

Planting Trees
Today for a
Healthier
Tomorrow



Green Legacy Programme Strategic Action Plan



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Introduction

The year 2024 marks the 20th anniversary of Wellington County's Green Legacy Programme. In that time, Green Legacy has become a cornerstone of the County's ongoing commitment to conserving its natural heritage, increasing tree cover within the County's watersheds to a minimum of 30%** and combatting climate change. To date, Green Legacy has planted over 3 million trees, provided educational opportunities to over 100,000 students and expanded to two nursery facilities.

Green Legacy partners with all seven of Wellington County's member municipalities as well as the City of Guelph and 6 area conservation authorities whose watersheds run through the region: Grand River Conservation Authority, Conservation Halton, Credit Valley Conservation, Maitland Valley Conservation Authority, Saugeen Valley Conservation Authority and the Hamilton Region Conservation Authority.



From 2004 to 2024, the County's population has grown beyond 100,000 residents and our communities have seen a number of social, cultural, and economic changes. The Green Legacy has grown and adapted to meet these opportunities and challenges over the years and has developed the Green Legacy Strategic Action Plan to help ensure the programme's success moving forward.

Aldo Leopold developed the concept of a "land ethic" in his Sand County Almanac published in 1949. In simple terms, a land ethic recognizes that we rely on the environment to support us and that we have a responsibility to take care of it.

This Strategic Action Plan, guided by the County of Wellington's updated 2023 Strategic Action Plan and 2022-2030 Climate Change Mitigation Plan, reviews the Green Legacy's original mission statement and guiding principles, and develops a consistent framework to help guide the future success of the programme.

** see appendix

The **Green Legacy** was created to preserve the community's environmental legacy, now and into the future. The **Green Legacy** has done more than that – it's also preserving a County culture of respect, leadership, environmental stewardship and connection for the employees of today and tomorrow.

County Culture:
The County of Wellington



Timeline



The Timeline of the Green Legacy Programme

2004

Launched as a one-time celebration for The County of Wellington's 150th Anniversary, by distributing 150,000 trees to the local municipalities, schools, community organizations and residents.

2005

County Council endorsed the Programme and it was officially established as a tree nursery with greenhouses built at the Little Tract County Forest in Puslinch on land donated by John Little.

2007

Renovated the John Little House at the nursery for office space and volunteer facilities.

2008

Built an underground cooler storage facility to house seed stock and packaged trees over the winter.

2009

Created the Community Outreach Coordinator role to manage volunteers, educational programming, and community outplants.

2010

Celebrated it's 1 millionth tree planted and received United Nations recognition for its environmental contributions.

2012

Established the Northern Nursery at Luther Marsh Conservation Area in the Township of Wellington North. The Northern Nursery Coordinator position was created.

2015

The southern nursery in Puslinch is renamed as the 'Bradford Whitcombe Green Legacy Nursery' in honour of the former Wellington County warden's contributions to the programme.

2016

The Planning Administration Clerk began assisting the Green Legacy with administrative support, customer service, and database management.

2016

Celebrated it's 2 millionth tree planted.

2020

Adapted to the global COVID-19 pandemic by making individual tree deliveries to residents, a service that continues to this day.

2021

The full time Lead Hand position was created to help oversee the growing daily operations of the Bradford Whitcombe Green Legacy Nursery.

2022



Celebrated 3 million trees planted!

Mission Statement

"Our mission is to inspire and enable the Wellington County community to grow and plant trees to improve our environment for future generations."

The mission of the Green Legacy Programme is to strengthen our community's view towards the value of trees and the environment. Through education and involvement in the Green Legacy, the people of Wellington will increase forest cover to a healthy level, creating a green infrastructure which will ensure ongoing environmental benefits and help the County adapt to climate change.

Guiding Principles

- To educate and engage the Wellington community in the growing and planting of trees.
- To place a special focus on involving Wellington County schools, so that students learn the value of trees and the environment, by providing practical experience in the growing, planting and caring of trees.
- To empower local organizations to take on tree planting projects through the provision of information, partners and a source of Green Legacy trees.
- To assist and partner with member municipalities of Wellington County to engage the public and to carry out tree planting projects.
- To efficiently operate a community tree nursery, with an emphasis on creating volunteer and educational opportunities for schools, organizations and the general public.
- To continue providing a ready supply of Green Legacy trees to help increase forest cover in Wellington County to 30% in order to maintain a healthy watershed.
- To continue developing new initiatives which encourage trees in the right places on the landscape (wind breaks, shelter belts, living snow fences, watercourse buffers, linking existing forests, etc.).
- To continue building partnerships with private nurseries, organizations and other levels of government in helping to fund and carrying out the Green Legacy mission.
- To continue to build capacity to meet demand for trees, as well as volunteer and educational opportunities.

Internal Training

Since 2004, the Green Legacy Programme has been developing and refining training documents and standard operating procedures to guide the programme. These collective documents, which include educational programming, volunteer protocols, and nursery processes, have come to be known as 'The Green Legacy Way'.

General team training happens each Spring during our main staff intake, and periodically throughout the year as new seasonal tasks arise and/or as new staff and volunteers are on-boarded.

Training documents and standard operating procedures are assessed and updated by the Nursery Coordinator and Community Outreach Coordinator as needed. Once approved by the Manager, these documents are kept in an online digital format that is accessible to all Green Legacy staff and volunteers.

Current Tree Order/Distribution Trends

When evaluating orders from previous years, we can see an increase in small orders (less than 100 trees) for urban/residential properties, and a decrease in large orders (greater than 500 trees) for rural/farm properties and conservation authorities. In 2024, 68% of seedling orders were for 100 or less. This trend is most evident in member municipalities that are experiencing rapid population growth, such as the Township of Centre Wellington. We receive fewer orders from our more northern member municipalities, such as the Town of Minto, where farming is more prevalent.

Overall, most of the Green Legacy stock (seedlings and potted stock) continues to be planted on privately owned land, and is typically requested by:

- Residents - who place online orders for seedlings to plant themselves or request potted stock for living snow fences and windbreaks.
- Residents requesting outplants - Green Legacy staff pair landowners with schools and facilitate local students visiting residents to provide planting assistance
- Conservation Authorities - who place one large order to divide and allocate to individual plantings projects for residents within the County.
- Community Groups - who organize volunteers, and planting projects on both private and public land.

Potted stock is given priority for planting on public land, and is typically requested by:

- The County of Wellington – for Wellington County Museums and Archives grounds, housing facilities, roadside tree planting, etc.
- Member Municipalities – for municipal parks and facilities.
- Schools – for school yard greening projects.

Tree Order and Distribution Trends								
	2016	2017	2018	2019	2020	2021	2022	2023
Total number of orders	282	317	507	673	1241	998	1133	990
Seedlings (plugs)	158,000	154,600	161,800	163,360	156,930	165,640	147,920	157,940
Potted Stock	6,200	10,900	13,000	12,245	8,375	7,988	8,398	8,110
Total Trees Distributed	164,200	165,500	174,800	175,605	165,305	173,628	156,318	166,050



Community Outreach

Student Education

The Green Legacy has developed strong partnerships with the Upper Grand District School Board (UGDSB) and the Wellington Catholic School Board (WCDSB). Each of our school programmes are experiential and hands-on that supports Ontario curriculum expectations. The busing of the Junior and Intermediate students is paid for by The Green Legacy Programme. Students also play an important role in tree production through the various programmes.

Seeds in the Classroom

- Kindergarten to Grade 3 students grow and care for Oak seedlings in planting blocks in their classrooms. The growing blocks are delivered in mid-March and collected by Green Legacy staff before the school year ends

Branching Out: Nursery Visits

- Students in Grades 4, 5 and 6 take a trip to one of our Green Legacy nurseries. Students engage in nursery tasks such as transplanting seedlings and participate in an interpretive hike.

Roots in the Community: Outplants

- Classes in Grades 7 and 8 are partnered with Wellington County landowners and will travel to their properties to plant trees with the assistance of Green Legacy staff.

Students								
	2016	2017	2018	2019	2020	2021	2022	2023
Total Students	10,975	13,430	12,222	10,870	532	N/A due to COVID	2933	7580
Trees Grown and Planted	164,505	228,720	174,734	163,366	20,565	N/A due to COVID	18,490	108,012

Volunteering

Community involvement has always been an important aspect of Green Legacy. Volunteers are integral for seed collection, tree production, and student education. Student volunteers (Co-op and Community Service hours students), corporate groups, and long-term volunteers are a vital part of the Green Legacy's continued success.

Volunteers								
	2016	2017	2018	2019	2020	2021	2022	2023
Total Volunteers	917	955	940	803	347	N/A due to COVID	84	507
Total Hours	6787	6997	6651	6680	3290	N/A due to COVID	1105	4613

Revenue/Donations

While trees are free to Wellington County residents, the Green Legacy does make tree care items (e.g. mulch mats and rodent guards) available for purchase at slightly above cost. After receiving orders that meet eligibility requirements, remaining tree stock is then offered for purchase at wholesale prices, primarily to The City of Guelph. Individually wrapped gift seedlings are occasionally requested and a charge is applied for the associated bags and printed tags.

Donations and financial contributions to the programme are accepted online year-round at www.greenlegacy.ca however, as shown in the table below, these amounts vary from year to year.

Revenue					
	2021	2022	2023	2024	2025
Trees	\$3,900.00	\$19,827.00	\$12,169.00		
Mulch Mats	\$2,770.00	\$3,617.00	\$2,589.00		
Rodent Guards	\$1,435.00	\$1,418.00	\$1,130.00		
Donations	\$1,100.00	\$3,360.00	\$650.00		
Total	\$9,205.00	\$28,222.00	\$16,538.00	\$ -	\$ -

Staffing Structure

Below is the current staffing complement for the Green Legacy Programme:

Manager - Full-time

Bradford Whitcombe Green Legacy Tree Nursery Coordinator - Full-time

Northern Nursery Coordinator - Full-time

Community Outreach Coordinator - Full-time

Lead Hand - Full-time

Seasonal - Staff x 8

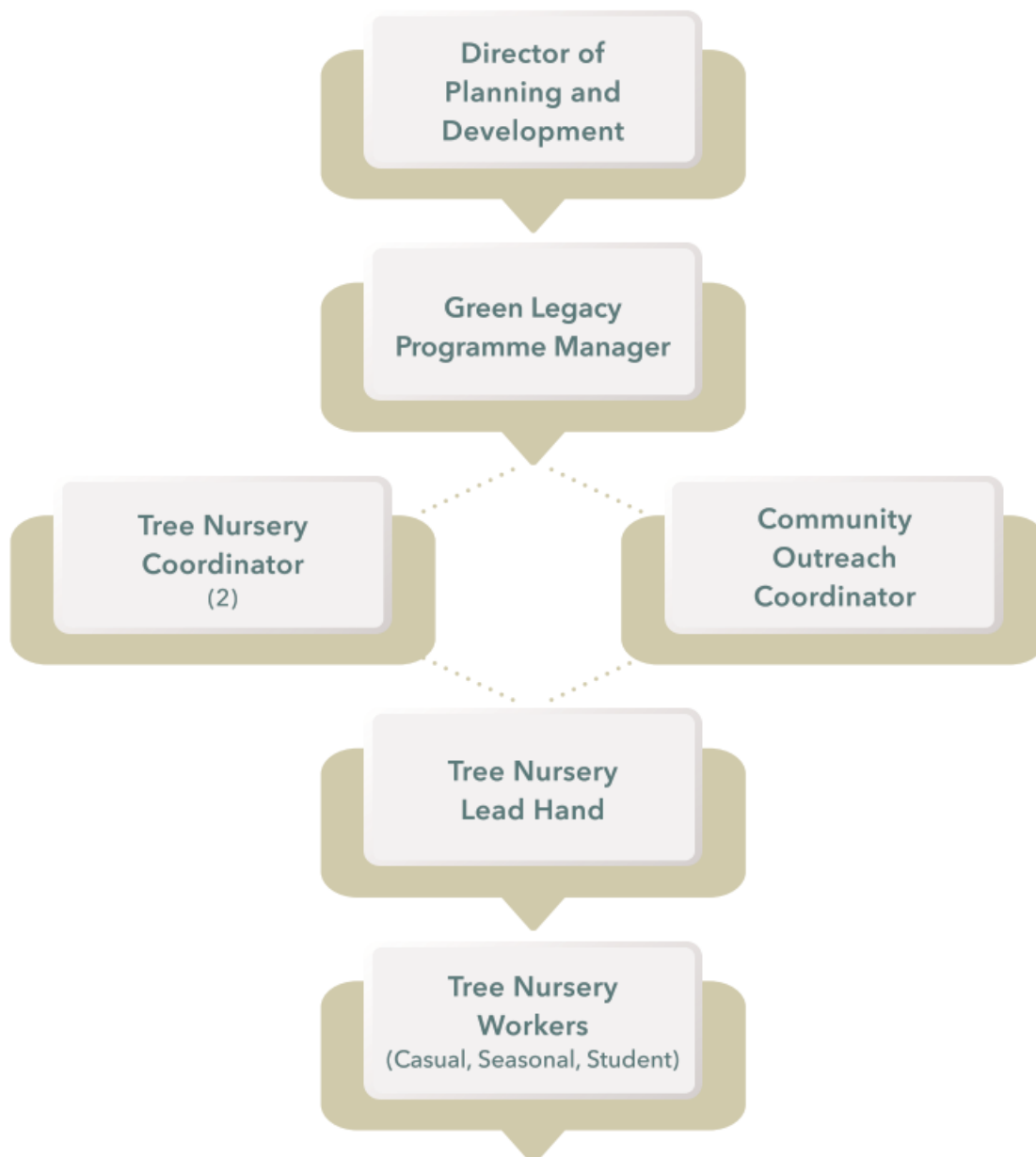
Summer - Student x 2

Given the ongoing community support of the **Green Legacy Programme**, it is essential that we maintain adequate staffing and resources to deliver high-quality products and services. As Wellington County's population continues to grow, we expect a greater demand for trees, and an increase in requests for community outreach, education, and planting assistance. In later sections of this Strategic Plan, staff highlight some key challenges, priority actions, and future growth considerations that will help ensure the Green Legacy programme remains effective and efficient in the years to come.



Reporting Structure

- **County Council:** Final responsibility for all operational, budgetary, and public engagement activities of the Green Legacy Programme.
- **Planning Committee:** Responsible for recommending to County Council the budget, staffing, direction, and major operating procedures for the Green Legacy Programme.
- **County Staff:** Normal County staff reporting relationships and responsibilities exist. Green Legacy, a division of the Planning Department, with the Green Legacy Manager reporting to the Director of Planning, who reports to the C.A.O. Staff are to ensure the proper management of the programme is consistent with goals and directions established by County Council.



Challenges

Increased demand from public:

- As outlined above, current trends have shown that changing dynamics within the County over the last 10 years have led to a much higher demand for small orders by individual landowners – mostly urban homeowners.

Decreased demand from area Conservation Authorities:

- Recent legislative changes have revised the mandates of conservation authorities, which has impacted stewardship programming, reduced forestry budgets, and limited extension staff for plantings. As a result of these changes, conservation authorities have been placing increasingly smaller tree orders over the last ten years.

Lack of space:

- While demand for trees has remained constant, the increase of requests to add trees of larger sizes and different varieties has put a strain on the Green Legacy's existing infrastructure. Despite the addition of the Northern Nursery in 2012, increased demand for trees has led to a lack of planting with growing space.

Seed Sourcing:

- Seeds from deciduous species are hand collected by staff and volunteers. Though it varies year by year, over the last decade, sourcing local high quality, viable seeds in the quantities needed to sustain distributions goals and

inventory biodiversity has become more difficult. With a changing climate, crop production has become less predictable and less abundant. Coniferous species have also been impacted by closing the Ontario Seed Plant, climate and disease stresses, causing less overall seed production and availability..

Pests/Climate:

- As climate change continues, nursery staff are having to deal with infestations of tree damaging pests, warmer/drier growing seasons, and shorter/colder packaging seasons. All of these factors have impacted annual tree production.

Switch to tree deliveries:

- With the advent of COVID, Green Legacy was asked to switch from Municipal Tree Days to no contact tree deliveries throughout the County. Post COVID, tree deliveries have continued. While being a great added customer service, it does present logistical challenges (orders, planning, mapping, drivers, vehicles, etc.).

External Budget stresses:

- There has been increased pressures on the annual budget (e.g. escalating costs of bus transportation for educational programming).

Tree Planting Survival Rates

The need to evaluate tree planting survival rates continues to be discussed. While this may be challenging to achieve on private lands, a selection of public lands with larger public planting partners would give a quantitative snapshot to draw inference from.

As a starting approach, staff will:

- Request that Conservation Authorities and/or community planting groups estimate survivorship for Green Legacy trees that they have received over the last 5 years and evaluate plants success;
- Revisit selected sites from the last 10 years and evaluate County school plantings that were overseen by Green Legacy staff; and
- Review of Warden's Day planting sites from 2006 to present.



Priority Actions

- Educating the public about the value of trees and the natural environment.
 - Promote Green Legacy through community events
 - Actively taking part in conferences and seminars.
 - Take part in County driven opportunities such as Taste Real and the Rural Romp, etc., whenever possible.
- Actively involving the community in all aspects of the tree growing/forest process - the gathering of seed, growing nursery stock, and planting and caring for young trees.
 - Continue providing volunteer opportunities to both individual community members and various public and private groups.
- To provide an ongoing supply of high-quality seedlings through to caliper stock in order to meet demand.
 - Continue to build resources for tree spading projects.
 - Continue to collect and purchase source-identified seeds.
 - Continuing to seek advice to address challenges.
- To nurture a land ethic through extensive participation by landowners, our youth and community organizations.
 - Continue to provide high quality, curriculum linked educational programming that is both hands-on and experiential.

- Continue working with County residents through the Green Legacy volunteer programme.
- Continue the Green Legacy's involvement with the Indigenous Garden and Wellington Campus development plans.

- Continue to organize and implement the annual Warden's Planting Day throughout the County.
- Continued involvement with community groups and initiatives such as Trees for Mapleton.
- Monitor the success of our planted trees throughout the County.



Future Growth

Tissue Culture Lab

Green Legacy is proposing a partnership with the University of Guelph's The Gosling Institute for Plant Preservation (GRIPP) located within the Department of Plant Agriculture. for the construction and facilitation of an on-site tissue culture laboratory. This will allow for the rapid development and regeneration of seedling species that are currently under threat in Ontario.

Ontario's natural tree heritage is currently being threatened by habitat loss, climate change and disease. Ontario has several tree species that are currently identified as a species at risk and thus finding reliable seed sources have become increasingly difficult for many key species. Climate change has made naturally viable seeds much less available due to early Springs, late frosts and extended dry weather. For some species, beyond normal tree masting, it can be many years between collecting viable seeds.

The Ontario Tree Seed Plant, which supplied the Province's nurseries with the bulk of the evergreen and some hardwood seed closed in 2018. Since then, smaller private nurseries have taken up the collection, storage, and distribution of seed, but demand is often higher than these groups can handle.

To combat these challenges and shortcomings within the industry, the ability to clone and propagate a tree from its bud or tissue culture, has the potential to alleviate many of the issues mentioned above. The

University of Guelph has been working on bringing tissue culture to the agricultural sector and has had success within the Hazelnut and the Apple fruit industry. They are also seeing success in the growing and reintroduction of American Elm, which was decimated due to Dutch Elm Disease.

Tissue culture would allow for the propagation of immune and resilient individual trees.

The recovery of several species could benefit from this technology including:

- American Beech
- American Elm
- Butternut
- Red Mulberry
- American Chestnut
- Cucumber Magnolia



Other species such as Oaks and Walnuts are also now being affected by diseases just beyond our southern border.

The Green Legacy Programme could be a leader in this emerging field in collaboration with the University of Guelph's The Gosling Research Institute for Plant Preservation (GRIPP) located within the Department of Plant Agriculture. The cost of this propagation technique is currently on par with that of the more traditional growing from seeds and cuttings. Setting up an on-site facility with the specific equipment, space and expertise needed for the process could be paid for through grants and university funding. This has been discussed at a preliminary level and the The Gosling Institute for Plant Preservation (GRIPP) located within the Department of Plant Agriculture is excited at the prospect of partnership.

Green Legacy Northern Nursery

The Green Legacy's Northern Nursery is situated near the Luther Marsh Conservation Area. It was established at this location to be close to residents and schools in the northern Wellington County. At the time, it had space for the development of hiking trails for school programming and is home base for UGDSB's Community Environmental Leadership Program (CELP).

The current remote location does present logistical challenges that limits some operations and further expansion opportunities:

- Land is not owned by Wellington County (GRCA retains ownership of the property) which limits our use and Asset investment.
- Site is not large enough to accommodate expansion of growing space.

- School programming is limited to Spring only - Fall hunting season means education programmes are not safe, and there is limited space to house trees that are transplanted in Fall.
- Lacks adequate all-weather gathering and lunch space for school programming
- Lacks adequate indoor space for staff and volunteers - one small office/lunch/meeting room.
- The accessible bathroom contains the only indoor sink and acts as an indoor kitchen/heated storage space.
- Shipping containers are currently used for storage of nursery supplies and equipment
- Shared site with CELP requires compromises in our day-to-day activities
- Green Legacy currently books/schedules all the CELP led Ducks Unlimited programmes offered to grade 4 students (who could be participating in our programming).



- Many area residents frequent the site (on and off hours) to gain entrance to the Conservation Area despite signage and physical barriers alerting them that they are trespassing. This is an ongoing security concern.
- Hiking trails were not built to normal County standards and require a lot of maintenance.

Relocating the nursery to a larger location would allow Green Legacy to address many of the challenges listed above and present opportunities for expansion and new initiatives. Increasing seeded and caliper stock, areas for large-size spaded trees, as well as expanded opportunities with student and volunteer groups, are all areas that would benefit Green Legacy Programme and Wellington County.

Green Legacy Forest Technician

Green Legacy is considering the development of a County Forest Technician position under the supervision of the Green Legacy Manager. This new position will allow the County to more closely model the original intentions of the Green Legacy: to work with farmers and other rural land-owners to develop and implement large scale plantings. As a result, this will improve crop yields, increase forest cover and better protect the watersheds.

A Forest Technician's primary focus would be to visit private farms and work with farmers to develop tree planting plans, including riparian plantings and windbreaks. In the past, these plantings used trees provided by the GRCA and Green Legacy and were funded through

programmes such as the Rural Water Quality Program. Often, 100% of the cost of the plantings were covered by these programmes, due in large part to Green Legacy trees being free to County land-owners.

Beginning in 2008, a Trillium grant allowed Mapleton Township to have its own Forest technician for 5 years. The northern municipalities (Wellington North, Mapleton and Minto) were then able to receive a second grant to collectively fund the position an additional 3 years. The Grand River Conservation Authority funded a forest technician for the remainder of the County. Since 2016, Wellington County has relied solely on the GRCA's forest technicians for this type of planning. Due mainly to Provincial funding cuts, the GRCA has had to decrease their Forest Technician positions for the entire Grand River watershed while the needs for this expertise continues to increase .

When forest technicians were providing this service, Green Legacy averaged 300-400 tree orders per season, mainly consisting of high-volume orders (over 1000 trees). Over the past 6 years, Green Legacy has seen these large orders diminish, while smaller orders (100 trees or less) have been on the rise. The 2023/2024 tree order season saw 68% of orders were below 100 trees.

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Many farmers are willing to put in wind breaks but are looking to have the process organized and implemented by someone else. Farmers have limited time for extra work, so we are missing opportunities to plant more trees that will help farmers deal with the ever-increasing strains to their crops due to stresses like climate change. We also have many community tree groups that require assistance with site plans and plantings to make them successful.

Further, we continue to receive requests from landowners to develop planting

plans. However, our current staffing model does not allow time to meet the demands. A dedicated Forest Technician under Green Legacy would allow for increased planting and high-count orders, resulting in greater forest cover throughout the County. Between 2008 and 2012, Mapleton Township's grant supported Forest Technician was able to increase forest cover by 35,000 - 50,000 trees per year through its programme. If the County of Wellington had a forest technician, we could see benefits approaching this scale throughout all seven municipalities.



**The best time to plant a
tree was 20 years ago.
The second best time is now.**
Chinese Proverb

Over the last twenty years, the **Green Legacy Programme** has had a very productive and successful level of community service and environmental benefit. Staff will continue to explore other environmental initiatives and opportunities that strengthen our commitment to the "land ethic" for Wellington County.

Appendix

****Environment Canada, in alignment with other conservation authorities, recommends maintaining a minimum 30% tree canopy coverage on a watershed basis. This tree cover is crucial for ensuring the healthy ecological and hydrological function of rivers and lakes within the watershed 1. By preserving this tree canopy, we contribute to several vital aspects:**

- 1. Water Quality:** Trees play a significant role in filtering pollutants from rainwater and runoff. Their roots stabilize soil, preventing erosion and reducing sediment transport into water bodies. Additionally, tree leaves absorb airborne pollutants, enhancing overall water quality.
- 2. Water Quantity:** Trees help regulate water flow by capturing and releasing moisture through transpiration. Their presence reduces the risk of flooding during heavy rainfall and ensures a steady supply of water during drier periods.
- 3. Biodiversity:** A diverse tree canopy supports various wildlife species, including birds, insects, and mammals. These organisms contribute to ecosystem health and resilience.
- 4. Climate Resilience:** Trees sequester carbon dioxide, mitigating climate change impacts. They also provide shade, reducing water temperature and supporting aquatic habitats.

In summary, maintaining a 30% tree cover is essential for sustaining our natural environment, safeguarding water resources, and promoting overall ecological balance. Let's continue to protect and nurture our green spaces!



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