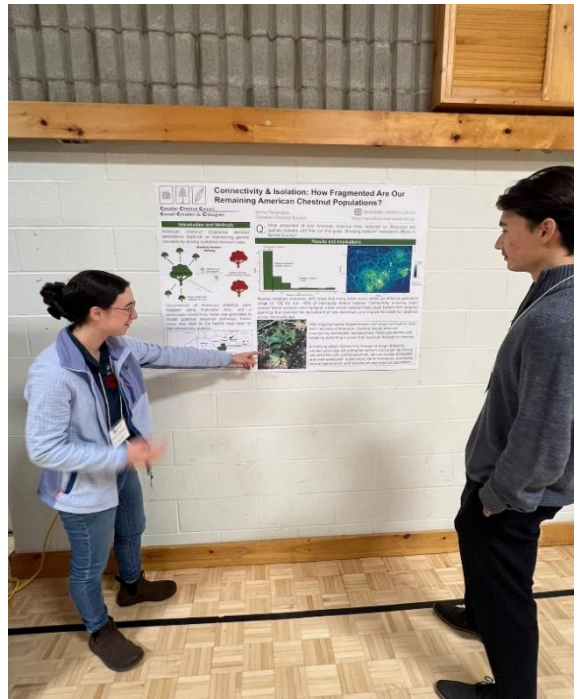
The project focused on a key question: **what proportion of wild American chestnut trees reported on iNaturalist are spatially isolated, and how can this information guide “Breaking Isolation” efforts in Norfolk County?** The Breaking Isolation program aims to support reproduction in remnant chestnut populations by planting grafted trees near isolated, flowering individuals, providing nearby pollen sources and enabling cross-pollination where it would not otherwise occur. I gathered records of American chestnut trees from iNaturalist, keeping only research-grade observations and removing duplicate records of the same tree. Using spatial analysis, I then explored how many trees were close enough to allow for effective cross-pollination and mapped forest corridors across Norfolk County to better understand patterns of connectivity and isolation.

What Is Effective Cross Pollination, anyway?

For this project, I needed a working definition of what actually counts as *effective* cross-pollination in American chestnut. While we know chestnuts require cross-pollination to produce viable nuts, there’s surprisingly little published data on the exact distances pollen can reliably travel in natural conditions. In other words: there’s no hard scientific cutoff, and a lot of this remains understudied. For the purposes of this analysis, I defined effective cross-pollination as occurring within **100 m**. Beyond this distance, the likelihood of successful pollination is assumed to decline substantially. This threshold provided a reasonable way to separate trees that could realistically interact from those that are functionally isolated.

Using R (statistical programming language), I calculated the distance from each tree to its nearest neighbor based on geographic coordinates. Roughly **60% of trees were located within 100 m of another chestnut**, about **40% were effectively isolated**, making natural reproduction unlikely. To better understand how trees are connected across the landscape, I also created a forest connectivity model for Norfolk County. The model was used to identify areas where landscape structure may either support or limit successful reproduction. By visualizing forested corridors and areas of isolation, the analysis highlights where trees are close enough for fertilization to realistically occur and where isolation may be preventing nut production altogether.

This map can help identify locations where future plantings could have the greatest impact by providing an opportunity for isolated, mature trees to successfully reproduce and contribute new individuals to the population. In this way, the connectivity model serves as a tool for guiding “Breaking Isolation” efforts toward



Serina Tourangeau showing her poster to a Long Point Conference attendee

areas where planting grafted chestnuts could directly support recruitment and long-term population persistence.



Connectivity & Isolation: How Fragmented Are Our Remaining American Chestnut Populations?

Canadian Chestnut Council
Conseil Canadien du Châtaignier

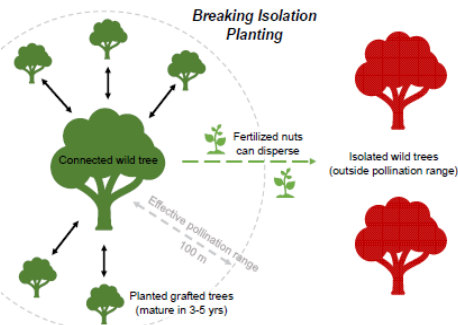
Serina Tourangeau
Canadian Chestnut Council

Ontario
The Canadian Chestnut Council acknowledges the past support of the Ontario Species Conservation Program

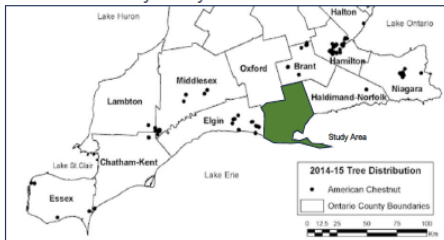
@canadian_chestnut_council
<https://canadianchestnutcouncil.ca/>

Introduction and Methods

American chestnut (*Castanea dentata*) persistence depends on maintaining genetic connectivity among scattered remnant trees.

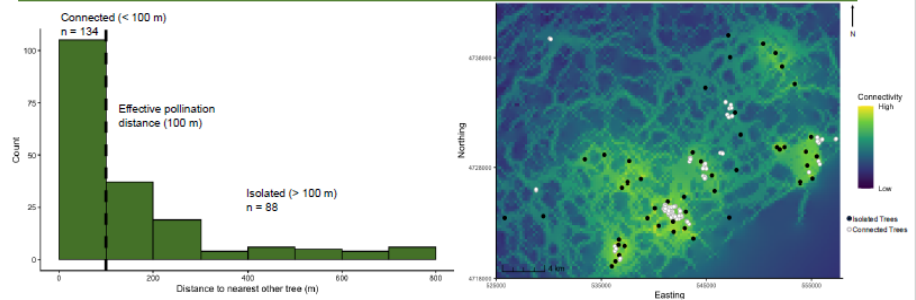


Occurrences of American chestnut were mapped using iNaturalist data, and a landscape connectivity raster was generated to model potential dispersal pathways. Forest cover was used as the habitat input layer for the connectivity analysis.



Q: What proportion of wild American chestnut trees reported on iNaturalist are spatially isolated, and how can this guide “Breaking Isolation” restoration efforts in Norfolk County?

Results and Implications



Nearest-neighbor distances (left) show that many trees occur within an effective pollination range (≤ 100 m), but ~40% of individuals remain isolated. Connectivity modeling (right) reveals forest corridors and highlights areas where isolated trees could benefit from targeted plantings that promote the recruitment of new individuals and improve fertilized nut dispersal across the landscape.



With ongoing habitat fragmentation and fungal pathogens, long-term recovery of American chestnut should **prioritize maintaining connected, reproductively viable populations** and targeting replanting in areas that maximize fertilization chances.

Enhancing pollen connectivity through strategic Breaking Isolation plantings will strengthen genetic exchange. By linking isolated trees with grafted plantings, **we can enable fertilization and seed production** in previously sterile individuals, promoting natural regeneration and recovery of wild chestnut populations.

Connectivity And Isolation - How Fragmented Are Our Remaining American Chestnut Populations (Poster: Serina Tourangeau)

It's important to note that iNaturalist data are crowd-sourced, meaning some chestnut trees have almost certainly gone unrecorded. That said, this project still demonstrates the power of citizen science and open-source tools for ecological research. As a big fan of both, I love being able to use platforms like iNaturalist and R to explore ecological questions in a meaningful way to improve conservation strategies.

The conference itself was also a great opportunity to connect with others who share an interest in American chestnut restoration, exchange ideas, and talk about how collaborative, accessible science can help move conservation efforts forward. 🌱🌳

Read more about Breaking Isolation here:

<https://canadianchestnutcouncil.ca/breaking-isolation/>

American Chestnut Mud Packing By Ada Cooke-Baskier and Sarah Richer

Chestnut Blight fungus infects a chestnut's above-ground tissue and has led to the functional extirpation of wild endangered American Chestnut trees across their North American range. This fungus creates lesions within the bark that girdle the tree, effectively inhibiting the flow of water and nutrients. The blight appears as a bright orange colour on or underneath the bark. Any wounds to the bark allow this fungus, invisible and ubiquitous due to its microscopic size and ability to be spread by raindrops, to enter and infest the tree. Alternative pathways for the blight to enter a tree could result from harsh winter conditions, deer antler rub, and herbivory.

One method for treating these lesions is mud packing. This involves collecting soil from around the infected tree, adding water to the dirt to make it very wet, applying it to the wound, and wrapping it tightly against the tree to seal in moisture. The reasoning behind this method is that the abundance of microbes in the soil, that likely play a part in preventing the blight from infecting the roots, work to combat the Chestnut Blight fungus. The added water allows the mud to reach every inch of the wound, and is kept in place for the growing season.

Staff working with Species at Risk at the Royal Botanical Gardens (RBG) have been experimenting with mud-packing on a few American Chestnut trees on their property. As far as we know, RBG is the only organization in Canada using this method (but if anyone else is doing so, we would love to hear from them to trade observations and lessons learned). Before attempting this technique on infected trees, RBG staff explored the limited available online literature and consulted with scientist Erik Carlson from Syracuse University in New York, trying our first mud pack in 2024.

First, relevant literature suggested that dead and infected tissue be removed from around the lesion/wound. On larger specimens at RBG, this step was performed; however, on smaller seedlings/saplings, removal of dead tissue could result in complete removal of the stem, therefore the infected site was not cut away. Next, soil was collected from the area immediately beside the infected tree and water was added to create a wet dirt 'slurry.' This mixture was then thickly applied to the infected area.



**Mud Packing Chestnut 2024-01
Westdale Inlet (Photo: Sarah Richer)**



**Bull's Point chestnut 101 mudpack
(Photo: Sarah Richer)**

Plastic wrap was used to tightly encase the mud on the tree and retain moisture. Then, string was firmly tied (without damaging the tree) around the top and bottom of the plastic wrap (on either side of the wound) to ensure the water from the mud remained within the mud pack and reached all crevices of the lesion. This mud pack was left for the entirety of the growing season and then removed before freezing air temperatures were reached in the fall/winter.

With the methodology explained above, we are cautiously optimistic about the initial results. One tree that was mud-packed in the spring didn't show any new signs of blight in the fall and even showed signs of healing bark when the mud pack was removed in the fall. But Chestnut Blight fruiting bodies were present above the area that was mud-packed, indicating that in future the mud pack should extend further beyond the visibly infected area. RBG plans to continue with mud packing to hopefully slow the spread of Chestnut Blight across the remaining American Chestnut trees at the Royal Botanical Gardens. 🌱🌿

AGM 2025 Photo Gallery



CCC 2025 AGM Attendees (ND)



Dr. Brian Husband starting his presentation (ND)



Canadian Chestnut Council 2025 AGM Attendees Panorama (SR)



Grieg Garland hosting CCC 2025 AGM (SR)



Doug Fagan - left - giving his Treasurer's Report (SR)



Dr. Dragan Galic presenting his 2025 update (SR)



American chestnut bough (JF)



American chestnut autumn leaves (JF)



American chestnut unopened burr (JF)



American chestnut leaves on the ground (JF)

**AGM 2025 Photo Gallery
Photographer Key**

**ND - Neil Dunning
SR - Sara Richer
JF - John Foster**

About the Canadian Chestnut Council

Current Priorities

- Breeding resistance
- Breaking Isolation / Establishing Gene Pool Nodes
- DNA Analysis
- Survey of existing Chestnuts in the wild

Updated Canadian Chestnut Council Website

The Canadian Chestnut Council is testing a new website. Please have a look at: www.canadianchestnutcouncil.ca We invite you to have a look and explore.

Annual Meeting of the Canadian Chestnut Council

The annual meeting of the Canadian Chestnut Council is coming up. The meeting will take place both in person and virtually. Please mark your calendars.

Date: Sunday, Oct. 25, 2026

Time: 1:00pm. **In person reception begins at noon.**

Location: Tim Hortons Foundation Camp – Onondaga Farms Eco- Centre
264 Glen Morris Rd E, Brant, ON N0E 1N0

Annual Membership Fees

Membership fees for the Canadian Chestnut Council are due as of the Annual Meeting in October. Only members in good standing have the ability to vote at the annual meeting, be apprised of events and receive the quarterly newsletter.

2025/2026 Membership Fees – effective October 2023 - \$35.00

By Mail: make cheque payable to “Canadian Chestnut Council” and send to Secretary, Canadian Chestnut Council c/o Jeff Leader, 18 Forbes St., Glen Morris, Ontario, N0B 1W0 or bring it to the next meeting or special event.

By Internet: Please **send your e-transfer to** ccc.membership17@gmail.com.

For More information Contact:

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