OUR FOREST

FORESTS ONTARIO

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SUMMER 2020

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A Message from our CEO, Rob Keen

For the past four months, we have watched the world around us change. We have seen it slow down. While the Forests Ontario offices have sat empty, our partners and staff have worked harder than ever to increase Ontario's forest cover.

The COVID-19 pandemic threw a wrench in our planting operations. Our tree nurseries were short staffed – lacking their seasonal workers who, each spring, lift seedlings from the ground and prepare them for planting. We were concerned for the safety of the more than 300 people involved in our spring tree planting operations, and the landowners and communities they serve. There was also uncertainty about the 'essential service' status of tree planting.

Overcoming the obstacles of the pandemic was no easy feat. It took time and ingenuity, new safety protocols, and a lot of heart, but in the end we succeeded. I am proud to announce that with the perseverance of our partners and nurseries, we planted more than 2 million trees this spring. We can thank the experience, expertise and commitment of our planting partners and our extended team – hard-working individuals, conservation authorities and private companies.

COVID-19 brings a clear message: our planet needs healing. We are vulnerable and we need to change. We need to consider how our actions impact the health of the Earth and in turn our own personal health.

Prior to the pandemic, the need for more forests was a trending topic. Because healthy forests can mitigate the effects of climate change, the international community began making plans to plant one trillion trees. Now that pandemic emergency measures have been eased, we must reengage with Canada's plan to support the planting of 2 billion trees over the next 10 years -- even as we remain vigilant to social distancing to avoid a second wave of infection.

A recent report in the journal Nature states that our CO2 emissions fell by 17 per cent in early April due to COVID-19 emergency measures. Smog in China has subsided so much that cities are visible from satellites, and the murky water channels of Venice have cleared to the point where it's possible to see marine life. This proves that it's possible to reduce our impact and we now have an opportunity to address climate change and sustainability, improve biodiversity, and heal our planet – we just have to do it.

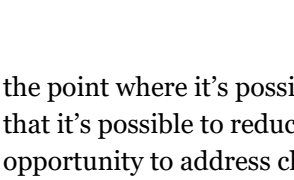
This spring plant showed that Forests Ontario and our partners and nurseries are resilient, determined, adaptable, passionate, and capable of rising to the challenge in the face of adversity. We credit our success as well to our members, volunteers, donors and, in particular, our biggest supporter: the Government of Canada. In fact, June 5th, 2020, (World Environment Day) marked the one-year-anniversary of Canada's announcement to support our flagship 50 Million Tree Program. I'd also like to highlight the recent support from the Shawn Mendes Foundation, as well as Bass Pro Shops and Cabela's, which you can read about in this Our Forest magazine.

On a final note, I want to assure you that Forests Ontario stands in solidarity with the Black community in Canada and worldwide. We recognize the injustices of racism within and outside our borders, and we understand the importance of listening and educating ourselves. To that end, our staff have put in motion a number of initiatives to educate ourselves and others, because Black Lives Matter.

Although we had a very successful spring, we and other not-for-profit organizations have seen a reduction in financial support as a result of COVID-19. We greatly appreciate your support to allow us to continue enhancing our forests and natural landscapes and to ensure a healthy future for generations to come.

I hope that you and your loved ones stay safe and healthy.

All the very best,
Rob Keen



RPF and CEO of
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On the cover: a honeybee feeds on goldenrod in Milton, Ontario. Photo by Reuven Martin.

Contents

Forests Ontario Shows Support for Frontline Workers

In late May, Forests Ontario created a collage tribute to the frontline workers who are caring for the sick and keeping our communities running. These brave people continue providing us with essential services despite the risk of Covid-19 infection. Everyone at Forests Ontario admires their hard work and dedication, and we'd also like to remind them that "It's Going to be Okay!"

Top, L to R: Fraser McLaughlin, Program Development Coordinator | Rob Keen, CEO | Kenya Hewitt, Digital Project Coordinator | Brooke McClelland, Executive Assistant and Membership Coordinator | Al Corlett, Silviculture Specialist | Colleen Mahaffie, Social Media Specialist

Middle, L to R: Augusta Lipscombe, Communications & Stakeholder Relations Officer | Ruth Hall, Office Administrator | Allison Hands, Education Manager | Amy Howitt, Events Assistant | Peter Kuitenbrouwer, Our Forest Editor | Kerry McLaven, former Director of Operations | Elizabeth Celanowicz, Director of Operations

Bottom, L to R: Noah Page, Communications Coordinator | Madeleine Bray, Education Outreach Coordinator | Alanna Evans, Events Coordinator | Mark McDermid, Seed & Stock Coordinator and his wife, Kate McLachlin, MD | M.J. Kettleborough, Communications Manager | Kim Sellers, Accounts Manager | Nicole Baldwin, Forestry Program Manager

Pandemic Pushes Planting Events to Fall

BY ALANNA EVANS

Volunteers at the Ajax Community Tree Plant, spring 2019. Due to COVID-19, Forests Ontario has pushed this year's tree planting events to the fall.

The first signs of spring are always a cause for celebration. The sight of tiny shoots poking through soil and buds forming on branches reignites a yearning for the outdoors.

Springtime also marks the beginning of the tree planting season. Each year, Forests Ontario organizes several Community Tree Plant (CTP) events, which offer opportunities for people of all ages and backgrounds to get their hands dirty together. However, due to COVID-19 and its social gathering restrictions, our CTP events had to take a rain check.

Planting trees enables folks to support local restoration projects and inspires future generations to become environmental stewards. Time spent in nature provides benefits for our mental, physical, and social well-being – the facets of our lives that have been challenged by months of restrictions. We're looking forward to getting communities out in the field this fall.

Until then, we encourage you to connect with nature in your own way – whether by planting herbs in a backyard garden or stepping onto a local tree-lined trail. We'll have the tree seedlings and shovels ready when we see you next.

Learn to Mark Trees to Nurture the Forest

BY NOAH PAGE

Forests Ontario and the Canadian Institute of Forestry (CIF) have been working in partnership to offer several levels of tree marking courses since 2016. The Level 1 course awards a certificate in tree marking; obtaining a Level 1 certificate can be an important career goal for forest sector professionals, as these are mandatory for all tree markers working on Crown land. A Level 2 course, for experienced tree markers, awards a certificate in auditor training. A Refresher Course is also offered, which certified tree markers must complete every five years to maintain their active status.

Qualified tree markers help care for forests and enhance biodiversity. As forest stewards, they can distinguish if a tree is stunted due to poor genetics or overcrowding; they can spot trees that support forest wildlife, such as cavity trees that shelter birds or mammals; they can quantify a tree's ability to provide seed. After evaluating these and other factors, tree markers carefully select trees for harvest or retention.

Forests Ontario and CIF's tree marking courses are the only training of this kind in Ontario; professionals also come from out of province to obtain certification.

Students learn the fine points of tree marking, Huntsville, September 2019. Photo by CNW.

Kerry Spencer of CIF provides registration and information on upcoming courses. Forests Ontario's Al Corlett coordinates course content and delivery. At the time of publication, we plan to offer the Level 1 tree marking course early this fall, August 31 – September 4, in Huntsville, Ontario.

To register for a tree marking course, please call the Canadian Institute of Forestry at 1-705-744-1715 ext. 609 or visit treemarking.com.

Bass Pro Shops & Cabela's Outdoor Fund Helps Plant Trees

BY NOAH PAGE

Forests Ontario plans to use a $50,000 donation from Bass Pro Shops and Cabela's Outdoor Fund to plant trees across Ontario and teach students about the great outdoors.

"The Bass Pro Shops and Cabela's Outdoor Fund focuses on supporting priority conservation efforts across North America," said Bob Ziehmer, Bass Pro Shops Senior Director of Conservation. "We are proud to support Forests Ontario in planting thousands of trees in Canada and educating youth on forestry. Reforestation projects improve wildlife habitats, provide clean water, improve air quality, and ensure the future health of our forests."

The partnership with Bass Pro Shops and Cabela's will support Forests Ontario's spring tree planting efforts, currently scheduled to plant 1.6 million trees across Ontario. Trees planted through this partnership will expand forest cover and create natural corridors and windbreaks. Trees also enhance biodiversity, restore wildlife habitats, and provide sites for camping and recreation.

Through support from Bass Pro Shops and Cabela's Outdoor Fund, Forests Ontario is also designing a variety of forest education resources and activities for more than 1,200 teachers, educators, and students. These resources include the Ontario Envirothon Virtual Lab, new curriculum-linked resources with an identification guide for common freshwater fish species, and a Grade 9 orienteering lesson plan.

Funding from Bass Pro Shops and Cabela's Outdoor Fund will help educate students about the natural world.

Kerry McLaven joins Forest Gene Conservation Association

Kerry McLaven in Yellowknife. McLaven is the new CEO of the Forest Gene Conservation Association.

Kerry McLaven's passion for seed has landed her a new opportunity. McLaven takes over this summer as the new Chief Executive Officer of the Forest Gene Conservation Association (FGCA). This change was initiated due to the impending retirement of Barb Boysen, who has committed many years to the organization.

McLaven begins her new job after eight years at Forests Ontario, having joined the Forests Ontario team in 2012 as a volunteer. Through her dedication to all aspects of tree reproduction, tree planting, forest stewardship and forest education, she rose through the ranks to become Director of Operations. She was pivotal in helping Forests Ontario confront and overcome major challenges, including the closure of the Ontario Tree Seed Plant and the Government of Ontario's decision last year to end funding for the 50 Million Tree Program. McLaven helped orchestrate support for the flagship planting program from the Government of Canada.

Growing up in Oak Ridges, McLaven discovered her passion for the environment during a world issues class in high school, prompting her to pursue a Bachelor of Science in Environmental Science at Wilfrid Laurier University. She later completed a Masters of Forest Conservation at the University of Toronto, during which she specialized in wildfire behaviour.

In her new role with the FGCA, McLaven will carry out the association's vision of a genetically diverse, resilient forested landscape in Southern Ontario that supports healthy ecosystems, healthy people, and a healthy economy. Elizabeth Celanowicz takes over from McLaven as Director of Operations at Forests Ontario.

For more information about the FGCA, visit fgca.net.

Planting in a Pandemic

South Nation plants record number of trees despite challenges of COVID-19

BY PETER KUITENBROUWER

This spring, South Nation Conservation Authority (SNC) ordered 144,000 tree seedlings. Authority staff were prepared to plant a record number of trees in this watershed south of Ottawa. Then COVID-19 hit.

"If we weren't able to pull those seedlings out of the ground in the nursery and plant them, we would have had to throw them away," said John Mesman of SNC. "We worked with our local MP and the province, and we got the news that tree planting is considered an essential service. It supports one of the key economic drivers of Canada: the forest industry."

During the plantings, the conservation authority and its partners proceeded with caution. Ferguson Tree Nursery in Kemptville, South Nation's main tree supplier, required all staff and contractors to quarantine for 14 days before the planting season. This measure helped mitigate the risk of virus transmission. The tree planting contractor, Brinkman Reforestation Ltd., ensured its planters did not share vehicles or tents. Staff regularly sanitized all vehicles and crews worked in smaller groups.

Thanks to these careful precautions, the planting season went off without a hitch.

"It's beautiful out here today," Cheyene Brunet, a Forest Technician with SNC, said in May. She was speaking from the Larose Forest, an 11,0000-hectare man-made forest that is the product of consistent tree planting since 1928. This May, crews underplanted 55,000 seedlings in this forest: White Pine, Bur Oak, Red Oak, Hemlock and Sugar Maple. That's about double the total trees last year.

"We have had fantastic weather," said Brunet. "Everything has gone pretty great this year."

With help from Forests Ontario's 50 Million Tree Program (50 MTP), planters also put more than 90,000 seedlings in the ground all over the South Nation watershed. SNC already has orders for another record planting season in 2021.

"We have done a lot more outreach work in the past two or three years and obviously it is paying off in terms of getting more trees in the ground," Mesman said. South Nation now offers a Woodlot Advisory Service: a free site visit from Brunet or another forest technician. SNC also offers a $500 grant to help landowners to create a forest plan. A forest plan can make a landowner eligible for tax savings under the Managed Forest Tax Incentive Program (see p. 19).

"It's an extra incentive to keep it forested," Mesman said. "The property owner might look to plant more trees." Steve Hunter, Forester for the United Counties of Prescott-Russell, which includes Larose Forest, said that while his team has weathered the pandemic, they face another tricky challenge: lack of seedlings.

"Red Oak outperform the White Pine on the drier sites," he said. "Our biggest issue is we can't get enough Red Oak seedlings. There's not a lot of seed collectors in eastern Ontario."

Hunter said that when the Government of Ontario cut funding for the 50 MTP last year, "we were holding our breath." He was pleased when the federal government rescued the program.

"The fact that Forests Ontario is planting trees will attract tree planting contractors to come here," he said. In eastern Ontario, most trees are planted by hand. According to Hunter, tree planting efforts by neighbouring Raisin Region and Rideau Valley conservation authorities under the 50 MTP all help to build a tree-planting ecosystem. "On our own we might have a difficult time getting a tree-planting contractor to come out here."

Workers plant White Pine, Sugar Maple and Red Oak trees in Larose Forest, May 2020. Photo by Manon Besner.

Taylor Campbell, of South Nation Conservation Authority, plants Norway Spruce as part of a windbreak on a farm in North Stormont, with funding through the 50 Million Tree Program, May 2020. Photo courtesy SNCA.

We Need to Plant More Trees for a Healthier Planet

BY ROB KEEN, RPF

While many of us are at home and keeping proper social distance from our friends and neighbours, life goes on for nature. Trees continue to grow and make their environmental contributions, and we can help by planting more of them.

During the 2020 federal election campaign, Prime Minister Justin Trudeau committed to planting two billion trees over the next decade. He described how trees sequester carbon and cool our planet. That promise came at a different time, but in the wake of COVID-19 we have an opportunity to improve our planet's health and revive our stalled economy. Simply put: this is the time to plant new forests.

Millions of Canadians are out of work. Meanwhile, tree nurseries across Canada are growing millions of seedlings. Job-seekers can be trained to plant these seedlings. This is an opportune time to mobilize the labour force, including our youth, with a national tree-planting strategy.

Health professionals have asked us to maintain social distance during this pandemic. Fortunately, tree planters work apart, often keeping a minimum distance of two metres between each other. Planting organizations across Canada prepared procedures identifying sanitation rules and protocols for planting crews to reduce the risk of COVID-19 transmission.

Forests Ontario commissioned a study last year on the economic impact of planting trees. The study indicated that the roughly 2.5 million trees we plant annually creates approximately 300 seasonal rural jobs. It also revealed a 3:1 financial return from a GDP perspective.

Trees provide countless social and environmental benefits. Tree blossoms feed bees that pollinate farm crops. Trees shade our homes, lower heating bills and increase property values. Forests soak up excess water, mitigate flooding, reduce soil erosion, and provide homes for wildlife. A walk in the forest can strengthen the immune system and reduce blood pressure, among other health benefits. And some trees will one day become paper, furniture, art, musical instruments and building material for homes and office buildings – all products that we need for our standard of living and daily wellbeing.

Forests Ontario has the practical experience to assist in a nation-wide tree planting program. Forest Recovery Canada, our national tree planting arm, has planted trees in British Columbia, Alberta, Ontario, Nova Scotia, Quebec, and Newfoundland and Labrador. And we are the only non-profit organization in Canada that oversees all aspects of forest restoration – from seed to forest.

Let's put Canadians back to work planting trees and strengthen the health of our planet. We are ready to be a part of the solution.

Go Wild at the Cottage

Choose native flora and nourish forests around your property to sustain and attract birds and animals

BY PETER KUITENBROUWER

Some cottagers tend to go to war with forests on their property, says Duncan Heyblom, a registered professional forester (RPF) based in Huntsville. Some insist on mowing expansive lawns; cutting and cleaning their forested areas; and removing trees and shrubs right to the shore of the lake, creek or pond. Heyblom encourages a more reciprocal, co-operative approach to one's forested surroundings: an approach he says can reap dividends, such as less erosion, less stress about performing maintenance, and more wildlife.

How to attract and retain birds and mammals in your forest

Migrating birds, such as the Scarlet Tanager and Cerulean Warbler, seek secluded breeding areas in larger forests. Other birds, such as the Barred Owl, thrive in the forest interior, nesting in Sugar Maple cavities. If you are thinking that you might want to cut back your forest because you prefer to mow the lawn, think of the ecosystem and wildlife you want as well. Lawns offer no benefits to wildlife, while forests provide insects, animals and birds with food, shelter, nesting sites and mates.

If you build on your land, try to protect nearby trees. An arborist can help you protect tree roots and avoid soil compaction, which can suffocate roots. Removing trees near a lake or creek can cause unwanted erosion, because tree roots hold soil in place, which will reduce your property area and value.

If you plant native trees on open land between you and your neighbour, or to nurture native seedlings that sprout, you can connect forests through corridors. Larger, connected forests will attract more wildlife and in turn benefit the ecosystem. Black Cherry, hickory, oak and other nut or fruit trees will attract birds and mammals by providing much needed food sources.

Deer and foxes need the ability to access drinking water without being seen. To help these mammals, encourage native species along the banks of lakes, ponds, wetlands and creeks. Red-osier Dogwood and American Highbush Cranberry provide food and cover for wildlife and prevent erosion.

Birds and mammals love to shelter and feed in standing dead trees. Unless they present a safety hazard, leave dead trees alone. White Pines provide seed and shade, as well as landmarks, for migrating birds, roosting sites for birds of prey and safe havens for bear cubs. If you cut down or trim a tree, place branches in piles to help rabbits and weasels.

Photo, left: Red Fox - Quinten Wiegersma; Top left: Wood Thrush - Peter Waycik; Right: White-Tailed Deer - Dustin Minialoff; Below left: Beaver - Joanne Redwood; Below right: Hooded Warbler - Reuven Martin

Beavers: friend or foe?

Some landowners are frustrated when beavers eat their birch and other trees. Then again, across the landscape the population of beavers has declined, "at a pretty alarming rate," Heyblom says. Beavers have less habitat and may have been over-trapped. So if you do see beavers, take them as a sign that your ecosystem is in good health.

Ash trees are at risk

One threat that has not yet reached Muskoka is the Emerald Ash Borer (EAB), a beetle from Asia that has spread quickly for lack of a predator in North America. Look for D-shaped holes in the bark, a thinning crown or new shoots along the trunk. If you see any of the warning signs, alert the Ontario Ministry of Natural Resources and Forestry. "EAB is probably going to show up, and when it does - because our conditions are harsher - it will be bad," Heyblom warns.

Spray may not be the answer

Should you spray to control insects that harm your forest? Heyblom says this raises a philosophical discussion: spraying helps control outbreaks but does not eliminate the insect completely. "In New Brunswick," he said, "they have been spraying for spruce budworm for decades. What is the environmental impact of introducing those chemicals into groundwater or soils?"

Fungus: When to call

You may see black deformations, or knots, on Black Cherry trees. Heyblom says there is nothing you can do, as it's a fungus in the rooting system. "Trees can survive a long time with black knot." You may see swelling or spots on wounds on a maple tree. These diseases could spread. For advice on sick trees, or any other forest-related questions, it is always best to contact an arborist or a registered professional forester for advice.

It will take many generations before we see anything like this again: Dr. J.H. White, the first graduate forester at the University of Toronto, poses in front of a Canadian Sweet Chestnut tree in 1904 in Rondeau Provincial Park, Ontario, back in the days when foresters smoked pipes. Photo by Edmund Zavitz.

Patience Is a Virtue

Returning the Sweet Chestnut to Ontario's forests still a work in progress, 30 years later

BY DOLF WYNIA

In 1924, there was only one seed-bearing Sweet Chestnut tree left in southern Ontario after the Chestnut Blight, according to Professor Sherwood Fox of Western University, a well-known force for conservation in Ontario. Fortunately, a few scattered trees survived until the 1980s, and several even got to seed-bearing age. Separation, just like protection against the COVID-19 virus, was usually their best protection.

Decades later, in an effort to revive the species, researchers created the Canadian Chestnut Council (CCC). Dr. Colin McKeen, a retired federal government plant pathologist, started the venture in 1998. Amongst the charter directors were Dr. John Ambrose, Doug Campbell, John Gartshore, Dr. Ernie Kerr, and Norfolk County farmer Mike Nemeroski.

The council has worked patiently to develop blight-resistant chestnut trees. Dr. Adam Dale, a plant breeder at the University of Guelph's Simcoe Research Station, headed up early breeding work. From 2001-2002, researchers pollinated 20 flower-producing trees, widely distributed across Ontario, with the pollen of partially resistant trees in the collection of Dr. Sandra Anagnostakis, who was doing parallel research in Connecticut.

By 2007, researchers planted about 1,500 seedlings, including about 650 pollinated with other Canadian trees, at Onondaga Farm near St. George, which belongs to the Tim Horton Foundation, and at Riverbend Farms near Calton. Then the team, working with volunteers, infected these saplings with chestnut blight to study their resistance. The second breeding generation, started in 2010, were crosses between the most resistant trees from the first generation. Members and volunteers of the CCC planted over 17,000 chestnut trees at three research plots in southern Ontario. In the summer of 2019, researchers chose five trees that showed promise and made the first crosses of the third generation.

All-Canadian trees seemed to be resistant at the same level as their American counterparts. This led to the development of a pure Ontario native Sweet Chestnut breeding line within the CCC breeding program.

Since 2009, researchers chose 11 flowering trees to fertilize with selected pollen, to further develop a new more resilient generation. Hopefully, by 2021, there will be seed available for testing from the third generation of controlled breeding.

Efforts to revive the Sweet Chestnut have received funding from Ontario Trillium Foundation grants, as well as private contributions of money and testing sites. Recently, the Ontario Endangered Species Act, The TD Friends of the Environment Foundation and the Tim Horton Children's Foundation have also helped the cause.

We invite readers to join the council, support it and possibly volunteer in some of the work. Find us at: www.canadianchestnutcouncil.ca

In preparing this story, the advice and assistance of Dr. Dragan Galic of the University of Guelph in Simcoe and Canadian Chestnut Council President, Ron Casier, has been greatly appreciated.

Dolf Wynia, who lives on a tree farm in Norfolk County, is active in the Canadian Chestnut Council.
A longer version of this story appeared in "Forestory," the Forest History Society of Ontario's publication.

Volunteers from Pepsico plant 900 Sweet Chestnut seedlings at the Tim Horton Children's Foundation's Onendaga Farm, north of Brantford, Ontario, June, 2017. Photo by Dragan Galic.

Honeybee sign welcomes visitors to Willow Grove Heritage Honey Bee Farm in Milton, Ontario. Photo by Alanna Evans.

Trees Save the Bees

Flowers of poplar, basswood and other species are a vital source of spring pollen and nectar

BY PETER KUITENBROUWER

In the spring, long before any flowers bloom in the fields on her farm, the hungry bees that emerge from Karin Tomosky's 50 hives will find plenty of food to eat from an often overlooked source: her trees.

"The spring is when the bees need pollen or nectar," Tomosky said in April, speaking from her 25-acre Willow Grove Heritage Honey Bee Farm in Milton, Ontario. "The bees need protein and pollen in March. My trees are packed with pollen right now."

Bees around the world are in trouble. Last year, researchers from the University of Maryland reported that 40 per cent of honey bee colonies in the United States died over the winter. A study in the United Kingdom found that one third of bee species are suffering declines. Urbanization, insecticides and fungicides all cause declines in bee populations. These troubling statistics have farmers concerned because of the vital role bees play in pollinating crops, from apples and broccoli to cranberries and blueberries.

Trees provide a vital source of bee food, and the bees return the favour by pollinating the flowers of many tree species. In "Trees for Bees," published last year in the journal Agriculture, Ecosystems and the Environment, Philip Donkersley, a researcher at Lancaster University in the United Kingdom, noted that planting trees is vital to bee survival. "In opposition to the predominant literature, I found that honey bees also collect a large proportion of their diet from trees, such as maples, hawthorn, plum, willow and basswood," Donkersley writes.

Trees attract bees with nectar deep in their flowers. Bees dive in, sweeping their bodies against the pollen-bearing anthers. The pollen sticks to the bees and travels with them to the next flower, completing pollination. Bees eat flower nectar as fuel for flight and deliver the remainder to the colony to become honey. Bees also feed their larvae with the protein-rich pollen.

Tomosky's farm has been in the family since 1968. After a career as a researcher, Tomosky moved home in 2012 after her father died and studied bee-keeping at Guelph University. She soon learned that her bees needed trees. Over the next four years, planters working with Forests Ontario's 50 Million Tree Program planted 15,000 trees on her property: Black Cherry, Tamarack and Eastern White Cedar, along with oak and maple trees. Her bees also like poplar, willow, basswood and Manitoba Maple tree flowers, she said.

"I want my bees to stay here on the property," said Tomosky, who also cares for five cats and four dogs. "If the bees are flying further for pollen and nectar, 1000 times a day, it shortens their lifespans. I am trying to make it easier for them."

Karin Tomosky with her Yorkshire Terrier, Jasper, and a Muscovy Duck at her farm in Milton, Ont. The Manitoba Maple tree behind her provides pollen and nectar for her bees in early spring. Photo by Alanna Evans.

$26 MILLION

Estimated annual value of pollination service provided by 15,000 hectares of forests planted under the 50 Million Tree Program, 2008–2018. From The Economic Value of Tree Planting in Southern Ontario, commissioned from Green Analytics by Forests Ontario, Feb. 2019.

Options to Foster Forest Restoration

Forest owner asks what species might replace his dying ash trees

DEAR SILVIE,
Since the 1970s, planters working with Forests Ontario and the Credit Valley Conservation Authority, as well as my sons and I, have planted over 10,000 trees on my 33-acre property. Recently the Emerald Ash Borer has killed my Green Ash and White Ash. What native trees do you suggest I use to replace the ash? I would like to try Sassafras, Sour Gum, Bitternut Hickory, Pignut Hickory, Shagbark Hickory, Tulip and Kentucky Coffee trees. Where should I buy these trees?

Ed Barden, Hillsburgh, ON

DEAR ED,
Your decades-long dedication to forest care is an inspiration to tree lovers everywhere. It sounds like you wish to try planting Carolinian species towards the northern end of their range. This is considered "assisted migration" and may be a beneficial means of preparing for species ranges moving north with a changing climate.

Dying ash trees drop lots of seeds. Young ash regenerate in the understory and will compete with whatever you plant. Ash suckers will sprout from stumps. To make room for new trees, you will need to control these ash thickets. To ensure your new trees will be able to compete with young ash, choose fast-growing, resilient species that will establish well. To vary the approach, you can plant a mixture of seedlings and larger potted trees. It's good to plant a few trees, observe the results, and make choices based on their success.

Ed Barden with a Sugar Maple, one of many trees he has planted on his property with help from Forests Ontario. Photo by CNW.

Dear Silvie

Forests Ontario's experts, known collectively as "Silvie" (short for silviculture) answer your forestry questions. Send your questions for Dear Silvie to pkuitenbrouwer@forestsontario.ca, or c/o Forests Ontario, 144 Front St. West, Toronto Ont. M5J 2L7.

You mention nut trees, which are best to plant in spring. Once they're in the ground, nut trees need a fair amount of sun and take years to establish and bear fruit, so they may struggle on your site unless the canopy is fairly open. Southern-adapted Carolinian species can more easily freeze and then crack than their hardy northern companions; cracks admit disease.

Before selecting a species to plant, you'll have to consider drainage, soil type and the existing tree canopy. Sourgum grows as an understory tree on wet sites along streams or in swamps. According to *Trees in Canada*, Bitternut Hickory, Shagbark Hickory and Tulip Trees prefer well-drained soils but mostly need plenty of sun. Kentucky Coffeetree require male and female trees for reproduction. Sassafras grow in rich or poor soil, in forest openings and edges. You might want to consider Sycamore and Silver Maple trees, which grow well, grow fast, and thrive in open areas.

If you plan to plant 500 or more trees, you may qualify for support through Forests Ontario's 50 Million Tree Program. Forests Ontario will connect you with a local planting partner to assist with species selection and sourcing trees. Contact Nicole Baldwin at nbaldwin@forestsontario.ca.

Yours,
Silvie

The Anti-Bat Signal

Tiger moths jam echolocation to win the nocturnal arms race

BY MADELEINE BRAY

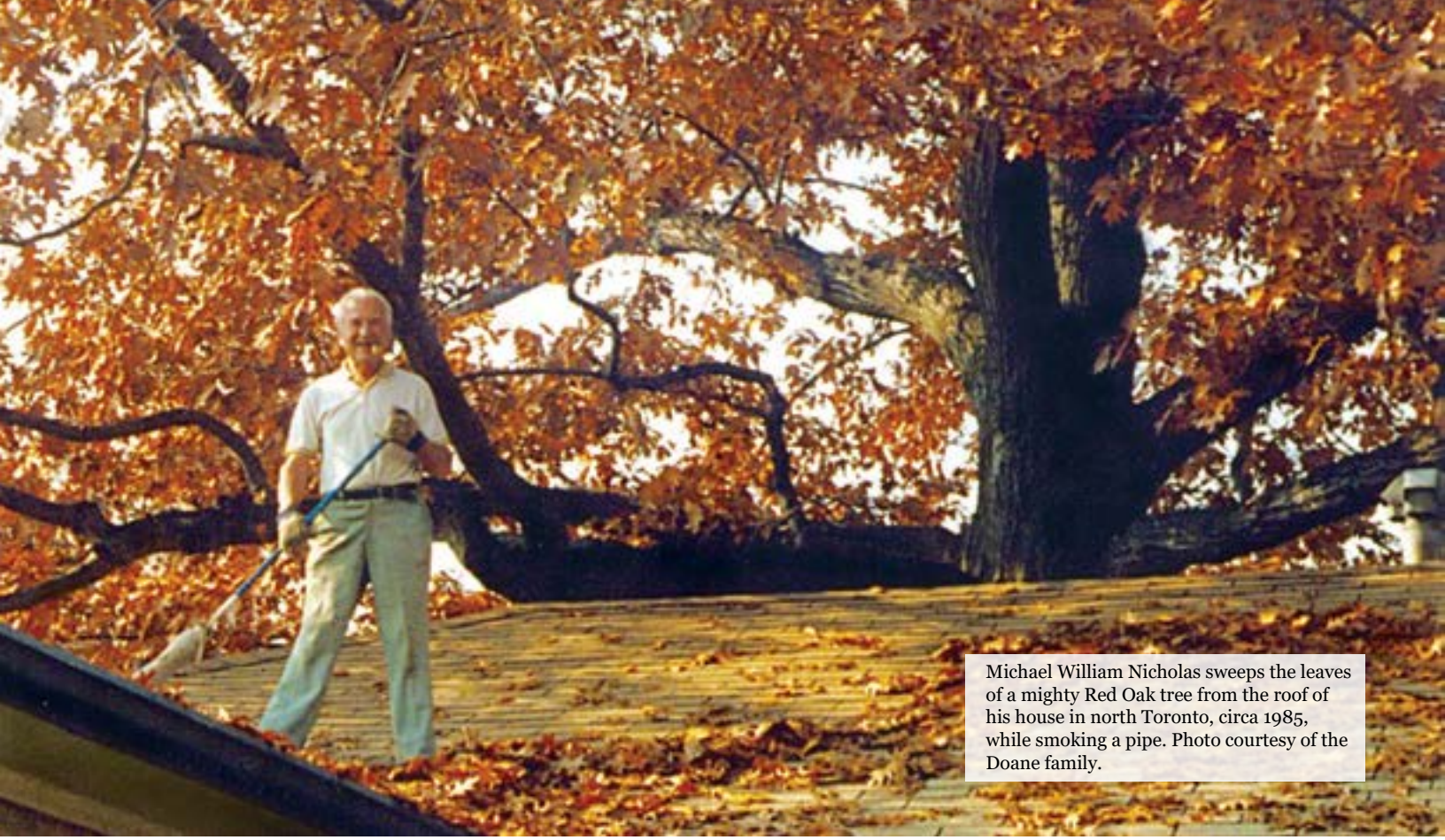
If you investigated a forest right this second, what would you find? Leaves, half chewed by a hungry caterpillar. Cocoons: the leftover husk of a stunning transformation. Maybe even some flowers, fragrant and waiting for nocturnal pollinators to come along. All these little pieces of the forest ecosystem are connected to moths. Between the juvenile caterpillars chewing through whatever they can eat and adult moths flitting around outdoor lights at night, moths can often be viewed as pests, but they are some of the most abundant – and vital – critters in the forest.

More than 2 thousand recorded species of moth live in Ontario, with the number of identified species always rising slowly but surely. This biodiversity is a boon to any ecosystem, as with a wide variety of insects come many small interactions that add up to the larger picture. Insects are the backbone of every terrestrial ecosystem, because they're able to cycle nutrients, pollinate flowers, and, most importantly, serve as food to countless insectivores.

With colours ranging from drab camouflage to the brightest of warning signals, moths are visually alluring to more than just humans. Their bouncy and often erratic flight patterns attract assorted predators that rely on moths for a healthy diet. Being eaten, however, is not ideal to the overall life cycle of moths, so they've adapted ways to deter these predators. Tiger Moths are one of the most diverse families of moths. Best known for their vibrant colours, elaborate patterning, and ability to generate their own sounds, Tiger Moths have developed two different, yet similarly effective, ways to stay alive. One is by eating unpalatable plants, letting their colouring and ultrasonic clicking as adults indicate that they taste bad to birds and bats.

Not all tiger moths taste bad, however, and some of these moths need another strategy to ward off bats, as bats do not rely on sight and bright colours to hunt. Bats catch insects at night using echolocation: the ability to find a snack by sound reflecting off flying prey. In what can only be described as an arms race, some species of Tiger Moths have adapted the ability to emit acoustic anti-bat signals. Their ultrasonic clicks are not warning signals, but instead a mode of attack. The interaction of their clicks with a bat's own sounds jam the resulting signal, thus reducing the bat's ability to determine the location of their flighty prey. Sometimes, this jamming signal can cause the bat to 'see' objects that do not exist. Confused, the bat will often go find more simple prey, leaving the Tiger Moth safe for another night.

Top: Caterpiller of Isabella Tiger Moth. Photo by Reuven Martin.
Left: Parthenice Tiger Moth. Photo by Mark Read.



Michael William Nicholas sweeps the leaves of a mighty Red Oak tree from the roof of his house in north Toronto, circa 1985, while smoking a pipe. Photo courtesy of the Doane family.

The Fight to Save the Oldest Oak

Fans of the 250-year-old need to raise $300,000 by Christmas

BY PETER KUITENBROUWER

An old Red Oak in Toronto's northern suburbs has plenty of fans, but you wouldn't be able to tell from a visit.

The tree lives behind a cream brick bungalow with peeling paint. In the yard, next to its gargantuan trunk, stand an old laundry rack, a bicycle missing its front wheel, a set of tires, a pair of bedposts and a broken lawnmower. A bag with crushed beer cans and cigarette butts, accented with coffee cups, lie against the roots of the oak.

Despite this litter, the tree looks a picture of health. Its mammoth limbs sprawl over the house, some brushing against the roof. The tree has survived for ages. Arborists estimate the tree took root when First Nations walked the neighbouring trail along the Humber River, long before John Graves Simcoe founded York here in 1793. A bit of trash is probably nothing to this oak.

Edith George, a retired Ontario Power Generation employee, has lived in Humbermead since 1960, on the banks of the Humber River. George has been fighting for 15 years to save this oak tree, which grows a few blocks from her house.

"This tree survived everything and it has earned the right to live," George said the other day, after she gave the tree a kiss and a hug. "This is my legacy. I never married. I never had kids. This tree is my legacy to a country I am damn proud to be born in."

In the late 1950s, a developer subdivided this area for houses, and saved the oak. In 1960, Michael William Nicholas, a Royal Canadian Air Force pilot, bought the house with the big oak in its back yard. He nurtured the oak until 1994, when Arlene Doane moved in and cared for the tree until 2015. In 2009, Forests Ontario recognized the oak as a Heritage Tree. Then Ali Simaga bought the house with the intention to tear it down, but learned he would find it difficult to touch the tree because of its heritage status.

The City of Toronto agreed to buy the property from Simaga for about $800,000 in 2018. The city plans to build a parkette around the oak. This tree can become a destination for cyclists and other visitors on the Humber trail system, as it was a landmark for natives and voyageurs who passed this way.

The deal rests on the city raising $430,000 in donations by Dec. 12, 2020. So far, George and others have raised about $130,000. George said her grandfather, a farmer immigrant from Macedonia, taught her to love nature. Today, she considers this tree her family, and she'll stop at nothing to save it.

"I'll mortgage my house if I have to," said George, who lives in a bungalow she owns nearby.

To help save the Red Oak, go to donations.toronto.ca or call 416-392-1144.

Edith George has lived in the Humbermead neighbourhood in northwest Toronto since 1960. Her grandfather, a farmer from Macedonia, taught her to love nature. She first saw the Red Oak while riding her bike. The tree's owner was in tears because neighbours were throwing rocks, trying to break its branches because it interfered with their TV signal. Since then, she has led efforts to save the tree. "When you see it," she says, "it's the wow factor."

Toronto photographer **Randy VanDerStarren**, who found fame with a travel project called Take Your Seat, is helping with a publicity campaign to raise money to save the oak. The campaign has the title "I Could Be Your Family Tree." VanDerStarren calls the tree "a symbol of hope and triumph."

Mike Hurley, Executive Director of the Highway of Heroes Tree Campaign, said, "I recently decided to volunteer my time to help with this campaign. I believe that this tree has a compelling story and it's just a matter of telling that story to the right people to get the support we need to save it. I am confident we'll be able to save what we are calling 'Toronto's Tree.'"

Mark Cullen, the garden broadcaster and writer, who is also Campaign Chair & Co-Founder of the Highway of Heroes Living Tribute, has pledged $100,000, provided the oak tree campaign meets its target. "I do appreciate the incredible tenacity of this tree," Cullen said. He noted that the city, on top of its contribution to buy the property, pledges to spend another $1 million to take down the house, remediate the soil, and build a park at the site. "I think it's a pretty good deal for the public," Cullen said.

Don’t Cut the Butternut

A Managed Forest Plan can help you make good choices in your woodlot

BY PETER KUITENBROUWER

Along with my job as editor of Our Forest magazine, I also co-own, with my wife, a 14-hectare farm in Madoc, halfway between Toronto and Ottawa. We purchased the farm 10 years ago, and we’ve loved it ever since. To celebrate the bright-glowing insects that flit about on summer nights, my wife named it ‘Firefly Farm.’

To save on the taxes we pay in Madoc township, a friend suggested I look into the Managed Forest Tax Incentive Program (MFTIP). If you own at least four hectares of forest, this program can reduce tax by 75 per cent (and in some cases a bit more) on forested portions of your property. To qualify, you must obtain and follow a Managed Forest Plan. Most of Firefly Farm is forested; for my wife and I, the MFTIP was an excellent choice.

Matt Mertins, a forester based in Tweed, agreed to write our plan. Together, we walked through the forest. I told Mertins that I wanted to cut down some small trees to clear a trail. Mertins told me they were Butternut trees, a protected, endangered species. It became clear that I had much to learn. Mertins inventoried the forest and spoke to the couple who sold us the farm to learn its history. The same year Mertin wrote our plan, contractors whom we hired through Forests Ontario planted one of our fields with Red Pine seedlings through the 50 Million Tree Program. This enlarged the area eligible for tax relief.

A Managed Forest Plan Approver will work with the landowner to write a plan based on the landowner’s objectives and the type of woodlot. Objectives can include environmental protection, recreation, wildlife habitat, and nature appreciation.

Our plan sets out a few objectives:

- Cut up some fallen trees for firewood.
- Maintain a trail network for recreation.
- Set up a maple syrup-making operation.

Mertins recommended we remove Ironwood trees to make room for Sugar Maples. Now in the morning when I walk the forest trails with our Chocolate Labrador, Coco, I cut Ironwood saplings with a bow saw. I trim a one-metre length to play fetch. She dutifully carries each stick back to the cottage.

The plan approver charged a reasonable rate to write our forest management plan. Thanks to the plan, we save on property tax. The plan lasts 10 years. Perhaps more importantly, the plan helps me care for my forest. Last winter while we boiled maple sap for syrup, we spotted a Barred Owl in a Basswood tree. I recorded the sighting as a sign of a healthy forest.

Peter Kuitenbrouwer graduated last year with a Master of Forest Conservation and this year became a Managed Forest Plan Approver. He can now identify Butternut trees.

Coco loves to walk in the mixed hardwood forest at Firefly Farm in Madoc Township. Photo by Peter Kuitenbrouwer.

Enhance the Forest and Cut Your Taxes With a MFTIP

BY NOAH PAGE

Ontario landowners can take an active role in forest stewardship with the province's Managed Forest Tax Incentive Program (MFTIP). Though forested lands in Ontario may be privately owned, their presence has wide-reaching ecological benefits for the province's citizens. The MFTIP provides property owners with a financial incentive to keep their forested lands healthy; if their lands are eligible, they will be taxed at only 25 per cent of the municipal tax rate for residential properties.

To be eligible for the MFTIP, you must:

- Own four hectares (9.88 acres) or more of forested land on a single property in Ontario on one municipal roll number (the number that property owners see on their municipal tax bill)
- Be a Canadian citizen, a permanent resident, a Canadian corporation, partnership, a trust or a conservation authority
- Have a minimum number of trees on each hectare of the forest

There are three steps to preparing an application package:

1. Prepare a Managed Forest Plan

A Managed Forest Plan is an approximately 20-year-plan for your property. It also anticipates the activities that will occur on your property over the next ten years. Multiple properties can be included in the Managed Forest Plan, but each one must individually qualify for the MFTIP.

2. Have your Managed Forest Plan Approved

You must contact a designated Managed Forest Plan Approver to accept your plan. As Managed Forest Plan Approvers are independent contractors, you will be responsible for paying their fees.

The Approver will:
- Visit your property and verify that the forest is eligible
- Ensure that your plan, maps and proposed activities meet program standards
- Complete approval forms

The Approver may also:
- Prepare maps and inventory
- Recommend management activities
- Prepare or revise your plan to meet program standards

2. Submit the application package by the deadline

The application deadline is June 30. The application plan must include:

- The MFTIP application form
- A copy of the approved Managed Forest Plan
- An Area Verification Form for each property and an Approval Form (both completed by a Managed Forest Plan Approver)
- A copy of the most recent Notice of Property Assessment for each property (i.e., assessment roll number) in the plan

If your plan receives final approval from the MFTIP administrator, your tax break will be applied the following year.

For more information on the MFTIP program, check the Government of Ontario's MFTIP website.

Outdoorsy From the Get-Go

Envirothon alumnus Christine Leduc

BY AUGUSTA LIPSCOMBE

Ontario Envirothon helps prepare students for post-secondary education and careers in the environmental sciences, in addition to refining interpersonal and teamwork skills. Christine Leduc became an Envirothon regional champion in 2005, representing Elmwood School in Ottawa. Fifteen years later, she's part of a leading Canadian forest products company.

Q What is your current job?

A I joined EACOM almost five years ago. At first, I worked out of the corporate office on government, community and stakeholder relations. Now, based in Val d'Or more than 500 kilometres northwest of Montreal, I support the Quebec forestry team by harmonising with other forest users and maintaining our (ISO/FSC/SFI) certification program. I am also particularly proud of my involvement with EACOM's Progressive Aboriginal Relations program. And I sit on the board of Forests Ontario.

Q How did you become interested in the environment?

A Growing up in Ottawa, I had access to wonderful nature like Gatineau Park. My family often went camping, so I have great memories of portaging, building fires, and fishing with my dad. I spent my summers in outdoor camps, from mountain biking to out-tripping. One summer I went on a 26-day canoe trip. I thought I was very tanned, but when I got home and showered, I realized I was just dirty!

Q Can you tell me about your Envirothon experience?

A In 2005, my team from Elmwood won the Regional Championship. It was held outdoors, and I had so much fun racing through the different Envirothon stations with my group, as well as getting to know other groups. Envirothon really teaches the lesson that one individual cannot do as well as a team. It encourages constructive feedback and support, both within and between teams.

Q When did you serve as an Envirothon judge?

A I'm always happy to volunteer with Forests Ontario initiatives, such as Forestry in the Classroom and Forestry Connects. In 2014 and 2015, I had the opportunity to judge Envirothon. You could really see how much the students had prepared for the event, and how deeply they cared.

Christine Leduc poses in 2012 in Haliburton Forest while completing her Master of Forest Conservation degree at the University of Toronto. Photo by Malcolm Cockwell.

Q What do you think students gain from participating in Envirothon?

A Students become inspired to further pursue the study of science in the natural environment. The exposure and collaboration facilitated by Envirothon is becoming more and more valuable as the environmental sector becomes increasingly interdisciplinary.

Q Can you describe your career journey?

A After graduating from the University of Toronto with a Master of Forest Conservation, I worked at Queen's Park as a Policy Advisor for the Minister of Natural Resources and Forestry. In 2014, I moved to the private sector to work in a policy and communications role for a forestry trade association. A year later, I joined EACOM. I moved to our head office in Montreal in a public affairs function. It has been a pleasure to work with the team covering our nine manufacturing facilities in Quebec and Ontario.

Now I have transitioned into a forestry role at EACOM. It's good sometimes to close a door and open a new one. Envirothon teaches kids to be open-minded, curious and passionate about the natural world, all of which have served me well as a professional.

Bring on the Bobolink

Project enhances grassland on farm near Oro-Medonte

BY NICOLE BALDWIN

Sandy Agnew and Lynne Melnyk are passionate about environmental stewardship. Melnyk is an avid gardener, horticulturist, and environmentalist, and Agnew, a winner of several natural heritage awards, has decades of experience in Ontario's environmental sector. Together, they own a 47.4 acre parcel of land in Oro-Medonte and have dedicated much of their 'semi-retirement' to the care of their land.

"I realised that it was a provincially significant wetland and a valuable piece of property to protect," said Agnew, a former member of the board at the Couchiching Conservancy based in Orillia. "I approached the Conservancy about putting an easement in place." In 2004, the couple agreed to a Conservation Easement with the Couchiching Conservancy that will protect their land from development in perpetuity.

Last year, Agnew and Melnyk began their most recent ecological restoration project in partnership with Grasslands Ontario (a division of Forests Ontario) and the Couchiching Conservancy. "It was a wonderful connection between the Forests Ontario's Grassland Stewardship Initiative and what Sandy and Lynne were hoping to do with their property," said David Hawke, an ecologist at the Conservancy. The project aims to restore a 10-acre fallow field to a functional grassland habitat for species such as two threatened types of birds, the Bobolink and Eastern Meadowlark. "The first few years that I was here, we had Bobolink and Meadowlark here regularly, every year," Agnew said. "Then I noticed a couple years ago that they got fewer – some Bobolinks but no Meadowlarks."

To prepare the field, the landowners and Conservancy staff first laid bales of straw in a line along the downslope of the field to protect the nearby Hogg Creek from sediment if a weather event caused surface erosion. They then tilled the soil three times in summer to remove invasive and encroaching species. After that, they seeded the site with native grass species. "It is a neat project because it is new and different, and exciting because we could bring this field back to what Sandy saw in the early days of it being a grassland habitat," Hawke said. Future plans for the site include monitoring and maintenance, as well as the potential addition of pollinator-friendly native wildflower species led by Melnyk, the gardener.

Does the couple have other restoration projects for their property, much of which is covered in wetlands? "We don't have any particular plans, other than controlling invasive species[...]traditionally, we just let the beavers do their thing," Agnew said. "The beavers do more work on the property than we do," Melnyk added with a laugh. "We just try to maintain it and let it do its thing."

To date, the Grassland Stewardship Initiative has supported the restoration of more than 230 hectares of grassland habitat across southern Ontario.

For information and updates on available funding, please contact Nicole Baldwin at nbaldwin@forestsontario.ca.

Top: David Hawke of Couchiching Conservancy helped stack bales of straw along the downslope of a field on the Agnew-Melnyk property to protect the creek from sediment. Photo by Sandy Agnew Below: A tractor tilled the 10 acre field prior to planting with native grass species. Photo by David Hawke. Right: Map by Fraser McLaughlin, Forests Ontario.

Our Beautiful Forests

Youth and adult winners crowned in forest art contest

BY AUGUSTA LIPSCOMBE

YOUTH WINNER

'The forest flows' by Mackenna Belding

This spring, we issued a call to all creative minds – both youth and adult alike – to participate in an art contest to pass the time while physically distancing. Thank you to everyone who submitted their paintings, drawings, sculptures, and other inspiring pieces!

We'd also like to thank everyone who voted for their favourite pieces. Across Facebook and Instagram, art enthusiasts cast a total of 692 votes.

Congratulations to our youth winner, Mackenna Belding, and to our adult winner, Nick Leniuk. Both will receive Forests Ontario swag in the mail.

Mackenna Belding is currently a Grade 10 student in Pelham, near Welland. She enjoys painting, playing sports and exploring the forests of Ontario.

"My painting 'The forest flows' is an interpretation of many of the sights I have seen while hiking in Algonquin Provincial Park. It captures the beautiful sunsets I love seeing and the calm atmosphere there is," explains Belding.

Nick Leniuk's work is hand carved from a variety of carving stones – primarily serpentine, soapstone, wonderstone and alabaster.

"This particular piece is called 'Island Sentry,'" said Leniuk. "This tree lives on a small island on OSA Lake in Killarney Provincial Park. My wife and I were lucky enough to secure a site on the remote lake a couple of years ago. We spent three nights and four amazing days on this spectacular piece of Ontario. While camped on this island, I sketched this beautiful tree and turned it into this stone carving."

Leniuk lives in Peterborough.

The tree in Killarney that inspired the carving.

ADULT WINNER

'Island Sentry' by Nick Leniuk

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