

OUR FOREST



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Your Voice Counts

Ending the year on a high note with the Government of Canada's 2 Billion Trees commitment

As we enjoy the holiday season and the dawning of a new year, it's important to take a step back and think about everything we've accomplished in the past year – despite the challenges we have all faced. It's also important to show appreciation for all those who made this year another successful one for us, so I'd like to personally thank our members, donors, corporate sponsors, planting partners, nurseries, seed collectors, First Nations partners, and community organizations. We had an amazing year, and we couldn't have done it without your support.

In July, we announced that as part of our 50 Million Tree Program, Forests Ontario and our partners planted 2.5 million native tree seedlings across the province this past planting season. Through all our restoration initiatives to date, we have enhanced more than 1,000 hectares of Ontario grasslands and planted more than 41 million trees – which is more than one for every single person in Canada!

September saw a couple of notable moments with our corporate partners. On September 16, Forests Ontario staff members visited the Cabela's store in Barrie to celebrate National Forest Week and a generous \$100,000 grant from the Bass Pro Shops and Cabela's Outdoor Fund in support of Forests Ontario's 50 Million Tree Program. On September 30, we announced that we were expanding our Reconciliation Community Tree Plant program thanks to a generous contribution of \$450,000 over three years from TD Bank Group. Our year was also brightened by the generous support of other corporate partners, including Imperial, Maple Leaf Foods, Alectra, and many more.

This year certainly ended on a high note, as on November 23, we, along with several of our partners, joined the Honourable Jonathan Wilkinson, Minister of Natural Resources, in Ottawa for an announcement that Forests Ontario has partnered with the Government of Canada's 2 Billion Trees commitment to plant 7.2 million trees over three years. Forests Ontario has developed the expertise and infrastructure to grow and track tree planting from seed to successful forest, and we are the only Canadian charity that addresses each stage of this process to ensure our collective tree planting efforts result in healthy, diverse forests. We are excited to be contributing to the 2 Billion Trees commitment and know these trees and forests will benefit communities across our country for generations to come.

Throughout the year, our Education & Awareness team empowered the next generation of forestry leaders. Our Forestry in the Classroom program reached 1,889 students and educators, and the 7th annual York Region Tree Bee surpassed its goal and reached another 497. Forests Ontario also hosted virtual educator workshops to talk about forest management, updated and redesigned Teacher Toolbox resources, and proudly supported the

2022 Ontario Envirothon winners from St. Elizabeth Catholic school as they travelled to Ohio to represent the province at the NCE-Envirothon.

Also this year, I took a 2,000 km, three-day tour to visit five communities in Northern Ontario that put up new It Takes a Forest billboards to provide fact-based information about Ontario's forests and forestry sector. It was a pleasure to meet with so many representatives from these communities, all proud of their contribution to Ontario's world-renowned sustainable forest management practices.

All of these efforts help to ensure a healthy, natural environment that is essential to supporting a healthy economy and healthy communities. However, as we continue to see our natural environments come under constant threat, we also know we all need to act, and we need to act now!

Our 2023 Annual Conference will be focused on inspiring action to grow a healthy tomorrow for communities and our planet. This year's conference will also be a hybrid event, with sessions available on-site and virtually, and I look forward to spending time in person with many of you again this coming February.

Thank you for being with us and sharing in these accomplishments. On behalf of the entire staff at Forests Ontario, I wish you the very best in the coming year.



Rob Keen, RPF

CEO of Forests Ontario and Forest Recovery Canada



The Honourable Jonathan Wilkinson, Minister of Natural Resources, and Rob Keen, Chief Executive Officer, Forests Ontario at the 2 Billion Trees announcement on November 23.

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On the cover: Australian Shepherd dog, photographed in the forest in winter, 2021, by Collin Croome

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The Grande Dame of Halton Region

White Oak has survived since the early days of settlement

BY SHEILA WIEBE



The White Oak in Bronte Creek Provincial Park germinated sometime around 1685. The colony “Canada” was still being explored by people such as Rene-Robert Cavelier, Sieur de La Salle and Louis Jolliet. The fur trade was relatively new, and people were dying from measles and smallpox outbreaks. Oakville (established 1875) and Burlington (established 1873) were still centuries away.

Early settlers prized White Oak for use in ship building and barrel staves. Somehow, this tree survived the lumber boom of the early 1800s. As Marketing and Education Specialist at Bronte Creek Provincial Park in the region of Halton, west of Toronto, I wanted to let everyone know about our amazing oak tree. That’s when I found The Ontario Heritage Tree Program. A few forms, a couple of measurements, and a bit of research later, and this special tree could finally be recognized for its achievements.

This tree has been protected within the Provincial Park boundary since 1975, and most recently added to the list of Ontario Heritage Trees (2022). We think that is worth celebrating! We will share details for a public ceremony in 2023 to mark this important acknowledgement on our website: www.ontarioparks.com/park/brontecreek

This White Oak has a diameter at breast height (DBH) = 218cm, a crown spread of 32 metres, and towers 19 metres high. Photo courtesy of Tree Trust

Trees Take Root in Guelph

Community powers program to increase urban forest cover

BY AMY HOWITT



Forests Ontario’s Take Root program is a community-powered initiative providing residents access to low- or no-cost native trees for their homes and neighbourhoods. With many municipalities recognizing the need to increase their urban forest cover, and acknowledging the limited planting opportunities available on municipal lands, Take Root encourages residents, homeowners and community groups to plant on their properties to help increase urban canopy cover in their neighbourhoods.

Take Root will launch in Guelph this coming spring as a partnership pilot project between the City of Guelph, Forests Ontario, and Trees for Guelph. This partnership will support Guelph’s One Canopy tree planting strategy with community-based native tree distribution, planting, and care education for Guelph residents.

By growing community capacity, knowledge sharing, and sustainability, we can achieve a healthy, thriving network of interconnected urban green spaces in municipalities across the province and beyond.

A Growing Partnership

Bass Pro Shops and Cabela's continue their support for Forests Ontario

BY BRITTANY HAINES



Bass Pro Shops and Cabela's Outdoor Fund have supported Forests Ontario for another year, donating \$100,000 in 2022 to the 50 Million Tree Program. The Outdoor Fund is a program run through Bass Pro Shops and Cabela's stores that encourages customers to donate by rounding up their purchases to the nearest dollar. The funds raised are distributed to organizations that are considered leaders in conservation, helping to ensure a future for the outdoors, and all who enjoy it.

This year, Forests Ontario's Director of Business Development, Kim Sellers, visited the Cabela's location in Barrie, near Forests Ontario's head office. Sellers enjoyed meeting with staff to discuss how their efforts in-store helped Forests Ontario achieve conservation and planting milestones for healthier forests across the province, including the types of species planted and how the general public can participate and contribute to the 50 Million Tree Program.

Forests Ontario thanks the staff of Cabela's, Bass Pro Shops, and their many customers, for their continued support and vision in ensuring our future generations not only enjoy the outdoors, but also help steward future conservation leaders across the province.

Forests Ontario's Director of Business Development, Kim Sellers, visits the Cabela's store in Barrie, Fall 2022. Photo: Forests Ontario

Teaching with Trees

Tools available to assist classroom educators

BY ALLISON HANDS

Forests are dynamic. They are constantly changing. As a result, forests make excellent classrooms, bringing learning outdoors. While forest ecology and management can sometimes be an intimidating subject to teach, the right resources will solve this problem and make learning fun in the process!

Forests Ontario is pleased to support educators by developing and providing free resources and tools grounded in real-world experiences, making it easy and affordable to incorporate forest education into their teaching practice.

We consistently review our resource database to add and update materials. Most recently, we released a new version of our *Teacher's Toolbox: A Forest Education Guide*. This guide provides a background in key forest topics for educators of grades four through eight, and provides tips and tricks to bring forest concepts into teaching practice. Please visit www.forestsontario.ca/en/resources to download a free copy today!

Madelaine Kennedy teaches tree identification at provincial Ontario Envirothon forestry workshop, Fleming College Lindsay campus, 2017. Photo: Forests Ontario



Protect and Restore Green Spaces

Alectra support will plant 10,000 trees across Ontario in 2023

BY BRITTANY HAINES



This year, Alectra Utilities Corporation, which supplies electricity to 17 communities across Ontario, is leading its customers to action through a massive e-billing campaign aimed at helping to protect and restore green spaces in our communities. Through a partnership with Forests Ontario, Alectra has committed to planting 10,000 trees on behalf of customers who switched to e-billing in 2022.

Through this campaign, Alectra and Forests Ontario will enhance and restore forests across the province. This incredible contribution to the Ontario landscape will also increase forest carbon stocks, and lessen the impacts of habitat fragmentation with the creation of essential corridors and forest cover.

According to the company's sustainability report, "Alectra believes that empowering communities is a key component of sustainability efforts." With the implementation of this e-billing program, Alectra will help to establish a network of forests that provide wildlife habitats, natural landscapes for citizens to enjoy, and a healthier future for all.

If you are an Alectra customer and would like to help them plant trees, please log into your Alectra account to choose the e-billing option.

Alectra will plant 10,000 trees on behalf of customers who switched to e-billing in 2022.
Photo: Forests Ontario

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Reviving an Orchard

Reconciliation Community Tree Plant event at Mohawk Village Memorial Park

BY EMILY HART



Kayanase - an ecological restoration and native plant and seed business based on the Six Nations Reserve - and Forests Ontario gathered this past fall to take part in a Reconciliation Community Tree Plant. It was the second planting event intended to help recreate a lost orchard. Plantings included 13 apple trees (Fuji, Empire, Spartan, & Golden Delicious), eight Red Maple trees, eight Red Bud trees, eight Hop trees, and another 32 bushes and shrubs including Meadowsweet, Nannyberry, and Witch Hazel. The partnership recognizes the importance of tree planting, ecological restoration, and forest stewardship and its intersection with reconciliation.

The event also provided an opportunity for Six Nations community members, as well as Indigenous and non-Indigenous partners, to come together to plant trees, create a space for reflection, storytelling and gathering, and honour the survivors of residential schools and the children who did not return home. We would like to thank all who joined us - Survivors of the Mohawk Institute, Kayanase and Forests Ontario - in this important community collaboration.

Forests Ontario and our partners thank TD Bank Group for its ongoing support of the Reconciliation Community Tree Plant program.



Top: Forests Ontario's Emily Hart (left), Kayanase Ecological Team Lead Kerdo Deer (centre), and Kayanase Ecologist Victoria Difede (right).

Below: Kayanase Ecological Team Lead Kerdo Deer (left), with Sherlene Bomberry, residential school survivor and Board Member of Mohawk Village Memorial Park. Photos: Forests Ontario

It Takes A Forest Billboard Tour to Northern Ontario

Rob Keen discusses sustainable forestry with community leaders

BY: TERI HOANG

The It Takes A Forest (ITAF) awareness initiative began in 2016 as a grassroots billboard campaign in the Ottawa Valley. Since then, ITAF has grown into a collaboration of local, like-minded individuals and organizations who want to provide fact-based information about Ontario's forests and address common misconceptions about the province's forest sector.

The partnership has recently erected 24 new billboards across Northern Ontario, bringing the total number of ITAF billboards to just under 40 province wide. These billboards were created thanks to the support of FedNor, the Government of Canada's economic development organization for Northern Ontario, in collaboration with the Canadian Wood Council, along with the many other supporters.

“Positive messages come in all shapes and sizes, from billboards to conversations. When you tell someone that you work in forestry, there is a curiosity to find out more because of perceptions held by the public. In my interactions, people are amazed at the complexities of forest management planning. Billboards are another example of highlighting simple yet complex messaging about the forest industry that is accessible to the public.”

Joshua Breau, RPF, Management Forester,

Ontario Ministry of Natural Resources and Forestry Kapuskasing Work Centre, Hearst Cochrane Kapuskasing District

In October, Rob Keen, RPF and CEO of Forests Ontario, embarked on a tour to visit five communities with ITAF billboards: Hearst, Kapuskasing, and the townships of Hornepayne, Manitouwadge and Chapleau. Keen travelled just over 2,000 kilometers during his three-day tour.

“It was amazing to meet with so many community and industry leaders who contributed to establishing 24 new It Takes A Forest billboards across Northern Ontario, highlighting Ontario as a world leader in sustainable forestry,” Keen said.

Here's what some of our partners had to say:

“Working in forestry has allowed me to provide for my family while working in my dream job. Having the opportunity to gather with Forests Ontario and the MNRF only further punctuated my belief that Ontario's forests and forest sector can provide safe, sustainably sourced wood products. These products not only secure CO² emissions but come from forests where managers and scientists work tirelessly to implement best management practices to protect the resources and ecosystem for generations to come.”

Darcy Ungar, RPF, Area Forester

GreenFirst Forest Products/Produits forestiers GreenFirst

Chapleau, Ontario

Kapuskasing, Ontario



“Forestry and the lumber industry have been instrumental in the development of the Town of Hearst and remain the main sources of employment for the community. In 2015, the Town of Hearst, the Constance Lake First Nation and the Municipality of Mattice-Val Côté were recognized as the Forest Capital of Canada (2015-2017). It was a great pleasure meeting with Rob Keen during his It Takes A Forest billboard tour, which gave us an opportunity to discuss the tremendous potential of Ontario's forests.”

Roger Sigouin, Mayor,
Town of Hearst

“It was a pleasure to meet with Rob last week to learn more about the It Takes A Forest initiative. We appreciate Forests Ontario's leadership in sharing objective information with the public on sustainable forestry in the province. As a community carved from the forest, Kapuskasing and its citizens are especially cognizant of the importance of forests, and our support can be counted on to help protect them.”

Ken Munnoch, Councillor,
Town of Kapuskasing



“The forestry sector is imperative to Northern Ontario not only as it helped in the past to develop our area of the province, but it is a renewable resource that I'm hopeful will continue to provide sustainable and reliable employment into the future. Hornepayne is proud of its history and will persist as part of the forestry team that provides sustainable development to our communities, region, and province!”

Cheryl Fort, Mayor,
Township of Hornepayne

“We greatly appreciated the opportunity to meet with Rob Keen and to learn more about Forests Ontario's advocacy work. Our livelihoods and lifestyles are all closely linked to the forest, and we take great pride in the work we do. The billboard we chose to install near our community will remind our local residents and those travelling in the area that our forests are helping to build the homes needed now more than ever throughout Ontario.”

Don Bazeley RPF, General Manager,
Missinaibi Forest Management Inc

Visit the It Takes A Forest interactive billboard map to see if there's one near you at <https://ittakesaforest.ca/billboard-map/>

Sponsors of all 24 billboards include AV Terrace Bay, the Central Canada SFI Implementation Committee (CCSIC), Columbia Forest Products, Federation of Northern Ontario Municipalities (FONOM), GreenFirst Forest Products, Hornepayne Lumber Ltd., Kapuskasing

Local Citizens Committee, Lecours Lumber, Manitouwadge Contracting Ltd., Missinaibi Forest Management Inc, Municipality of Neebing, Nawiinginokiima Forest Management Corporation (NPMC), Resolute Forest Products, Temiskaming Shores, Town of Kapuskasing, Town of Hearst, Township of Hornepayne, Township of Manitouwadge, Weyerhaeuser, and White River Forest Products.

Growing a Healthy Tomorrow

FOR COMMUNITIES | FOR EARTH | FOR LIFE

Join us this February for Forests Ontario's 9th Annual Conference

BY AMY HOWITT

Re-energize your love of forests and grasslands in a whole new way and experience the integral role that nature plays in our everyday lives at Forests Ontario's Annual Conference, February 16 and 17, 2023. Join us once again for in-person sessions at the Nottawasaga Inn, in Alliston, or take part online wherever you are!

We are thrilled to announce our conference keynote speaker is **Rocket Scientist Natalie Panek**. With degrees in Mechanical and Aerospace Engineering, and a private pilot's license, Panek will bring a passion for ideas that inspire and embrace the learning process.

As the first female driver of the University of Calgary's inaugural solar-powered vehicle, Panek raced from Texas to Calgary. As a member of the technical staff in the Robotics and Automation division at MDA, an aerospace company in Brampton, Ontario, Panek works on the next generation of Canadian space robotics and space exploration programs, including work on the Rosalind Franklin/ExoMars rover. Through her many adventures, Panek discovered that learning and growth happens every day: from failure, from colleagues, or from new experiences.

Now is the time for collective action to grow a healthy tomorrow for our communities, our planet, and our own health. General Admission, Member, and Student pricing

Natalie Panek, keynote speaker at Forests Ontario's 9th Annual Conference, February 16-17, 2023.

all include virtual and in-person access to conference content, as well as daily lunches and a served banquet dinner on February 16. We are also offering a Friday-only ticket, which includes in-person access and lunch on February 17, plus virtual access for all sessions on Thursday, February 16. For those who can't join us in person, we offer a virtual ticket to access all conference content.

Expert speakers, engaging discussions, and incredible networking opportunities will inspire you at Forests Ontario's 9th Annual Conference. Please visit **www.forestsontario.ca/conference** for more information and to get your tickets today!



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From Tom Thomson to Tree Trust

English Oak in Owen Sound gets arborial care

BY TONI ELLIS

In his short life, Tom Thomson painted a forest's worth of lovely trees.

Today, an English Oak, planted in 1905, still stands in a cemetery just a few metres from the tombstone of Tom Thomson. If he is truly buried there, it seems apt to have such a special tree for company.

The cemetery is next to Leith United Church, built in 1865, near the shore of Owen Sound Bay. Until he was 20, Thompson graced a pew, sang in the choir and, some say, used hymn books as sketch pads to draw caricatures of the congregation when his interest in the sermon waned.

There is some question as to the final resting place of Tom Thomson. His family have always insisted that his body came home from Algonquin Park, where he died under mysterious circumstances. After years of research, well known journalist and author Roy MacGregor determined an alternate and fascinating version: that the

painter lies buried at Canoe Lake, a thesis he lays out in his book, *Northern Light – The Enduring Mystery of Tom Thomson and the Woman Who Loved Him*. While we may never know for certain, artists make regular pilgrimages to his tombstone on his birthday, leaving behind paint brushes and other mementos.

Although not quite as famous as Tom Thompson, the cemetery's glorious English Oak is by no means anonymous. In 2017, Forests Ontario recognized it as a Heritage Tree. The Old Oak, as it is also affectionately known, is also featured in *The Extraordinary Tree Project*. This book of stories and photos, compiled by the late Stephen Hogbin, profiles some 100 amazing trees in Grey and Bruce County.

A Sunday School class planted the Old Oak in 1905. We know this because one member of that class, Dougal McKay, visited the site when he was 100 years old. The Friends of Leith Church (FLC) tend the cemetery and have even collected acorns and grown saplings.

Despite its special stature, the Old Oak had never received arboriculture care...until this year. Enter Pete Russell, coordinator of Meaford Tree Trust, one of seven chapters working to help preserve treasured, historic community trees. Each Tree Trust chapter works with arborists who have a deep knowledge and understanding of legacy tree growth, structure and natural physiological decline.

Russell started by asking Meaford's Arboreal Tree Care if the tree needed work. After 117 years? Who wouldn't? The Friends of Leith Church covered the cost.

On a beautiful fall day this September, the preservation team from Arboreal Tree Care ascended into the oak's canopy to complete an aerial assessment and complete judicious branch reductions to better complement the limbs' holding capacity. Storm damaged limbs were reduced to recent epicormic shoots that will serve to establish new vigorous growth and replace the lost branches. The crew reduced the tree's crown to offer a more resilient canopy to guard against damage from severe weather events, which can be particularly hazardous for older trees and seemingly becoming a more common occurrence.

The tree has long been revered for its beauty and its ties to the historical church, according to FLC spokesperson, Peter Telfer. "It's a lovely-looking tree," he says. "It seems to have a famed history of its own. Many wedding receptions and luncheons have been held under the Old Oak. However, without care, it won't go on forever."

Tony Ellis is executive director of Tree Trust, a non-profit that helps prolong the life of heritage trees in communities across Ontario.



Arborist Tobias Effinger works in the cemetery's English Oak tree on September 29, 2022. Photo: Zachary Thompson

Member Spotlight

Donna Love grew up near the forest, where she learned to love nature

BY BROOKE MCCLELLAND

Donna Love is an avid gardener who loves the outdoors and, once upon a time, loved downhill skiing. She has supported Forests Ontario since 2010 and has been a member since 2020 – which she highly recommends.

“Without question, become a member. The information given through the magazine is spectacular and provides information that is applicable and specific to many different locations. It’s very informative, and it makes me feel good to have more and more members,” Love says.

Love grew up close to the forest on a property in Barrie, Ontario, and became a lover of everything green.

“I grew up loving nature and the outdoors and have been involved in the outdoors in many different ways throughout my life. My passion was also fueled through sports once I became a physical education teacher,” Love says.

Being a retired teacher, Love values educating the public about the environment and how precious it is and teaching young kids about the importance of taking care of our world. “When I see a picture of a young child planting a tree, it brings a tear to my eye. Learning the importance of the environment at a young age is key to maintaining our natural world. Tree planting also resonates with me, as planting trees to combat the effects, and potential effects of climate change, is key. We need to protect and maintain the beauty of the earth – which is what Forests Ontario has done for years,” Love adds.



Donna Love at Chudleigh’s apple orchard in Milton with her grandsons, Brayden and Spencer Blore. Photo: Brooke Blore

Forests Ontario would like to thank Donna Love and all our members for their valued support. Your contribution continues to make our urban and rural communities healthier through the creation, preservation and maintenance of new forests and grasslands. Forests Ontario will be highlighting our members in each issue of Our Forest magazine. If you are a Forests Ontario member and would like to share your story in our magazine, please contact bmccllland@forestsontario.ca.



ASK AN EXPERT

Do you have a question about wildlife, forest restoration, grasslands, or tree ID?

Send us your question with "Ask An Expert" as the subject line, and it may be answered in an upcoming issue of Our Forest magazine. Please write to info@forestsontario.ca.

The Oldest Construction Material Is New Again

Builders have innovated with timber since the pharaohs ruled Egypt

BY SALLY KRIGSTIN AND ESTHER TANG

In recent years, there has been much excitement over revised building and fire codes which have opened the door for new tall wood buildings, aka mass timber structures. In 2020, Canada updated the National Building Code to enable the construction of encapsulated mass timber buildings up to 12 storeys. Ontario updated its building code this spring, allowing mass timber buildings up to 12 storeys, an increase from six. Every year sees new records of the tallest timber building. In 2019, it was the Mjøstårnet, an 18-storey timber building in Brumunddal, Norway. In the summer of 2022, a 25-storey mixed-use timber building, Ascent MKE, arose in Wisconsin.

While this is indeed exciting, it in no way matches the significance of wood structures throughout history. Imagine the first wood huts built by early hominids that provided them with the ability to keep families safe, dry and warm. These simple structures allowed mankind to expand its horizons, venturing to less amiable climates where people could sustain and grow their communities.

After the last Ice Age, as society transitioned from hunter/gatherer to agriculture around 11,000 years ago, people settled in one place for a longer period of time and needed permanent housing. Archaeologists have discovered remnants of a wooden house dating back to 8500 BCE, when Britain was attached to continental Europe. The structure was built with crude timber posts arranged in a circle. The walls were likely formed from a lattice of wood, covered with an insulating concoction of dung, mud, grass and sand. Structures such as these, built using simple tools with no need for metal fasteners, were well insulated - perfect houses for early settlements.

Early North American settlers, prompted by the U.S. Homestead Act of 1820, looked to small log homes as a popular way of staking claim to government-distributed lands. These homes used a simple design, borrowed from the original log homes built in Northern Europe during the bronze age (3500 BCE). The advantage: a homesteader could build a log house quickly, and with limited supplies and tools. These small dwellings, about 16 - 18 m² and eight logs high, could be built by one or two people, the height of the home being limited by the reach of the settler. As plain as the structure was, it provided strong walls and a protective environment, crucial for survival in adverse weather and a hostile landscape.

Some of our current wood construction techniques have very old roots. Researchers have found evidence of carpentry work using tongue-and-groove on a wooden well in the Czech Republic dated 5256 BCE. Wood veneer products, collected from the tomb of Tutankhamun, suggest that glue and veneering techniques were well developed

in ancient Egypt before 1350 BCE - proof that the principle idea of engineered wood used in modern mass timber building first emerged over 3,000 years ago.

Throughout history, builders have valued wood for its widespread availability, ease of manipulation, its very high strength-to-weight ratio, and its versatility with respect to design. Today, society prizes its stunning aesthetics, natural origin and carbon storage. Wood buildings are surprisingly resilient thanks to wood's elasticity and the ease of repair, which makes wood ideal for construction in earthquake and hurricane-prone areas. The Horyu-ji Temple in Nara, Japan, is the world's oldest-standing timber building. The temple, along with a five-storey wooden tower, was built around 607 AD using traditional Japanese joinery techniques: joints were crafted to extreme precision and fit perfectly together without metal fasteners or glue. This joinery forms very stable structures and is flexible enough

“Today’s builders reuse
and refine old ideas to
overcome new challenges
and limitations.”

to dissipate vibration and withstand regular earthquakes.

Wood structures evolve over time by adapting to the available resource, the environment, and the needs of society. New technologies are continuing to develop that enhance the safety and affordability of homes. Today's builders reuse and refine old ideas to overcome new challenges and limitations. Not all timber buildings will survive for over a thousand years, but the knowledge and technique of wood construction will continue to be passed on through the years with mass timber buildings being the latest chapter in the long history of wood construction.

Sally Krigstin is a professor in the John H. Daniels Faculty of Architecture, Landscape and Design, University of Toronto. She has a special interest in how societies use and understand wood's unique characteristics.

Esther Tang is a student working on the application of biochar in forest restoration at Thomas Research Lab, University of Toronto.



Top: Mjøstårnet, an 18-storey timber building in Brumunddal, Norway. Photo: Nina Rundsveen, Wikimedia commons

Left and above: Traditional Japanese joinery at the Horyu-ji Temple in Nara, Japan, the world's oldest standing timber building. Photos: Nekosuki, Wikimedia Commons



Forest School

Tree marker trainers teach how to improve the health and vigour of forests

BY PETER KUITENBROUWER

Mike Walsh stood under a tall Sugar Maple tree, thick with leaves, in the Ril Lake area, a forest off Highway 11 just north of Bracebridge in the Muskoka region. Around him clustered women and men clad in work boots and high-visibility vests.

“You are not here to pay the salary of an executive of a lumber company,” Walsh said. “You are here to reverse the high-grade cycle.”

Welcome to the 29th edition of the Ontario Tree Marker Training Program. In September 2022, 24 students, most of whom work in the forest sector, gathered in Huntsville for the week-long course administered by Forests Ontario and the Canadian Institute of Forestry. The students came to learn how to mark trees. In the introduction to the Ontario Tree Marking Guide, forester Al Corlett writes that “tree marking involves the careful selection of trees for harvest or retention based on tree size, vigour, quality, biodiversity concerns, and wildlife habitat values.”

Tree markers walk through a forest and use spray paint to indicate to loggers what trees to remove and what trees to retain. Typically, a yellow or orange mark indicates a tree to cut, red paint usually marks the boundary of the harvest area, and blue paint denotes trees that the logger should leave.

On the first morning of the tree marking course, instructors told the students that generations of loggers had used Ontario’s forests as a kind of supermarket. Early loggers, for example, cut just the best White Pines for the British Navy. Later, loggers took only the highest-quality trees. These harvests left behind a forest in poor health. The solution? Mark the trees to protect forest health.

Walsh, a retired forest technician who lives in Peterborough, summed up the need for tree marking as follows: “The public just pretty much had enough of bad forestry.” Tree marking, he said, ensures that after the loggers come through, healthy forests continue to thrive, and offer habitats for wildlife and a welcome place for hikers, skiers, mountain bikers, hunters, and all other forest enthusiasts.

The job of a tree marker and ultimate goal is to enhance the long-term vigour of the forest. Walsh said the tree marking and harvest of this Bracebridge forest happened in 1990. Most of the trees selected for removal that year were what foresters call Unacceptable Growing Stock (UGS). UGS trees are “trees that have poor form and/or current low quality (for timber production) and cannot reasonably be expected to improve in quality.”

Tree markers returned to the Bracebridge forest in 2013 for a second marking and harvest, Walsh said. Today the forest is healthy. “It took two cutting cycles to turn this stand around.”

Fraser Smith, a private land forester in the Peterborough area who is an instructor for the tree marking course, later compared the choices that tree markers make to the decisions a cattle farmer might make. If the farmer were to cull all their best cattle, Smith said, they would end up with an unhealthy herd. The same principle applies to a forest: leave some healthy trees to grow.

Today, companies who want to harvest Crown land in the Great Lakes-St. Lawrence Forest, which is the second-largest forest in Ontario with about 20 million hectares, must hire a tree marker certified through the training course to mark the forest prior to harvest.

Tree markers must weigh many factors when they choose trees to cut or to leave in the forest. For example, Ethan Huner, the Natural and Cultural Resource Strategist for the Algonquins of Ontario, told students how to recognize constructed stone features in the forest left by the First Peoples. Tree markers who spot these features should mark a buffer to protect them from harvesting operations. “Don’t fall trees around a sacred site,” notes Huner, who also recommends tree markers should watch out for canoe-grade White Birch trees as they are rare – if one is spotted, alert a local First Nation who may wish to use the tree to make a canoe.

Other trees produce food for wildlife. Foresters call these “mast” trees. For example, oaks produce acorns and beech produce beech nuts, which are food for deer, black bears, raccoons, red squirrels, chipmunks, mice, and many birds. Tree markers retain ten larger “mast” trees (if such trees are present) in every hectare of forest. Tree markers also learn to protect trees near the banks of streams, rivers, or lakes, to prevent erosion. Trees near waterways provide habitat for many wildlife species.

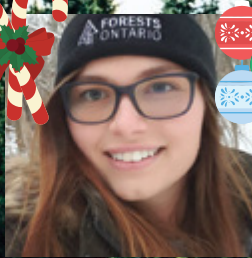
Ken Elliott, a Forester recently retired from the Ministry of Natural Resources and Forestry, sounded an optimistic note, telling students that careful tree marking which follows good planning and prescriptions ensures that everyone, from the forest industry to nature enthusiasts, can work together. Algonquin Provincial Park, he said, is a place where everyone from loggers to moose love to be, because tree markers select trees for harvest or retention before any harvest. “Algonquin,” Elliott asserts, “is a world-class example of multiple use management.”

To learn more about the Ontario Tree Marker Training Program, please visit: forestsontario.ca/en/program/tree-marking-program.

Mike Walsh (left), a forest technician, and Ken Elliott (right), a Registered Professional Forester, speak to Ontario Tree Marker Training students in a mixed hardwood forest near Huntsville, September 2022. Photos: Peter Kuitenbrouwer

Ontario Tree Marker Training course students walk through Arrowhead Provincial Park, September 2022.

Happy Holidays!



FROM FORESTS ONTARIO



Red Maple tree branch. Photo: Allison Hands

Name That Tree

Once their leaves fall, it is hard to tell trees apart – but these tricks can help

BY MADELEINE BRAY

Identifying trees in the winter can feel like a hopeless task, especially if your woodlot or local forest contains many deciduous trees. You may notice that the bare branches of these trees all blur together without leaves telling you whether they're maples or oaks, or something else entirely! But, even without leaves, deciduous trees stand apart from one another in the winter with their own unique features.

You might be lucky in your identification attempts and find trees with leaves or fruits still attached. American Beech is notorious for holding onto its leaves all winter. Acorns can provide a great deal of insight to what your local oaks might be but you can't rely on these remnants of warmer months.

Firstly, look eye-level at the bark on a tree. There, you will find the species-specific patterns of cracks and crevasses that have formed over years of growth. Some bark is more distinctive than others, like the pale and peeling bark of a White Birch but looking at the colour and texture of bark can aid in your identification. The dark, crackling "burnt cornflakes" of a Black Cherry tree will always stand separate from the smooth, scarred, pale grey bark of an American Beech.

Looking up into the canopy, we can see the branches of the tree, and can make out its branching pattern. Branching patterns can be found throughout the tree, from the broadest of branches off the trunk to the smallest of twigs. There are two common patterns on trees – alternate branching, where leaves and twigs alternate from one side of a branch to the other, and opposite branching, where

leaves and twigs originate from the same point at opposite sides of a branch. Opposite branching is the least common and can help narrow down your search. Maples, ashes, dogwoods, honeysuckles, and highbush cranberry are the more common opposite-branches trees and shrubs found natively in Ontario.

If the branches of a tree are near eye level or lower, the twigs should be your go-to for easy identification in the winter. Depending on the time of year, buds may have already formed on the twigs. These buds are the start of next spring's leaves and are near identical between individuals of the same species, thus being easier to narrow down than bark texture. The size, shape, colour, and form of the buds will tell you all you need to know. Recognizing that buds are pointing away from a twig, or whether they are round or pointy, can give you useful insights, especially when using a winter identification key.

If the buds aren't giving you enough information, you can always look below them to see the leaf scar. This is a mark on a twig left by the leaf that once lived there. They are formed naturally when a leaf falls off and remains on the twig forever.

Remembering every individual feature of a tree in winter can be difficult, but there are many useful identification guides and tools to assist you in your journey, including a Winter Tree ID Key developed for the Ontario Envirothon program. You can find this on the Forests Ontario website. Guides and keys can vary from region to region, so find one that works for you, and enjoy the winter wonderland!

Meadows on My Mind

Ronald Reid helps the Grassland Stewardship Initiative make space for birds

BY PETER KUITENBROUWER

Ronald Reid is the second of five sons who grew up on a farm in the southern Bruce Peninsula. In the 1950s, the family raised dairy and beef cattle, pigs, and some chickens. They grew crops mainly to feed the livestock. He fondly recalls the bird songs that provided the natural soundtrack of his childhood.

“I used to walk two miles to a one-room country schoolhouse. Every spring, the sound of Bobolinks was everywhere because they were so abundant in the pastures and hayfields,” Reid says, remembering “a rolling, complex song.” The National Audubon Society Field Guide to North American Birds describes the Bobolink flight song as “a series of joyous, bubbling, tumbling, gurgling phrases”.

“The Reid farm is still in the family, but the call of the Bobolink is gone – a victim, in part, of changes in farm practices.”

The Reid farm is still in the family, but the call of the Bobolink is gone – a victim, in part, of changes in farm practices. Dairy farmers today confine their cattle to stables in highly mechanized environments, so pastures are few; hay fields, too, are less common.

“You don’t hear them anymore because the crops have switched over to soybeans and corn, and Bobolinks don’t like soybeans and corn,” Reid said.

But all is not lost. Reid works as a Technical Advisor with Forests Ontario’s Grasslands Stewardship Initiative (GSI). The program helps a growing number of nature enthusiasts across Ontario restore grasslands and make space for the Bobolink and the Eastern Meadowlark. The Endangered Species Act lists both birds as threatened.

Reid’s commitment to restoration and protection of a healthy, diverse natural environment has been his life’s work. At the University of Guelph, he earned a degree in agriculture with a major in wildlife management. He later worked at the Federation of Ontario Naturalists (now Ontario Nature). Today, Reid runs a consulting business, Bobolink Enterprises, through which he helps conservancies, conservation authorities areas and others protect and enhance grassland ecosystems, often funded through GSI.

“The acreage of pasture has been decreasing in Ontario since the 1950s,” Reid laments. “Hayfields have declined by more than half.” Thankfully, beef cattle farmers still pasture

Male Bobolink. As a child, Ronald Reid enjoyed the song of the Bobolink on his walk to school on the Bruce Peninsula. Photo: David Homer





Ron Reid shares a meadow with cattle. When Reid was a child, Ontario boasted plenty of cow pasture. Today, dairy cattle mostly live in barns; beef cattle still graze on pasture. Pasture is key habitat for the nests of Meadowlarks and Bobolinks.

their livestock, which is vital for survival of grassland birds, who have different needs. Bobolink nest in small colonies in the middle of large fields; Meadowlark pairs like to nest around a field edge.

Along with his consulting work, Reid advocates for a wholistic approach to land management in Ontario.

“How can we have agriculture that produces the food that we need, and at the same time, provides habitat for wildlife, which is important to the diversity of the ecosystem?” he asks. “The more diverse it is, the stronger it is. Hay and pasture can be managed as diverse ecosystems.”

In Arnprior, in the Ottawa Valley, Reid has helped the Clay Bank Reserve and Nature Park for Outdoor Learning, in collaboration with the municipality, the local Rotary Club and naturalists, to restore the natural environment. It’s a tricky job: dog-strangling vine, an invasive weed, has taken over some areas. GSI funding has helped the group buy seeds of native grasses and native flowers, such as bergamot and Brown-Eyed Susan, and rent a tractor and mower to tend the land.

Rodney Smith, who chairs the environment committee for the Rotary Club of Arnprior, credits Reid for the success of the project. “He provided us with credible, specific and very timely advice on the type and proportions of native seed that should be applied on our site based on his review of our pre-treatment plant inventory and site conditions,” Smith said in an email. “His advice on seeds and seeding enabled us to get the best value when we purchased our seed, the most expensive single component of our habitat improvement project.”

Jeff Stock, Watershed Stewardship Technician at the Hamilton Conservation Authority, said Reid played a key role in shaping a hayfield improvement project. “Thanks to Ron, we will be helping to provide high-quality hayfield that continues to be late harvested as nesting habitat for the Bobolinks that return to a local farm property every year,” Stock says. He called Reid “a very warm and receptive individual,” adding, “our conversations have extended beyond the project, and it was a great learning experience for me.”

Reid even has a protected area named after him: the Ron Reid Nature Reserve, a 730-acre property near Reid’s home in Washago, just north of Lake Simcoe. The reserve belongs to the Couchiching Conservancy, co-founded by Reid. Among other wildlife, the reserve houses Ontario’s only lizard, the endangered Five-Lined Skink.

Reid says the Grasslands Stewardship Initiative has fostered a commitment to restoring fields and meadows that continues to spread across the province.

“GSI has provided funding for 84 projects across southern Ontario since 2019, and every one of them engages local people who are enthusiastic,” Reid said. “We have been getting better every year. I think we have been very successful in ramping up interest and that is going to have long-term impact.”



FORAGED FRAMES



You don't need a workshop or heavy equipment to make a beautiful holiday gift out of wood!

SUPPLIES:

- 4 sticks
- Twine
- Scissors
- Ruler
- Decorations like leaves, flowers, acorns, paint, etc. (optional)
- A photo you'd like framed (optional)
- Glue gun (only necessary if using decorations and a photo; adult supervision recommended)



ACTIVITY:

1. Collect 4 sticks, roughly the same length and thickness.
 - If you are using a specific photo, make sure that the dimension of your sticks correspond with those of your photo. If your photo is a rectangle, then two of your sticks should be shorter than your other two.



- 
2. Lay your sticks on a flat surface in the configuration you'd like them (i.e. square or rectangle with dimensions corresponding to your photo). The sticks should overlap at the corners.
 3. Cut four pieces of twine. The length depends on the thickness of your sticks, but they should be long enough to bind the corner sticks of your frame.
 4. Bind the four corners of your sticks by weaving the twine around each of the two corner sticks several times and tying off at the back. Alternatively, you could secure the twine using a glue gun (adult supervision is recommended). It may be helpful for you to mark the places on the sticks with pencil where you want to bind with twine.



MAKE IT YOUR OWN!

Now it is time to decorate your frame! Paint your frame or use your hot glue gun to add leaves, flowers, acorns, etc. Don't stress the little details -- just like in nature, the imperfections are what makes something perfect!

If you have a picture to add, secure the photo into the middle of your frame with hot glue.

If you'd like to hang your picture, use another piece of twine to create a hoop. To do this, tie one end of a piece of twine to one of the top corners of your frame and the other end to the other corner, leaving slack in the middle.



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