



Thinking Green

Climate Adaptation Plan

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List of Abbreviations

2SLGBTQIA+ - Two-Spirited, Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, Asexual, and additional minorized genders and sexual orientations not stated in the acronym

AWG – Adaptation Working Group

CS – Corporate Services

CSR – Climate Science Report

DS – Development Services

EAC – Environmental Advisory Committee

EGPL – East Gwillimbury Public Library

EPW – Engineering and Public Works

FES – Fire and Emergency Services

GIFN – Georgina Island First Nation

IIDEA – Indigeneity, Inclusion, Diversity, Equity, and Accessibility

IK – Indigenous Knowledge

KPI – Key Performance Indicators

LSCRA – Lake Simcoe Region Conservation Authority

NbS – Nature-based Solutions

ORCCA – Ontario Resource Centre for Climate Adaptation

ORMTA – Oak Ridges Moraine Trail Association

PRC – Parks, Recreation, and Culture

T&R – Truth and Reconciliation

VRA – Vulnerability and Risk Assessment

YRPH – York Region Public Health

Land Acknowledgment

The Town of East Gwillimbury recognizes and acknowledges the lands originally used and occupied by the First Peoples of the William Treaties First Nations and other Indigenous Peoples, and on behalf of the Mayor and Council, we would like to thank them for sharing this land.

We would also like to acknowledge the Chippewas of Georgina Island First Nation as EG's closest First Nation Community and recognize the special relationship the Chippewas have with the lands and waters of this territory. They are the water protectors and environmental stewards of these lands, and we join them in these responsibilities.



Artist: Lauri Hoeg, Chippewas of Georgina Island First Nation Member

Acknowledgements

We gratefully acknowledge the many partners, organizations, and individuals who contributed their time, wisdom, and commitment to developing the EG Climate Adaptation Plan. This Plan is the result of extensive collaboration, shared learning, and a collective dedication to building a more resilient future for our community and our neighbouring communities, as nature has no borders. Many of these partners were part of the **Adaptation Working Group (AWG)**, which participated in a lengthy process to identify risks and vulnerabilities and provided input on adaptation planning.

We express our sincere appreciation to the **Ontario Resource Centre for Climate Adaptation (ORCCA)** for their work in developing the Climate Science Report and supporting the completion of the Vulnerability and Risk Assessment, which formed the foundation of this Plan and strengthened our understanding of EG's climate risks and opportunities.

We extend our deep thanks to the **Lake Simcoe Region Conservation Authority (LSRCA)** for their vital contributions, including the EG Urban Forest Study report, the Urban Heat Island Study and the Greenhouse Gas Inventory in EG. Their scientific analysis, guidance, and long-standing partnership continue to support evidence-based decision-making in our community.

The Town gratefully acknowledges the **Federation of Canadian Municipalities' Green Municipal Fund** and its Local Leadership for Climate Adaptation (LLCA) program. Their financial support made the development of this Climate Adaptation Plan possible and reflects a national commitment to advancing municipal climate resilience.

Heartfelt thanks to the Chippewas of **Georgina Island First Nation (GIFN)** and **Ne'ikaanigaana Inc.** for sharing their wisdom that makes this plan more holistic and rooted in First Nation Knowledge. We also thank **Ontario Nature** for its ongoing support.

The Town is grateful to **community members** and organizations whose thoughtful feedback, community insights, and environmental stewardship meaningfully strengthened this Plan, including: 55 'n UP Club, Environmental Advisory Committee (EAC), Diversity and Inclusion Advisory Committee, York Region Alliance of African Canadian Communities (YRAACC), Black York Region Youth (BYR Youth), and York Pride. Their dedication to local climate action is deeply appreciated.

We extend our heartfelt thanks to **EG** and **York Region staff** across all departments. Their participation in workshops, contribution of operational knowledge, and commitment to advancing climate resilience were essential in shaping a Plan that is practical and visionary.

Finally, thanks to **Council**. Their continued commitment to advancing climate adaptation is reflected in their unanimous support for this initiative, active participation, and feedback.

To all partners, staff, community members, and contributors, **thank you!** for your leadership, collaboration, and shared commitment to building a safer, healthier, and more climate resilient EG

Executive Summary

Delivering on the Council-declared Climate Emergency, EG's Thinking Green: Environmental Strategy, and the 2022-2026 Strategic Plan, EG's Thinking Green: Climate Adaptation Plan aims at building resilience to the effects and impacts of climate change at the corporate and community level.

Inspired by the Haudenosaunee philosophy of the Seven Generations, in which we place ourselves in the middle and learn from our past to inform our future, the East Gwillimbury (EG) Thinking Green: Climate Adaptation Plan (CAP) will guide the community in increasing resilience to climate change impacts through adaptation measures that protect our community, natural heritage^a, infrastructure, and local economy. This plan is a call to action and adopts a holistic approach in which people protect the environment, the community, and themselves as one.

To achieve this, an Adaptation Working Group (AWG) was assembled, with participation from regional and local municipal staff, the Lake Simcoe Region Conservation Authority (LSRCA), and members of the EG Environmental Advisory Committee (EAC). This group was crucial in providing input to identify and prioritize climate risks and vulnerabilities to EG.

Through engagement and consultation with various focus groups representing Indigenous Peoples, Black people/people of African descent, and other racialized communities, older adults, youth, persons with disabilities, and 2SLGTBQIA+ communities, EG gathered and prioritized 15 actions organized into four priority action areas: Healthy Communities, Thriving Nature, Resilient Infrastructure, and Resilient Economy.

The 15 actions presented in this Plan have corresponding activities identified for implementation by various Town departments and partners, ensuring the Plan is rooted in and builds on existing efforts.

This plan is a living document, with the Adaptation Working Group (AWG) meeting annually to track advances, identify gaps, and address community needs as they emerge. The actions and identified activities will guide and inform the Town to improve its proactive measures, promoting resiliency in our environment, economy, infrastructure, services, and communities.

^a Natural heritage includes both plants and animals as well as aquatic and terrestrial features that make up natural communities and are linked by natural corridors. This includes wetlands, significant landforms such as the Oak Ridges Moraine, and interconnected water bodies such as lakes.

Introduction

On April 18, 2023, Council declared a Climate Emergency, formalizing EG's environmental commitment to addressing climate change and its threats. The declaration enables the Town to build on existing environmental policies and initiatives and to introduce new comprehensive plans and strategies. On March 5, 2024, Council approved EG's Thinking Green Environmental Strategy. Additionally, the 2022 – 2026 Strategic Plan identified Environmental Stewardship as one of its strategic pillars. The Climate Adaptation Plan (CAP) is a key deliverable of the Strategic Plan and Environmental Strategy, aimed at building resilience to climate change at the corporate and community levels.

Across Ontario, municipalities are increasingly facing the harsh realities of climate change, from flooding and extreme heat to more frequent and severe storms. The Town of East Gwillimbury (EG) is no exception and has increasingly felt these impacts, witnessing flooding, heatwaves, and storms in recent years that have damaged infrastructure and led to significant recovery costs.

In 2017, York Region experienced an extreme rainfall event which caused severe flooding, impacting several water and wastewater sites across the region. During this event, EG experienced rainfall comparable to a 1-in-50-year event. In 2024, insured damage caused by severe weather events exceeded \$8 billion in Canada, marking the costliest year for severe weather-related losses in history [1]. These events affected the natural environment and impacted EG's infrastructure, economy, and daily lives of residents. These events highlight the need to prepare for ongoing climate impacts, especially as the climate will continue to change over the next several decades.

Municipalities play a significant role in climate change mitigation and adaptation, as they are on the front lines of safeguarding the local environment, infrastructure, and residents from climate-related impacts. EG can transform climate threats into adaptation opportunities that can build climate resilience.

EG's climate adaptation efforts align with regional and provincial plans, programs, and policies. York Region's 2022 Climate Change Action Plan outlines mitigation and adaptation actions that were considered and included. The Region's 2021 Climate Change and Health Vulnerability Assessment informed health and safety-related initiatives. The 2023 Provincial Climate Impact Assessment (PCCIA) Adaptation Best Practices Report, and the 2011-2014 Climate Ready: Ontario's Adaptation Strategy and Action Plan, also guided the development of EG's Climate Adaptation Plan.

In developing this Plan, Town staff, representatives from partner organizations, and the community provided valuable insights to identify the most significant impacts, vulnerabilities, and risks that climate change poses to EG. This includes impacts on our natural, social, built, and economic systems in the community and Town operations. Additionally, the EG Climate Science Report and EG Vulnerability and Risk Assessment, completed in partnership with the Ontario Resource Centre on Climate Adaptation (ORCCA), helped identify broader risks for the Town in the short, medium, and long-term. Drawing on these key insights and documents, the Climate Adaptation Plan identifies key priority action areas, guiding principles, along with specific actions and activities to address the most relevant climate impacts to EG.

Objectives

- To improve EG's resilience to the effects and impacts of climate change.
- To build a climate-resilient EG by upholding the guiding principles and by prioritizing nature, people, and working collaboratively with our partners and community.

Why do we need a Climate Adaptation Plan?

The Climate Adaptation Plan is a critical tool for the Town and a guide for the community, as local weather evidence, policy from different levels of government, and climate science show that EG is already experiencing climate-related risks that will intensify without proactive planning.

The community has also expressed that climate change is a big concern, especially worrying youth, as expressed in several engagement sessions led by EG staff and conversations that occurred at schools:

"I feel like this is still preventable from being permanent, but we need to act fast."

"I feel we are betraying animals and the Earth because we have the power to fix it."

"I feel anger and frustration with climate change."

"Climate change makes me feel useless because I can't help the Earth alone. Other people don't care about the Earth as much as they should. If people cared, Earth would be so much more different."

"It makes me feel like we care more about ourselves."

"I'm nervous for our future, especially since there is no Planet B."

Finally, because we are all part of the Seven Generations Principle, we must honour our past and the wisdom it provides to face the challenges of the future with hope.

The Seventh Generation Principle

The Seventh Generation Principle is a philosophy that originated from the Haudenosaunee Confederacy^b, which states that we stand in the middle of seven generations before and after us [2]. People today must make sustainable choices and protect the Earth to honour the seven generations of ancestors who came before us, and to create a world where the next seven generations can thrive. Those of us here today are the bridge between our ancestors' resilience and our children's future.

^b The Haudenosaunee Confederacy meaning "People of the Long House" is comprised of the original nations of the confederacy, including the Mohawks, Oneidas, Onondagas, Cayugas, and Senecas, with the Tuscaroras joining the league in the 1700s. It is one of the first and longest lasting participatory democracies around the world, intended to unite the nations and create a peaceful means of decision-making [21].

Currently, we are at a critical moment in history. We have the awareness, strength, and resources to shape a good future for all. Today stands as a turning point where we choose to honour our ancestors' history, foster unity, and begin the work needed to embed respect, equity, and sustainability into everything that we do.

The Seventh Generation Principle is applicable to all areas of life, but in a rapidly changing world where climate change and environmental degradation threaten to take over, we must respect it now more than ever.

Our Guiding Principles

The guiding principles of IIDEA (Indigeneity, Inclusion, Diversity, Equity, and Accessibility) are included in and inform this Climate Adaptation Plan. Other Indigeneity-related components include Truth and Reconciliation (T&R) and Anishinaabe/Indigenous Knowledge (IK). The final principle, Nature-based Solutions (NbS), ensures the prioritization of the natural environment in all actions and activities. These Guiding Principles are embedded throughout all action areas and will direct the implementation process.

Indigeneity, Inclusion, Diversity, Equity, and Accessibility (IIDEA)

Recognizing that climate change disproportionately affects marginalized communities, the Climate Adaptation Plan adopts an IIDEA approach to ensure inclusive solutions, reduced barriers to participation, and benefits that everyone can feel.

Truth and Reconciliation (T&R)

The concept of Truth and Reconciliation (T&R) was first introduced through the Truth and Reconciliation Commission (TRC) established in 2008 under the Residential School Settlement Agreement. The TRC's mandate was to inform and educate Canadians about the legacy of colonization that created residential schools, provide a platform for survivors to share their stories, and to support initiatives grounded in truth, reconciliation, and healing. The TRC issued [94 Calls to Action](#) to advance the process of reconciliation through various policy actions, systemic changes, and advocacy initiatives. T&R will guide relationship building with First Nations Treaty Rights-Holders and other Indigenous Peoples within and outside of EG.

Indigenous Knowledge (IK)

This Climate Adaptation Plan embraces a Two-Eyed Seeing approach, valuing Indigenous Knowledge and ways of knowing, alongside Western knowledge and ways of knowing, with both "eyes" being used together to find effective adaptation solutions. Two-Eyed Seeing was coined by Elder Albert Marshall of the Mi'kmaw Nation, who introduced the principle of *Etuaptmumk* – the gift of multiple perspectives in the Mi'kmaw language [3].

Nature-based Solutions (NbS)

This Plan will promote Nature-based Solutions to protect and restore ecosystems and maintain environmental balance in the face of climate change. NbS refers to the use of natural features and processes to tackle socio-environmental issues such as climate change (mitigation and adaptation), food security, biodiversity loss, human health and disaster risk management.



Climate Science Report: Summary and Findings

In partnership with the Ontario Resource Centre for Climate Adaptation (ORCCA), EG developed a Climate Science Report (CSR) that presents past climate trends and future climate projections. Baseline information was built using local weather data between 1971 and 2000. The climate projections indicate significant and complex changes and conclude that rising temperatures, changing weather patterns, and extreme weather events are already affecting EG's natural environment, infrastructure, economic sectors, and community. Based on this report, EG staff compiled five key climatic impacts:

- A. Abnormally high temperatures during summer and winter.
- B. Summer is starting earlier and winter is starting later.
- C. Unpredictable weather year-round.
- D. Considerable changes in rain and snowfall patterns.
- E. Increased frequency and intensity of weather events.

A. Abnormally high temperatures during the summer and winter.



The projected annual mean temperature is expected to increase from a baseline of 6.7°C to 9.2°C by 2050, and 11.4°C by 2080. Abnormally high summer temperatures and the increased frequency and intensity of heat waves pose significant risks for heat-related illnesses, particularly for at-risk populations. This includes infants and young children, older adults (over the age of 65), individuals with chronic medical conditions, and outdoor workers. Examples of health risks include heat cramps, heat edema, or heat stroke. Persistently high temperatures will also increase the risk of drought, leading to other health impacts such as poor air quality, food and water-borne diseases, water insecurity, and increased risk of wildfires. Warmer winters will also affect community health. A reduction in the number of days below 0°C contributes to increased survival and spread of ticks and other vector-borne diseases^c such as Lyme disease^d. Additionally, constant changes in freeze-thaw cycles could damage Town infrastructure such as roadways, sidewalks, and other outdoor structures. This will increase public safety risks alongside long-term maintenance and repair costs.

Figure 1 shows the increasing temperature trend from 1960, and the projection by the end of the century in a business-as-usual scenario^e.

^c A vector of disease is any living organism that can carry and transmit infectious pathogens between humans and animals. It's usually an insect or arthropod that picks up a virus, bacteria, or parasite and then passes it on, often through a bite.

^d Lyme disease is an infectious illness caused by the bacterium *Borrelia burgdorferi*. It is spread to humans through the bite of infected blacklegged ticks.

^e A business-as-usual, or high-carbon scenario, projects a future where greenhouse gas emissions continue to rise unchecked. It assumes little to no new climate policies, resulting in severe global warming, intense physical climate risks, and high-carbon dependency.

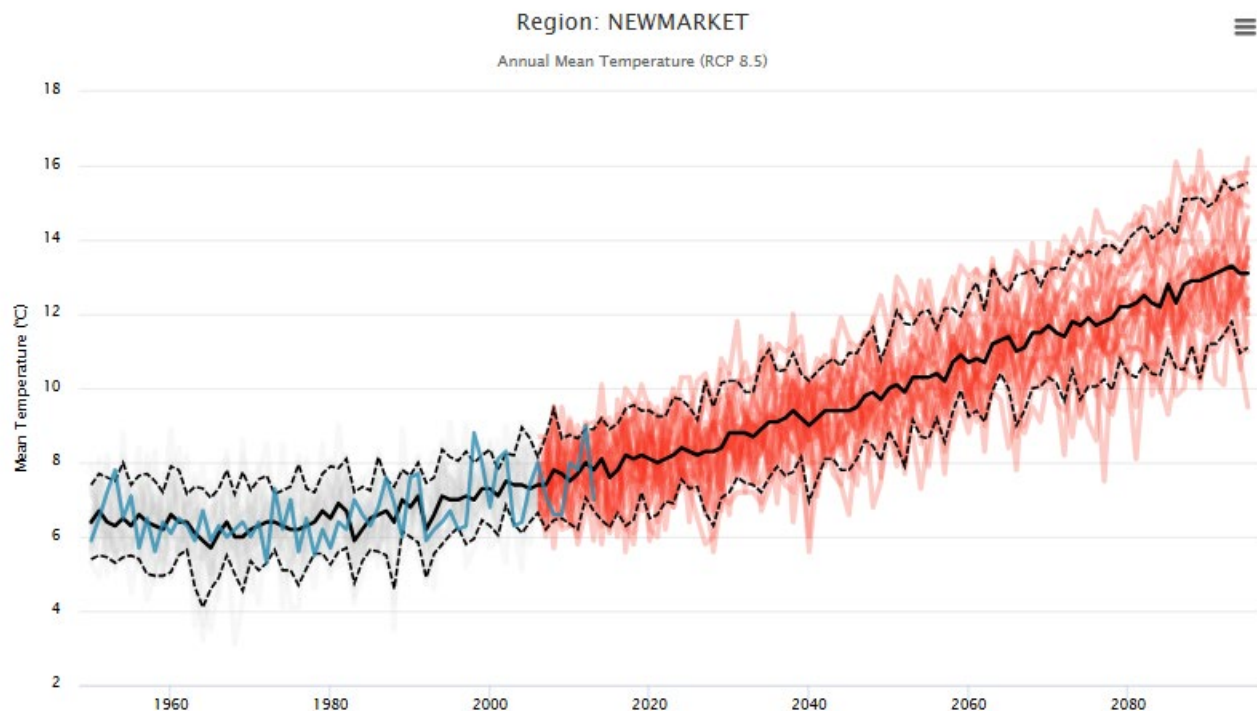


Figure 1: Mean Temperatures for the region of Newmarket, which includes EG, as established in the Climate Atlas of Canada

B. Summer is starting earlier and winter is starting later



Research from the University of British Columbia indicates that Toronto's summers have grown by about 30 days since the 1960s, turning the mid-latitude transition from spring to summer into much more abrupt, intense heat events [4]. During workshops, community members and partners noted that earlier summers and later winters have already begun to disrupt EG's natural environment, including plant and animal survival, growing season length, and the types of vegetation that grow now and in the future. The baseline growing season in EG typically begins around May 7 and ends around October 7, totalling approximately 153 days. Under the high-carbon scenario, between 2021 and 2050, the growing season is projected to begin approximately 11 days earlier and end approximately 15 days later, extending by roughly 3.7 weeks per year.

A longer growing season can be advantageous for growing more food and increasing local food security; however, the overall impacts of warmer weather on agriculture can hinder this opportunity if adaptation measures are not implemented. Increased temperatures may raise the likelihood of drought, reduce water availability for irrigation, create favourable conditions for pests, and disrupt pollination patterns. These could disrupt agricultural patterns, ecosystem cycles, and crop productivity, resulting in negative social and economic impacts (e.g.; higher cost of living, less food sovereignty and security, disruptions to income, etc.) for local farmers and EG's agricultural economy.

C. Unpredictable weather patterns year-round



Unpredictable weather patterns, resulting from sudden changes in temperature and precipitation, make it difficult to plan short-term, day-to-day activities and long-term projects such as planning growing seasons, and building or maintaining infrastructure. During the workshops, participants also mentioned disruptions to the ability of community members to plan and attend events or recreational activities, potentially contributing to poorer physical and mental health outcomes.

D. Considerable changes in snow and rainfall patterns



In EG, precipitation across all seasons is projected to increase. Annual precipitation could increase from an average baseline of 795 mm to 901 mm by 2080. This is a nearly 13% increase. Maximum 1-Day^f events could increase from 39 to 46 days by 2080. This will negatively impact stormwater systems and increase the risk of flooding, resulting in infrastructure damage and large recovery costs. The amount of precipitation can result from a short, but intense storm or from a moderate amount of rain falling continuously all day.

E. Increased frequency and intensity of weather events



Canada has seen more frequent and intense extreme weather events over the last 50 years. These events include extreme heat, more frequent extreme precipitation, windstorms, and snow or ice storms. For example, Hot Days^g per year are expected to triple, from 9 to 26 days by 2050 in a business-as-usual scenario. Heat waves are also expected to increase in number and duration^h.

Insured damage caused by severe weather events exceeded \$2.4 billion in 2025, making it the tenth costliest year on record for severe weather-related insured losses in Canada. Between 2006 and 2015, Canada's annual insured losses due to catastrophic weather events was \$14 billion. By contrast, the decade of 2016 - 2025 nearly tripled the previous one (\$37 billion) [5].

Extreme weather events will impact communities in EG, affecting infrastructure, critical services, economic and industrial productivity, and community health, increasing the risk to marginalized populations. Projections for EG indicate that more rain will fall in shorter periods, with extreme storms becoming more frequent. The frequency and intensity of these high precipitation events put neighbourhoods, agricultural land, and properties at risk of flooding. Appendix 2 depicts floodplainⁱ mapping for the East Gwillimbury region.

^f Total amount of rain or snow that falls on the wettest single day of the year.

^g Hot Days are days when the maximum temperature is 30°C or higher.

^h For detailed information, please refer to the EG Climate Science Report.

ⁱ Floodplain: an area of land adjacent to a river, stream, or watercourse that is prone to flooding during periods of high discharge.

Indigenous Knowledge on Climate Change

This section was written by Hannah Big Canoe, Georgina Island First Nation member, as part of the Rekindling Project carried out on the Island, which aimed to connect Indigenous Knowledge from Elders with Youth, including perspectives on climate change. The section reflects the sentiment of several GIFN members living on reserve. This section was added with the author's permission, as part of the ongoing collaboration and reciprocal relationship-building process between EG and GIFN, to voice the concerns of GIFN members living on reserve about climate change and to provide an Indigenous perspective on its effects on neighbours close to EG.

"The land and culture offer more solutions than most institutions can. Cultures are medicine, and I believe strongly that Indigenous wisdom is the medicine the world seeks in addressing these issues of sustainability. Rather than seeing us as victims to globalization, pollution, and climate change, we can become the teachers if given the opportunities of respect and equality and equity on every front."

Sheila Watt-Cloutier - Inuk Climate Change Advocate and 2007 Nobel Peace Prize Nominee

During interviews completed between Georgina Island First Nation high school students and Community Knowledge Carriers, it became evident how climate has changed over one's lifetime, and how this impacts physical, mental and spiritual health. Among the main themes that emerged were the unpredictability of weather patterns and changes in Lake Simcoe, invasive species, and increased risk of fire.

Weather is becoming more unpredictable, affecting cultural practices. The freezing period for Lake Simcoe has changed drastically over one single generation. The ice used to be much thicker in winter. Lake Simcoe used to freeze earlier and thaw less sporadically. GIFN could rely on the lake for transportation and food. Today, there is more pollution in the lake, resulting in green algae and white foam, not seen before. The Community can't rely on the lake in the same traditional ways of their ancestors.

The rapid advance of invasive species is also a concern. Native trees are being choked out by invasive species such as Dog Strangling Vine. There is a population decrease in fish in Lake Simcoe, many being eaten or pushed out by invasive fish and wetland species, all due to a changing and warming climate. Fire is also a significant concern due to drought and the number of fallen trees after the severe ice storm last year (2025).

Among other factors, these impacts have led to many band members^j feeling unseen and unheard by local, regional, and provincial leadership which has prioritized economic development and short-term advancement for years, often privatized. This is exhibited in the form of unnecessary and unsustainable urban sprawl. The need to be more prepared is growing on Georgina Island. Band members feel less capable now than previous generations when it comes to looking after themselves and the Island as a whole.

There is a desire to be ready for emergencies. Georgina Island has to rely on surrounding municipalities for aid during extreme climate-related disasters. The need to be more self-sustainable is universal. The Community used to be able to steward the land on the island very efficiently, and that has been lost over generations and a century of discriminatory laws and policies^k that are being exacerbated by climate change.

^j Band membership is the right to be considered a member of the community, and to participate in the community's political life. A band member has the right to reside on and possess land in their band's reserve and to benefit from monies that relate to the commonly held rights of the band, such as revenues related to reserve lands [17]. The *Indian Act* currently defines a member of a Band as a person whose name appears on a Band List or who is entitled to have his name appear on Band List.

^k Examples of governmental harmful policies: reservations and forced relocation, banning of language, culture and traditional practices like powwows, potlatches, round dance, and large gatherings of Indigenous people in general, removing status and rights of FN women who married outside their race, residential and Indian day schools, removal from territories, hunting and fishing laws debated or restricted.

Vulnerability and Risk Assessment Report: Summary and Findings

In 2024, EG and ORCCA, with support from the Adaptation Working Group (AWG), developed the Climate Vulnerability and Risk Assessment (VRA) Report. The report includes climate impact statements, developed from a detailed analysis of the Climate Science Report (CSR) and EG's local reality. The assessment identified 33 climate impact statements, covering a range of affected areas, and 15 were prioritized for adaptation planning. All impact statements are detailed in Appendix 1. EG's most significant risks fall across four interconnected systems: public health and safety, the natural environment, infrastructure, and the local economy.

The community faces growing socio-economic and health risks stemming from extreme heat, increased vector-borne diseases, and greater strain on at-risk populations, including seniors, outdoor workers, low-income families, those without cooling systems, and residents experiencing social isolation.

The natural environment faces significant pressures from rising temperatures, shifting precipitation patterns, invasive species, and biodiversity loss, threatening EG's natural heritage, ecosystems, and wildlife.

Extreme weather events also put pressure on natural and built infrastructure, threatening EG's functionality and business continuity through risks such as damaged trees, power outages, increased maintenance demands on roads, buildings, wastewater systems and stormwater infrastructure.

EG also faces climate impacts that threaten to disrupt local businesses, damage property, and undermine community livability, putting the local economy at risk.

By identifying adaptation solutions for the 4 interconnected systems, EG will be able to address these climatic impacts using a holistic approach, keeping in mind that prioritizing environmental protection leads to healthy communities and ecosystems, resilient infrastructure and a resilient economy.

Indigenous Communities are more susceptible to the impacts of climate change due to past and ongoing forms of colonialism, which continue to isolate Indigenous Communities from their lands and waters, thus enhancing climate change vulnerability. Indigenous Communities also have a distinctive relationship with the natural world, as caring for land, water, and all of creation is integral to their traditions, culture, and way of life. Reconciliation with Indigenous Peoples cannot happen without reconciling with the natural world. As stated by Elder Reg Crowshoe¹, *"If human beings resolve problems between themselves but continue to destroy the natural world, then reconciliation remains incomplete [6]."* One close example of climate change impacts to Indigenous communities is the more frequent and unpredictable ice thickness on lakes causing safety risks associated with driving. This will have profound

¹ Dr. Reg Crowshoe is an Elder and Traditional Knowledge Carrier from Piikani Nation in southern Alberta, where he was the former Chief. He is widely recognized for his dedication to preserve and celebrate Piikani traditions, language, culture and history. He has guided all levels of government, institutions, and non-profit organizations to develop a cross-cultural understanding of Indigenous history and has advanced reconciliation efforts across Canada. He was appointed as a Member of the Order of Canada for his dedication to Blackfoot culture and reconciliation.

impacts on GIFN's access to emergency medical services from the mainland and on the reliability of the transportation system as a whole, exacerbating existing socio-economic barriers.

The impact of climate change on the growing season is impacting Indigenous Communities disproportionately. The Williams Treaties First Nations were a highly mobile people who travelled throughout the region to hunt, harvest, and fish since time immemorial. The observed changes impact traditional food systems that provide the First Peoples with Manoomin (wild rice), Mndaamin (corn), Odeminan (strawberries), and Giigoonkewag (fish) for thousands of years [7]. On Georgina Island, the community has observed changes to the colour and temperature of Lake Simcoe, fewer fish, and dried-up creeks, which have a significant impact on fishing and food availability, quality, and access [8]. Harvesting traditional medicines from swamps is now also a challenge due to water levels and dried-up wetlands, compounded by development pressures. This is causing a decline in plant life [9].

In addition, climate change is expected to have significant impacts on other marginalized populations, including Black and other racialized communities, 2SLGBTQIA+ individuals, families facing socioeconomic barriers, older adults, youth, and newcomers. For example, racialized populations across Canada have less access to green spaces, which are essential for moderating extreme temperatures and providing shade during heat events [10].

Low-income families experiencing food insecurity will face additional challenges accessing healthy and nutritious food as climate change increases the cost of food production.

Marginalized communities also face barriers related to structural determinants of health and well-being (e.g; access to education, food security, adequate healthcare, and stable employment). These barriers reduce resilience to climate events and limit access to social, economic, and political resources needed to recover from climate emergencies.

This heightened exposure to climate change experienced by these communities is rooted in inequitable policies and systemic barriers, including the ongoing legacies of racism and colonialism. As a result of these social, political, and economic structures, and intergenerational impacts, marginalized communities will face greater consequences of climate change, while having fewer resources to withstand its impacts.

Building climate resilience and including effective climate solutions for marginalized communities requires prioritizing climate justice. This involves reducing systemic barriers and ensuring that the benefits of climate adaptation initiatives are accessible to all.

Actions and Identified Activities

Based on findings from the Climate Science Report and the Vulnerability and Risk Assessment, and with participation and support from the Adaptation Working Group and external partners, the Climate Adaptation Plan (CAP) identifies four priority action areas: Healthy Communities, Thriving Nature, Resilient Infrastructure, and Resilient Economy.

These priority action areas address short, medium and long-term climate impacts, building on new and existing policies and fostering collaboration with community members and partners to advance adaptation efforts.

The following section outlines 15 prioritized actions and identified activities for implementation. These actions and activities are based on recommendations from the Vulnerability and Risk Assessment Report.

All 15 actions address one or more of the 5 key climatic impacts identified in the Climate Science Report.

Activities are identified with ✓ ❖ ◆ to point out whether it is:

✓ Being Implemented

❖ New initiative proposed in partnership

◆ New initiative

Healthy Community



Goal: To protect and enhance the physical, mental, and social well-being of all residents by reducing climate-related health risks, strengthening community resilience, and ensuring equitable access to resources.

Health is defined as a state of complete physical, mental, spiritual, and social well-being, not merely the absence of disease or infirmity. Every human being, regardless of race, religion, political belief, or social and economic condition, has the right to achieve the highest possible standard of health [11]. Many factors influence physical, mental, and social well-being – including access to land, cultural practices, traditional foods and medicines, and social determinants of health such as housing, income, food security, and social supports.

Climate change presents direct and indirect risks to the health and safety of EG residents. Direct health risks stem from severe extreme weather events such as flooding, heatwaves, and storms. Indirect health risks are influenced by social, environmental, economic, and cultural factors that impact health but are often overlooked.

It is important to recognize that these health risks are not felt equally across the community. Certain groups are more at-risk to the effects of climate change on their health, including but not limited to - older adults, children, Indigenous, Black, and other racialized populations, outdoor workers, those with chronic health conditions, and 2SLGBTQIA+ individuals.

Equitable and effective climate adaptation requires targeted support for community members with limited access to these health-determining factors or those at higher risk of being impacted by climate change.

Action #1: Develop communication and education programs to increase awareness of climate-related health risks among corporate and community groups.

Context

Climate change tends to be a psychologically distant issue for many people, with most individuals considering themselves spatially distant or temporally removed from climate impacts. Although climate change risk perceptions have increased over the last decade, research has shown that communicating the consequences of climate change and educating about the benefits of climate solutions are the most effective ways to encourage individuals to take climate action [12].

Potential Partners

Town Departments (all), YRPH, Ontario Health Central

Identified Activities:

- Establish Climate Adaptation Working Group, consisting of members from each Department, the Environmental Advisory Committee, York Region Public Health, LSRCA, and community members. ❖
- Create and amplify existing educational opportunities for both community and corporate groups, including professional development workshops, communications/partnerships with schools and community centres, social media messaging, etc., with a focus on at-risk residents. ◆
- Work with “Ontario Health Central” to do vulnerability mapping (who may need evacuating or tending in a crisis). ❖
- Educate residents on how to prepare for and how to protect themselves from extreme weather events, specifically extreme heat/cold and intense precipitation events. ◆
- Conduct training on social vulnerabilities and resilience for emergency response staff, volunteers, and health practitioners. ❖
- Engage First Nation and other Indigenous Knowledge Carriers to include Traditional Knowledge into community and corporate education around climate change and the environment. ◆

Addressed Impact(s):  

Action #2: Implement measures to monitor, prevent, and communicate risks related to vector-borne diseases.

Context

Increasing seasonal temperatures and precipitation in York Region provide favourable conditions for mosquitoes and the risk of West Nile Virus transmission. The occurrence of blacklegged ticks and human cases of Lyme disease has also increased in York Region, with Lyme disease rates rising from 0.2 to around 1 case per 100,000 people.

Results from York Region's 2017 Rapid Risk Factor Surveillance System telephone survey suggests that approximately one-third of York Region adults have not adopted behaviours to protect themselves against Lyme disease. Approximately 30% of residents reported they never take steps to protect themselves from tick bites, and 36% of residents reported they never check themselves for ticks after spending time outdoors [13].

Potential Partners

Town Departments (CS, PRC, EPW), GIFN, YRPH, Public Health Ontario

Identified Activities:

- Integrate disease vector risks into the design of stormwater infrastructure by considering measures to prevent standing water or ponding. ❖
- Assess and monitor risk of standing water in roadside ditches during periods of high precipitation. ◆
- Collaborate with York Region on mosquito and tick surveillance and conduct larviciding on breeding sites during the summer. ✓
- Ensure outreach and educational programs target communities disproportionately impacted by climate change (active older adults, children in summer day camps, etc.) on minimizing tick exposure by adapting preventative measures (e.g; identifying tick habitats, using tick-repellent products, etc.) during outdoor activities, especially during peak tick seasons. ◆
- Collaborate with GIFN on educational pieces. ❖
- Educate residents on Standing Water By-law including where and when to report standing water. ◆
- Work with York Region to investigate Standing Water complaints within a 7-day timeframe. ❖

Addressed Impact(s):   

Action #3: Promote a sustainable and local resilient food system.

Context

Changes in the climate are affecting food security and food safety across Canada, both of which have implications for human health. Climate change is increasing the risks of food insecurity through disruptions to food systems, rising food prices, and negative effects on nutritional content. Precipitation, temperature, and extreme weather events are projected to increase the introduction of pathogens to food, increasing the risks of food-borne illnesses [14].

Potential Partners

Town Departments (PRC, DS, CS), YRPH, York Region Food Council, EG Gardeners

Identified Activities:

- Support and promote locally grown food and agricultural products (e.g; EG Farmers Markets, Indigenous farmers, etc.). ✓
- Support community access to physical spaces for growing food and traditional medicines that is led by community members through the Climate Adaptation Working Group (e.g. community gardens). ❖
- Work with York Region to support approvals processes for community kitchens. ❖
- Provide messaging to the community to better understand the linkages between climate change and the food systems, incorporating First Nations Knowledge. ◆
- Work with York Region Public Health and food retailers to ensure food security and food safety during weather-related emergencies (e.g., blackouts), including supporting the development of contingency plans in the event of a power outage. ❖
- Promoting access to healthy food through complete communities (i.e., being able to have access to healthy food through active transportation methods). ✓
- Implement the Council-endorsed York Region Food Charter [15]. ✓
- Support business-to-business partnerships across the food value chain to reduce or re-purpose food waste locally to create a circular food economy. ◆

Addressed Impact(s):     

Action #4: Promote community-based resilience programs that address eco-anxiety and establish neighbourhood support systems to assist at-risk residents during extreme weather events.

Context

Eco-anxiety, also known as climate anxiety, is a chronic fear of environmental doom or distress about climate change on the environment and other humans. Anxiety related to climate change tends to strongly impact children, older adults, Indigenous Communities, and people with fewer economic resources. Research suggests that building a sense of community can help reduce adverse mental health impacts of climate change, including the opportunity to take climate action which can help individuals feel in control and empowered to create social change [16].

Potential Partners

Town Staff, YRPH, EGPL, EAC, GIFN, Indigenous Communities, EG Residents

Identified Activities:

- Implement a climate support group (e.g.; Climate Café) where community members, government agencies, Town staff, and other interested parties can meet quarterly to talk about climate change, coping mechanisms, and actions they can take to feel in control. ◆
- Create “chapters” of the climate support group for groups that will be disproportionately affected by climate change (e.g. youth, Indigenous Peoples, racialized people, older adults, etc.). ◆
- Explore opportunities to host a climate café annually at GIFN to be inclusive of band members who may not have the opportunity to travel from the Island. ❖
- Promote access to existing mental health resources in the community, including those that address post-traumatic stress for those affected by extreme weather events. ❖
- Create *buddy systems* or neighbourhood connections to facilitate assistance with tasks during and/or after extreme weather events such as checking in on neighbours, providing transportation, and offering supplies, ensuring the health and safety of communities disproportionately impacted by climate change. ◆

Addressed Impact(s):   

Action #5: Support extreme heat adaptation activities.

Context

The 2021 Western Canada heat dome was the deadliest weather event in Canadian history, with 619 heat-related deaths occurring over the span of 6 days [17]. Extreme heat is the leading cause of illness and death from weather-related hazards and finding ways to protect those most susceptible to its effects (e.g; seniors, outdoor workers, low-income households, renters, etc.) is crucial to preventing adverse outcomes.

Potential Partners

Town Departments (all), YRPH, Province of Ontario, Health Specialists

Identified Activities:

- Update municipal plans and policies to mitigate health and safety risks for outdoor workers during extreme weather by adjusting work schedules, and reviewing worker training on recognizing heat stress, implementing preventative measures, and ensuring access to emergency medical care. ◆
- Explore opportunities to create a maximum heat bylaw for rented or leased dwelling units. ◆
- Work with tenant advocacy groups, health specialists, and provincial working group to advocate for air conditioning and cooling as vital services. ◆
- Educate the public about the importance of staying cool during extreme heat events. ✓

Addressed Impact(s):   

Action #6: Protect community health and enhance resilience to poor air quality caused by wildfires.

Context

As the frequency and severity of wildfires are expected to increase across Canada due to climate change, wildfire smoke and GHG emissions from these events represent one of the most significant climate-related risks to air quality. Wildfires are projected to occur more often and with greater intensity, with Ontario already experiencing these impacts significantly over the last few years. In 2025, smoke from forest fires in northern Ontario and the Prairies caused the Greater Toronto Area to rank among the worst in the world for air quality, which posed serious health risks to individuals with chronic or existing health conditions, seniors, infants, and young children [18]. Education, awareness, and access to well-ventilated indoor clean air spaces that are crucial to protecting community health during poor air quality events which are expected to occur more frequently.

Potential Partners

Town Departments (CS, FES, PRC), YRPH

Identified Activities:

- Work with the Communications Team to deliver messaging during poor air quality seasons (e.g; municipal fire bans, ban on fireworks, etc.). ◆
- Conduct wildfire smoke event monitoring through Environment and Climate Change Canada's "EC Alert Me^m." ◆
- Ensure community "Resilience Hubs" remain open to provide vulnerable residents with clean air spaces that have high efficiency Heat, Ventilation, and Air Conditioning (HVAC) systems, enhanced indoor air filtration and building design that minimizes wildfire smoke infiltration. ✓
- Work with York Region Public Health to distribute wildfire smoke information to the community. ❖

Addressed Impact(s):   

^m EC Alert Me is a notification system from Environment and Climate Change Canada to help community members prepare for and anticipate severe weather events. Weather alerts can be issued for a wide range of hazards, including weather like thunderstorms, rain or snow, wind, and heat. Users are able to set up "Alert Areas" based on locations of interest (e.g; work, home, etc.) and "Alert Settings" based on how they wish to be notified.

Thriving Nature



Goal: To safeguard ecosystem functions and services, strengthen biodiversity, and preserve EG's natural heritage while building resilience to climate impacts.

The Town of East Gwillimbury is defined by its rich natural heritage and vibrant agricultural landscape. With thousands of trees, abundant freshwater ecosystems, wetlands, and rivers, the Town forms an integral part of the Oak Ridges Moraine. However, these natural assets are under increasing pressure from rising temperatures, changing precipitation patterns, and more frequent and intense weather events. Together, these climate impacts threaten biodiversity and the ecological functions that support both the community and the many species that depend on these ecosystems.

Additional challenges, such as livestock stress, the spread of invasive species, and disruptions to pollinator behaviour are further reducing the Town's environmental resilience. Coupled with the impacts of continued urbanization and a growing population, these pressures highlight an urgent need to protect and restore ecosystems and safeguard the wildlife, green spaces, and agricultural lands that define EG.

Indigenous Knowledge Systems offer holistic approaches for protecting the environment and provides teachings that emphasize building and maintaining relationships with the land and living in reciprocity with nature. Indigenous worldviews recognize the environment as a living entity that should not be exploited and understands humans as part of the interconnected webs of life, rather than separate from or dominant over nature. To honour these teachings and support the Town's natural environment in thriving, it is essential to protect and expand our urban forests, restore ecosystem health and biodiversity, and safeguard water quality and aquatic life. Nature sustains and takes care of us, and it is important for us to do the same.

Action #7: Develop a Strategic Forest Management Plan in collaboration with the Lake Simcoe Region Conservation Authority.

Context

Urban trees are an essential and valuable part of urban life, providing benefits that include urban cooling, water quality improvement and erosion control, air quality improvements, carbon uptake and storage, and health and well-being benefits. With the growing impacts of climate change, maintaining the health of urban forests requires both long-term resilience planning and short-term response strategies. The most effective way to protect EG's urban trees and safeguard its ecosystems is through the development of a comprehensive Strategic Forest Management Plan.

Potential Partners

Town Departments (PRC, CS), LSRCA

Identified Activities:

- Promote the incorporation of climate resilient native species for EG's urban forests and reforestation efforts, in agreement with LSRCA-related studies (e.g.; EG Urban Forest Study). ✓
- Include meaningful targets/timelines for tree equity, canopy cover, species diversity, forest health, maintenance and monitoring, soil conservation strategies, climate change mitigation and adaptation approaches, and education and outreach, as recommended by the EG Forest Study Technical Report and expertise from LSRCA staff. ◆
- Seek guidance from the Treaty Rights-Holders community, Indigenous Peoples (Indigenous leaders, Knowledge Carriers, Elders, and youth) to advise on urban forest planning and stewardship from an Indigenous lens. ◆
- Ensure the protection and improved connectivity of tree canopy corridors within public and private spaces through existent by-laws (e.g; Tree Protection By-law, Forest Conservation By-law, etc.). ✓

Addressed Impact(s):    

Action #8: Protect and restore healthy ecosystems and promote biodiversity.

Context

While healthy ecosystems and biodiversity fuel our economy and collective prosperity, they are largely undervalued [12]. Tourism, agriculture, fishing, and forestry are a few key industries of many which rely on biodiversity and healthy natural systems. Biodiverse ecosystems are more resilient to changes, and restoration and protection of natural systems will build more resilience through the benefits that nature-based climate solutions provide.

Potential Partners

Town Departments (PRC, EI), EAC, LSRCA, York Region Forestry

Identified Activities:

- Adapt and respond to the introduction, establishment, and migration of invasive species through the creation and implementation of an Invasive Species Management Plan and Working Group. ✓ ❖
- Maintain biodiversity through monitoring and managing invasive species. ✓
- Support the implementation of harvesting rights across EG. ❖
- Promote nature and ecosystem-based solutions to ensure biodiversity is maintained (e.g., prescribed and cultural burning led by First Nations Peoples). ❖
- Collaborate with community partners and residents to create educational/promotional opportunities around maintaining and promoting biodiversity (e.g.; Pollinator Protection initiatives). ✓
- Continue utilizing current design standards for vegetation planting that prioritizes non-invasive, climate-resilient, low-maintenance native species. ✓
- Educate residents about vegetation planting for outdoor spaces surrounding their homes, including best practices and maintenance standards. ◆

Addressed Impact(s):     

Action #9: Strategize and apply measures to maintain water quality for aquatic ecosystems and the health of communities.

Context

Protecting and sustaining our shared waters is crucial as water is life – without healthy waters there is no life. Changes in precipitation and temperature due to climate change will have significant impacts on water quantity and quality, which will disrupt both natural water systems (rivers and lakes) and human drinking water and wastewater systems, increasing risks to aquatic and human health. The impact of poor water quality is a significant issue for Indigenous Communities, as observed by the First Nation community located the closest to the Town, GIFN. The climate-induced changes to Lake Simcoe impact the community and aquatic species that depend on the lake for food, medicine, habitat, and leisure.

Potential Partners

Town Departments (EPW), LSRCA, GIFN, York Region

Identified Activities:

- Work with LSRCA to monitor fish/aquatic species health throughout Town watersheds. ✓
- Develop a low-water response protocol for the Town. ✓
- Educate the community in how to respond to a low-water scenario. ◆
- Work with the LSCRA to develop measures to maintain source water quality and well-water systems. ❖
- Enhance water quality monitoring near treatment plants and septic systems to promptly detect and address elevated bacteria levels during extreme weather events. ❖
- Strategically install and maintain Low Impact Development (LID) structuresⁿ to help with water quality maintenance. ✓
- Enhance the Town's Salt Management Strategy and communications strategy to minimize salt use in ecologically and agriculturally sensitive areas, consider salt alternatives, and pilot new approaches/technologies. ✓

Addressed Impact(s):   

ⁿLow Impact Development (LID) structures are decentralized; nature-based stormwater management practices designed to capture, filter, and absorb rainwater right where it falls. By mimicking the natural water cycle, these systems reduce localized flooding, filter out pollutants, and recharge groundwater aquifers.

Resilient Infrastructure



Goal: To strengthen the resilience and accessibility of built and natural infrastructure to climate change, and prevent the disruption of essential services and ensure the safety of the community.

According to the Canadian Climate Institute, climate-driven hazards will accelerate damage and deterioration across public infrastructure [19]. These impacts are linked to more frequent extreme weather events, including heavier rainfall, increased runoff and erosion, frequent flooding, and changes to freeze-thaw cycles, which place significant stress on buildings, roads, stormwater systems, landscapes, and natural assets. These events have also led to power outages, displacement, and disruptions across transportation networks, highlighting vulnerabilities in essential services and community mobility that negatively impact socio-economic systems.

In response, the Town is taking a proactive and adaptive approach to climate-resilient infrastructure planning and management. This includes updating the Asset Management Plan to better integrate natural assets, expanding the use of both nature-based and grey infrastructure solutions to manage flooding and reduce climate risks, and enhancing community preparedness for extreme weather through resilient, reliable, and accessible infrastructure systems. Together, these actions will improve service continuity, extend asset lifespan, and strengthen the Town's overall resilience to a changing climate.

Action #10: Strengthen the incorporation of climate adaptation and incorporate sustainable management of the Town's natural assets into asset management plans.

Context

Municipal service delivery depends on both built and natural infrastructure, and climate impacts can put these assets at risk. These risks can lead to service disruptions, increased maintenance costs, and reduced asset lifespans if left unaddressed. By building on climate considerations already identified in the current Asset Management Plan, EG has an opportunity to strengthen climate resilience and ensure that our communities can rely on both built and green infrastructure systems that are safe, reliable, and responsive to community needs.

Potential Partners

Town Departments (all)

Identified Activities:

- Build on the climate impacts section of the Asset Management Plan to expand the analysis on current and future extreme events to ensure service continuity. ❖
- Create a natural asset data base and include priority natural assets in the Asset Management Plan and Long-term Asset Management Improvement Roadmap, as well as other activities related to including natural assets^o. ◆
- Determine various methods to account for natural asset conditions and benefits which go beyond asset age and monetary value. ◆
- Integrate future climate scenarios in the Town's Asset Management Plan for prioritized asset categories and assess long-term infrastructure to consider emergency funding requirements. ◆
- Assess retrofit needs for Town infrastructure to account for changing future climate conditions in alignment with Federal and Provincial initiatives and in alignment with future climate predictions. ◆

Addressed Impact(s):  

^o "Natural asset" are components of natural heritage systems. They include forests, wetlands, parks, trees, and watercourses. Natural assets fall under the broader umbrella of green infrastructure [23].

Action #11: Support and expand nature-based solutions and grey infrastructure that reduce flooding and enhance ecosystem functions.

Context

Climate change is increasing flood risks, requiring both nature-based solutions and traditional grey infrastructure to support resilient adaptation. Nature-based solutions (e.g.; wetlands, naturalized stormwater ponds, urban forests, bioswales, etc.) offer flood protection along with numerous ecosystem co-benefits. By combining this with grey infrastructure (e.g.; stormwater systems, culverts, pipes, etc.), the best of both approaches can be applied to optimize flood management and support water quality.

Potential Partners

Town Departments (PRC, EPW, FES), LSRCA, Neighbouring Municipalities, York Region

Identified Activities:

- Create standards for Low Impact Development (LID) and include LIDs into EG's Asset Management system, incorporating equity lens in development standards (e.g; including co-benefit metrics such as cooling, air quality, access to green space, that go beyond drainage) ◆
- Include LID assets in the next Development Charge Study to secure funding for future construction and maintenance of LID assets. ◆
- Expand the implementation of bioswales and floodplain rehabilitation projects, while also undertaking wetland restoration and construction initiatives, with extra emphasis on neighbourhoods with fewer LIDs and green infrastructure. ✓
- Improve record keeping and inspection tracking for LID structures, ensuring inspection data is properly stored and accessible (make data publicly available to improve transparency and accountability). ◆
- Improve coordination between departments and related organizations to ensure new LID structures are properly managed and maintained over the long term. ❖
- Educate residents regarding the risks of interlocking their entire backyard, specifically for new development areas. ◆
- Develop communication protocols during flooding events to inform at-risk residences within affected floodplains of safety measures and precautions they can take. ❖
- Educate residents on [floodplain mapping](#) available through LSRCA Open Data Portal, including how to contact LSRCA if residents are concerned about flooding on their property. ◆
- Work with neighbouring municipalities and York Region during flood events to coordinate response efforts. ❖
- Assess stormwater infrastructure, include a climate lens in infrastructure planning, and integrate green infrastructure. ◆

- Review urban flood risk maps to better understand vulnerability of populations during potential flooding events in urban areas, and to inform the use of nature-based solutions to reduce flooding and enhance ecosystem function. ❖

Addressed Impact(s):   

Action #12: Strengthen community protection and preparedness around extreme weather events.

Context

Residents will turn to municipalities as the first line of defense during extreme weather events. In response, the Town will strengthen community resilience by establishing “Resilience Hubs” with extended operating hours that will serve as critical beacons of information, safety, and recovery for community members, specifically for residents who are disproportionately impacted by climate change. These hubs, supported by backup power systems, will help maintain essential services during outages, while coordinated emergency planning across departments and facilities will ensure service continuity and safety. At the same time, investments in heat-resilient infrastructure across parks, recreational spaces, and public venues will reduce heat exposure and support community well-being during extreme weather conditions.

Potential Partners

Town Departments (PRC, EPW, FES), EGPL, York Region

Identified Activities:

- Increase communication to the public around disaster resilience and emergency preparedness, including various engagement methods and communication channels, prioritizing equity deserving groups. ◆
- Incorporate severe weather event scenarios into emergency exercise and emergency management training. ◆
- Explore options to create “Resilience Hubs” with extended hours of operation during extreme weather events. ◆
- Assess backup power needs to sustain critical services (including stormwater, water services, etc.) during significant power outages, including consideration of at-risk populations (explore the opportunity for renewal energy in the long run). ◆
- Work with departments to identify facilities that require an outage and shut-down plan in case of an emergency, with consideration of at-risk populations. ✓
- Support local venues, parks, and recreational spaces in installing heat-resilient infrastructure, such as tree canopies, shade structures, cooling tents, or portable air conditioning units for large events, sport fields, and outdoor gathering areas. ◆
- Ensure access to and availability of water fountains and misting stations throughout the Town. ◆

Addressed Impact(s):   

Resilient Economy



Goal: To strengthen the Town's long-term economic resilience, contributing to ensuring businesses remain competitive, sustainable, and are able to thrive.

The Town of East Gwillimbury has long been supported by a strong agricultural and rural economy. Climate change presents both opportunities and challenges for this sector. For example, a longer growing season and higher levels of atmospheric carbon dioxide and nitrogen may improve yields for certain crops. However, these potential benefits are put in jeopardy by significant risks, including more extreme weather events (increased temperatures and drought), changes in rainfall patterns, increased heat stress in livestock, and frequent usage of pesticides which contributes to a decline in pollinators. Together, these impacts threaten local agricultural productivity, food production, and overall food security in the Town.

Local businesses also face significant threats from climate-related impacts. Extreme weather events can damage assets and infrastructure, interrupt power, fuel, and water supplies, and reduce worker productivity, all of which increase the cost of doing business. The local economy depends on interconnected systems such as transportation, supplies, and the local workforce, which extends within and beyond East Gwillimbury, resulting in disruptions that can cascade across sectors and extend to regional and national levels due to climate change.

Ultimately, prosperous communities rely on a stable and successful local economy to support essential goods, services, and quality of life. When extreme weather events disrupt this foundation, communities become more vulnerable. Subsequently, strengthening economic resilience is inseparable from building resilient and sustainable communities.

Action #13: Protect agricultural and rural lands and the associated rural economy, including agri-businesses, value-added agricultural products and local food production.

Context

The agricultural sector is highly dependent on weather. Changing seasonal patterns, water availability, extreme weather events, and pests and diseases pose significant challenges to EG's agricultural sector. Modern methods and technologies have made crop and livestock farms increasingly productive; however, agricultural success still depends on getting the right amount of rain and heat at the right time of year. As a result, farmers face increased costs and income instability, requiring adaptation through climate-smart farming practices to ensure the continuation of their livelihoods.

Potential Partners

Town Departments (ED, DS), Local Farmers, York Region Federation of Agriculture, Ontario Federation of Agriculture, York Region Food Council

Identified Activities:

- Support policies that preserve agricultural land, farming, natural harvesting areas, and local food production. ✓
- Incorporate Indigenous ways of knowing into the preservation and protection of land. ◆
- Advocate for policy measures for resilient and local agriculture (e.g.; processing, storage, food hubs) to support food security. ❖
- Connect with local farmers to support an EG Farmers Forum, which will allow farmers to meet, share best management practices^p (BMPs), and liaise with Town staff and community members. ◆
- Connect with Indigenous Knowledge Carriers on wise practices^q. ◆
- Support education opportunities for local farmers on sustainable farming practices (e.g; cover crops, low till, crop rotation, etc.). ❖

Addressed Impact(s):     

^p Best Management Practices (BMPs) are methods, measures, or practices designed to prevent or reduce pollution, maximize efficiency, and achieve optimal outcomes in a specific industry. They represent the most effective and practical means of conducting an activity while minimizing negative environmental or operational impacts.

^q Wise practices are locally appropriate, context-specific actions, tools, or principles that foster sustainable, equitable, and healthy conditions within communities. As an alternative to "best practices," they prioritize Indigenous knowledge, culture, relationships, and lived experiences over standardized, one-size-fits-all, or deficit-based approaches.

Action #14: Support the development of a climate-resilient local economy.

Context

Businesses in Canada are already feeling the impacts of climate change through extreme weather events, employee health and safety, and supply chain disruptions. Climate change offers significant opportunities for businesses to be innovative in adaptation to protect themselves and their communities and make a positive difference through proactive measures. Through understanding the climate risks they face, businesses can enhance their resilience and be better prepared for future uncertainty.

Potential Partners

Town Departments (ED), Local Businesses

Identified Activities:

- Create resources that encourage the community to buy from local suppliers to increase resilience to supply chain disruptions. ◆
- Provide guidance to local businesses on how to maintain business continuity during extreme weather events. ◆
- Support the establishment of a local wise and best management practices network (e.g. business continuity, green business practices, adaptation measures) for businesses to build resiliency. ◆
- Provide support to new and existing businesses to encourage implementation of sustainable practices. ◆

Addressed Impact(s):



Action #15: Promote agricultural, rural, and ecological-based tourism in EG.

Context

Promoting agricultural, rural, and eco-based tourism in East Gwillimbury presents an opportunity to diversify the local economy while showcasing the Town's natural assets, landscapes, and rural heritage. By supporting experiences such as farm visits, local food initiatives, and nature-based recreational activities, the Town can attract visitors and create an additional income source for businesses and farmers, as well as strengthen community identity. The tourism sector is an opportunity to encourage stewardship of natural and agricultural lands, helping to preserve and protect these resources in the face of climate change.

Potential Partners

Town Departments (ED), York Region, LSRCA, Local Farmers, Central Counties Tourism, ORMTA, William Treaties First Nations

Identified Activities:

- Support the creation of policy to strengthen the rural economy, including agri-businesses, value-added agricultural products, and local food production. ✓
- Work with local farmers to identify activities of interest to promote farm tourism and rural recreation. ✓
- Support the implementation of recreational transportation, such as cycling, as identified in the Active Transportation and Trails Plan, to support tourism development. ✓
- Promote eco-tourism (e.g.; cycling, skiing, birding, etc.) through the enhancement of trail systems and other recreational opportunities through partnerships, including the York Region and the Oak Ridges Moraine Trail Association (ORMTA). ✓
- Support the development of community-based and nature-based tourism in partnership with Williams Treaties First Nations. ❖

Addressed Impact(s):  

Conclusion

EG's Thinking Green Climate Adaptation Plan is a key deliverable of the 2022-2026 Strategic Plan and is directly linked to EG's Thinking Green Environmental Strategy. The Plan aims to safeguard the Town from the inevitable impacts of climate change that we are facing. By taking proactive measures and building resilience to climate change, the Town and the community can reduce disruptions and losses from climate-related impacts. This Plan offers the opportunity to scale up ongoing actions and advance new initiatives and leadership through shared priorities and collaborative action.

The interconnected systems require sustained attention. We need to protect our natural environment, ecosystems, and watersheds to preserve ecosystem functions, plant and animal species, and to honour the Town's natural heritage, guaranteeing a better future without discrimination.

This Plan:

- Enhances the community's health and safety as climate-related threats become more prevalent. As a community, it is imperative to ensure that built and natural assets can withstand climate change impacts;
- Provides tools to help our local economy and businesses make informed decisions to manage climate change risks. Together, we can take action to keep ourselves, our families, our environment, and our communities resilient as the climate continues to change, and;
- Highlights the need to implement actions with equity, diversity, inclusion and accessibility lenses, ensuring that those most affected are properly cared for.

Reconciliation with Indigenous Peoples is a crucial part of climate action and environmental stewardship. The integration of Indigenous Knowledge Systems, oral histories, protocols, and connections to the land is essential for reconciliation. Recognizing Indigenous Peoples' sovereignty and including Indigenous rights in environmental initiatives are crucial to building and maintaining meaningful relationships.

Following the release of this Plan, the Town will work with internal and external partners to develop an Implementation Plan that outlines responsibilities, existing work, current conditions to build on, and KPIs to measure progress and effectiveness for all identified actions. The community will be actively and intentionally involved and informed throughout the implementation of the Climate Adaptation Plan. The time is **now** to work together as a community to be better prepared for the effects and impacts of climate change. Together, we can build a climate-resilient community that will thrive in the generations to come.

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Appendix 1: EG Vulnerability Statements

Summary of Climate Impacts - Icon's legend

Impacts	Icon
Abnormally high temperatures during the summer and winter.	
Summer is starting earlier and winter is starting later.	
Unpredictable weather patterns year-round.	
Considerable changes in snow and rainfall patterns.	
Increased frequency and intensity of weather events.	

EG Vulnerability and Risk Assessment - Climate Impact Statements

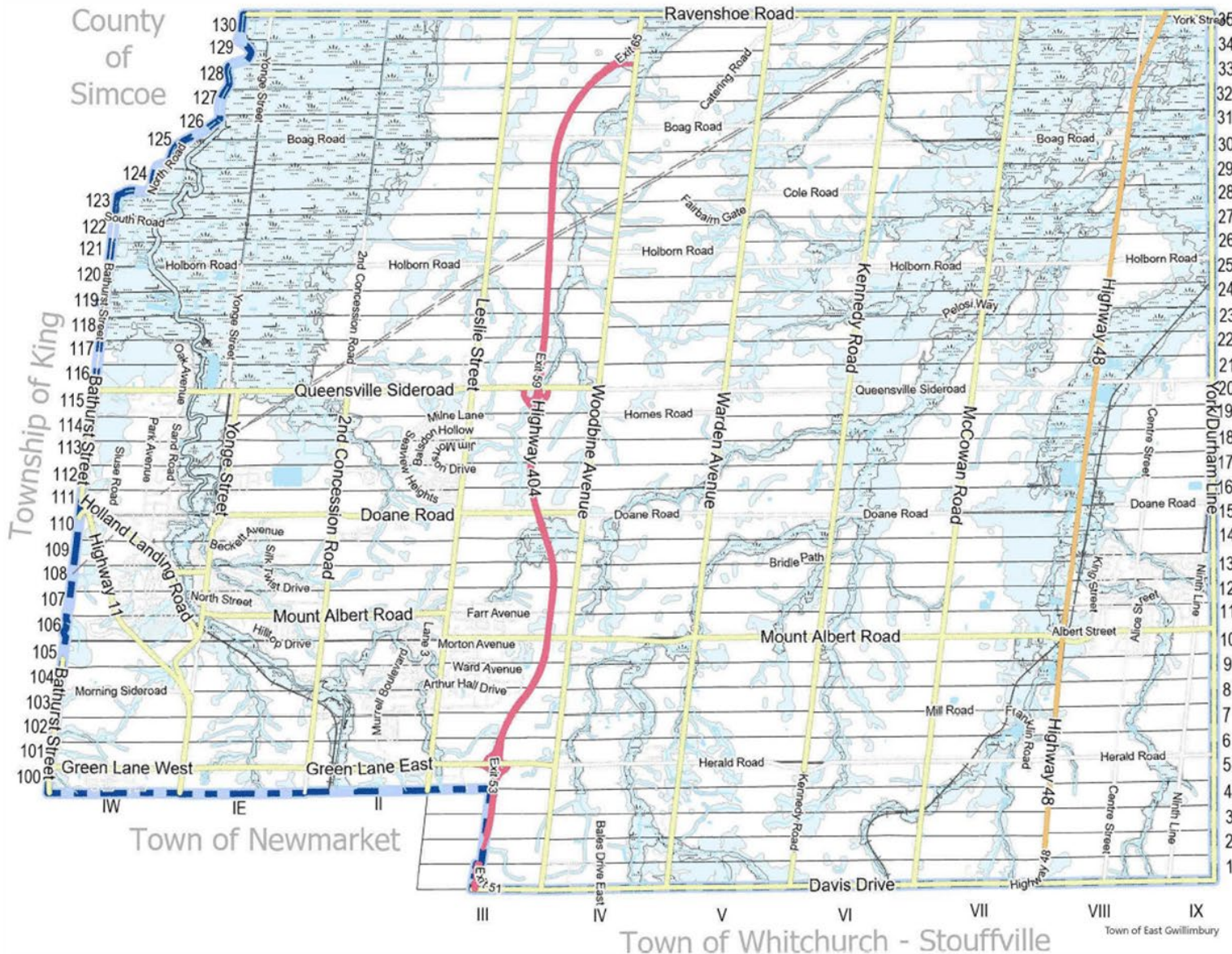
Key Impact	Impact ID and Statement	Overlapping Impacts	Impact Area
Considerable changes in rain & snowfall patterns 	(19) Changing precipitation patterns and rising temperatures leading to increased use of herbicides and pesticides and more frequent washouts into waterways, causing contaminated aquatic ecosystems, harming fish and other wildlife, and disrupting the surrounding natural environment (including water quality, soil health and vegetation).		Natural Environment
Abnormally high temperatures during summer and winter 	(2) Increase in summer temperatures without corresponding summer precipitation resulting in unreplenished wells, affected agricultural practices (e.g. crop rotation), and decreased crop production (particularly lavender farms leading to mental and financial stress to farmers and heightened food insecurity).	 	Natural Environment, Health, Economy
Abnormally high temperatures during summer and winter 	(9) Average summer temperatures and increased frequency/duration of hot days (>30°C) leading to increased health and safety risks (e.g. heat stress, domestic violence/violent altercations, cardiovascular disorders, food-borne/water-borne illnesses, etc.). especially for communities disproportionately impacted by climate change (e.g. outdoor workers, older adults, women, children, those with chronic health conditions, unhoused people, those who are socially isolated, those without air conditioning, etc.) and frontline staff.	 	Health
Increased frequency and intensity of weather events 	(18) Increased frequency and/or intensity of precipitation events (especially in winter and spring) and freezing rain events resulting in rapid melting and refreezing, leading to transportation disruptions and hazardous travelling conditions for all users of the transportation network (e.g. pedestrians, cyclists, public transit users, vehicles, etc.)	 	Health, Infrastructure

Increased frequency and intensity of weather events 	(22) Increased intensity and/or frequency of precipitation events causing more frequent breaks in wastewater and sewage treatment plants, leading to more repairs, system disruptions, and elevated bacteria levels, straining both wastewater and septic systems.	 	Natural Environment, Infrastructure
Unpredictable weather year-round 	(23) Changes in temperatures and precipitation patterns disrupting the natural timing of crop budding, availability of food sources affecting the arrival of pollinators and migratory patterns of birds.		Natural Environment
Increased frequency and intensity of weather events 	(28) Increased frequency and intensity of extreme weather events (especially freezing rain) causing extensive damage to public infrastructure, assets (e.g. buildings, signs, streetlights, roads, etc.), underground servicing (wastewater management systems, stormwater management systems) and increased maintenance requirements (i.e. more rounds of maintenance, changing schedules, etc.)	 	Health, Infrastructure
Increased frequency and intensity of weather events 	(32) Increased frequency and/or intensity of extreme weather events e.g. ice storms, windstorms, thunderstorms, freezing rain, hailstorm, tornado, etc.) causing damage to power infrastructure, leading to power outages causing disruptions to water pumping and wastewater systems.	 	Natural Environment, Infrastructure
Abnormally high temperatures during summer and winter 	(3) Increase in average summer temperatures combined with increased humidity leading to mold growth, hay browning, and heat stress in livestock causing increased shedding of bacteria, with higher risk of illness and mortality among animals.	 	Natural Environment, Economy
Abnormally high temperatures during summer and winter 	(6) Increase in heat waves and heat wave duration resulting in the disruption or cancellation of outdoor events, sports, and community gatherings, limiting opportunities for social interaction and recreational activities, and reducing the ability to foster community connections.	 	Health

Considerable changes in rain & snowfall patterns 	(17) Shifting summer precipitation and increased summer temperatures leading to more drought and/or more rain falling at once, resulting in soil erosion, flooding of agricultural fields, stressed or failed crops, delayed spring planting, reduced ability to work the land, and loss of viable farmland.	 	Natural Environment, Economy
Abnormally high temperatures during summer and winter 	(1) Increase in summer temperatures resulting in increased demand for indoor activities, cooling spaces (i.e. cooling centres, climate-controlled public buildings, air-conditioned businesses, etc.) leading to a strained electrical grid and potential power outages.	 	Infrastructure
Abnormally high temperatures during summer and winter 	(10) Increased average summer temperatures and increased frequency/duration of hot days (>30°C) creating stressful conditions for East Gwillimbury outdoor staff and frontline workers leading to increased incidences of heat-related illnesses and workplace injuries.	 	Health
Considerable changes in rain and snowfall patterns 	(12) Increase in average annual temperatures, early snowmelt, and increased precipitation resulting in more ideal conditions for vectors (i.e. more heat, more standing water), leading to increased spread of vector-borne diseases like Lyme disease, West Nile virus, and emerging diseases in the York region such as Anaplasmosis, Babesiosis, and Powassan virus infection.	 	Health
Increased frequency and intensity of severe weather events 	(30) Increase in the frequency/intensity of extreme weather events & back-to-back events resulting in higher mental & physical health implications (from hazardous travel/living conditions, displacement/evacuation, emotional loss, power outages, carbon monoxide exposure from fuel-burning devices, unsafe food safety practices, boil advisories, disruptions to social gatherings and social events etc.) for residents, especially those that might be more exposed/sensitive (e.g. seniors, socially isolated, children, those with chronic health conditions, low-income households, etc.).	 	Health

Appendix 2: Floodplain Mapping – East Gwillimbury

Town of Georgina



Floodplain map

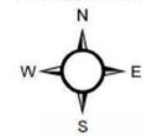
- Floodplain
- Regulation Limit

*Note: This layer is subject to change based on updated information and studies and is legally identified through Ontario Regulation 179/06 of the Conservation Authorities Act.

**Note: This layer is subject to change based on updated information and studies.

LSRCA Regulated Area includes watercourses flood hazard areas, erosion hazard areas, wetlands and apparent valleylands/steep slope:

Development Services Dept
Planning Branch



3,000 Metres

The information displayed on this map has been compiled from various sources and is provided as a public resource of general information by the Town of East Gwillimbury. While every effort is made to ensure accuracy, data and/or other mapping errors may exist.

For more accurate location reference should be made to the original mapping. This is not a plan of survey.

Date: 2026-04-13

Appendix 3: Adaptation Action – Summary Table

Healthy Communities

Actions:	Timeline:	Estimated Cost:
Action #1: Develop communication and education programs to increase awareness of climate-related health risks among corporate and community groups.	Short to medium-term	\$ - \$\$
Action #2: Implement measures to monitor, prevent, and communicate risks related to vector-borne diseases.	Medium to long-term	\$\$
Action #3: Promote a sustainable and local resilient food system.	Medium to long-term	\$-\$\$
Action #4: Promote community-based resilience programs that address eco-anxiety and establish neighbourhood support systems to assist marginalized residents during extreme weather events.	Medium to long-term	\$
Action #5: Support extreme heat adaptation activities.	Medium to long-term	\$
Action #6: Protect community health and enhance resilience to poor air quality caused by wildfires.	Medium to long-term	\$-\$\$

Thriving Nature

Actions:	Timeline:	Estimated Cost:
Action #7: Develop a Strategic Forest Management Plan in collaboration with the Lake Simcoe Region Conservation Authority.	Medium to long-term	\$\$-\$\$\$
Action #8: Protect and restore healthy ecosystems and promote biodiversity.	Medium to long-term	\$\$-\$\$\$

Action #9: Strategize and apply measures to maintain water quality for aquatic ecosystems and the health of communities.	Medium to long-term	\$\$-\$\$\$
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Resilient Infrastructure

Actions:	Timeline:	Estimated Cost:
Action #10: Strengthen the incorporation of climate adaptation into asset management and incorporate sustainable management of the Town's natural assets.	Medium to long-term	\$\$-\$\$\$
Action #11: Support and expand nature-based solutions and grey infrastructure that reduce flooding and enhance ecosystem functions.	Medium to long-term	\$\$\$
Action #12: Strengthen community protection and preparedness around extreme weather events.	Medium to long-term	\$\$\$

Resilient Economy

Actions:	Timeline:	Estimated Cost:
Action #13: Protect agricultural and rural lands and the associated rural economy, including agri-businesses, value-added agricultural products and local food production.	Short to medium-term	\$-\$\$
Action #14: Support the development of a climate-resilient local economy.	Short to medium-term	\$-\$\$
Action #15: Promote agricultural, rural, and ecological-based tourism in EG.	Medium to long-term	\$-\$\$