



## Trees for Woolwich 2023 Impact Report



### 2023- Tree Numbers Hit New Heights!



The Township of Woolwich was a TREE-mendous winner when it came to trees in 2023. A record-breaking total of 17,014 trees were planted in the township this year. Trees for Woolwich had a record number of plantings with 16 events spread out from April to Dec. 14. Bragging rights for **“most trees planted in 1 day”** goes to the team from Earthscape, supported by Trees for Woolwich volunteers, who planted, sheltered, and coco matted 900 trees along the Health Valley Trail in honour of Earth Day. It was a family event- you can’t start them too young!



Ok those trees are small now but keep your eye on them.



## Super Tree!

We have one particular sycamore tree planted as a 12 inch seedling in the Elmira Nature Reserve in the spring of 2022. Look at it just 18 months later! They don't all grow that fast but it is a beautiful example of what happens when you plant the right tree in the right place. We are hoping it will inspire its little brother on the left.

**Sycamore trees live up to 400 years and grow to 35 meters in height**



*Sycamore Bark*



*Mature Sycamore*

## Who is planting all these trees?

It takes a tremendous community effort to make all this happen. Trees for Woolwich has many volunteers, some of whom have been active since TWEEC started planting trees in 2004, others come when they can. Those core volunteers are treasured and have been joined by an increasing number of corporate volunteers, whose employers give them a half day to come out and do their bit for the environment. This year we were joined by corporate volunteers from:

- Ricoh
- MTE
- Tri-Mach
- Toyota Boshoku
- Earthscape



Community groups like the Alpha Phi Omega alumnae, and Woolwich Township staff also assembled a work force to help out. It's hard to beat the enthusiasm and spirit of Alpha Phi Omega who planted in both spring and fall, bringing with them infectious smiles and a lavish picnic lunch to share.



*Well fed and ready to plant!*

Credit also goes to The Grand River Conservation Authority who planted 9,762 of those trees as shelter belts and windbreaks on rural properties in the township.

### **DID YOU KNOW?**

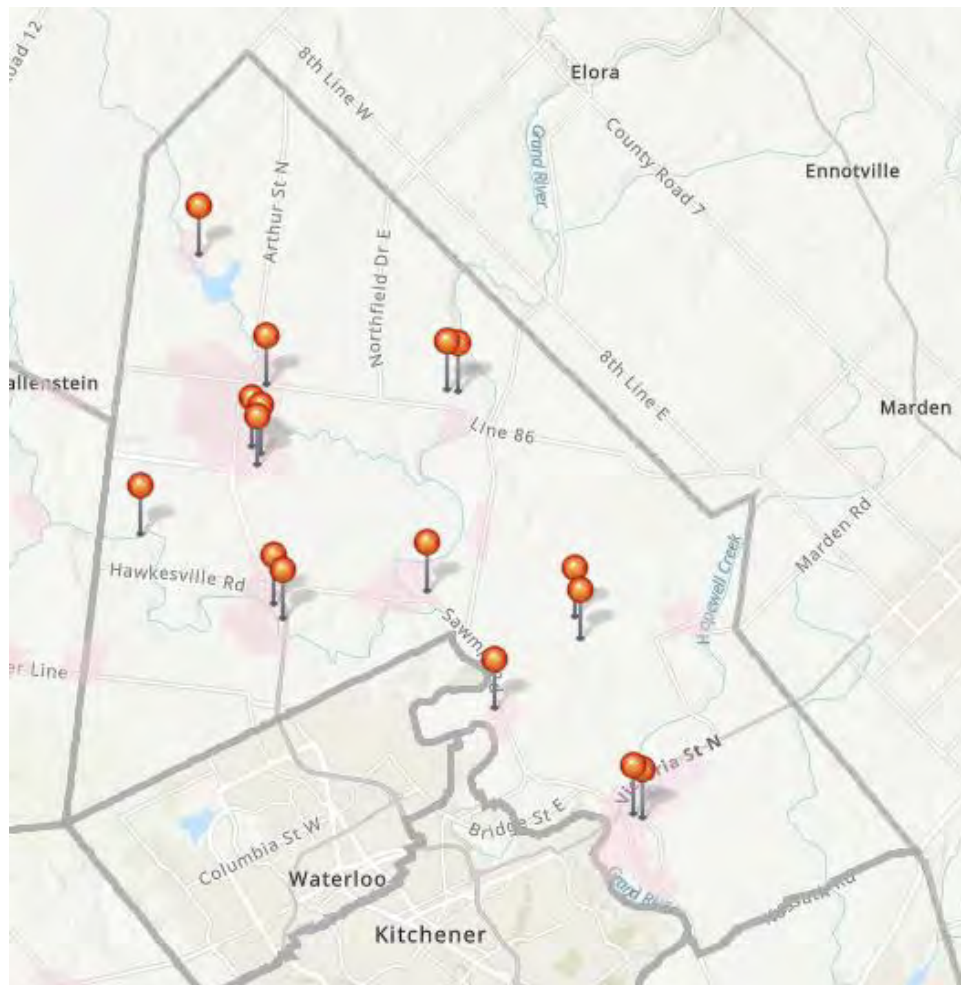
Willow trees emit certain chemicals when they are attacked by webworms. Other willows then produce more tannin, making their leaves harder for the pests to digest.



## Where are We Planting?

This year saw a huge variety of planting locations.

- Some were in parks like Bolender and Bloomingdale.
- Some along trails like the Health Valley Trail, the Kissing Bridge Trail and in the River Run Woodlot.
- Some at schools like Floradale Public.
- Some on township lands like Breslau Hopewell Heights and the Elmira Nature Reserve.
- Some on private land where landowners have taken on stewardship.



This map shows the spots where we planted in 2023.  
(Not including our 4780 roadside trees!)



## Our Roadsides Are Greening Up! BRING BACK THE MAPLES

2023 saw the formal launch of The Biggest Roadside Reforestation in Ontario since the 1880's! The township had declared a **climate emergency** and climate change impacts were becoming ever more obvious. We felt the urgency to do something big.....and soon! After the 2022 test plant of 230 trees along Floradale Road showed good survival rates of 90%, we were ready for the big time. The big plan is [here](#)



*Mayor Shantz and Councillor Burgess assist with the first planting*

In cooperation with the township, the plan is to plant 22,000 trees along the township roads. We kicked off 2023 on April 5<sup>th</sup> on Reid Woods Drive. With Mayor Shantz and Councillor Burgess assisting in planting the first of **4,780 trees** despite the sleet and cold. Planting trees when it is cold and wet may be tough on the planters but it improves the survival of the trees.

A late summer census on the planted trees conducted in the spring revealed an 81% survival rate which is remarkable.

Some citizens were moved to ask: “Why have pool noodles been erected on roadsides”😊



*Roadside Planting on Arthur St / 85 south of the St Jacobs Roundabout. They aren't pool noodles, they are tree shelters to protect the young trees from the elements and encourage growth.*

## We Love our Partners!

Our roadside program is ambitious and local businesses and government have recognized the potential benefits. 22,000 trees would not be possible without 3 year funding commitments from:

- **Wallenstein Feed**
- **Earthscape**
- **Madison Group**

These community leaders join **Toyota-Boshoku** and **Lanxess** who have focused their 5 year commitments on the Elmira Nature Reserve. Without this kind of long term commitment, + planning for large impactful projects is difficult. Our gratitude also goes to those corporate donors such as **Trillium Insurance, MTE and Tri-Mach**, and **Erb St. Mennonite Church**, who have supported our work, as well as a growing number of individual citizens who help make it happen.

The **Township of Woolwich** has provided significant support in funds and staff time to make this happen.

## Why are we planting all these trees?

Many of the benefits of trees are well known

- Carbon capture
- Windbreaks to slow down drying winds
- Cooling and shade
- Habitat for wildlife
- Erosion and flood prevention
- Cleaning pollutants from the air

Did You Know?

Want some less obvious benefits from published research?

For every 343 trees per square kilometer asthma rates in young children drop by 25%

Hospital patients who can see trees from their windows need less medication and enjoy faster recovery times

Regular trips to the forest , “forest bathing”, can reduce blood pressure, heart rate, stress levels and reduce ADD symptoms in children

People are more likely to engage in frequent physical activity when high quality green spaces are available

## Elmira Nature Reserve

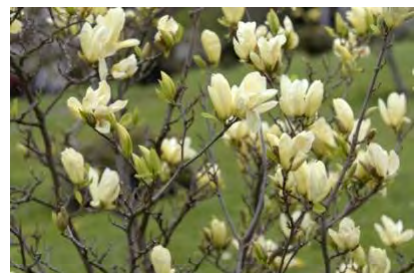
The Elmira Nature Reserve received a planting of 12 cucumber magnolia trees donated by Rebecca Schwarz. This rare species is a Carolinian tree which, thanks to climate change, can now flourish in our reserve. Part of our effort to ensure as much biodiversity as possible. This augments the other rare species in the Reserve including tulip tree, butternut, American elm and Hop trees. The 2 tall grass prairies in the Reserve are also an endangered ecosystem in southern Ontario.



The Nature Reserve got provincial recognition when **Mark Schwarz received the Steve Hounsell Greenway Award** from Ontario Nature for his work in the design and implementation in

recreating natural habitats including the Nature Reserve.

See detailed [info](#) here.



*Cucumber Magnolia in bloom*

The Elmira Nature Reserve now contains every species represented in an area Botanical Survey of 1886  
33 species



**Progress!** It's time to look back and take some pleasure in progress! 12 acres of the Nature Reserve have been reclaimed.

## BEFORE- 2020



2020 Elmira Nature Reserve included 12 acres of mature **very** invasive buckthorn in the 65 acre natural area – making that part inaccessible. The goal was to create a diverse and sustainable ecosystem with trails open to the public by eliminating the

buckthorn.

## DURING- 2021-2022

Winter 2021:  
Forest mulcher at work clearing buckthorn. Three elm trees and one cherry were discovered among the buckthorn. Otherwise, the buckthorn had taken over the area.



## AFTER- 2023

Summer 2023:  
2000 seedlings planted. Regular mowing to discourage new buckthorn shoots. The buckthorn mulch seems to help with weed

suppression.

For a full report on the activities in the Nature reserve [click here](#) .



## Tree Nursery - Growing Our Own Never Looked Better

Improvements at the nursery meant our trees were looking better than ever.

- High quality water donated by Engineering Lift Systems -Gorbel Canada (piped down the hill to our tanks)
- Good winter cover resulted in less damage by moles and voles
- Rabbit proof fencing was installed to keep out yet another predator
- Regular summer rain helped but we can't take credit for that ☺
- A new shed donated by the Township of Woolwich arrived and has made work easier and more efficient



Diligent work by our nursery volunteers who weeded, watered, repotted and kept a sharp eye out for disease and pests, resulted in **1100 of our own fine-looking trees planted out** around the township. The school children of Woolwich successfully started 780 seedlings in their **Seedlings in the Classroom** program. The nursery now has an inventory of 3000 trees sleeping quietly awaiting new homes in 2024!



## Woolwich CARES Award - Recognizing Leadership in our Community

### Toyota Boshoku

TWEEC created the CARES award (Community Award Recognizing Environmental Stewardship) to recognize local businesses, community groups or individuals who support improving our environment. This year, **Toyota Boshoku** was recognized for their contributions over several years.

Toyota has worked in partnership with Trees for Woolwich for a number of years, starting with the initial seed funding for a tree giveaway program back in 2016 .

- When the Elmira Nature Reserve was being created 3 years ago Toyota was the first to step up with a commitment to provide 5 years of financial support. This type of multi-year support allows volunteer groups to plan so much better!
- Toyota employees have come out to assist us with the tree planting in the Reserve.
- On their own property on Southfield Drive they have undertaken tree planting, supported by Trees for Woolwich, for the past 3 years, having now planted just over 100 trees.



*Jason Psutka accepting the CARES award for Toyota Boshoku*

In their plant, Toyota has worked to reduce their impact on the environment and the strain on local resources. To that end they have:

- Reduced their waste such that since 2019 they have sent nothing to landfill after implementing waste reduction and recycling.
- Developed a capture system which collects rainwater to reduce runoff and reuses that water together with HVAC condensate and drinking fountain bypass. This reduces their use of the local water supply.
- Reduced energy consumption by dimming lights, installing more efficient lighting and piloting more efficient air conditioning.
- Established Green Teams to actively engage employees in environmental sustainability and continuously improve environmental performance.

Find out more about the CARES award and how to nominate [click here](#).



## Tree Giveaway

In its third year, the tree giveaway keeps picking up steam! The township offered 1200 trees to township residents on two dates in October. This year the apple and pear trees on offer proved popular, even if some were a challenge to stuff into whatever vehicle is available!



Cars and buggies were lined up outside the Memorial Centre to select from smaller stature trees like serviceberry and dogwood or the evergreens and assorted deciduous. Participants received information on the trees as well as planting and care instructions. Fingers crossed for a good survival rate.

Most of the trees were purchased by the Township from nearby nurseries but the oak, spruce sycamore and catalpa trees were grown in our tree nursery in the Nature Reserve. Organized by Ann Roberts and Township staff, lots of Trees for Woolwich volunteers helped to make the operation pretty slick.

## Carbon Capture – Environmental Benefits

With 17,000 trees planted this year, our calculations show the benefits across time. This shows that a tree captures an average of 31 kg CO<sub>2</sub> per year over 80 years. A typical passenger vehicle emits about 4.6 tonnes of CO<sub>2</sub> per year.

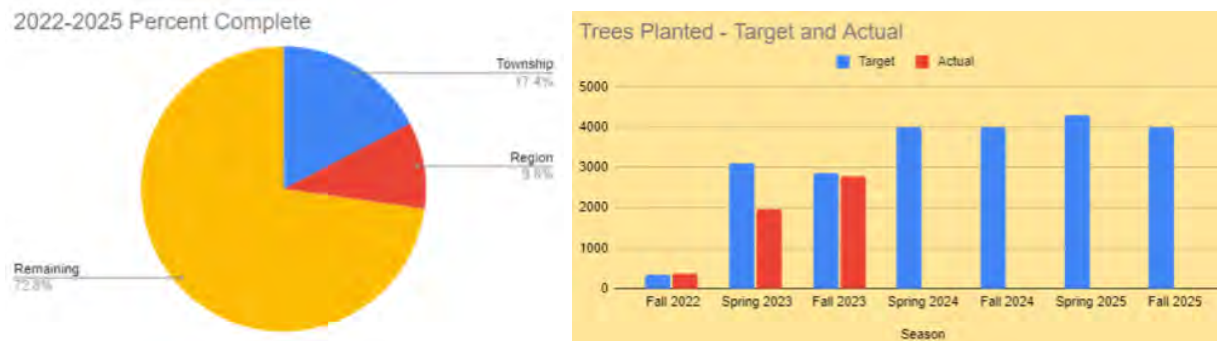
Cumulative benefit	40 years	80 years
CO <sub>2</sub> captured (tonnes)	10,702	42,415
Stormwater (cu meters)	65,838	273,000
Airborne pollutants (tonnes)	132	607

**It takes 148 trees one year to absorb the annual CO<sub>2</sub> emissions of one car.**

## Looking Forward into 2024

### BRING BACK THE MAPLES

Never lacking in ambition, and spurred on by this summer's survival rate, Mark Schwarz has crafted a plan to plant 8000 roadside trees this year. Spring planting will be for the month of April and fall will be mid October- mid November.



### Progress!

The township has pledged to reduce their greenhouse gas emissions by 80% by 2050 as part of their climate action initiatives. This three year roadside planting project alone would achieve 40% of that goal in the year 2050.

### MORE PARKS NEED MORE TREES

**Aspen** and **Killdeer Park** in Elmira are earmarked for trees in 2024. In Breslau, this year's plantings will continue with a micro-forest at Flanders Rd and Fountain St.

Citizen help with watering newly planted trees is crucial to the success of these plantings. Kudos go to the Osborne and Brubacher families who have been fabulous stewards of **Crane Park** in Elmira for the past 2 years. The result was a 100% survival rate! **Ann St. Park** has been stewarded by Walter Plein and Jordan Weber. Your community is grateful.

### IMPROVING OUR WATERWAYS – EVEN IN DECEMBER!

The **Clean Waterways** group has planted along our creeks and rivers for the past three decades on 20 different properties with amazing results. Those trees and shrubs stabilize the banks,



shade the water to improve fish habitat and reduce flooding. You would barely recognize the location when you look at the before and after pictures!



Recognizing the amazing improvements Clean Waterways achieved, Trees for Woolwich has joined forces with the Clean Waterways Group to move forward with new properties. The last planting of 2023 took place along the Conestogo River on December 14<sup>th</sup>! (neither snow nor rain nor dark of night....)



In cooperation with landowners who recognize the benefits of buffer strips along their waterways, we plan to continue the good work of Clean Waterways this spring!

## Volunteer Profile - Good People doing Good Things

While some of our volunteers have been with us for years, we also have the joy of seeing new people join us. What a great group!

Introducing Patrick “Sure I can do that” Gleeson!

### Patrick Gleeson

Every team wants a member like Patrick! Being raised as one of 10 on a farm on the 9<sup>th</sup> concession of Peel, he had a work ethic and sense of practicality bred into him. He raised his family in Elmira, and has always been part of the



community, but in his retirement, he had time and talents to offer. There is little that Patrick cannot turn his hand to and his talents have been utilized in the 8 years he has been involved with Trees for Woolwich. Whether its planting trees, building a rabbit fence for the tree nursery, staking roadside trees or coming up with a solution to our watering problem, Patrick’s impressive problem-solving skills have helped to get things done.

When asked why he got involved with Trees for Woolwich he said the idea of being outdoors in an environmental project appealed to him. “It also supports the work my daughter Jennifer does on Climate Change with the Ministry of Natural Resources and Forestry, as well as my son Tom’s work as a hydrologist. It is interesting getting to know likeminded people in the community whether at plantings or at events like the Tree Giveaway”.

“It feels good to make a difference”.

Patrick has become an unofficial caretaker for Southpark Woods out behind his home as well as Bitternut Park. After Trees for Woolwich planted trees in Bitternut Park, Patrick rallied the neighbours into a team that shared the responsibility of watering the new trees for 2 years. The result was a 100% survival rate! Joined by his wife Audrey, they have patrolled Southpark Woods for invasive species such as buckthorn and garlic mustard. While Patrick levered out buckthorn by the roots, Audrey was busily pulling out garlic mustard while educating passersby on the damage it does to the ecology of the woods.

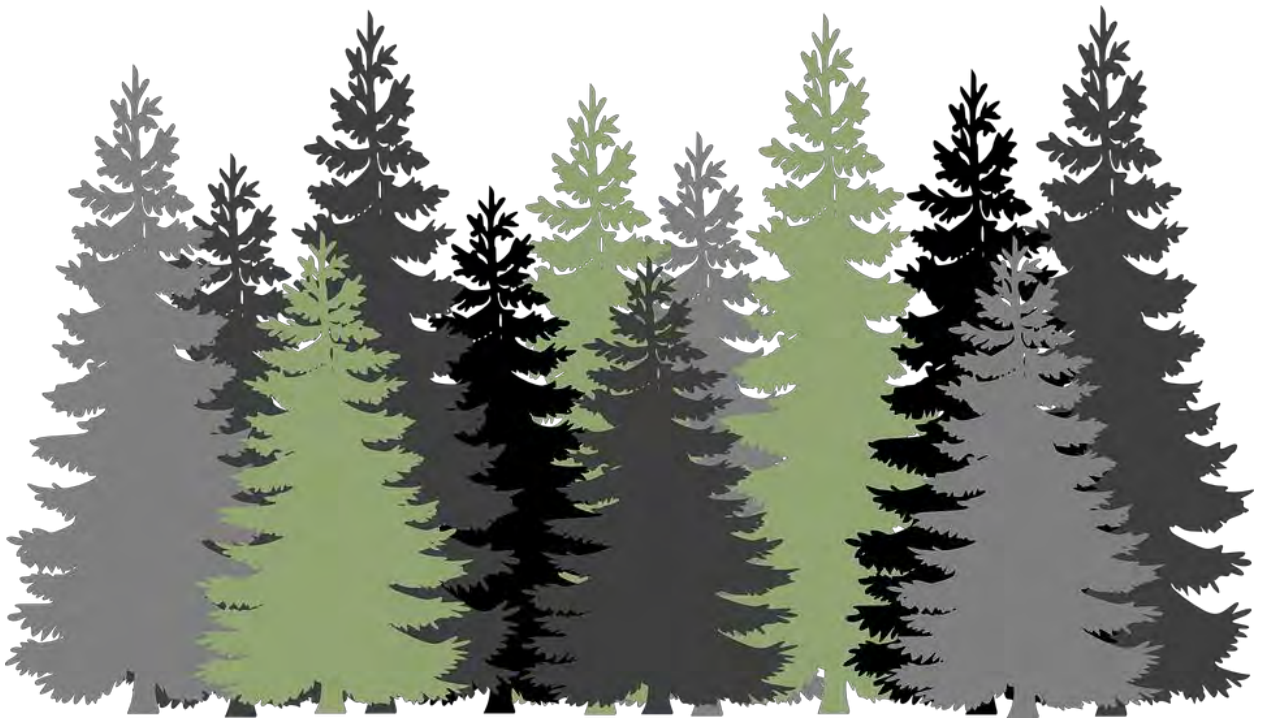
Our community is fortunate to have citizens like Patrick!



# 73,487

Trees Planted by our community in Woolwich since 2011

- Trees for Woolwich,
- Grand River Conservation Authority,
- Organizations like Lions Club and EDCL,
- Private Individuals



## Planting Trees Pays

Studies show landscaping with healthy mature trees adds an average of 10% to a property's values (some estimates are as high as 20%). Research also shows urban trees are correlated with lower crime rates from graffiti, vandalism and littering, to domestic violence.

## We Couldn't Do it Without You!

Our work would not be possible without the enthusiastic support of many people and organizations. More than 1800 volunteer hours this year went into planting and planning alone!

Special mention goes to:

- Mark Schwarz and his crew who are doing the roadside planting- record is 384 trees in a day!
- The Township of Woolwich, through Ann Roberts, the ever conscientious Environmental Coordinator, who continues to support our efforts in so many ways.
- The landowners who have cheered our roadside plantings and asked for more!



Thanks to all who gave of their time, talents and resources!

## Want to Get Involved? It's Very Satisfying!

This year there will be lots of opportunities to get involved!

- tree planting
- tree watering
- helping tend the nursery
- help with promotion and organization.
- Park guardian
- DONATE through [Canada Helps](#) on the Woolwich Communities website [healthywoolwich.org](http://healthywoolwich.org) or contact us. Every tree counts and every dollar helps! We have made donations easier by linking with [Canada Helps](#). (Just choose "Trees for Woolwich" in the right hand drop down list))

We have an outlet for every talent! Just get in touch with Ann Roberts [aroberts@woolwich.ca](mailto:aroberts@woolwich.ca) 519 514 7027 or Inga Rinne [inga@rinne.ca](mailto:inga@rinne.ca) 519 212 1352.

We guarantee a sense of satisfaction!

Written and edited by Inga Rinne and Matt Cowan





# Impact Report 2023





# TREESFORWOOLWICH

## IMPACT SUMMARY

- 220 trees planted in the northern half by volunteers- mulch and guards installed.
- 70 seedlings were planted to infill in the southern half of the Reserve
- Increased carbon capture, flood control and air pollution reduction
- 2 acres of tall grass prairie was seeded in the northern sector
- Walking trails were established and mowed in the northern sector
- Continued mowing of southern trails
- Invasive species control-Smaller Buckthorn pulled by hand and larger buckthorn spayed twice
- Phragmites sprayed one last time we hope
- The impact of your financial donation was amplified by approximately 600 hours of volunteer time





2023 was kicked off in April with a planting in the rain. Intrepid volunteers were muddy but triumphant. The planting included some rare and endangered species including cucumber magnolia and butternut. We were joined by our local member of Parliament Tim Louis who hung in to the end despite his lack of rain gear 😊



The battle against invasive species continues. We are slowly gaining the upper hand! Buckthorn pulling is very therapeutic. The tall grass prairie, planted in 2020, was hand weeded in preparation for a controlled burn in 2024. A new 2 acre site of tall grass prairie was seeded in the northern sector. The plan is to do a controlled burn in 2024. This burn is part of the historic method which helps to regenerate the native species while burning off the invasives.

A bee hotel was installed and the biodiversity created by the prairie and the new plantings resulted in nesting tubes being occupied by 5 different bee species.



*Students showing off the biggest buckthorn they pulled*

### **Donations: personal, corporate, and government helped to achieve all this.**

- 220 trees in total were planted throughout the northern section. These included rare species like butternut and cucumber magnolia, and disease resistant elm in order to increase the biodiversity.
- While trees have many benefits, several that can be quantified are carbon capture, stormwater capture, and air pollution absorption. Each species behaves differently and a detailed calculation of the benefits is underway.
- Public use of the Reserve increased by 90%.

### **Community Involvement**

The involvement of a broad section of the community providing volunteer labour, equipment, expertise allowed us to get a great deal accomplished at a very low cost. Our project manager Mark Schwarz of Earthscape, Ann Roberts the Township of Woolwich Environmental Coordinator, and volunteers from seniors to students, farmers to city slickers, all contributed their skills and resources to make this possible.

- Many thanks go to our neighbour **Engineered Lifting Systems** who allowed us to run a hose from their building and provided clean water for nursery irrigation.





Nothing beats the growth rate of the right tree in the right place properly cared for! This sycamore was planted in the Reserve as a seedling in 2022 and had grown to 11.5 ft. in 18 months.

We are hoping it will be an inspiration to the slower growing oak trees☺

## Plans for 2024

- The Nature Reserve will have a reserve manager who will oversee maintenance and monitor the survival rates and supervise the next stage of infill planting
- 200 more trees will be planted
- The oldest tall grass prairie will have a controlled burn to regenerate the native species
- Public tours will be conducted to continue to introduce new people to the amazing features of the Reserve
- Watering will continue for new trees on an as needed basis

## Visitors Welcome!

The Reserve welcomes all members of the public but our donors are particularly honoured guests. Group tours can be organized on request.

Questions or Comments?

Contact

Inga Rinne

[inga@rinne.ca](mailto:inga@rinne.ca)

519 212 1352

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# Bring Back the Maples

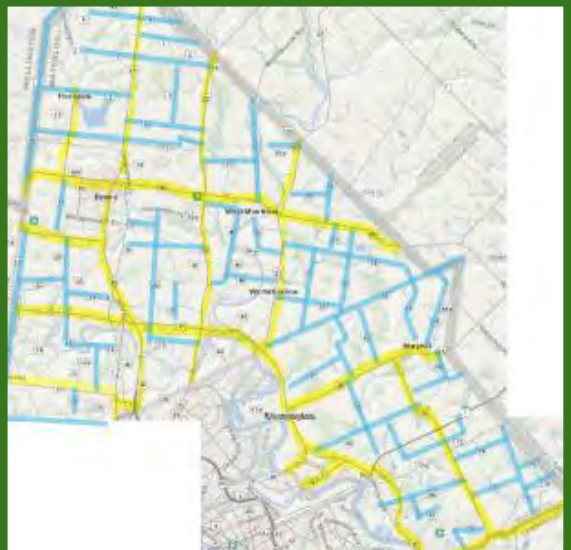
## Township of Woolwich Roadside Tree Planting Project

- Tens of thousands of trees need to be planted to reach the green infrastructure canopy cover goal.
- Roadsides are the most available planting areas.
- Most large trees historically on our country roads were planted 140 years ago: many are now gone, leaving roadsides bare.
- Trees for Woolwich plans to plant 21,570 trees along viable areas of our 335 km of rural roads.
- Trees will be planted over 3-1/2 years from 2023 to 2026, at a rate of up to 7,000 trees/year.
- Project management and installation, tree watering, and initial pruning will be performed by Trees for Woolwich in partnership with Earthscape's equipment and their trained youth worker crew.
- Cost per tree is \$15, including watering and pruning at years 3 and 7. Funding requirements average \$110,000/year, provided by corporate donors, Township of Woolwich, Regional Municipality of Waterloo, and several reforestation and greening programs.
- Project technical support will be provided by Woolwich Township Infrastructure Services, Region of Waterloo Forestry, and Grand River Conservation Area.
- The entire program can be approved by two authorities only – the Township of Woolwich (Township) and Regional Municipality of Waterloo (Region of Waterloo).
- To test logistics, plans for installation and maintenance, trial plantings of over 300 trees were planted along Floradale Road, Kramp Road, and Lerch Road in 2022.
- All phases of the project have been tested including landowner communications, utility locates, viable tree species, watering, and pruning.
- The majority of trees will be Sugar Maple, Red Maple, Bur Oak, Walnut and Crab apple, with 10 additional species in less abundance to increase ecosystem resilience

### Roads in Woolwich Township (October 2016)

Regional – 120 km approx. ignoring built up areas

Township – 213 km approx. ignoring built up areas





- Trees will be planted as plugs or bare root seedlings, 30 cm to 100 cm in height, with shelters & a supporting stake to protect from winter snow damage, weeds, & mechanical damage.
- The plug tree size is the least expensive size that will withstand the roadside stresses on trees. See cost comparison chart.

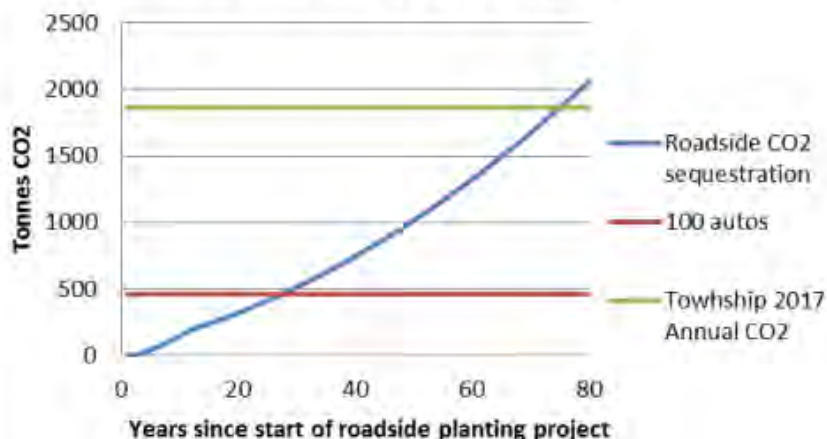


## Benefits

- Tremendous boost to Woolwich's environmental credentials.
- Carbon capture from these open growth broad canopy trees over the next 80 years is 68,000 tonnes of carbon dioxide. Township of Woolwich 2017 CO<sub>2</sub> emissions were 1864 tonnes annually. The 80 year CO<sub>2</sub> capture by the roadside tree project is the equivalent of 36 years of township emissions, or the equivalent of taking 170 cars off the road each year for 80 years. (See chart below.)
- Storm water in the amount of 680,000 cubic meters will be diverted from runoff into soil absorption as trees act as water reservoirs and reduce erosion over the next 80 years.
- Airborne pollution will reduce as the roadside trees absorb 283,000 kg of airborne pollutants over 80 years, such as ozone, carbon monoxide, nitrogen dioxide and sulfur dioxide and intercept micron level particulate matter such as smoke, dust and ash, as well as lowering temperatures.
- Mature roadside trees will form a township wide network of vegetation connecting our forest areas. Roadside vegetation are important wildlife habitats for birds, insects, reptiles, and mammals that support migration and permit outbreeding with broader animal populations.
- Reduced traffic speed, as shown by research on tree-lined rural roads.
- Highly visible "park" will be enjoyed by residents daily, boosting the aesthetic and cultural impact for our township and supporting the Maple Syrup Festival brand.

[Back to main report](#)

## Annual CO<sub>2</sub> Budgets



In partnership with...

