THE ULTIMATE RESULT of the New Forest is a staggering benefit to the environment, a great location for the community, and perhaps more than anything else, tangible proof of what united citizens can accomplish.

new forest in the city

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THE NEW FOREST affords Brantford the countless benefits of increased tree canopy, biodiversity and recreational space.

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To "plant a forest" is a task so large as to sound like ridicule.

Certainly, we often plant gardens, glens, and parks, but "planting forests" is more akin to "moving mountains"- that is, a synonym for the impossible.

Yet, while walking through the site of the "New Forest in the City," a recently planted stretch of industrial land on the east side of Brantford, the truth in the name becomes apparent.

The first steps off the asphalt are themselves surprising, yielding a long valley dense with saplings. The real shock, however, is crossing over the rearmost hill and finding anything but the end. More dizzying arrays of trees and massive folds in the landscape, each forming their own pocket worlds, render one happily lost.

Before long it sets in: The New Forest is indeed a real forest, in scale as much as function.

For five years, the goodwill of each of Brantford's sectors converged on the New Forest lot, turning its acres of damaged soil and shrubs into a real, living forest. What might have been hundreds of different teams contributing to hundreds of smaller efforts was instead focused on one staggering goal, with businesses, community groups, schools, charities, public organizations, and countless individuals all making the transformation possible.

"The first steps off the asphalt are themselves surprising,..."

The New Forest affords Brantford the countless benefits of increased tree canopy, biodiversity, and recreational space, but more than that, it redefines what concerned citizens can accomplish. What initially seemed a wishful goal for the project, 50,000 trees over 5 years, has since been greatly surpassed by the New Forest team. The project's unprecedented scope, inspiring cooperation between places never imagined, has proven that combining our resources makes something truly greater than the sum of its parts.

Before the planting, the fundraising, or even the paperwork, however, the New Forest began just like any other project: with

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THE BRANT TREE COALITION

Founded by Apotex Pharmachem Vice-President Jim Berhalter and originally comprised of Brantford industry, the Brant Tree Coalition began in 2005 with a tree nursery across from the Apotex factory. Trees supplied by the Grand River Conservation Authority (GRCA) were raised in the nursery and eventually extracted, providing the stock for neighboring City parks including George Campbell Park, D'Aubigny Creek Park, and the city's soccer fields.

After the founding of the Earth Week Event Committee in 2007, the groups' similar goals and event dates saw the Brant Tree Coalition become a subcommittee. Under the new structure, the Coalition's support and impact only grew, with students, the public sector, and numerous individuals contributing to planting events. Before long, the efforts became so successful that the Brant Tree Coalition exhausted their locations to plant.

The push for increasing the amount of trees in Brantford is, among other benefits, aimed at addressing the city's low percentage of tree canopy. Quite simply, tree canopy represents the total area shaded by trees; a dense rainforest might have 100% tree canopy, while total concrete would have 0%. Even with its existing parks, Brantford rests somewhere around 25%.

An area with fewer trees of course suffers from lower air quality, water quality, and less wildlife, but it is also susceptible to the "urban heat island" effect. With less shade, the city becomes abnormally hot versus rural neighbours, causing damage to everything from natural ecosystems to human health.

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At the request of advocates that included Brant Tree Coalition members, the City of Brantford passed a motion pursuing 40% canopy, the generally accepted target for cities of its geography. Achieving such a goal, however, is not as simple as buying and planting trees. The canopy can only be grown as large as the space made for it.

In the interest of finding a new planting location for the Brant Tree Coalition, Brantford's then-Urban Forester, Brian Geertz, as well as Coalition member and key fundraiser Chuck Beach, began studying maps of Brantford. It was an open patch of land surrounded by factories, encased by Henry Street, Garden Avenue, Adams Boulevard, and Highway 403, that provided what they were looking for.

THE LOCATION

In 1974 the City of Brantford began purchasing farmland patented by John Cole in the mid 19th century, coming into full ownership of his lots by 1999. The area had been farmed with damaging techniques for over a century, with practices like planting directly up to the lots' three creeks causing significant erosion.

The Brant Tree Coalition *photo taken by volunteer*

Left to right – Front row – Sue Brocklebank, Jessica Robbins, Bronwen Buck, Chuck Beach, Peter Giardano
Back row – Isaac Allin, Bob Scott, Doug Norris

While the City initially planned for the land to be developed as an industrial park, a large portion of the area proved unsuitable for construction. Steep slope regulations would require the rolling terrain to be flattened at an incredible expense, and the required setback on either side of the winding creeks would leave impractically little space in between.

Aside from the stormwater management pond that would later be installed in 2013, it was clear that the land would be of little use to the public or private sectors. For the Brant Tree Coalition, however, the lot presented a unique opportunity: acres upon acres of open, fertile land within the city limits, nestled inside one of Brantford's most industrialized areas.

It was in 2010 that Beach and Geertz spent a miserable November day assessing the lot. Despite being drenched, frozen, and exhausted from trudging through its untamed, waist-high brush, the pair had found what they were looking for.

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FOR EVERY DOLLAR that the amazing donors gave, the people of Brantford seemed to match it with sweat. In many ways, they enabled each other to do something great.

By March of 2012, Brantford City Council had approved and even resolved to support the creation of the "New Forest of the City" on the lot. So long as planting proceeded according to the City's estimated 65-acre map, avoiding locations that were still deemed developable, the New Forest had their support.

The lot still presented challenges. The bordering factories and meandering creeks initially caused portions of the approved land to be inaccessible. The creeks themselves, which join Sinclair Creek and later Fairchild, eventually reaching the Grand River and Lake Erie, were still experiencing active bank erosion and slumping. Even Grand River Conservation Authority experts advised that high clay content in the soil would lead to considerable surface runoff.

Yet, moles, rabbits, deer, frogs, and even red tail hawks were abundant throughout the lot. A 1999 survey conducted by consultant Westlake Inc. revealed a population of fish in the streams. The site undeniably had potential for wildlife, and more than that, it provided a stunning experience. There was something unique about trading steel and concrete for the depths of the wilderness with just a few short steps.

Perhaps that "something" is what inspired its amazing support.

FUNDRAISING

It is an unfortunate reality that, regardless of how much potential it has or how much excitement is driving it, a project cannot be completed unless someone is generous enough to fund it.

Considering that much smaller projects like parks or gardens often struggle to find funding, it borders on comedy that a group from Brantford had the enthusiasm to attempt financing a literal forest.

The scale of the New Forest was such that no one source, public, charitable, or otherwise, could have possibly hoped to finance it. Initial estimates placed the cost of the trees at $40,000 a year, a sum that did not include planting, bridges, or other, minor expenses.

Before long, however, the Brantford community proved that the number did not intimidate them.

"With their donations forming the cornerstone, an outpouring of generosity from every sector imaginable brought the project to fruition."

Four donors supported the New Forest from the beginning, each giving consistently and generously throughout all five years of the planting. Three of these donors, S.C. Johnson, Apotex Pharmachem, and a combination of ACIC / Methapharm, were businesses in Brantford; the fourth, Brant Waterways Foundation, contributed a grant from the Government of Ontario. Each of the four gave without hesitation, acting as leaders for a cause of daunting size. Without them, it is likely that the New Forest would have been little more than a piece of paper on someone's desk.

With their donations forming the cornerstone, an outpouring of generosity from every sector imaginable brought the project to fruition. The Ontario Trillium Foundation and CN's EcoConnexions "From the Ground Up" program each provided incredible grants. The Brant Community Foundation, the Ministry of Natural Resources, Brant Resource Stewardship Network, the Samuel W. Stedman Foundation, and Union Gas provided a much-needed amount of key funding. Forests Ontario's "50 Million Trees" program, the Grand River Conservation Authority,

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BY CONVERTING TWO unplanted and elevated areas into tallgrass prairie, the New Forest assists in sustaining its endangered ecosystem.

the Rotary Club of Brantford, TD Canada's Friends of the Environment Foundation, and Crown Verity also purchased a considerable portion of the trees that were planted.

Finally, the City of Brantford's willingness to lease the New Forest's land to the GRCA is what allowed the project to qualify for the Ontario Trillium Foundation's grant.

With the plethora of funding sources, the Grand River Conservation Foundation and its Executive Director, Sara Wilbur, provided essential financial services to the Earth Week Event Committee. By keeping donations, distributing payments, and even issuing charitable receipts, the GRCF's outstanding efforts made sure every dollar was accounted for.

Even more than looking at the size of the forest, looking at the list of donors that cooperated to realize the project gives a sense of just how massive the undertaking was. More impressive yet, however, is that the New Forest might have doubled its costs without the volunteers that planted it. For every dollar that the amazing donors gave, the people of Brantford seemed to match it with sweat. In many ways, they enabled each other to do something great.

PLANTING

Each spring and fall from 2012 to 2016, hundreds of volunteers descended upon the New Forest. Lead by Brant Tree Coalition members, which included the GRCA, City of Brantford

Urban Foresters, industry representatives, and a few knowledgeable volunteers, they planted steadily towards the goal of 10,000 trees by winter.

A few students that ignored the call for boots lost their sneakers to the mud and a few brown dog ticks were found, but the planting largely went remarkably smoothly.

The same planting schedule was followed each year, beginning with students in Pauline Johnson Collegiate's "e3" environmental program cleaning up the lot in early April. During Earth Week, three more events would follow: the Rotary Club of Brantford's planting day, the public Earth Day tree plant, and the student planting day. While the student event began with a number of local high schools volunteering, by 2016 every high school in the county was participating.

In the fall of each year, two final planting events finished the cycle. TD Canada Trust employees planted in September as part of the "TD Tree Days" initiative, while North Park Collegiate and Paris District High School students returned for a final event to reduce the year's remaining stock.

Every person that planted, whether they came with a school, a business, or on their own, made a significant impact on the feasibility of the project. The amount of trees was such that, even with volunteers, contract planters had to be hired to meet each year's goal. If any fewer volunteers had come, planting the trees might have proved too costly to complete the forest.

Of course, the project would have been equally in jeopardy without the thoughtful approach that organizers took.

The team quickly learned that contract planters charged less for smaller trees, distributing the largest to volunteers to reduce costs. Strategies for planting events, such as establishing signposts with radii for schools to work within, greatly improved the efficiency of the volunteers. As well, planting events could not have been held at all without their tedious arrangement for portable bathrooms, insurance, and Brant County Health Unit permits for distributing lunch to students.

By the end, the strategic approach, plentiful volunteers, and generous support culminated in a project both deeper and larger than expected. Efforts beyond planting, like the boxes that Pauline Johnson Collegiate students installed for bird populations, stand to further the forest's impact on biodiversity. Similarly, Safety-Kleen and Keith Walking Floor, two of the businesses surrounding the lot, bought white cedar hedges to line their factories. Besides protecting animals from the fences, the white cedar provides deer with a rare source of vitamins in the winter.

Perhaps the greatest surprise of the campaign, however, was the late inclusion of a sizeable portion of land. The City of Brantford's original map for the New Forest had a large area cut out between approved spaces. Although the land was reasonably level, the Brant Tree Coalition and its partners convinced the City that it had too little access to be developed, allowing them to plant it in the spring of the final year.

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THE ORIGINAL PROPOSAL for bridges in the New Forest was inspired by golf courses.

The extra area and trees put the New Forest well beyond its goal, underscoring the plantings' tremendous success. Combined with the expertise of the project's advisors, it was clear that all five years had an impact beyond what anyone expected.

THE TREES

For each year that the New Forest planted, the Grand River Conservation Authority experts compiled a list of native trees to be ordered. "Native" meant that the species had been in the area since the last ice age, ensuring the trees would be beneficial to local animal populations.

The orders, fulfilled by the Burford Tree Nursery, would also feature trees grown from "Zone 37" seeds. The Ministry of Natural Resources established Seed Zones to keep lineages of trees within the areas they had best adapted to, so choosing seeds from the New Forest's Zone afforded them the best chance of survival.

The Burford Tree Nursery provided bare root trees in the spring, before they had grown leaves, and potted trees in the fall. The stock consisted of three sizes: seedlings, which were the smallest, whips, which were slightly larger, and tall stock. Common among the species provided were white pine, white spruce, red oak, and sugar maple.

These details, among thousands of others, were the technical considerations necessary to make planting the New Forest the success that it was. Advisors from the GRCA, the City of Brantford's Parks and Recreation Department, and the Ministry of Natural Resources, including Geertz, Jessica Robbins, Nathan Munn, and Kat Hodgins, Laura Wright, and Larry Halyk, ensured the New Forest provided the maximum benefit to the environment.

With the guidance of the MNR, for example, the New Forest included a plan to rehabilitate the creeks' eroded banks. Students planted dogwood and willow sticks along the waterways, growing bushes on the banks to reinforce the collapsing soil. The creeks near-immediately showed improvement.

"Beyond its initial planting, the New Forest will also look to experts to control the lot's invasive species."

Lead by expert volunteer Bob Scott, the New Forest has also diversified by marking two sections for the development of tallgrass prairie. Much of Ontario used to be covered with such grasslands and their specific vegetation, but most of these areas have disappeared in the last centuries. By converting two unplanted and elevated areas into tallgrass prairie, the New Forest assists in sustaining its endangered ecosystem.

Beyond its initial planting, the New Forest will also look to experts to control the lot's invasive species. The fruit-bearing, white-toned trees that can be seen throughout the lot, Russian Olives, are actually an aggressive invader that muscles out native species. Similarly, the long, waving reeds that can be seen from Highway 403 are an invasive strand of Phragmites from Australia and Asia. Spreading as quickly as they can be destroyed, the reeds grow so thick that they actually block light from other plants. These, of course, are only two species out of many.

Interestingly, the solution to unwanted species in the tallgrass prairie can be to burn the vegetation. Species native to the prairie have roots deep enough to survive a fire, while most invasive species- save a notorious few- are likely to be killed. In fact, burning a tall grass prairie is necessary both for providing nutrients to its plants and for preventing it from becoming forested.

For other areas, the solution might be chemicals or manual removal. Regardless, removing invaders is an aggravating task, with the aggressive species easily returning. Controlling them without damage to the native species will require a fair amount of expertise and a number of practiced hands.

THE BRIDGES

The other brand of experts dedicated to the New Forest, the engineers of J.H. Cohoon Engineering, have thankfully found a more conclusive solution to one of its greatest obstacles.

The New Forest was foremost created for its environmental benefits, but was nonetheless always considered as a place to connect with nature. The Brant Tree Coalition took the F.W.R. Dickson Wilderness Area as its model for visitors' experiences,

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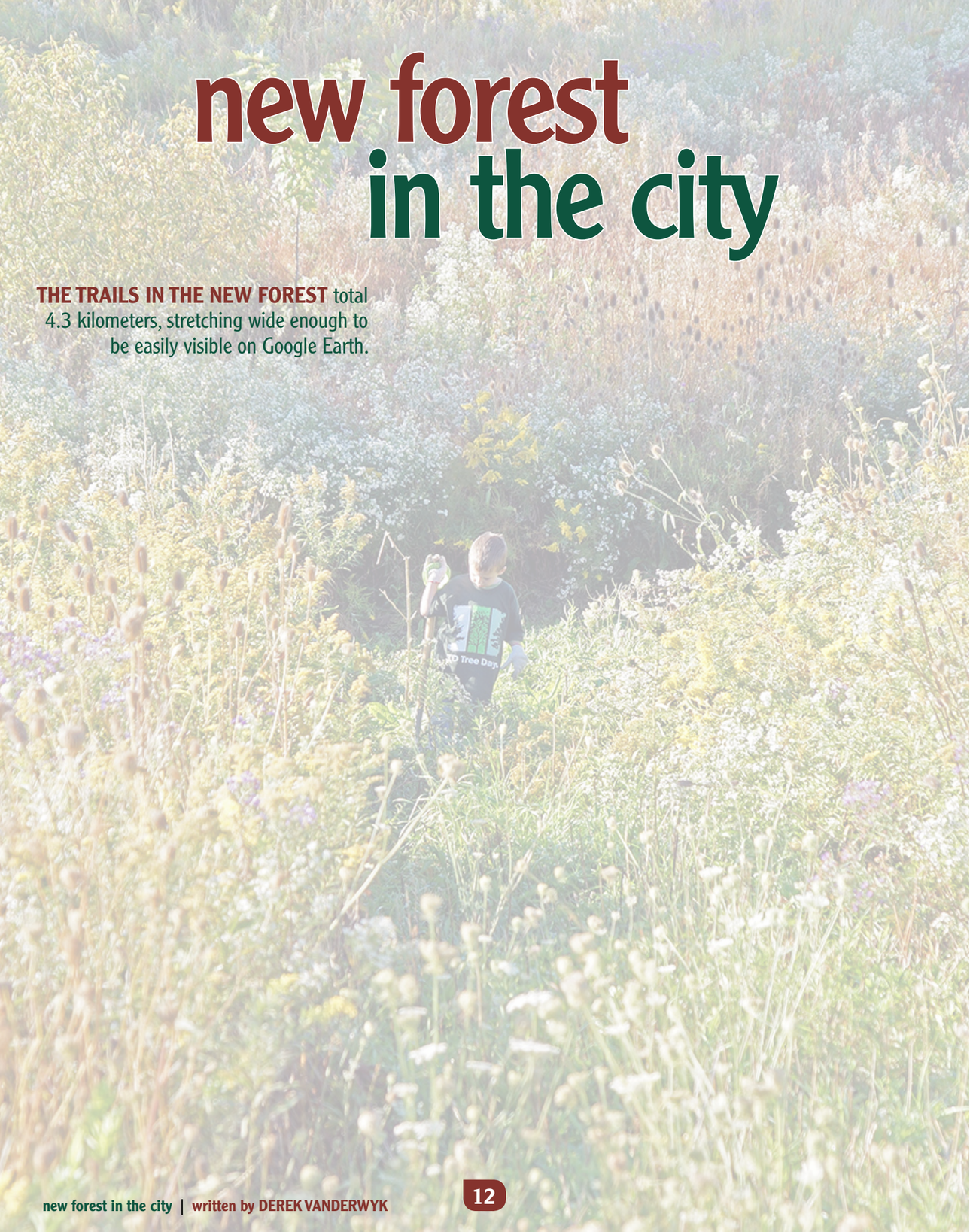
THE TRAILS IN THE NEW FOREST total 4.3 kilometers, stretching wide enough to be easily visible on Google Earth.



planning signs, paths, and kiosks accordingly. Unfortunately, to allow the public to enjoy the New Forest, they would have to find a way to give them access.

Accessibility was an issue for nearly every year of the New Forest's planting. As traditional vehicles were too large to enter the lot, Joe Cohoon himself moved the trees with an ATV and trailer, later joined by other volunteers, the GRCA, and the City. Due to the creeks and surrounding factories, however, some remote areas were inaccessible even by foot.

Access for some years of planting ultimately relied on cooperation from the surrounding industry, with businesses like Vicano Construction, Lanca Construction, and Konstant stepping forward to allow trees through their lots. A temporary bridge enabled planting in the spring of 2015, but real structures would be needed if the public were ever to explore.

The original proposal for bridges in the New Forest was inspired by golf courses. By taking the trailers from flatbed trucks, removing the wheels, and laying them across the streams, stable and relatively durable paths could be created. In theory, using the flatbeds would be significantly cheaper than ordering purpose-built structures.

In practice, unfortunately, additional costs made the approach impractical. The available flatbeds were in such poor condition that the bridges would have to be replaced in ten years. Considering that safety rails would have to be added, the long run cost proved to be astronomical.

Taking a more traditional approach, permits were eventually acquired for the installation of five bridges on the lot. J.H. Cohoon Engineering absorbed a great percentage of the costs as they created the tender, testing the soil, drafting specifications, and guiding the team through the buying process. After the GRCA issued the tender, went to pricing, and various firms bid, the bridges were constructed and installed for the fall of 2015.

Although the resulting bridges were initially more expensive, they promise to be drastically more durable. As the frames are constructed of steel, the only pieces that will eventually need replacing are the wooden decks, an element only included due to the need for traction.

While many steel structures require repainting as they age, the design of the New Forest's bridges has also permanently circumvented the cost. The gritty, brown coating that adorns the structures is exactly what it appears to be: rust. Constructed with a type of steel known as "COR-TEN," "Stelcoloy," or simply "weathering steel," the bridges in the New Forest developed their own oxide coating. Although the bridges near-immediately had an aged look, the coating is stable enough that the rust will never advance beyond the surface of the steel, even acting as a shield from the elements.

PATHS, SIGNS, AND KIOSKS

With the five bridges in place, the New Forest approached complete accessibility. Planting in late 2015 and 2016 could reach the most remote areas of the lot, covering every last nook of the forest; above that, however, it also realized the vision that organizers had for its pathways.

The trails in the New Forest total 4.3 kilometers, stretching wide enough to be easily visible on Google Earth. While seeing it from overhead might seem like an "I can see my house from here"-type novelty, having a map of the New Forest is invaluable for a simple reason:

It was designed to let visitors get lost.

The Brant Tree Coalition cooperated with Brantford Parks and Recreation and the GRCA to develop trails that can be as bewildering or as straightforward as visitors wish. The trails will be more than safe once completed, with the City of Brantford making a commitment to maintain them; in fact, as of 2016, the City planned on getting the pathways completely graded and mulched. The forest just could not be a forest without the ability to get properly lost in it.

"Setting off down the trails, gazing at the trees, spotting a hawk, and suddenly losing all sense of direction is the ultimate disconnect."

Like the province's major wilderness areas, the New Forest also has plans to put kiosks at the entrances and signs at all forks in the path. Starting at either of its entrances, across from the public parking on Abbott Court or between the industry on Bury Court, one could easily use the provided information to navigate the paths. No one, however, is forced to use it.

Especially in the city, experiences like what the New Forest offers are rare. Setting off down the trails, gazing at the trees, spotting a hawk, and suddenly losing all sense of direction is the ultimate disconnect. In an instant, there is no city, and no responsibilities leering at you from the other side of the hill. You get lost in a beautiful forest, and so long as you choose not to read the signs, no one can make you find your way out.

RESULTS

By the summer of 2016, the New Forest had greatly surpassed its goal of planting 50,000 trees. Even before the last fall planting sessions, the approximate total had reached 57,000 trees over 78 acres.

While no conditions can guarantee that new plants will thrive, the MNR's Stewardship Rangers reported that as many as 92% of trees from 2013 survived. The New Forest's worst

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recorded season, the drought-like summer of 2012, still saw 64% make it through the severe conditions. As much as it can be disheartening to see the forest lose any of its potential, it is common to see new trees sprouting up at the base of those gone dormant.

Despite its success, the end of the routine plantings does not signal the arrival of a mature forest. For years after 2016, even the trees planted as tall stock will hardly resemble the bushy canopy one would expect from a forest.

Yet, the efforts of the community immediately reduced soil erosion, created new habitats, and secured the future of Brantford's environment. With invaders like the emerald ash borer feasting on large populations of trees and construction projects constantly uprooting them, the New Forest is a massive step away from a critical situation. Although the trees were still skinny by 2016, they provided evidence that they would be Brantford's future: some of the trees planted in the first years had already begun producing acorns.

The ultimate result of the New Forest is a staggering benefit to the environment, a great location for the community, and perhaps more than anything else, tangible proof of what united citizens can accomplish. What might have initially seemed impossible is now a physical presence on the New Forest's rolling hills, shouting at passersby that no project is really too big, or perhaps that it is never really too late.

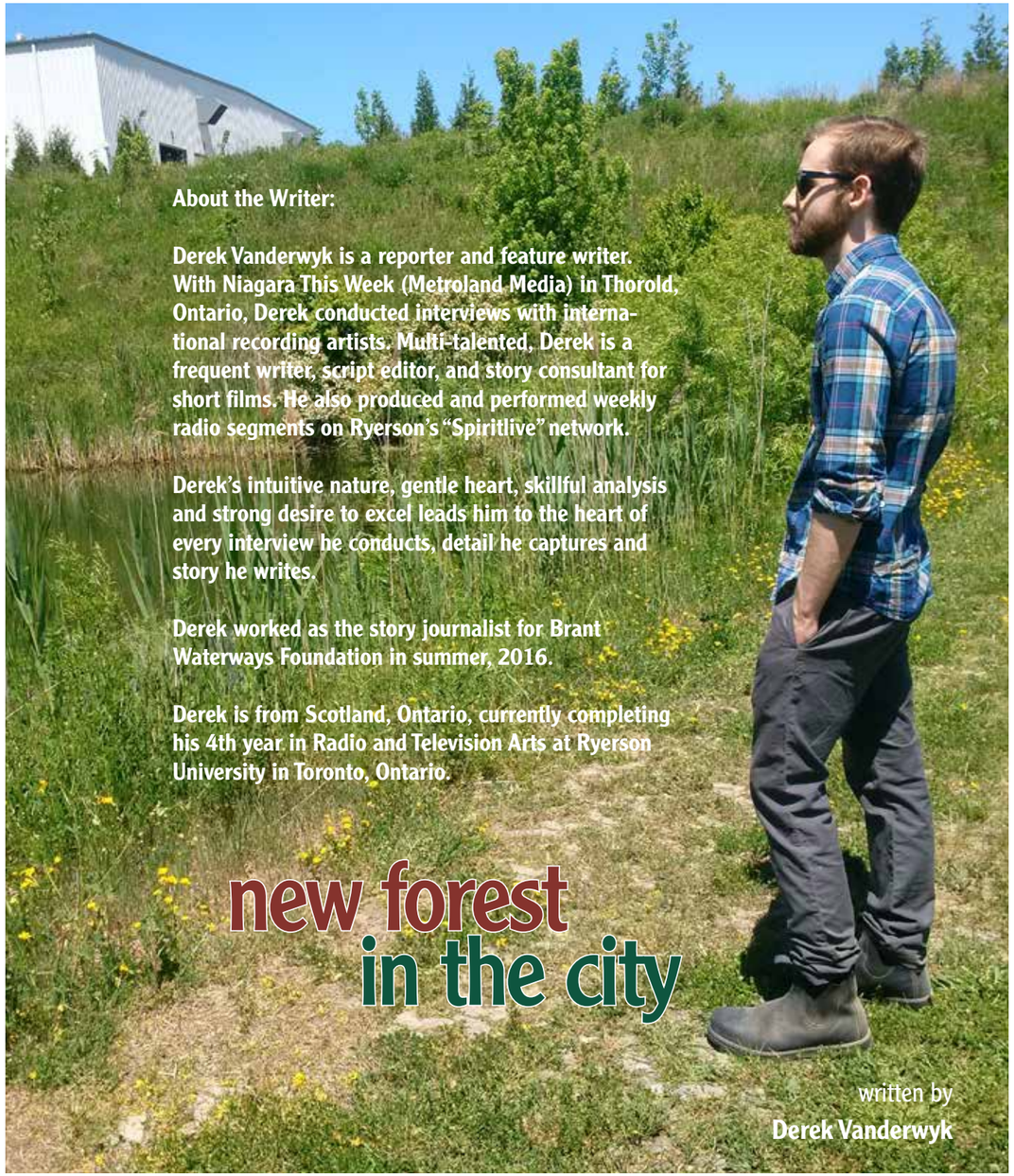
For centuries, most entities have operated on their own and toward their own interests, with the consequences being the destruction of our environment. As an example of every sector uniting towards a common good, however, the New Forest has shown how complete cooperation might have the opposite

"Although the trees were still skinny by 2016, they provided evidence that they would be Brantford's future..."

effect. Something that we might have thought to be lost forever after its destruction, a forest, was brought to Brantford simply through a joining of efforts. A community, through its good will, became a force of nature.

If the New Forest is indeed a real forest, then it has created a new kind of hope:

If we have the power to destroy our environment, then maybe, in some capacity, we have the power to restore it.



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