



Technical Memorandum 3

Adaptation Action Plan

Town of Collingwood
Climate Change Adaptation Plan
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Executive Summary

Collingwood is expected to continue to experience the effects of a changing climate, including warmer summers, more intense rainfall, rising and fluctuating lake levels, more frequent freeze-thaw cycles, and longer wildfire smoke seasons, with average annual temperatures projected to rise approximately 2°C in the near term and over 4°C by mid-century under a high-emissions scenario.

This Climate Change Adaptation Plan is the primary deliverable of Milestone Three (Plan) under the Building Adaptive and Resilient Communities (BARC) framework developed by ICLEI Canada. It builds on a risk and vulnerability assessment that identified 67 climate impact statements relevant to Collingwood. Near-term risk (2021 to 2050) is concentrated in intense rainfall, extreme heat, and storm events, while long-term risk (2051 to 2080) intensifies substantially, with High and Very High ratings appearing for the first time.

The ten hazard categories assessed range from extreme heat and surface flooding to lake level variability and cumulative effects (Table 1). Implications span public health, infrastructure durability, and ecosystem function.

Table ES1. Key Climate Impacts

Hazard	Key Projected Changes	What it Means for Collingwood
Extreme Heat	Increases in hot days, heat waves, and tropical nights. Average annual temperature projected to rise approximately 2°C in the near term and over 4°C by mid-century under a high-emissions scenario. Longer frost-free season.	Health risks, rising cooling demand, and stress on ecosystems and outdoor activity from sustained high temperatures.
Drought and Water Stress	Higher temperatures increasing evapotranspiration and reducing soil moisture during summer. More variable precipitation with drier summer periods and increased risk of low-flow conditions in local watercourses.	Reduced water supply reliability, use restrictions, and pressure on water-dependent ecosystems and businesses.
Lake Level Variability and Shoreline Erosion	Continued variability in Lake Michigan-Huron water levels. Increased coincidence of high-water events with intense storms and higher wave energy and surge along Georgian Bay.	Damage to waterfront infrastructure and habitats, and disruption to shoreline-dependent spaces and uses.
Severe Storms	More frequent and intense storm events, including stronger winds and heavy precipitation. Increased wave energy and storm surge during extreme events along the Georgian Bay shoreline.	Power outages, infrastructure damage, and safety risks from wind, debris, and service disruption.
Freeze-Thaw Variability	More frequent cycling above and below the freezing threshold, driven by increased freezing rain and rain-on-snow events. Shorter periods of sustained freeze with more transitional temperature conditions through winter.	Accelerated deterioration of pavement and buried infrastructure, and increased winter safety hazards.
Warmer Winters and Winter Variability	More rain relative to snow, increased freezing rain and mixed precipitation, and a shorter lake ice season. Fewer very cold days, but continued year-over-year variability in overall winter conditions.	Shifting maintenance demands, hazardous travel conditions, and changes to winter recreation and ecosystems.
Surface Flooding	Higher annual precipitation totals and heavier single-day rainfall events. Increased intensity of short-duration storms exceeding the design	Property damage, sewer backups, and stormwater

Hazard	Key Projected Changes	What it Means for Collingwood
	capacity of stormwater and wastewater infrastructure. Wetter winters and springs.	and wastewater systems exceeding capacity.
Riverine Flooding	Higher annual precipitation with increased event intensity, and wetter spring conditions coinciding with snowmelt. Greater likelihood of compound flood events in tributary catchments.	Risks to life, safety, and infrastructure and assets located within floodplains.
Air Quality and Wildfire Smoke	Increased frequency and duration of regional wildfire smoke events driven by drier conditions and higher temperatures. More days of degraded air quality, particularly during peak summer heat.	Elevated respiratory health risks and reduced usability of outdoor spaces.
Cumulative Effects	Multiple hazards projected to increase concurrently, with growing risk of overlapping events such as high lake levels coinciding with storms, or heat waves during peak tourism. Interactions between hazards expected to intensify over time.	Compounding stress on ecosystems, infrastructure, and community well-being from concurrent climate pressures.

Vision

Developed with the Resilient Collingwood Task Force (RCTF), the plan's vision states: "The people who live, work, and play in Collingwood will responsibly adapt to a changing climate together through personal actions and Town programs that support the well-being of the people and places we love, while maintaining a safe, healthy, inclusive, and resilient community for generations to come." The plan is guided by three commitments: adaptation as a collective endeavor, equitable distribution of costs and benefits, and a long-term commitment.

Themes and Objectives

The plan is organized under three themes. *People and Community* focuses on reducing health and safety risk, improving equitable access to supports like cooling and flood protection, and building a better-informed public. *Services and Operations* focuses on climate-ready infrastructure, resilient service delivery, climate-smart development standards, and sustainable, equitable financing. *Natural Environment* focuses on treating natural assets as infrastructure, expanding tree canopy and naturalized areas, and protecting water and shoreline quality.

Adaptation Actions

People and Community: A1 Warming and Cooling Centers; A2 Flood Risk Planning and Home Protection Program; A3 Shoreline Public Access and Erosion Management; A4 Risk Event Communications Program.

Services and Operations: A5 Climate-Adjusted Stormwater and Wastewater Standards; A6 Asset Management Climate Integration; A7 Natural Asset Valuation and Integration; A8 Resilient Facility Retrofit and Asset Management Capacity; A9 Emergency Management Modernization; A10 Green and Climate-Ready Engineering Standards; A11 Climate Resilience Financial Strategy.

Natural Environment: A12 Urban Forest and Canopy Expansion; A13 Naturalization and Pollinator Positive Public Realm; A14 Shoreline and Wetland Protection Program; A15 Water Quality, Source Protection and Potable Water Availability; A16 Invasive Species and Ecosystem Health Program;

Cross-cutting Actions (All Three Themes supported): A17 Partner Coordination and Climate Risk Communications; A18 Tracking Climate Events Leading to Event and Programming Cancellations

Implementation

Implementation is phased, moving from near-term readiness (2026 to 2029) to capital-intensive delivery (2030 to 2035), supported by a monitoring and evaluation framework with annual reporting to Council.

Glossary

Adaptation (Climate Adaptation): The process of adjusting to current or anticipated climate conditions and their effects. For municipalities, adaptation means modifying infrastructure, services, policies, and practices to reduce vulnerability to climate risks and take advantage of climate-related opportunities. In this plan, adaptation refers to proactive, planned measures rather than reactive responses to individual events.

Adaptive Capacity: The ability of a system, community, or organization to adjust to climate change, moderate potential damages, take advantage of opportunities, or cope with consequences. In the vulnerability assessment underpinning this plan, adaptive capacity was assessed for each climate impact statement based on the availability of existing policies, programs, staff capacity, and technical tools to respond to the impact.

Asset Management Plan (AMP): A document that describes how a municipality manages its infrastructure assets over the long term, addressing asset condition, levels of service, lifecycle activities, and financial strategy. In Ontario, the AMP is a regulatory requirement under O. Reg. 588/17. In this plan, A6 (Asset Management Climate Integration) refers to the work of integrating climate vulnerability into the Town's AMP.

BARC (Building Adaptive and Resilient Communities): A climate adaptation planning framework developed by the International Council for Local Environmental Initiatives (ICLEI) Canada. The BARC Guide (2025) provides step-by-step guidance for municipalities to move through five milestones: Initiate, Assess, Plan, Implement, and Monitor. This plan is the primary output of BARC Milestone Three: Plan.

Climate Hazard: A climate-related physical event or trend that may cause harm. In this plan, climate hazards include extreme heat and prolonged heat events, intense rainfall and surface flooding, fluctuating lake levels and shoreline erosion, variable winter precipitation (freezing rain, rain-on-snow, and freeze-thaw cycles), wildfire and wildfire smoke, and severe storm events. Hazards are distinct from risks, which incorporate the likelihood of a hazard occurring and the severity of its consequences.

Climate Impact Statement: A structured statement that describes a chain of climate consequence: a climate hazard, the system or population exposed to it, and the resulting harm or disruption. Impact statements are the primary analytical unit of the BARC Milestone Two assessment. Collingwood's risk and vulnerability assessment identified 67 climate impact statements relevant to the Town. The full set is provided in Appendix B.

Climate Mitigation: Actions that reduce or prevent greenhouse gas emissions, or that remove greenhouse gases from the atmosphere, in order to limit the magnitude of future climate change. Mitigation is distinct from adaptation: mitigation addresses the cause; adaptation addresses the consequences. This plan focuses on adaptation. Where actions also deliver mitigation co-benefits, those are noted.

Climate Risk: The combination of the likelihood of a climate hazard occurring and the severity of its consequences if it does. In this plan, risk was assessed across four consequence categories: Built (infrastructure and physical assets), Sociocultural (people, health, community, and culture), Natural (ecosystems and natural assets), and Economic (businesses, municipal costs, and revenues). Near-term (2021 to 2050) and long-term (2051 to 2080) risk levels were assessed separately.

Co-Benefits: Positive outcomes that an adaptation action delivers beyond its primary climate risk reduction purpose. For example, expanding tree canopy reduces urban heat (adaptation), sequesters carbon (mitigation), manages stormwater, improves air quality, and supports biodiversity. Actions with strong co-benefit profiles are prioritized in this plan because they deliver more value per dollar invested.

Consequence: The harm, disruption, or loss resulting from a climate hazard affecting a community, system, or asset. In the risk assessment, consequence was scored across the four system categories (Built, Sociocultural, Natural, Economic) by evaluating the potential severity of impact on each.

Ecosystem Services: The benefits that natural systems provide to people. Relevant examples for Collingwood include flood attenuation provided by wetlands, temperature regulation provided by tree canopy, water quality improvement provided by shoreline vegetation and riparian buffers, and habitat provision by naturalized areas. Recognizing ecosystem services is the conceptual foundation for natural asset valuation (A8).

Green Infrastructure: Engineered systems that incorporate natural processes to deliver infrastructure services. Examples include bioswales, rain gardens, permeable pavement, vegetated roofs, and constructed wetlands. Green infrastructure is used in stormwater management to reduce runoff volumes and improve water quality. In this plan, green infrastructure requirements are addressed primarily through A5 (stormwater standards) and A10 (development standards).

Heat Island (Urban Heat Island): An urban area that is significantly warmer than surrounding rural areas due to human activities, including the replacement of natural land cover with pavement and buildings, the concentration of heat-generating activities, and reduced tree canopy. Heat islands intensify the consequences of heat events for residents in affected neighborhoods. In this plan, heat island mapping informs the equity targeting of cooling access (A1) and tree canopy investments (A13).

High-Level Adaptation Action: In this plan, a high-level adaptation action (referred to as an A-category) is a strategic program area within which the Town will invest sustained effort and resources. Each of the 18 A-categories in Section 6 encompasses multiple implementation activities described in detail in the Adaptation Action Register (Appendix A). This distinction follows the BARC Guide's approach of presenting shortlisted, themed actions in the plan itself, with detailed implementation planning addressed in companion documents and in Milestone Four.

Inflow and Infiltration (I&I): Stormwater or groundwater that enters sanitary sewer systems through defects, improper connections, or aging infrastructure. During intense rainfall events, high I&I rates cause sanitary systems to surcharge, resulting in sewer backups into basements and treatment bypass events that discharge untreated or partially treated sewage to receiving waters. Reducing I&I is a core component of A6.

Level of Service: The defined performance outcomes and outputs that residents can expect from a municipal service or infrastructure system, measured against agreed targets. Under O. Reg. 588/17, municipalities are required to define levels of service in their Asset Management Plans. In the context of climate adaptation, maintaining levels of service under worsening climate conditions is a primary driver of adaptation investment.

Likelihood: In risk assessment, the probability or expected frequency of a climate hazard occurring over a defined planning horizon. In the risk and vulnerability assessment underpinning this plan, likelihood was scored for near-term (2021 to 2050) and long-term (2051 to 2080) periods, based on climate projections and observed trends.

Low-Impact Development (LID): A stormwater management approach that uses small-scale, decentralized practices to manage runoff as close to its source as possible, mimicking natural hydrological processes. LID techniques include rain gardens, bioretention cells, permeable pavement, green roofs, and naturalized swales. Ontario's draft LID Stormwater Management Guidance Manual (2022) is the primary reference for LID standards in this plan.

Low-Regret Action: An adaptation action that delivers benefits across a wide range of future climate scenarios and is worth implementing regardless of which scenario materializes. Low-regret actions are often characterized by high co-benefit profiles, relatively low implementation costs, and alignment with actions the municipality would take for other reasons. They are prioritized for near-term implementation in this plan.

Monitoring and Evaluation (M&E): The systematic process of tracking whether adaptation actions are being implemented as planned and whether they are achieving their intended outcomes. In this plan, M&E is addressed in Section 8 and in the M&E Strategy tab of the Adaptation Action Register. The M&E framework uses both process indicators (tracking activity) and outcome indicators (tracking results).

Municipal Natural Assets Initiative (MNAI): A Canadian organization and methodology framework that supports municipalities in identifying, valuing, and accounting for natural assets in their asset management practices. The MNAI framework is referenced in A7 (Natural Asset Valuation and Integration) as the methodological basis for incorporating Collingwood's natural assets into its Asset Management Plan.

Natural Asset: A component of the natural environment, such as a wetland, urban tree, riparian corridor, or shoreline vegetation community, that provides services of value to the municipality and its residents. Natural assets can be inventoried, valued, and incorporated into asset management planning in the same way as built assets. In this plan, natural asset identification and valuation is addressed through A7.

Nottawasaga Valley Conservation Authority (NVCA): The conservation authority responsible for the Nottawasaga Valley watershed, within which the Town of Collingwood is located. The NVCA is a key technical and regulatory partner for matters related to floodplain mapping, shoreline management, natural heritage, and source water protection. Several adaptation actions in this plan involve coordination with the NVCA.

O. Reg. 588/17: Ontario Regulation 588/17, Asset Management Planning for Municipal Infrastructure. This regulation requires Ontario municipalities to develop and maintain asset management plans addressing infrastructure inventories, levels of service, lifecycle activities, and financial strategies. A7 in this plan connects to O. Reg. 588/17 compliance by integrating climate vulnerability and risk into the Town's asset management planning.

Passive Cooling: The use of building design, materials, and natural ventilation to maintain comfortable indoor temperatures without mechanical air conditioning. Passive cooling techniques include shading, cross-ventilation, thermal mass, and reflective surfaces. As temperatures rise, the effectiveness of passive cooling decreases and reliance on mechanical cooling increases. The risk assessment identified loss of passive cooling effectiveness as a near-term high-priority risk for Collingwood.

RCTF (Resilient Collingwood Task Force): The Town of Collingwood's stakeholder advisory body for the Climate Change Adaptation Plan process. The RCTF participated in five workshops from 2025 to 2026, contributing to the climate risk assessment, adaptation visioning, objective-setting, and action

identification. RCTF membership includes staff from Town departments, partner agencies, community organizations, and technical advisors.

Resilience: The capacity of a community, system, or asset to absorb stress, maintain essential functions during a climate event, and recover and adapt following a disruption. Resilience is not simply about returning to a previous state; it includes the ability to adjust and improve in response to new conditions. This plan aims to build resilience across people, services, infrastructure, and natural systems.

Risk Assessment: The process of evaluating the likelihood and consequence of climate hazards to identify and prioritize the risks facing a community. In this plan, the risk assessment was conducted as part of BARC Milestone Two and assessed 67 climate impact statements across near-term and long-term planning horizons. Results are summarized in Section 3 and provided in full in Appendix B.

Sensitivity: The degree to which a system, community, or asset is affected by a climate hazard. High sensitivity means a relatively small change in climate conditions produces a large change in outcomes for the system. In the vulnerability assessment, sensitivity was assessed for each climate impact statement and combined with adaptive capacity to determine overall vulnerability.

Slow-Onset Event: A gradual, cumulative climate change process that unfolds over years or decades rather than arriving as a discrete event. Examples relevant to Collingwood include the progressive spread of invasive species, the steady increase in mean summer temperatures, declining lake ice coverage, and long-term degradation of native vegetation communities. Slow-onset events can produce consequences as significant as acute events but are harder to trigger urgent action on.

Source Water Protection: Measures taken to protect the quality and quantity of water sources used for drinking water supply. For Collingwood, Nottawasaga Bay is the primary drinking water source. Source water protection is governed provincially under the Clean Water Act and the associated Nottawasaga Valley Source Protection Plan. A16 in this plan addresses stormwater quality controls, runoff management, and monitoring measures that contribute to source water protection.

Stormwater Management: The management of rainfall and snowmelt runoff to reduce flooding, erosion, and water quality impacts. Stormwater management encompasses both gray infrastructure (pipes, detention ponds, and treatment facilities) and green infrastructure (bioswales, rain gardens, and permeable surfaces). Climate-adjusted stormwater design standards, as addressed in A6, update the rainfall intensities and volumes used to size stormwater infrastructure to reflect projected future climate conditions.

Vulnerability: The degree to which a system, community, or asset is susceptible to harm from a climate hazard. Vulnerability is a function of two factors: sensitivity (the extent to which a system is affected by a hazard) and adaptive capacity (the ability to adjust and respond). High sensitivity combined with low adaptive capacity produces high vulnerability. Vulnerability assessments help prioritize adaptation investments toward areas where harm is most likely and least manageable.

1 Introduction

Climate change is reshaping the conditions under which municipalities deliver services, manage infrastructure and protect community wellbeing. The Town of Collingwood is a waterfront community on the south shore of Georgian Bay, with a growing population and a diversified economy spanning tourism, manufacturing, healthcare, and craft beverage production. All of this is shaped by the natural assets central to the Town's identity, and the stakes are clear. Warmer summers, more intense rainfall, rising and fluctuating lake levels, more frequent freeze-thaw cycles, and longer wildfire smoke seasons are not distant occurrences. They are already shaping how the Town operates.

This Climate Change Adaptation plan charts the Town's course to reduce its exposure to climate risks, strengthen the resilience of its services and infrastructure, and protect the people, places and natural systems that define Collingwood. It is the culminating deliverable of a year-long process conducted under the Building Adaptive and Resilient Communities (BARC) framework developed by the International Council for Local Environmental Initiatives (ICLEI) Canada.

The plan is grounded in the community-specific risk and vulnerability assessment completed in 2025 and 2026. The assessments identified 67 climate impact statements relevant to Collingwood across ten hazard categories and assessed the likelihood, consequence, sensitivity, and adaptive capacity associated with each. The findings informed the prioritization of adaptation actions presented in this plan.

Eighteen adaptation actions are organized across three themes: People and Community, Services and Operations, and Natural Environment. Each action reflects priorities identified through workshops with Town staff, technical advisory input from the Resilient Collingwood Task Force (RCTF) and analysis of the practices of peer municipalities in Ontario. The plan also identifies implementation priorities, a monitoring and evaluation framework, and a set of appendices that provide the supporting detail behind each action.

1.1 How to Read This Plan

Section 2 and Section 3 provide the foundation, detailing the local context, climate science and risk assessment that drive the selection of these actions. Readers already familiar with that background may choose to proceed directly to Section 4, which provides the Vision for Adaptation. Section 5 sets out the adaptation objectives the plan is designed to achieve. Section 6 describes each of the 18 adaptation actions, while Section 7 and 8 cover implementation and monitoring.

The Adaptation Action Register, attached as Appendix A, provides the full detail behind each action, including sub-actions, leads, timelines, cost estimates, equity considerations and implementation notes. The register is a companion working document for staff and is intended to inform annual work planning.

2 Background and Context

2.1 Community Profile

The Town of Collingwood has a permanent population of over 24,811 (2021 Census) and is projected to reach 32,226 by 2033. The Town grew at 13.26% between 2016 and 2021, significantly outpacing Ontario's 5.77% provincial average. Collingwood sits on the south shore of Georgian Bay, in Simcoe County, Ontario.

Seasonal population adds considerable demand on top of this base. An estimated 6,183 seasonal residents (17.7% of total households) supplement the permanent population, a figure projected to nearly double to approximately 11,775 by 2031. Collingwood's economy is diversified across several priority sectors identified in the Town's own economic development strategy: tourism, manufacturing, healthcare, craft beverage production, knowledge and professional services, and the sustainable green economy, consistent with the Community Based Strategic Plan's goal of growth and diversification of the local economy. Tourism is the largest of these by employment, representing approximately 35% of jobs (4,715 positions) and welcoming an average of 4,000,000 visitors per year, and its seasonal nature intensifies demand on Town infrastructure beyond what the permanent population alone would require. Manufacturing is also a significant employer, including advanced manufacturing and technology firms serving national and international markets, and the Collingwood General and Marine Hospital anchors the healthcare sector as a major local employer. Infrastructure and services designed for a resident population of roughly 25,000 must perform reliably under this full range of economic activity, not tourism demand alone, with particular attention to peak seasonal periods.

The Town of Collingwood's community profile has several features directly relevant to adaptation planning. The Town's median age is 50, compared to Ontario's provincial median of 41. Approximately 30.5% of residents are 65 or older (versus 17% provincially), and 10.7% are 75 or older. Notably, seniors are the highest-risk cohort for heat-related health impacts and cold-weather events. 73% of households are owner-occupied and 27% rent. Housing affordability challenges are particularly pronounced among renters, with approximately 46% spending 30% or more of their income on shelter costs, compared to 36% provincially. Median household income stands at \$83,845 (2022), below the provincial median of \$93,933, with approximately 27% of households earning under \$50,000. Renters, seniors, low-income households, outdoor workers, and visitors represent groups with distinct vulnerabilities to climate hazards. Equitable adaptation requires that the distribution of services and protections across the community be considered at the level of each action.

The Town sits within the Nottawasaga Valley watershed. The Nottawasaga Valley Conservation Authority (NVCA) and Grey Sauble Conservation Authority (GSCA), both form part of the future amalgamated Lake Huron Regional Conservation Authority, retain regulatory authority over development in flood-prone and shoreline hazard areas under the Conservation Authorities Act, and are valued partners who will continue to be invited to play a voluntary role in relevant initiatives going forward. Collingwood's waterfront on the south shore of Georgian Bay connects it to the broader Georgian Bay and Lake Huron basin, making lake levels, shoreline processes and water quality dynamics directly relevant to the Town's infrastructure and quality of life.

2.2 Policy and Planning Context

This plan operates within a layered policy and planning environment at the federal, provincial, county, and local levels. Understanding this context is important for two reasons. Firstly, it identifies where the Town has the authority to act. Secondly, it identifies regulatory and policy hooks that create both obligations and opportunities for climate action.

At the provincial level, the Provincial Planning Statement directs municipalities to consider the potential impacts of climate change when making land use planning decisions, and to direct development away from areas susceptible to natural hazards. The Ontario Building Code establishes minimum design standards for buildings, and its ongoing modernization creates an opportunity to embed climate resilience requirements. Ontario Regulation 588/17 requires municipalities to develop and maintain asset

management plans that address levels of service, lifecycle activities and financial strategies, providing a regulatory basis for integrating climate vulnerability into infrastructure planning.

At the local level, Collingwood's Official Plan, Community Based Strategic Plan, various Master Plans, and Asset Management Plan all touch on areas relevant to climate adaptation. This Climate Change Adaptation Plan is designed to complement and reinforce these documents rather than duplicate them. Where adaptation actions require amendments to existing plans or policies, those connections are identified in the relevant action descriptions.

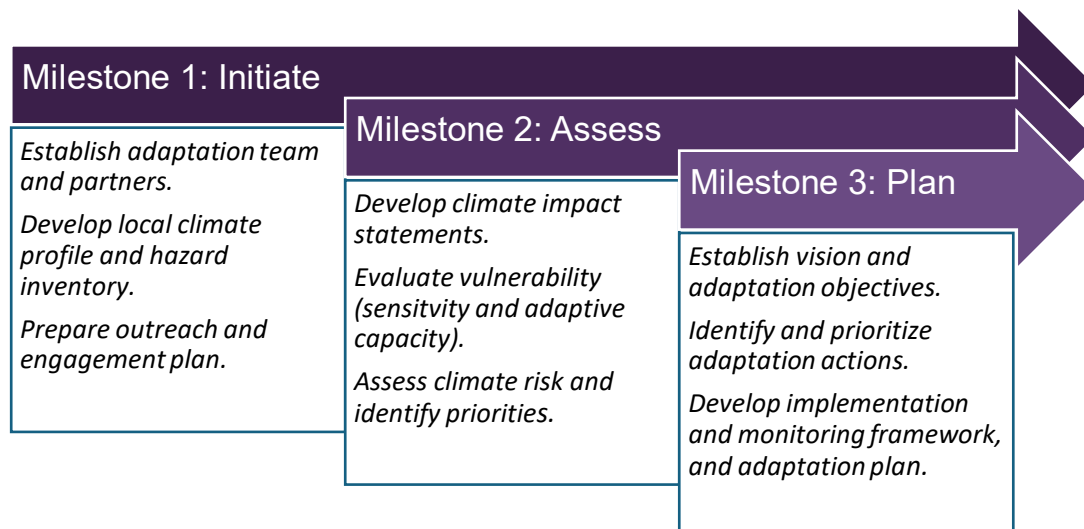
This Plan should be read alongside three other Town documents, which address related but distinct questions. The Greener Collingwood: Corporate Climate Change Action Plan (2023) focuses expressly on greenhouse gas management, targeting reduction of the Town's own corporate emissions. The Collingwood Stormwater Management Master Plan – Phase II Final Report (September 2026) is a more detailed, infrastructure-specific master plan; its assessments and capital priorities inform several of this Plan's actions, while this Plan addresses a broader range of climate risks across the Town's assets and community. The Sustainable Collingwood Plan: Community Climate Change Action Plan sets community-wide greenhouse gas reduction targets and adaptation goals, and identifies the development of this Climate Change Adaptation Plan as one of its own actions (Action 9: Climate Adaptation Plan). This Adaptation Plan implements that action. This Adaptation Plan addresses a different problem than the Greener Collingwood and Sustainable Collingwood Plans: how to prepare the Town's infrastructure and community for climate impacts that are already underway, regardless of how mitigation efforts unfold. The three documents are complementary and reflect standard practice of pairing mitigation and adaptation planning.

Collingwood is also a participant in the ICLEI Canada BARC framework, which provides the methodological structure for this plan. The BARC process comprises five milestones:

- Initiate
- Assess
- Plan
- Implement, and,
- Monitor.

This plan represents the primary deliverable of Milestone Three. Milestones One and Two produced the climate profile and risk and vulnerability assessment that underpin this plan and are described in Figure 1 below.

Figure 1. Community Climate Adaptation Planning Process Aligned with the BARC Framework



This Plan builds on climate-related work already underway across the Town rather than starting from a blank slate. The Stormwater Management Master Plan has completed Town-wide flood mapping, climate-adjusted rainfall modeling, and prioritized mitigation projects. The Engineering Standards update, currently in public review, is incorporating climate-adjusted design criteria. The Town's Asset Management Plan was recently comprehensively updated. Inflow and infiltration reduction work is ongoing. A Stormwater Charge Study is budgeted for 2026. Where an adaptation action in this Plan builds on one of these initiatives, that connection is noted directly in the action.

2.3 Climate Projections for Collingwood

Collingwood's climate is already changing. Historical records show warming temperatures, shifts in precipitation patterns, more intense storm events, and changes to lake ice and lake level dynamics. Climate projections developed for this planning process extend those trends through the mid- and late-century periods, providing the evidence base for the risk assessment included in this report. Some key projected changes include:

- An average annual temperature increase of approximately 2°C in the near term and over 4°C by mid-century under the high-emissions scenario.
- A 21-to-47-day expansion of the frost-free season.
- Significant reductions in very cold days and ice days.
- Substantial increases in hot days, heat waves, and tropical nights.
- Increased winter precipitation and a shift toward more mixed precipitation events.
- Increased intensity of rainfall events.
- Continued variability in Lake Michigan-Huron water levels, with compound high-water and storm risks along Georgian Bay.
- Increased storm events, including strong winds and intense precipitation.

These impacts were identified through the risk and vulnerability assessment described in Section 3.1, drawing on technical analysis, staff input, and RCTF engagement and are linked to the demographic

vulnerabilities identified in the Community Profile, including Collingwood's older population and high seasonal-visitor volume.

Table 1 outlines the climate impacts that were identified as applicable to Collingwood and were used to structure the impact assessment.

Table 1. Key Climate Impacts

Hazard	Key Projected Changes	What it Means for Collingwood
Extreme Heat	Increases in hot days, heat waves, and tropical nights. Average annual temperature projected to rise approximately 2°C in the near term and over 4°C by mid-century under a high-emissions scenario. Longer frost-free season.	Health risks, rising cooling demand, and stress on ecosystems and outdoor activity from sustained high temperatures.
Drought and Water Stress	Higher temperatures increasing evapotranspiration and reducing soil moisture during summer. More variable precipitation with drier summer periods and increased risk of low-flow conditions in local watercourses.	Reduced water supply reliability, use restrictions, and pressure on water-dependent ecosystems and businesses.
Lake Level Variability and Shoreline Erosion	Continued variability in Lake Michigan-Huron water levels. Increased coincidence of high-water events with intense storms and higher wave energy and surge along Georgian Bay.	Damage to waterfront infrastructure and habitats, and disruption to shoreline-dependent spaces and uses.
Severe Storms	More frequent and intense storm events, including stronger winds and heavy precipitation. Increased wave energy and storm surge during extreme events along the Georgian Bay shoreline.	Power outages, infrastructure damage, and safety risks from wind, debris, and service disruption.
Freeze-Thaw Variability	More frequent cycling above and below the freezing threshold, driven by increased freezing rain and rain-on-snow events. Shorter periods of sustained freeze with more transitional temperature conditions through winter.	Accelerated deterioration of pavement and buried infrastructure, and increased winter safety hazards.
Warmer Winters and Winter Variability	More rain relative to snow, increased freezing rain and mixed precipitation, and a shorter lake ice season. Fewer very cold days, but continued year-over-year variability in overall winter conditions.	Shifting maintenance demands, hazardous travel conditions, and changes to winter recreation and ecosystems.
Surface Flooding	Higher annual precipitation totals and heavier single-day rainfall events. Increased intensity of short-duration storms exceeding the design capacity of stormwater and wastewater infrastructure. Wetter winters and springs.	Property damage, sewer backups, and stormwater and wastewater systems exceeding capacity.
Riverine Flooding	Higher annual precipitation with increased event intensity, and wetter spring conditions coinciding with snowmelt. Greater likelihood of compound flood events in tributary catchments.	Risks to life, safety, and infrastructure and assets located within floodplains.
Air Quality and Wildfire Smoke	Increased frequency and duration of regional wildfire smoke events driven by drier conditions and higher temperatures. More days of degraded air quality, particularly during peak summer heat.	Elevated respiratory health risks and reduced usability of outdoor spaces.
Cumulative Effects	Multiple hazards projected to increase concurrently, with growing risk of overlapping events such as high lake levels coinciding with	Compounding stress on ecosystems, infrastructure, and community well-being

Hazard	Key Projected Changes	What it Means for Collingwood
	storms, or heat waves during peak tourism. Interactions between hazards expected to intensify over time.	from concurrent climate pressures.

3 Impacts and Issues

The climate risk and vulnerability assessment identified 67 climate impact statements relevant to Collingwood, organized under the hazard categories described in Section 2. Climate impact statements are structured statements that describe a chain of climate consequences: a climate hazard, the system or population exposed to it, and the resulting harm or disruption. This section summarizes the findings of that assessment, identifying which impacts were rated highest priority and what those priorities mean for the Town.

3.1 Climate Hazards and Impact Statements

Each impact statement describes a plausible chain of consequences, including a climate hazard, the system or population exposed to it, and the resulting potential harm. Impact statements were developed by the project team drawing on local conditions, staff/community knowledge, and engagement with the Resilient Collingwood Task Force (RCTF). The full set of 67 impact statements is provided in Appendix B.

Impacts were organized across four system categories:

- Built (infrastructure and built assets),
- Sociocultural (people, health, community and culture),
- Natural (ecosystems and natural assets); and
- Economic (businesses, revenues, costs).

Many impacts affected multiple systems simultaneously, reflecting the interconnected nature of climate risk in a community like Collingwood.

3.2 Vulnerability Assessment

Each impact statement was assessed for vulnerability, a combination of sensitivity (i.e. how strongly a system or community is affected by a hazard) and adaptive capacity (i.e. the ability to adjust, respond, or recover from a hazard event). This assessment helped distinguish between impacts where the Town, both as a corporate organization and as a community, faces high exposure and limited ability to respond, and impacts where existing capacity is sufficient to manage risk under current conditions.

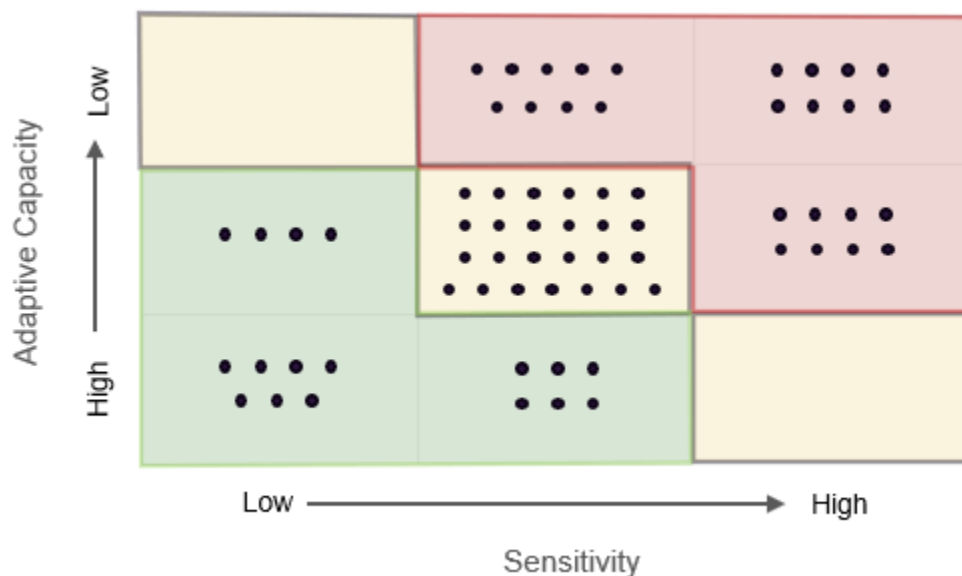
The vulnerability of each impact statement was determined by plotting its sensitivity and adaptive capacity scores against the matrix in Figure 2 below. Impact statements combining high sensitivity with low adaptive capacity received the highest vulnerability rating.

Figure 2. Vulnerability Assessment Matrix

	Low Sensitivity	Medium Sensitivity	High Sensitivity
Low Adaptive Capacity	Medium Vulnerability	High Vulnerability	High Vulnerability
Medium Adaptive Capacity	Low Vulnerability	Medium Vulnerability	High Vulnerability
High Adaptive Capacity	Low Vulnerability	Low Vulnerability	Medium Vulnerability

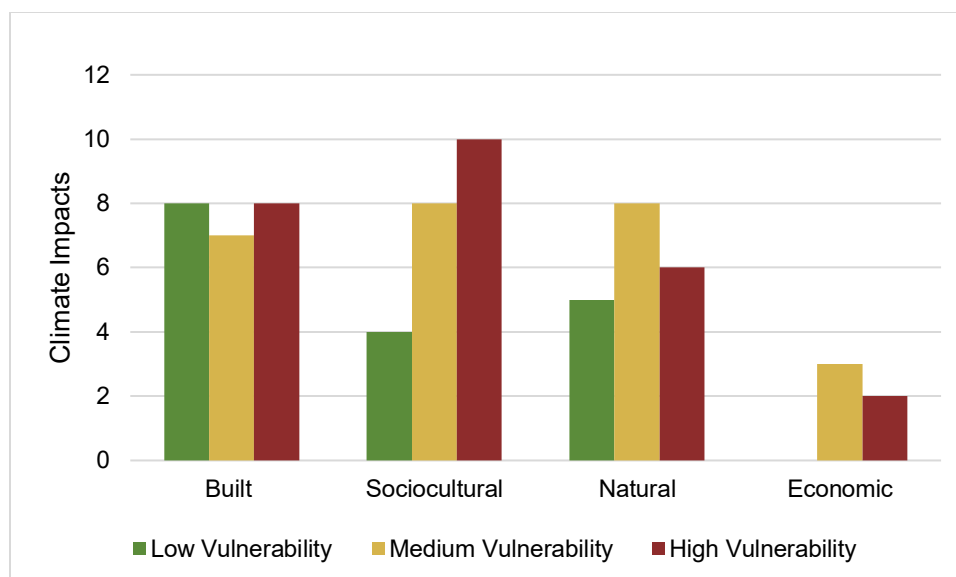
Figure 3 presents the outcome of the vulnerability assessment across all assessed impact statements. The results are distributed across Low, Medium and High vulnerability ratings. The distribution reflects the overall vulnerability profile across the Town's climate risk exposure.

Figure 3. Vulnerability Rating Matrix



The vulnerability assessment was conducted using a structured scoring methodology applied to each of the 67 impact statements. Approximately 40 percent of impact statements were assessed as having medium-to-high sensitivity, reflecting the significance of climate risks across the Town's built, sociocultural, natural and economic systems. Adaptive capacity was more variable, higher in areas where the Town has established programs and technical capacity, and lower in areas where climate risks are emerging or where the Town has limited jurisdiction to act unilaterally. The distribution of these ratings across the four primary systems is captured in Figure 4 below.

Figure 4. Distribution of Vulnerability Ratings Across Primary Systems



Climate impacts primarily affecting the built and sociocultural systems account for most of the High vulnerability ratings, reflecting the exposure of public infrastructure, municipal services, and community well-being to projected climate hazards. In contrast, impacts affecting the natural system show a more balanced distribution across vulnerability levels, suggesting that many natural systems retain some capacity to adjust or recover under changing climate conditions. The economic system includes fewer total climate impacts and correspondingly fewer High vulnerability ratings, reflecting the more indirect pathways through which climate hazards influence economic activity. These overall expectations are consistent with the physical and ecological literature on natural asset capacity and adaptability; the economic case for integrating natural assets into climate planning is presented separately in this plan's own analysis.

While climate impacts were categorized according to the system most directly affected, impacts are inherently interconnected and secondary effects across other systems are common. For example, disruptions to built infrastructure can lead to sociocultural and economic consequences, such as reduced emergency response capacity or increased costs for residents and businesses. Similarly, changes in natural systems can influence infrastructure performance and community well-being. As a result, economic impacts may appear underrepresented in Figure 4, as they often arise as secondary effects of direct impacts to infrastructure, the workforce, or the natural environment.

3.3 Risk Assessment and Priority Impacts

Risk was assessed by combining the likelihood of each climate hazard with its consequence across the four system categories. Near-term risks (i.e. 2021 to 2050) and long-term risks (i.e. 2051 to 2080) were assessed separately, reflecting the different urgency and planning horizons relevant to different types of action. Consequence scoring follows the BARC framework's three-factor structure (i.e. sociocultural, economic, and natural). Built system impacts are captured within these factors, as infrastructure damage and service disruptions contribute to the economic and sociocultural consequences.

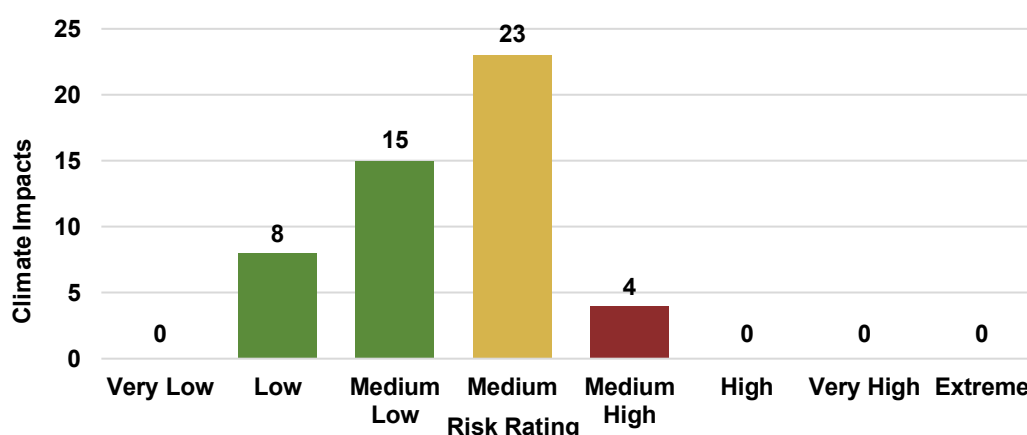
In the near term, the highest-priority impacts for Collingwood are concentrated in three hazard areas. These are 1) intense rainfall and flooding, 2) extreme heat, and 3) storm events. The following impacts were rated highest priority for near-term action:

- Increased storm frequency is forecasted to intensify demand on emergency services, particularly where storms, heat, and flooding compound one another.
- Intense rainfall is anticipated to transport more surface contaminants to water bodies, affecting aquatic habitat and recreational water quality, both central to Collingwood's waterfront character.
- More frequent heat waves are projected to increase reliance on mechanical cooling, with disproportionate risk for older housing stock and renters or lower income households with limited ability to retrofit.
- Intense rainfall is predicted to increase flood risk for homes in vulnerable areas, with impacts tied to stormwater infrastructure capacity and private property protection gaps.
- Power outages during heat events are likely to pose acute risks for seniors, infants, and people with chronic illness, for whom rapid indoor overheating can be life-threatening.

Figure 5 and While the highest-priority near-term impacts drive immediate action priorities in this plan, the 15 impacts rated Medium Low and 23 rated Medium represent a transitional risk category that warrants ongoing attention. These impacts are not static. As hazard likelihood increases over time and adaptive capacity is tested, Medium and Medium-Low impacts are the most likely to migrate into higher risk categories, which can be seen in the long-term risk profiles show in Figure 7 and Figure 8.

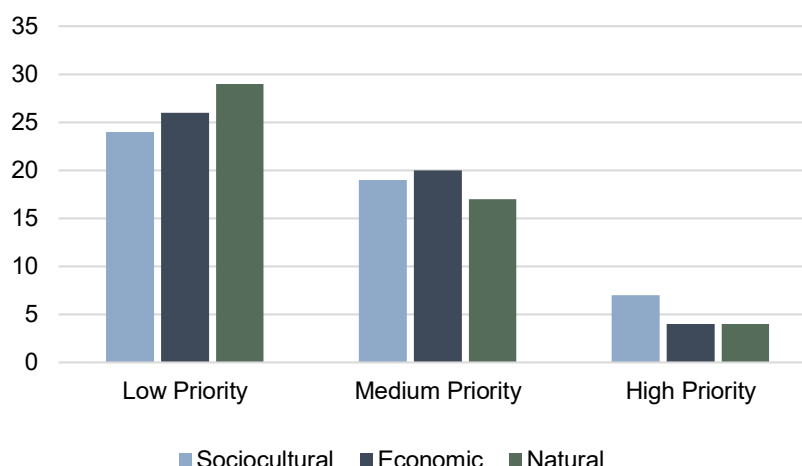
Figure 6 summarize the near-term risk distribution across the 67 impact statements assessed. The majority of impacts fall within the Medium and Medium-Low priority bands, with four impacts rated Medium High. No impacts were rated High or Extreme in the near term, reflecting current levels of adaptive capacity. The highest-priority impacts are concentrated in the previously highlighted three hazard areas: 1) intense rainfall and flooding, 2) extreme heat, and 3) storm events.

Figure 5. Total Risk Distribution: Near Term (2021-2050)



While the highest-priority near-term impacts drive immediate action priorities in this plan, the 15 impacts rated Medium Low and 23 rated Medium represent a transitional risk category that warrants ongoing attention. These impacts are not static. As hazard likelihood increases over time and adaptive capacity is tested, Medium and Medium-Low impacts are the most likely to migrate into higher risk categories, which can be seen in the long-term risk profiles show in Figure 7 and Figure 8.

Figure 6. Risk Distribution by Sociocultural, Economic and Natural Factors: Near Term (2021-2050)



In the long term, risk levels intensify and the portfolio of high-priority impacts expands. Long-term additions include impacts related to wildfire smoke and air quality, shoreline erosion, invasive species and ecosystem degradation, building habitability/usability, and a broader pattern of concurrent climate stresses. The long-term risk profile underscores the importance of beginning adaptation work now, particularly for actions with long implementation timelines or those that require changes to planning, regulatory or capital frameworks.

Figure 7 below captures the risk distribution for the long-term planning horizon. This represents a notable escalation from the near-term conditions. The distribution of risk shifts markedly up the risk scale, with the concentration of impacts at medium that characterized the near-term period giving way to an equal split between Medium and Medium-High (17 impacts each), and with High and Very High ratings appearing for the first time.

Figure 7. Total Risk Distribution: Long Term (2051-2080)

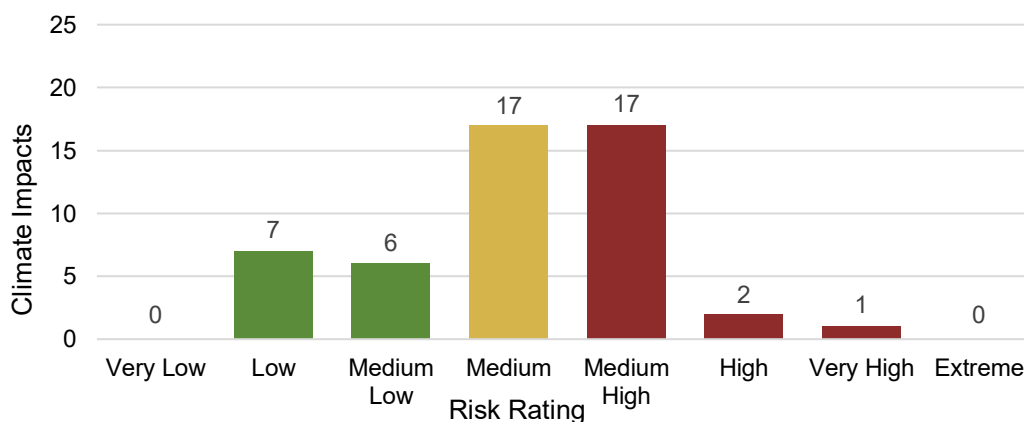
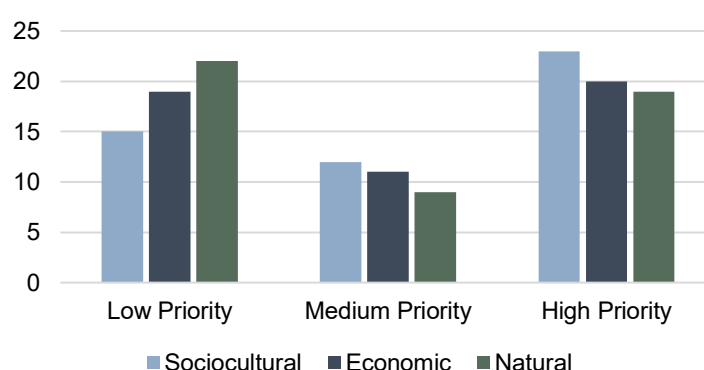


Figure 8 underscores the magnitude of this shift. High-priority impacts, numbering 7, 4, and 4 across Sociocultural, Economic and Natural factors in the near term respectively, rise to 23, 20 and 19 respectively in the long term. The number of Low-Priority impacts falls correspondingly. Across all three

consequence factors, the long-term profile is dominated by High-Priority risks in a way that the near-term profile is not.

The long-term data bears out the concern flagged in the near-term assessment. Existing risks are expected to intensify as climate conditions worsen, underscoring the benefits of early action. What the data also shows, however, is that the near-term window remains one of meaningful opportunity. The 18 adaptation actions in this plan are designed precisely for this moment, when risks are serious but not yet extreme, and when investment in reducing vulnerability delivers the greatest return. Acting now is what keeps the long-term profile from becoming the default.

Figure 8. Risk Distribution by Sociocultural, Economic and Natural Factors: Long Term (2051-2080)



This upward trajectory in risk, as Medium and Medium-Low impacts migrate toward higher categories over time, has a direct implication for how the Town approaches adaptation investment. The near-term risk environment, while serious, remains within a range where incremental action and existing systems can provide meaningful protection. The long-term profile does not offer that same margin of protection. Actions taken in the near term to reduce vulnerability, build adaptive capacity, and strengthen infrastructure and community systems will determine whether the long-term risk profile remains manageable or becomes the new baseline.

These findings provide the evidence base for the 18 adaptation actions in Section 6. Each action responds to one or more of the prioritized impacts identified through this assessment. The cross-reference between impacts and actions is provided in the Adaptation Action Register (Appendix A)

4 Vision

The Town of Collingwood's vision for climate adaptation was developed collaboratively through workshops with the RCTF. Participants explored what a climate-resilient, equitable and inclusive future would look like for Collingwood across the three themes, and identified the values, outcomes and commitments they wanted the vision to reflect. The following vision statement was developed from that process:

The people who live, work, and play in Collingwood will responsibly adapt to a changing climate together through personal actions and Town programs that support the well-being of the people and places we love, while maintaining a safe, healthy, inclusive, and resilient community for generations to come.

This vision reflects three commitments that run through all 18 adaptation actions in this plan. First, adaptation is a collective endeavor. No single department, partner, sector, or individual can address the full scope of the climate risk facing Collingwood. Effective adaptation requires shared ownership across the organization and the community. Second, the benefits of resilience and the costs of action must be distributed equitably, with particular attention to groups who are most exposed to climate risks and least able to protect themselves. Third, adaptation is a long-term commitment. The actions in this plan are oriented toward the near and medium term, but they lay the foundation for a community that can adapt, learn and adjust over the decades.

A note on how this plan uses "the Town" and "Collingwood": both terms refer to the municipal corporation, meaning its assets, staff, departments, and operations under the authority of Town government within Town geographic boundaries. Wherever this plan describes a specific commitment, that commitment belongs to the Town.

This plan itself, however, is not limited to corporate actions. It is intended to support Collingwood as a community as much as it directs the Town's own work. Most actions focus on what the Town can directly control and lead, since that is where the Town can make firm commitments. Many also identify ways residents, businesses, and community organizations can build these same actions into their own lives and properties. This participation would be voluntary but is essential for the success of this plan. The Town's ability to build a resilient community is the result of a system of actions taken by all members of that community, and resilience is something that is built from the ground up. Opportunities for community engagement are built into the proposed actions and supporting initiatives, and ways for the community to build on those actions are flagged throughout this report.

5 Adaptation Objectives

Adaptation objectives translate the vision statement into specific and measurable outcomes that the plan is designed to achieve. The objectives provide the bridge between the risk assessment in Section 3, and the adaptation Actions in Section 6, and they serve as the basis for the monitoring framework in Section 8.

These objectives were developed through the engagement process and organized under three action themes.

5.1 Theme 1: People and Community

Safer, healthier, more equitable outcomes and accessible services for residents and visitors

Objective 1.1: Reduced Health and Safety Risk. Collingwood works to reduce the risk to residents, visitors and vulnerable population from the health and safety consequences of climate hazards, including extreme heat, flooding and poor air quality, with priority given to those facing the greatest risk exposure.

Objective 1.2: More Equitable Access to Supports and Services. Over time, adaptation supports and services, including cooling access, flood protection information, shoreline access and emergency communications, are more equitably distributed across the community, with particular attention to vulnerable populations.

Objective 1.3: Better Informed and Prepared Community. Through investment in communications and community capacity, the Town works to improve the ability of residents, seasonal visitors and community organizations to prepare for and respond to climate events, with information that is timely, accessible, and tailored to Collingwood's distinctive population mix. This includes helping residents understand actions they can take to reduce their own climate impact and build household resilience, such as reducing water and energy use, planting trees, and naturalizing parts of their property, consistent with the individual-action guidance in the Sustainable Collingwood Plan.

5.2 Theme 2: Services and Operations

Reliable, affordable, resilient Town systems and services

Objective 2.1: Climate-Ready Infrastructure. Collingwood works to integrate climate risk and vulnerability into asset management planning and capital investment decisions so that infrastructure renewal and maintenance programs better reflect projected climate conditions over the asset service lives.

Objective 2.2: Resilient Service Delivery. The Town works to maintain core municipal services, including water, wastewater, stormwater, emergency response, and community facilities, to defined levels of service during and after climate events, supported by updated emergency plans, facility retrofits, and coordinated partner protocols.

Objective 2.3: Climate-Smart Growth. The Town supports the development of voluntary, incentive-based standards, potentially led by the County of Simcoe, to reduce the climate risk contribution of new development and redevelopment, encouraging green infrastructure, tree preservation, and climate-ready building design.

Objective 2.4: Sustainable and Equitable Financing. The Town works towards a more transparent and sustainable approach to financing climate adaptation. This approach should consider the relationship between seasonal and tourist use and infrastructure demand and support the long-term affordability for permanent residents.

5.3 Theme 3: Natural Environment

Protected, restored, functioning natural systems

Objective 3.1: Natural Assets are Infrastructure. Collingwood treats natural assets, including wetlands, urban forest, shoreline vegetation, and riparian corridors, as infrastructure. These assets are integrated into asset management decisions, so their service value is accounted for alongside engineered systems

Objective 3.2: Expanded and Protected Green Cover. Over time, the Town aims to maintain or increase urban tree canopy cover and the extent of naturalized areas, with priority to areas of greatest heat vulnerability and ecological significance, supported by regulatory tools designed to reduce the incremental loss of existing natural cover and tree canopy.

Objective 3.3: Protected Water and Shoreline. The Town works to maintain or enhance the quality of its drink water sources, waterways and coastal environments including through runoff controls, stormwater quality treatment, shoreline vegetation management, invasive species monitoring, and shoreline infrastructure maintenance and replacement.

6 Adaptation Actions

This section presents the 18 adaptation actions that form the core of the Town's Climate Change Adaptation Plan. Each action represents a strategic program or service area (i.e. new or enhancement to existing) in which the Town, working with its partners, will invest effort and resources over the implementation horizon. Actions are not individual projects or tasks, but coherent areas of sustained work. Each encompasses multiple implementation activities, which are intended to be flexible, adaptable and refined over time as the Town's understanding of climate change, and its impacts on the community deepens.

Much like the natural environment this plan seeks to protect and preserve, the effectiveness of the Town's actions and their impacts are interconnected and interdependent. Where meaningful, each action therefore identifies not only what the Town will do, but how community members can build the same work into their own lives, under a "How Our Community Members Can Participate" heading.

Each action also identifies a Lead Department and, where relevant, Supporting Department(s) and Supporting Partners. At this stage, a Lead Department's role is to begin the work of translating this action into a concrete plan: determining its shape, scope, and sequencing, identifying how it connects to initiatives already under way, and convening the right internal and external partners, including engagement partners, to have that conversation. Assigning a lead is not a commitment that implementation begins immediately. It is the starting point for developing the project plans and resourcing requests, covering both staff capacity and funding, that will guide the Town's future work planning.

Some actions also involve coordination with Indigenous communities, community organizations, and other partners. Where those relationships are already active, this plan builds on them directly. Where they are still developing, or where the appropriate community or organization has not yet been identified, further coordination is needed to determine who the Town should engage and in what form, recognizing that engagement preferences vary by community and by initiative. This will be addressed on a case-by-case basis as each action is developed further, rather than assumed in advance.

6.1 Theme 1: People and Community

6.1.1 A1: Warming and Cooling Centers

Access to safe, healthy, and comfortable indoor space during climate events is a public safety requirement that is anticipated to have increasing impact on the community. As heat events, severe winter

storms, power outages and prolonged smoke events become more frequent, the Town will work to ensure that publicly accessible Warming and Cooling Centers are systematically designated, resourced and operational when residents and visitors need them, year-round and across all hazard types. These centers are Collingwood's primary community sheltering locations during any severe weather emergency, not only heat and cold events. This builds on informal capacity already in place at Central Park Arena, the Library, and the Transit Terminal. The focus is on formalizing designation, adding back-up power, and closing capacity gaps, rather than starting from zero.

What This Will Look Like

- Audit existing publicly accessible cooling locations against criteria including hours of operation, transit access, back-up power, air filtration, and accessibility for vulnerable groups.
- Designate Warming and Cooling Centers that provide safe, healthy and comfortable indoor space during extreme heat, severe winter events, and other emergencies requiring public shelter, with back-up power and indoor air filtration, embedded in the Town's facility capital planning cycle.
- Extend operating hours of designated facilities during Environment Canada heat warnings and severe winter weather events, considering existing public facilities as the primary vehicle for center delivery.
- Ensure cooling and warming access for residents and visitors without private vehicles through transit connections or active transport links to designated locations.
- Provide water access and shaded outdoor spaces in priority locations.
- Enhance community awareness of available programs and resources, such as the Home Protection Program and seasonal heat and cold weather alerts, and Warming and Cooling Center locations before, during and after climate events.
- Develop a prioritized investment plan based on audit findings, with equity and geographic distribution as primary criteria, and back-up power availability at designated centers.
- Develop planned community support programming for climate events including heat waves, extreme cold, and prolonged smoke events, such as check-in supports for vulnerable residents and transportation assistance to Warming and Cooling Centers, with specific attention to reaching seasonal and visiting populations.

How Our Community Members Can Participate

- Check on neighbors, especially older adults and people living alone, during extreme heat, cold, or smoke events.
- Know the location of the nearest designated Warming and Cooling Center before an event happens, not during one.
- Community organizations already providing informal warming or cooling support can connect with the Town to be included in public information about available resources.

Hazard Addressed:

- Extreme Heat (Primary);
- Warmer Winters and Winter Variability (Primary);
- Air Quality and Wildfire Smoke (Secondary);
- Severe Storms and High Winds (Secondary).

Timeframe:

- Near term (1 to 3 years): Audit, center designation, extended hours protocols, and water/shade access.
- Medium-term (4 to 10 years): Investment plan implementation and back-up power at priority facilities.

Lead Department: Customer & Corporate Services; Parks, Recreation & Culture.

Supporting Department(s): Fire Services; Library.

Supporting Partners: County of Simcoe; OPP

6.1.2 A2: Flood Risk Planning and Home Protection Program

Residential flooding, including basement flooding, sewer backups, and overland flow, is among the highest-priority near-term risks identified in the Town's risk assessment. This action addresses that risk through two complementary mechanisms. The Stormwater Management Master Plan has already produced Town-wide flood mapping and climate change modeling; this action keeps that mapping current, makes it easier for residents to find and understand, and helps homeowners protect their properties. It does not create a new property disclosure or rental licensing requirement.

What This Will Look Like

- Periodically update and maintain flood mapping through the Stormwater Management Master Plan process, in partnership with Conservation Authorities.
- Improve public access to existing flood mapping and flood preparedness information through the Town's website and public communications.

How Our Community Members Can Participate

- Check the Town's flood mapping for your property before renovating, buying, or renting, so you understand your own flood risk.
- Take advantage of the Flood Home Protection Program's education, and consider practical steps like sump pumps, backwater valves, or improved lot grading.
- Report drainage problems or recurring flooding on your property to help keep the Town's mapping accurate.

Already Under Way

- Town-wide flood mapping and climate change modeling have already been completed through the Stormwater Management Master Plan, including identification of flood damage centers and prioritization of mitigation projects.
- The Town has also budgeted \$50,000 for a Flood Home Protection Program to support homeowner flood-proofing education.

Hazards Addressed:

- Surface flooding (Primary)
- Riverine flooding (Primary)
- Warmer Winters and Winter Variability (Secondary)

Timeframe: Near-term (1 to 3 years)

Reference Programs

- City of Toronto: Basement Flooding Protection Subsidy Program
- City of Ottawa: Rain Ready Ottawa

See Also: Collingwood Stormwater Management Master Plan – Phase II Final Report (September 2026).

Lead Department: Infrastructure Department

Supporting Department(s): Growth & Development

Supporting Partners: Conservation Authorities

6.1.3 A3: Shoreline Public Access and Erosion Management

Collingwood's waterfront is among its most valued assets, culturally, economically and for everyday quality of life. Shoreline access serves as both an everyday amenity and a heat-event cooling resource. This action distinguishes that role from the need to restrict access during active storm or flood conditions for public safety. It's also among the most climate-exposed features in the community. Fluctuating lake levels, increasing wave action, reduced ice cover, increasing water temperature (i.e. as an accelerant to algae and bacteria growth), and accelerating erosion are compressing the margin between a reliably accessible shoreline and unexpected closures and remediation needs. This action develops a shoreline management strategy that protects public and Indigenous access, addresses erosion through engineered and nature-based solutions, and establishes transparent criteria for how public funding is allocated between various shoreline needs, including residential, non-residential and tourism interests.

What This Will Look Like

- Assess shoreline and waterfront trail networks and public access routes for flood and erosion risks to identify priority investments.
- Repair existing shoreline structures and areas that have already sustained damage, as an early-action component of the broader erosion management effort, where feasible within available capital and operating budgets.
- Identify public accesses and properties at highest risk from shoreline erosion and fluctuating lake levels.
- Implement naturalized erosion control measures, such as riparian vegetation and shoreline buffer restoration.
- Provide educational resources to condominium corporations and private shoreline property owners on the benefits of naturalized shoreline treatments.
- Develop education, communication, and/or incentive programs targeted at activities that can be undertaken by private waterfront landowners to reduce flooding and erosion risk.
- Develop transparent principles for allocating public funding between competing shoreline protection needs.
- Evaluate processes and operating procedures for alerting beach users and managing water access during conditions that affect water quality, such as algae or bacterial blooms. This includes conditions that affect user safety, such as severe storms and the unsafe conditions that can follow them, including continued flooding or site damage. This may include public alerts and signage indicating beach closures where conditions warrant.

How Our Community Members Can Participate

- Waterfront property owners can choose naturalized shoreline treatments, such as vegetated buffers, over hard armoring to reduce erosion on their own property.

- Follow posted closures and advisories during storms or water quality events, for your own safety.
- Report damaged shoreline structures or erosion concerns to help identify where public investment is needed most.

Hazards Addressed:

- Lake Level Variability and Shoreline Erosion (Primary)
- Severe Storms and High Winds (Primary)

Timeframe: Near Term (1 to 3 years)

Lead Department: Parks, Recreation & Culture

Supporting Department(s): Communications Team

Supporting Partners: Health Unit; Conservation Authorities; Indigenous Groups

6.1.4 A4: Risk Event Communications Program

Effective climate adaptation depends on people knowing what to do before, during and after a climate event. For Collingwood, this is a more complex communications challenge than most Ontario municipalities due to the large seasonal and visiting populations that may be unfamiliar with local conditions and local communication channels. Additionally, these visitors and seasonal residents are often present during the times of the year when these risk events are most likely to occur. This action builds a consistent, multi-channel public communications program covering but not limited to extreme heat, wildfire smoke, flood, freezing rain, snow, storm and water quality events, designed explicitly to reach Collingwood's year-round, seasonal and visitor audiences. This action is the outward facing delivery system and works in tandem with A17: Partner Coordination & Climate Risk Communications to deliver the program.

What This Will Look Like

- Develop tailored audience segmentation for year-round, tourist/visitor and seasonal resident populations to ensure climate hazard communications reach beyond permanent residents.
- Build a multi-hazard, year-round public outreach program covering but not limited to extreme heat, wildfire smoke, flood, freezing rain, snow, storm and water quality events.
- Establish a public climate indicator reporting channel so residents and visitors can access plain-language information about current and forecasted conditions.
- Enhance community awareness of available programs, resources, and Warming and Cooling Center locations before, during and after climate events, drawing on the Warming and Cooling Centers established under A1.
- Develop community support programming for climate events, such as multilingual alert messaging and orientation materials for seasonal residents, with attention to reaching seasonal and visiting populations who may be unfamiliar with local support and geography.
- Deliver communications through multiple channels to ensure reach across the full community, including social media, radio announcement, community group outreach, entrance signage, direct mail and partnership with local businesses and tourism operators, with additional consideration for groups such as seniors, people whose first language is not English, or those with limited digital access.

How Our Community Members Can Participate

- Sign up for the Town's public climate indicator and alert channels and know where to check for plain-language information during an event.
- Local businesses and tourism operators can help extend reach by sharing Town alerts and safety information with visitors and seasonal staff.
- Check in on neighbours who may be less likely to receive Town communications directly, including seniors, newcomers, and those with limited digital access.

Hazards Addressed:

- Extreme Heat (Primary)
- Air Quality and Wildfire Smoke (Primary)
- Severe Storms and High Winds (Secondary)
- Cumulative and Compounding Effects (Secondary)

Timeframe:

- Near Term (1 to 3 years): Audience segmentation, outreach program and reporting channel.
- Medium-term (4 to 10 years): Full hazard communications program and community event programming.

Lead Department: Communications Team; Customer & Corporate Services

Supporting Department(s): Parks, Recreation & Culture; Infrastructure Department

Supporting Partners: Health Unit; BIA/tourism partners; Community Groups

See Also: Collingwood Stormwater Management Master Plan – Phase II Final Report (September 2026).

6.2 Theme 2: Services and Operations

6.2.1 A5: Climate-Adjusted Stormwater and Wastewater Standards

Collingwood's stormwater and wastewater systems were primarily designed around historical rainfall patterns that are no longer reliable predictors of future conditions. As rainfall and freeze-thaw cycles become more intense, frequent and/or concentrated, systems designed against those historical norms face increasing rates of overload, sewer backup, and treatment bypass. This action updates the design criteria used to size and operate stormwater and wastewater infrastructure to reflect climate-projected rainfall volumes and intensities and more frequent freeze-thaw cycles. It pairs updated standards with a program to reduce the volume of stormwater entering the sanitary sewer system, which is a significant driver of basement flooding and treatment bypass during heavy rain events.

What This Will Look Like

- Continue applying climate-adjusted rainfall data, including updated IDF curves based on current provincial and Ministry of Transportation guidance, to stormwater and wastewater design standards. This is consistent with design guidance already developed through the Stormwater Management Master Plan and carried forward into the Town's Engineering Standards update, drawing on Ontario's Low Impact Development Stormwater Management Guidance Manual for related design approaches.
- Enhance the Town's existing inflow and infiltration program, including sewer inspections, rehabilitation, and downspout disconnection, to ensure it is scaled and sequenced to address the increased pressure that climate-projected rainfall intensities and increased freeze-thaw cycles will

place on the sanitary system. Updated methods for estimating I&I in wastewater flows are not yet addressed in current design standards and should be reviewed as a future refinement.

- Integrate green infrastructure and low-impact development approaches to stormwater management in municipal infrastructure projects and in coordination with updated engineering standards under A10: Green and Climate-Ready Engineering Standards.

How Our Community Members Can Participate

- Homeowners can disconnect downspouts from the sanitary sewer system and direct rainwater to their own lawn or garden instead, reducing basement flooding risk for the whole neighborhood.
- Report suspected sewer backups or cross-connections to support the Town's inflow-and-infiltration program

Already Under Way

- The Engineering Standards update, currently in public review, already incorporates climate-adjusted design criteria.
- The Town's inflow and infiltration (I&I) program is already underway and will continue to inform this action

Hazards Addressed:

- Surface Flooding (Primary)
- Warmer Winters and Winter Variability (Primary)
- Lake Level Variability and Shoreline Erosion (Primary)
- Freeze-Thaw Variability (Primary)

Timeframe:

- Near Term (1 to 3 years): Standards review and I&I strategy enhancement.
- Ongoing: Implementation tied to capital and operating budgets.

Lead Department: Infrastructure Department

Supporting Partners: Conservation Authorities

See Also: Collingwood Stormwater Management Master Plan – Phase II Final Report (September 2026).

6.2.2 A6: Asset Management Climate Integration

Ontario Regulation 588/17 requires municipalities to maintain asset management plans covering all core infrastructure. Collingwood's Asset Management Plan provides the foundation. This action builds the next layer, integrating climate vulnerability and risk explicitly into how the Town assesses, prioritizes and plans for its assets across the full lifecycle so that capital investment decisions and maintenance programs reflect how climate change is changing the conditions under which assets operate and deteriorate.

What This Will Look Like

- Develop climate-weighted renewal prioritization and vulnerability-adjusted lifecycle costing frameworks so that capital investment decisions reflect the urgency and cost of climate risk across the asset portfolio.
- Review and update asset management standards to account for accelerated infrastructure deterioration under projected climate conditions. Manufacturer-recommended service intervals

and industry references focus primarily on liability and baseline performance and do not currently account for regional climate change impacts. This review will help close that gap.

- Adjust maintenance inspection programs, preventative maintenance intervals, and materials selection to reflect changing operating conditions.
- Review service level standards for winter operations in the context of changing precipitation patterns and freeze-thaw variability.
- Build organizational capacity for climate-integrated asset management, including staff training and methodology documentation.

How Our Community Members Can Participate

- The Town will seek out engagement opportunities with the community as this work progresses, particularly where updated standards affect service levels residents experience directly.

Already Under Way

- The Town's Asset Management Plan was comprehensively updated recently; this action builds climate integration onto that existing foundation rather than starting a new planning process.

Hazards Addressed:

- Freeze-Thaw Variability (Primary).
- Extreme Heat (Primary).
- Severe Storms and High Winds (Primary)
- Warmer Winters and Winter Variability (Primary)
- Cumulative and Compounding Effects (Secondary)

Timeframe:

- Near to Medium Term (2 to 5 years): Methodology development and standards review.
- Ongoing: Implementation across asset portfolio.

See Also: A7 (Natural Asset Valuation and Integration); A8 (Resilient Facility Retrofit).

Lead Department: Finance

Supporting Department(s): Customer & Corporate Services

Supporting Partners: N/A

6.2.3 A7: Natural Asset Valuation and Integration

Collingwood's Greenlands System, including wetlands, urban forest, shoreline vegetation, rivers/creeks and other natural heritage features on Town-owned land, provides services that would otherwise need to be supplied by built infrastructure at significant costs. For example, wetlands attenuate flood peaks, tree canopies reduce urban heat and manage stormwater, shoreline vegetation stabilizes banks and reduces erosion. These are assets with real replacement costs but are underrepresented in municipal Asset Management Planning. This action adopts a natural asset valuation methodology to account for Collingwood's key natural assets in the Asset Management Plan, providing a defensible basis for investing in their protection and restoration, and enabling the Town to make evidence-based comparisons between natural and engineered infrastructure alternatives. These natural assets function alongside engineered green infrastructure, such as the bioswales, rain gardens and other stormwater features

addressed under the Town's stormwater design standards, and a complete accounting of asset value should treat both as part of one connected, service-providing system.

What This Will Look Like

- Identify and inventory natural assets, including but not limited to wetlands, woodlots, riparian corridors, urban forest, and shoreline vegetation, on land owned by and under the authority of, the Town.
- Apply a natural asset valuation methodology drawing on an Ecosystem Services Valuation approach to quantify the full range of services provided by key natural assets.
- Integrate natural asset values into the Asset Management Plan, including condition, monitoring, maintenance considerations, and lifecycle management.

How Our Community Members Can Participate

- The Town will seek out engagement opportunities with the community as natural asset values are identified, particularly where findings inform future protection and investment decisions.

Already Under Way

- The Town began natural asset valuation work in 2023 through Municipal Natural Assets Initiative (MNAI) workshops. Parks, Recreation and Culture is separately advancing related valuation work through its tree bylaw consultants

Hazards Addressed:

- Extreme Heat (Primary)
- Lake Level Variability and Shoreline Erosion (Secondary)
- Drought and Water Stress (Secondary)
- Severe Storms and High Winds (Secondary)
- Surface Flooding (Secondary)
- Cumulative and Compounding Effects (Secondary)

Timeframe:

- Near to Medium Term (2 to 5 years): Inventory and methodology adoption.
- Medium-term (4 to 10 years): Full integration into the Asset Management Plan.

Lead Department: Finance; Parks, Recreation & Culture

Supporting Department(s): Customer & Corporate Services

Supporting Partners: Conservation Authorities; Community Groups

See Also: A6 (Asset Management Climate Integration); A14 (Shoreline and Wetland Protection Program); Collingwood Stormwater Management Master Plan – Phase II Final Report (September 2026).

6.2.4 A8: Resilient Facility Retrofit and Asset Management Capacity

Collingwood's municipal facilities, including community centers, libraries, arenas and public works facilities, are the physical platform on which emergency response, community sheltering and service continuity depend on during climate events. Many were not designed with climate resilience features in mind, such as back-up power, flood protection measures, HVAC systems capable of extreme-temperature

operation, and emergency sheltering capability. Some may now be expected to serve as Warming and Cooling Centers under conditions they were not built to withstand. This action builds resilience features into municipal facilities through a prioritized retrofit program, focusing first on facilities serving vulnerable populations and those designated as Warming and Cooling Centers under A1, pairing capital retrofits with the asset management, staffing and lifecycle maintenance capacity needed to sustain resilience features over time.

What This Will Look Like

- Develop a prioritized facility retrofit investment plan addressing back-up power, passive cooling capacity, snow and ice loading performance, flood protection, and indoor air filtration, among other climate-related considerations.
- Establish proactive inspection and maintenance protocols to identify and address accelerated facility deterioration from climate stress.
- Install back-up power at priority facilities, focusing on those designated as Warming and Cooling Centers and those serving vulnerable populations.
- Implement energy monitoring and management systems to identify excessive infrastructure degradation and support facility operating efficiency.

How Our Community Members Can Participate

- The Town will seek out engagement opportunities with the community as facility retrofits are planned, particularly for facilities designated as Warming and Cooling Centers.

Hazards Addressed:

- Severe Storms and High Winds (Primary)
- Extreme Heat (Primary).
- Freeze-Thaw Variability (Primary)
- Warmer Winters and Winter Variability (Primary)
- Cumulative and Compounding Effects (Secondary)

Timeframe:

- Near Term (1 to 3 years): Retrofit investment plan, inspection protocols and energy monitoring.
- Medium-term (4 to 10 years): Capital Retrofit Implementation.

Lead Department: Customer & Corporate Services

Supporting Department(s): Parks, Recreation & Culture

Supporting Partners: Utility Companies

See Also: A1 (Warming and Cooling Centers); A6 (Asset Management Climate Integration)

6.2.5 A9: Emergency Management Modernization

Collingwood's existing emergency management program provides the foundation to build a modernized approach that reflects the changing climate requirements. Emergency plans written for historical climate event frequencies and intensities may not adequately account for elevated risk level, compound events, prolonged durations, and the novel scenario combinations that could increase under a changing climate, including concurrent hazards during peak tourism and seasonal population periods. This action refreshes

the Town's emergency plans, mutual aid agreements, and operational protocols to reflect current climate risks. Modernization is a collaborative effort, and specific partner-led components will be scoped through direct engagement with partner agencies rather than committed to in advance.

What This Will Look Like

- Update emergency plans to include scenarios for more frequent, intense, cumulative and/or concurrent climate events, and for service demand during peak seasonal and tourist population periods.
- Formalize coordination protocols with fire, police, EMS and the Health Unit covering climate event response and communications.
- Proactively assess the Town's insurance coverage against the changing climate risk environment to confirm it continues to reflect current and emerging conditions.
- Develop service continuity plans for core municipal services during and after climate events.
- Integrate climate scenarios into the delivery of annual training and regular tabletop exercises to build and maintain staff and partner response capacity.
- Review back-up power provision and redundancy across critical services and infrastructure.

How Our Community Members Can Participate

- Households and businesses can develop or update their own emergency preparedness plans and supply kits, consistent with the multi-hazard, compound-event scenarios the Town is now planning for.

Already Under Way

- This action builds on the Town's existing Emergency Management Plan and coordination protocols rather than establishing a new framework.

Hazards Addressed:

- Severe Storms and High Winds (Primary)
- Freeze-Thaw Variability (Primary) Cumulative and Compounding Effects (Secondary)
- Warmer Winters and Winter Variability (Secondary)
- Extreme Heat (Secondary)

Timeframe: Near Term (1 to 3 years)

Lead Department: Fire Services

Supporting Department(s): Communications Team; Infrastructure Department

Supporting Partners: Health Unit; Simcoe County; OPP

See Also: A1 (Warming and Cooling Centers); A4 (Risk Event Communications Program); A17 (Partner Coordination and Climate Risk Communications); Collingwood Stormwater Management Master Plan – Phase II Final Report (September 2026).

6.2.6 A10: Voluntary Green and Climate-Ready Engineering Standards

Every development decision is a long-term commitment about the climate resilience of Collingwood's built form. Buildings, roads, parking lots, and hard surfaces increase runoff, intensify the urban heat island effect, reduce tree canopy and constrain the natural systems that buffer climate impacts. This action

supports the development of voluntary standards to address such matters as green infrastructure, low-impact development practices, tree preservation, and climate-ready building design in new development and redevelopment, led where possible by the County of Simcoe, with the Town prepared to develop these provisions directly should the County not take on that role. This action delivers both adaptation and mitigation co-benefits, including climate ready buildings that are more resilient to extreme conditions and are energy efficient.

What This Will Look Like

- Coordinate with the County of Simcoe on the development of voluntary Increased Building-Performance Standards (per the Sustainable Collingwood Plan, Action 3) or similar green development standards for new development and redevelopment. Topics to be addressed include passive cooling, stormwater infiltration, heat island reduction, hardscaping limits, renewable energy considerations, and climate-ready building performance, among other matters. Should the County not take on a leadership role, the Town may develop these provisions directly, consistent with the Sustainable Collingwood Plan's contingency approach.
- Proactively implement green development standards in Town-led projects where feasible.
- Develop and fund (potentially through grants) an incentive program to increase uptake of green development standards into privately-initiated projects.
- Update sewer-use bylaws to incorporate climate-adjusted stormwater and drainage requirements.
- Retain or enhance requirements for landscaped open space in the Town's Zoning By-law.
- Strengthen tree preservation and replacement requirements through the update of the Town's Tree Protection Framework in coordination with A12: Urban Forest and Canopy Expansion.

How Our Community Members Can Participate

- Homeowners, builders, and developers can voluntarily adopt green infrastructure and climate-ready building features ahead of any formal requirement.
- Watch for incentive programs supporting green development standards on privately-initiated projects as they become available.

Already Under Way

- The Engineering Standards update, currently in public review through the end of August, already reflects related climate considerations.
- The Community Climate Action Plan also includes existing voluntary green development standards commitments.

Hazards Addressed:

- Extreme Heat (Primary),
- Surface Flooding (Primary),
- Severe Storms and High Winds (Secondary),
- Drought and Water Stress (Secondary),
- Freeze-Thaw Variability (Secondary)

Timeframe:

- Near Term (1 to 3 years): Design guideline and bylaw updates.
- Medium-term (4 to 10 years): Implementation and incentive program launch. .

Lead Department: Growth & Development

Supporting Department(s): Customer & Corporate Services; Parks, Recreation & Culture

Supporting Partners: Simcoe County

See Also: A5 (Climate-Adjusted Stormwater and Wastewater Standards); A12 (Urban Forest and Canopy Expansion); Sustainable Collingwood Plan, Action 2 (District Energy Systems) and Action 3 (Increase Building-Performance Standards).

6.2.7 A11: Climate Resilience Financial Strategy

Collingwood's climate adaptation needs carry a real cost. Infrastructure needs to be upgraded, services need to be enhanced, and staff capacity needs to be built. The appropriate allocation of those costs among different users of the Town's infrastructure is a matter of both equity and fiscal sustainability. Collingwood's tourism economy places significant demands on roads, waterfront facilities, waste management, and emergency services, which are intensified during peak climate hazard periods of the summer and winter. This action conducts a structured review of how climate adaptation costs are financed, considering mechanisms that more transparently reflect the contribution of seasonal and tourist use to infrastructure demand, while carefully attending to the equity implications for permanent residents across income levels.

What This Will Look Like

- Conduct a structured review of how climate adaptation costs are currently financed and identify opportunities for more equitable and sustainable approaches.
- Explore potential financing mechanisms, including grants, parking fees, development charges, and other available tools. This is an exploratory review only, not a funding commitment or proposed rate or charge change. Any financing mechanism identified through this review, including development charges or the Municipal Accommodation Tax, would need to align with applicable legislation and Town policy (including the Town's existing reserve fund policy where relevant) and receive separate Council approval before implementation. Consideration will also be given to how Collingwood's existing Municipal Accommodation Tax, primarily directed towards tourism advancement, could support climate adaptation of tourism infrastructure and the visitor experience, subject to the same conditions.
- Undertake the Town's stormwater user charge study, expected to begin in fall 2026, which will consider whether mechanisms such as a stormwater utility rate could more equitably distribute the cost of stormwater infrastructure improvement.
- Develop demand management and related approaches for seasonal tourism surges that reduce peak pressure on public spaces, waterfront infrastructure and emergency services, drawing on the Town's 2024 Tourism Master Plan as a reference for broader sustainable tourism strategies already under consideration.
- Analyze equity implications of any proposed financing changes for permanent residents with particular attention to affordability across income levels.

How Our Community Members Can Participate

- This is primarily a Town-led financial review. Given the direct implications for residents and businesses, the Town will seek out community and stakeholder engagement opportunities as financing options are developed, particularly on any changes that could affect affordability.

Hazards Addressed:

Financing mechanisms under this action should be linked to the full range of hazards addressed elsewhere in this plan, not limited to those below.

Timeframe:

- Near Term (1 to 3 years): Financing review and demand management development.
- Medium-term (4 to 10 years): Implementation of any new financing mechanisms and demand management approaches.

Lead Department: Finance; Growth & Development

Supporting Department(s): Infrastructure Department; Customer & Corporate Services

Supporting Partners: N/A

See Also: Collingwood Stormwater Management Master Plan – Phase II Final Report (September 2026).

6.3 Theme 3: Natural Environment

6.3.1 A12: Urban Forest and Canopy Expansion

Tree canopy is one of the most cost-effective climate adaptation investments a municipality can make. Mature trees simultaneously reduce urban heat island temperatures, manage stormwater, improve air quality, provide habitat, and contribute to the health and livability of neighborhoods. This action expands Collingwood's urban tree canopy, with priority to heat island areas and neighborhoods where canopy coverage is lowest and heat vulnerability is highest, while strengthening the regulatory and other tools needed to protect existing mature trees from incremental loss.

What This Will Look Like

- Continue the ongoing update and modernization of the Town's Tree Protection Framework.
- Complete and maintain an inventory of public trees and plan table spaces to identify priority locations for future planting, building on work already underway through Parks.
- Develop and implement a tree planting and maintenance guidance program for private landowners.
- Where the Town undertakes tree planting, select and plant climate-adapted and resilient species suited to projected future conditions, prioritizing heat island areas, and neighborhoods with low canopy cover.
- Support tree planting on private property and explore opportunities to expand the Town's greenspace network through land acquisition.
- Strengthen the existing tree cutting bylaw as well as related policies, standards, and guidelines, and dedicate enforcement capacity to reduce canopy loss, in coordination with A10: Voluntary Green and Climate-Ready Engineering Standards.
- Incorporate biodiversity and ecosystem stability considerations into Town planting programs and planning standards.

How Our Community Members Can Participate

- Participate in public engagement and outreach activities as they become available.

- Plant and maintain trees on private property, prioritizing climate-adapted species suited to future conditions.
- Follow the Town's tree cutting bylaw and tree planting and maintenance guidance to help protect existing mature trees.

Already Under Way

- Parks is currently completing an updated inventory of public trees and plantable spaces. This action also builds on the Town's existing tree cutting bylaw.

Hazards Addressed:

- Extreme Heat (Primary),
- Air Quality and Wildfire Smoke (Primary),
- Drought and Water Stress (Primary),
- Severe Storms and High Winds (Primary),
- Freeze-Thaw Variability (Secondary).

Timeframe:

- Near Term (1 to 3 years): Maintenance program, update species selection criteria, and complete Tree Protection Framework update.
- Medium-term (4 to 10 years): Full climate-adapted species transition, implementation of the Tree Protection Framework, and canopy expansion program, including land acquisition as funding allows.

Lead Department: Parks, Recreation & Culture

Supporting Department(s): Legislative Services; Growth & Development

Supporting Partners: Conservation Authorities; Community Groups

See Also: A1 (Warming and Cooling Centers); A10 (Green and Climate-Ready Engineering Standards); A13 (Naturalization and Pollinator-Positive Public Realm).

6.3.2 A13: Naturalization and Pollinator Positive Public Realm

Naturalizing public spaces, including right of ways, park margins, municipal properties and publicly-owned stormwater areas, increases ecological function, reduces maintenance costs over time, supports biodiversity, and builds community connection to natural systems. This action expands naturalized gardens, edible streetscapes, and pollinator-supporting plantings on public land, and supports private land naturalization through education, demonstration sites, and incentive programs. It is coordinated explicitly with A16: Invasive Species and Ecosystem Health to ensure naturalization plantings target the right native species and do not inadvertently create conditions that favor invasive species.

What This Will Look Like

- Expand naturalized gardens, pollinator-supporting plantings, and edible streetscapes on Town-owned public land including rights-of-way, park margins, and stormwater areas where operationally feasible.
- Develop education and outreach programming, including demonstration sites and community nature walks, to support private land naturalization with appropriate native species.

- Create incentive programs to encourage private land naturalization, where funding is available.
- Assess rainwater storage options to support planting programs during dry periods.
- Establish cross-reference protocols with A16: Invasive Species and Ecosystem Health to ensure naturalization work is coordinated with invasive species monitoring and response

How Our Community Members Can Participate

- Naturalize part of your own property with native, pollinator-supporting plants, using Town demonstration sites and education programming as a guide.
- Join or support Pollinate Collingwood and similar community naturalization groups.
- Take advantage of incentive programs for private land naturalization as funding becomes available.

Already Under Way

- Pollinate Collingwood is an existing community naturalization initiative.

Hazards Addressed:

- Ecosystem Change (Primary),
- Drought and Water Stress (Primary),
- Extreme Heat (Secondary),
- Cumulative and Compounding Effects (Secondary).

Timeframe: Near Term (1 to 3 years) for implementation of all aspects of this action.

Lead Department: Parks, Recreation & Culture

Supporting Department(s): Communications Team

Supporting Partners: Conservation Authorities; Community Groups

See Also: A12 (Urban Forest and Canopy Expansion); A14 (Shoreline and Wetland Protection Program); A16 (Invasive Species and Ecosystem Health Program)

6.3.3 A14: Shoreline and Wetland Protection Program

Collingwood's wetlands, riparian corridors, and naturalized shorelines are among its most valuable natural assets. They support attenuating flood peaks, filtering runoff, stabilizing shorelines, providing habitat, and cooling adjacent water and air. They are also among the most threatened by climate stress. This action protects and restores these systems through a program coordinated with the relevant Conservation Authorities and connecting directly to the natural asset valuation work under A7: Natural Asset Valuation and Integration and the shoreline access management work under A3: Shoreline Public Access and Erosion Management.

What This Will Look Like

- Continue to identify and designate high-value wetlands for enhanced protection in land use planning documents, drawing on all available heritage mapping.
- For Town projects, implement living shoreline and bioengineered erosion management approaches, prioritizing nature-based solutions over hard armoring.
- Explore land acquisition and conservation easement tools for critical wetland/shoreline/riparian properties where protection cannot be achieved through regulatory means alone.

- Develop community stewardship programs that build local capacity for wetland and shoreline monitoring and maintenance on both public and private property.
- Continue to apply existing shoreline and riparian buffer protections under the Official Plan and Zoning By-law through the development review and site plan approval process. This action does not create new enforcement mechanisms beyond those already available through planning and engineering standards review.

How Our Community Members Can Participate

- Property owners near wetlands, riparian corridors, or shorelines can join community stewardship programs to help monitor and maintain these areas.
- Respect existing shoreline and riparian buffer protections under the Official Plan and Zoning By-law when planning property changes.

Already Under Way

- Shoreline and riparian buffer protections already exist under the Official Plan and Zoning By-law.

Hazards Addressed:

- Lake Level Variability and Shoreline Erosion (Primary),
- Surface Flooding (Primary),
- Riverine Flooding (Primary),
- Drought and Water Stress (Secondary).

Timeframe:

- Near Term (1 to 3 years): Stewardship program, and ongoing planning instrument review periodically as required by legislation.
- Medium-term (4 to 10 years): Land acquisition and implementation of bioengineered shoreline works.

Lead Department: Parks, Recreation & Culture; Conservation Authorities (co-lead)

Supporting Department(s): Infrastructure Department

Supporting Partners: Community Groups; Indigenous Groups

See Also: A3 (Shoreline Public Access and Erosion Management); A5 (Climate-Adjusted Stormwater and Wastewater Standards); A7 (Natural Asset Valuation and Integration).

6.3.4 A15: Water Quality, Source Protection and Potable Water Availability

Nottawasaga Bay is Collingwood's drinking water source, one of its primary recreational assets, and a system of cultural and ecological significance. Its quality is directly affected by land-based runoff, stormwater discharge, agricultural inputs from the watershed, and the warming, stratification, and algal/bacterial bloom dynamics driven by climate change. This action strengthens runoff controls, enhances monitoring, and builds the governance frameworks needed to protect drinking water quality and supply resilience under changing climate conditions. Indigenous, community health and recreational relationships with the water are central considerations in the design and implementation of this action.

What This Will Look Like

- Maintain alignment with the South Georgian Bay Lake Simcoe Source Protection Plan and continue to integrate its requirements into Town planning documents and operational practices.
- Develop a multi-barrier, source-to-tap governance framework for drinking water resilience under changing climate conditions, including the implications of lake level fluctuations for intake operations.
- Partner with the relevant Conservation Authority on the Brook to Bay water quality initiatives covering watercourse health, nutrient management, and contaminant reduction across the watershed.
- Establish a Beach Water Quality Monitoring Program, in coordination with existing programs managed by partner agencies, with public reporting to provide earlier warning of quality issues and track trends over time.
- Develop drought-response water conservation programming with defined trigger levels tied to lake level and source water conditions.
- Modernize the Town's road salting program to reduce chloride runoff into watercourses and the bay.

How Our Community Members Can Participate

- Follow water conservation guidance during drought-response triggers to help protect drinking water supply.
- Reduce household salt use in winter to help limit chloride runoff into the bay.
- Report water quality concerns to support the Beach Water Quality Monitoring Program.

Already Under Way

- Water quality monitoring already conducted by the Health Unit and MECP; Town Parks also conducts some existing harbor monitoring.

Hazards Addressed:

- Ecosystem Change (Primary),
- Warmer Winters and Winter Variability (Primary),
- Drought and Water Stress (Secondary)
- Cumulative and Compounding Effects (Primary).

Timeframe: Near Term (1 to 3 years) for implementation of all aspects of this action.

Lead Department: Infrastructure Department

Supporting Department(s): Parks, Recreation & Culture

Supporting Partners: Health Unit; Conservation Authorities; Community Groups; Indigenous Groups

See Also: A5 (Climate-Adjusted Stormwater and Wastewater Standards); A14 (Shoreline and Wetland Protection Program); Collingwood Stormwater Management Master Plan – Phase II Final Report (September 2026).

6.3.5 A16: Invasive Species and Ecosystem Health Program

Climate change is enabling the spread of invasive species into and across all of Ontario, creating conditions that favor their establishment while stressing the native species that would otherwise compete effectively against them. Early detection and rapid response are the most cost-effective tools available.

Once a species is established across a significant area, management costs escalate sharply and ecological recovery becomes far more difficult. This action implements an early detection and rapid response program integrated with the urban forestry and naturalization work under A13: Naturalization and Pollinator Positive Public Realm and A14: Shoreline and Wetland Protection Program, and distinguishes clearly between landscape-choice work, selecting native species for planting programs, and active rapid-response work when a new invasive species is detected.

What This Will Look Like

- Establish a cross-reference protocol with A12: Urban Forest and Canopy Expansion and A13: Naturalization and Pollinator Positive Public Realm to coordinate invasive species awareness across urban forestry and naturalization programming, helping residents recognize and voluntarily act on invasive species on their own properties.
- Support and promote existing invasive species monitoring efforts through partner agencies, such as the Conservation Authorities and the Invasive Species Centre.
- Direct public and staff reporting to existing tools, such as the Invasive Species Centre's 'report a sighting' app and establish a clear internal referral process so reports on Town property reach the right organization for response.
- Develop and implement a Municipal Management Plan for Emerald Ash Borer and other priority species, such as Phragmites, currently affecting Collingwood's urban forest on Town-owned lands.
- Partner with the relevant Conservation Authorities on their invasive species program to coordinate detection, reporting, and response across the watershed.
- Develop and maintain a public-facing directory, hosted on the Town's website, that helps residents identify potentially invasive species and connects them with local organizations and service providers who can help address them, drawing on species-identification resources already maintained by Conservation Authorities and provincial and federal agencies rather than duplicating them.

How Our Community Members Can Participate

- Report suspected invasive species sightings using existing tools such as the Invasive Species Centre's "report a sighting" app.
- Avoid planting known invasive species. Ask garden centers for native alternatives instead.
- Learn to identify priority species like Emerald Ash Borer and Phragmites so problems can be caught early.

Already Under Way

- Existing invasive species reporting tools and species libraries are already maintained through Conservation Authorities and should be used as a starting point.

Hazards Addressed:

- Drought and Water Stress (Primary),
- Extreme Heat (Primary),
- Surface Flooding (Primary),
- Freeze-Thaw Variability (Primary),
- Lake Level Variability and Shoreline Erosion (Primary).

Timeframe: Near Term (1 to 3 years) for implementation of all aspects of this action.

See Also: A5 (Climate-Adjusted Stormwater and Wastewater Standards); A13 (Naturalization and Pollinator Positive Public Realm); A14 (Shoreline and Wetland Protection Program).

Lead Department: Parks, Recreation & Culture; Conservation Authorities

Supporting Department(s): Customer & Corporate Services

Supporting Partners: Community Groups; Indigenous Groups

6.4 Cross-Cutting Actions (Supporting All Three Themes)

6.4.1 A17: Partner Coordination and Climate Risk Communications

Many of Collingwood's most significant climate risks involve systems and jurisdictions that extend beyond Town boundaries and responsibilities, such as watershed management, drinking water, utility infrastructure, public health, and emergency response. All depend on formalized relationships with external partners to function effectively. This action establishes and maintains the coordination infrastructure that makes the Town's climate Risk Event Communications program under A4 possible, including solidification of the working relationships, information-sharing protocols, and memoranda of understanding (MOUs) through which partner-led information is translated into accessible, actionable guidance for residents, businesses, and visitors.

What This Will Look Like

- Establish a Collingwood Climate Adaptation Working Group to coordinate internal and external climate action across Town departments and key external partners.
- Engage the relevant Conservation Authorities on a Memorandum of Understanding covering shared climate risk, shoreline, and natural heritage matters.
- Develop MOUs with the Simcoe Muskoka District Health Unit covering climate event coordination, information sharing, and communications protocols.
- Establish a climate event response coordination protocol with Fire Services, and MOUs with the County of Simcoe (EMS) and OPP (policing), covering climate event response.
- Develop a process and protocol that ensures consistent communication and messaging across Town, partner, and public-facing channels.

How Our Community Members Can Participate

- This action is primarily inter-agency coordination. Where MOUs and communications protocols affect how information reaches the public, the Town will seek out engagement opportunities to ensure community needs inform that structure.

Hazards Addressed:

- Cumulative and Compounding Effects (Primary),
- Air Quality and Wildfire Smoke (Primary),
- Severe Storms and High Winds (Secondary),
- Lake Level Variability and Shoreline Erosion (Primary).

Timeframe:

- Near-term (1–3 years): Establish a Climate Adaptation Working Group , develop or enhance existing MOUs and communications coordination structure.

See Also: A4 (Risk Event Communications Program); A9 (Emergency Management Modernization); Collingwood Stormwater Management Master Plan – Phase II Final Report (September 2026).

Lead Department: Communications Team; Customer & Corporate Services

Supporting Department(s): Fire Services

Supporting Partners: Conservation Authorities; Simcoe County (Emergency Services); OPP; Health Unit; Indigenous Groups

6.4.2 A18: Tracking Climate Events Leading to Event and Programming Cancellations

Climate hazards increasingly disrupt Town-run and Town-supported events, programs, and services, from summer camps closed on extreme heat days to festivals postponed for storms. Without a consistent record of these disruptions, the Town cannot demonstrate the true operational, social, and economic cost of climate hazards or make the case for targeted investment where it is most needed. This action establishes a simple, consistent method for tracking these impacts over time.

Like A17: Partner Coordination and Climate Risk Communications, this action is cross-cutting. It supports monitoring and reporting functions that apply across all three themes, rather than any single one.

What This Will Look Like

- Develop a standard log for recording events, programs, and services that are cancelled, postponed, or significantly altered due to climate hazards, including extreme heat, flooding, severe storms, and poor air quality.
- Assign responsibility for logging disruptions to the relevant lead department or facility at the time they occur, with a simple, low-burden reporting method.
- Compile logged data annually to identify trends in frequency, hazard type, and affected service areas, and to estimate associated social, economic, and operational impacts.
- Report summary findings through the annual reporting process described in Section 8.3, to inform future prioritization and budget discussions.

How Our Community Members Can Participate

- This action is primarily an internal activity to monitor, assess and report on the impact of climate events on programming and planned community events and activities. The Town will seek engagement opportunities to ensure community feedback is incorporated into findings.

Hazards Addressed:

- Extreme Heat (Primary),
- Surface Flooding (Primary),
- Severe Storms and High Winds (Primary),
- Air Quality and Wildfire Smoke (Primary)
- Lake Level Variability and Shoreline Erosion (Primary).

Timeframe:

- Near-term (1–3 years): Establish a tracking tool and develop communications strategies as part of broader communication program.

See Also: A4: Risk Event Communications Program; Section 8: Monitoring, Reporting, and Adaptive Management

Lead Department: Customer & Corporate Services; Parks, Recreation & Culture

Supporting Department(s): Communications Team; Emergency Management

Supporting Partners: Community Groups; Simcoe County (Emergency Services); OPP; Health Unit; Indigenous Groups

7 Implementation Schedule

7.1 Implementation Principles

The following principles govern the sequencing and prioritization of adaptation actions across the implementation horizon.

Begin with high-impact, low-complexity actions. Several actions, particularly those related to communications, emergency preparedness and asset management methodology, can be initiated under existing resources, authority and budgets without lengthy approval processes. These actions build organizational capacity and deliver near-term risk reduction even as longer-horizon actions are being planned and resourced.

Prioritize actions that address the highest-risk impacts. The risk assessment identified concentrated near-term risk in three areas. These are:

- Flooding and stormwater
- Extreme heat; and,
- Concurrent storm events.

Actions A1, A2, A5, A6, A10 and A13 most directly address these priority risk areas and should be among the first to advance.

Sequence enabling actions before dependent actions. Some actions create the conditions required for others to succeed. Natural asset valuation (A7) enables better capital decisions for natural asset protection. Asset management climate integration (A6) enables climate-informed capital prioritization across the portfolio. The financing review (A11) creates the resource base for capital-intensive actions. These enabling actions should proceed in parallel with, or ahead of, the actions they support.

Pursue multi-benefit actions actively. Many actions in this plan generate benefits across more than one objective or theme. A12 (urban forest and canopy expansion) contributes to Warming and Cooling Center access (A1), stormwater management (A5), and biodiversity (A13 and A14). A14 (shoreline and wetland protection) contributes to flood attenuation (A5), water quality (A15), and natural asset value (A7). Identifying and prioritizing actions with strong multi-benefit profiles improves the return on every dollar invested.

Equity first in implementation sequencing. Where resources must be further prioritized, implementation sequencing should favor actions that reduce risk for the most vulnerable members of the

community first. This means cooling access, flood protection subsidies, and emergency communications reaching low-income renters, seniors, and other high-risk groups before moving to actions that address lower-risk populations

7.2 Implementation Summary Table

Table 2 provides a high-level overview of all 18 adaptation actions, organized by theme. For each action, the table identifies the lead entity, key partners, implementation timeline, level of effort, and estimated cost band. Level of effort is scored on a three-point scale: Minimum (1) indicates an action can be advanced by a single department with minimal coordination and no external approvals; Moderate (2) indicates interdepartmental collaboration and routine internal approvals are required; and High (3) indicates multi-department coordination, external stakeholder or partner engagement, and potentially new funding or formal approvals. Cost band reflects the approximate scale of resources required, from low to high and remain as estimates until confirmed through future implementation processes. Action sequencing and lead department assignments are addressed in further detail in Section 7.3 and 7.4.

Table 2. Implementation Summary Table

#	Adaptation Action	Theme	Lead Department	Supporting Departments	Key Partners	Timeline	Level of Effort	Cost Band
A1	Warming and Cooling Centers	People & Community	Customer & Corporate Services, Parks, Recreation & Culture	Fire Services; Library	Simcoe County; OPP	2027–2029 (audit & designation) 2030–2035 (buildout)	Moderate (2)	Moderate (\$\$)
A2	Flood Risk Planning and Home Protection Program	People & Community	Infrastructure Department	Growth & Development	Conservation Authorities	2027–2029	Moderate (2)	Moderate (\$\$)
A3	Shoreline Public Access and Erosion Management	People & Community	Parks, Recreation & Culture	Communications Team	Health Unit; Conservation Authorities; Indigenous Groups	2027–2029	High (3)	High (\$\$\$)
A4	Risk Event Communications Program	People & Community	Communications Team; Customer & Corporate Services	Parks, Recreation & Culture; Infrastructure Department	Health Unit; BIA/tourism partners; Community Groups	2027–2029 (segmentation & outreach) 2030–2035 (full program)	Moderate (2)	Low (\$)
A5	Climate-Adjusted Stormwater and Wastewater Standards	Services & Operations	Infrastructure Department		Conservation Authority	2027–2029 (standards review) 2026 onwards (ongoing implementation) - timing pending confirmation	High (3)	High (\$\$\$)
A6	Asset Management Climate Integration	Services & Operations	Finance	Customer & Corporate Services		2027–2029 (methodology) 2026 onwards (ongoing) - timing pending confirmation	Low (1)	Low (\$)
A7	Natural Asset Valuation and Integration	Services & Operations	Finance; Parks, Recreation & Culture	Customer & Corporate Services	Conservation Authorities; Community Groups	2027–2029 (inventory & methodology) 2030–2035 (AMP integration)	Moderate (2)	Moderate (\$\$)
A8	Resilient Facility Retrofit and Asset Management Capacity	Services & Operations	Customer & Corporate Services	Parks, Recreation & Culture	Utility Companies	2027–2029 (retrofit plan & inspections) 2030–2035 (capital retrofits)	High (3)	High (\$\$\$)
A9	Emergency Management Modernization	Services & Operations	Fire Services	Communications Team; Infrastructure Department	Health Unit; Simcoe County; OPP	2027–2029	High (3)	Moderate (\$\$)
A10	Voluntary Green and Climate-Ready Engineering Standards	Services & Operations	Growth & Development	Customer & Corporate Services; Parks, Recreation & Culture	Simcoe County	2027–2029 (bylaws & guidelines) 2030–2035 (incentive program launch)	High (3)	Low (\$)
A11	Climate Resilience Financial Strategy	Services & Operations	Finance; Growth & Development	Infrastructure Department; Customer & Corporate Services		2027–2029 (review) 2030–2035 (mechanism implementation)	Moderate (2)	Low (\$)
A12	Urban Forest and Canopy Expansion	Natural Environment	Parks, Recreation & Culture	Legislative Services; Growth & Development	Conservation Authority, Community Groups	2027–2029 (maintenance program & bylaw) 2030–2035 (full canopy program)	High (3)	High (\$\$\$)
A13	Naturalization and Pollinator Positive Public Realm	Natural Environment	Parks, Recreation & Culture	Communications Team	Conservation Authority, Community Groups	2027–2029	Moderate (2)	Low (\$)
A14	Shoreline and Wetland Protection Program	Natural Environment	Parks, Recreation & Culture; Conservation Authority (co-lead)	Infrastructure Department	Community Groups; Indigenous Groups	2027–2029 (enforcement & stewardship) 2030–2035 (land acquisition & bioengineering)	Moderate (2)	High (\$\$\$)
A15	Water Quality, Source Protection and Potable Water Availability	Natural Environment	Infrastructure Department	Parks, Recreation & Culture	Health Unit; Conservation Authorities; Community Groups; Indigenous Groups	2027–2029	High (3)	Moderate (\$\$)
A16	Invasive Species and Ecosystem Health Program	Natural Environment	Parks, Recreation & Culture; Conservation Authority	Customer & Corporate Services	Community Groups; Indigenous Groups	2027–2029 (monitoring & EAB plan)	Moderate (2)	High (\$\$\$)
A17	Partner Coordination and Climate Risk Communications	Cross-Cutting (All themes)	Communications Team; Customer & Corporate Services	Fire Services	Conservation Authority; Simcoe County (Emergency Services); OPP; Health Unit; Indigenous Groups	2027–2029	High (3)	Low (\$)
A18	Tracking Climate Events Leading to Event and Programming Cancellations	Cross-Cutting (All themes)	Customer & Corporate Services; Parks, Recreation & Culture	Communications Team; Emergency Management	Community Groups; Simcoe County (Emergency Services); OPP; Health Unit; Indigenous Groups	2026–2029	Low (1)	Low (\$)

7.3 Near-Term Priorities

The Town's focus for the first phase of implementation (2026 through 2029) should be on building internal readiness, addressing the community's highest-priority climate risks, and laying the groundwork that later, larger-scale actions will depend on.

A small number of actions may begin as early as 2026, ahead of the broader implementation wave. These include starting the ongoing work to bring climate considerations into asset management and stormwater and wastewater standards (A5, A6), establishing the Town's climate partner working group and working on agreements with the relevant Conservation Authority (A17), and setting up a coordination protocol between the urban forest, naturalization, and invasive species programs (A12, A13, A16). Starting these actions now lets the Town move within its existing authority, resource levels and budgets, build internal capacity, and put in place the coordination structures that other actions will rely on. Timelines in this plan are indicative. They depend on Council approval of the associated budgets and on each department's available capacity, and some near-term actions may need to be resequenced as these are confirmed.

Most of the near-term work, ideally running through 2027 to 2029, concentrates on the actions that directly reduce risk from the hazards the risk assessment identified as highest priority: flooding and stormwater, extreme heat, and concurrent storm events. On the heat side, this includes establishing the Warming and Cooling Centers (A1). On the flooding side, it includes the Flood Risk Planning and Home Protection Program, the review of climate-adjusted stormwater and wastewater standards, and shoreline erosion management work (A2, A5, A3). Supporting these is the adoption of County or preparation of Town-led voluntary green and climate-ready development standards (A10), which helps to encourage new growth to be climate resilient.

In line with the equity-first approach described above, the Town should prioritize reaching the people most exposed to these risks, including low-income renters, seniors, and other vulnerable groups, as the cooling, flood protection, and emergency communication actions get underway in this period.

7.4 Medium- and Long-Term Priorities

The period from 2030 to 2035 should mark a shift from groundwork to delivery. Many of the actions that began with reviews, pilot programs, and methodology development in the near term would move into their capital-intensive or full-program phases during this window.

On the People and Community side, this includes the build-out of the Warming and Cooling Centers (A1) and the full rollout of the Risk Event Communications Program (A4), both moving from design and piloting to community-wide reach.

On the Services and Operations side, this is when the results of the near-term reviews translate into capital decisions. Natural asset valuation findings are integrated into the Asset Management Plan (A7), the facility retrofit program moves into capital construction (A8), and the financing mechanisms identified through the financing review begin to be implemented as practicable (A11).

On the Natural Environment side, the urban forest and canopy program reaches full scale (A12), and the shoreline and wetland protection program moves into land acquisition, where possible, and bioengineering work (A14).

These actions share a common feature: they require sustained funding, multi-year planning horizons, and, in several cases, formal integration into the Town's core Master Plan documents, such as the Asset

Management Plan. Sequencing them after the near-term groundwork means the Town enters this capital-intensive phase with the data, partnerships, and internal capacity needed to carry them out effectively.

7.5 Financing and Funding

Climate adaptation requires upfront investment. Municipalities across Ontario are finding that the cost of preparing in advance is lower than the cost of responding after a climate event has occurred.

This plan does not set out to determine how that investment should be financed. Those decisions belong with the Town's finance and treasury functions, who hold the detailed knowledge of financial policy, capacity, and obligations needed to evaluate them properly.

What this plan can offer is a starting point: a sense of the kinds of funding avenues other municipalities have used to support adaptation work, and a clear signal that the Town intends to look more closely at its own options.

Several broad categories of funding are commonly used to support adaptation work in Ontario municipalities. Senior government grant programs, such as those offered through the Federation of Canadian Municipalities (FCM) and various federal infrastructure programs, can provide capital funding for eligible projects. Eligibility and application requirements vary by program and would need to be assessed individually. Development-related charges offer one way to connect new growth to the costs it generates. Reserve funds and long-term capital planning remain the Town's primary tools for self-funded investment, and the integration of climate risk into the Asset Management Plan (A7) supports this kind of planning by giving the Town a clearer picture of where investment is most needed.

The Climate Resilience Financial Strategy (A11) is the mechanism through which these options will be assessed in more detail. Its purpose is to bring together Town finance staff, the information gathered through this plan, and a closer look at the instruments available, so that any decisions about new funding mechanisms, incentive programs, or subsidies are made with the full picture in view, and by the people who carry that responsibility. Until that review is complete, this plan is intentionally cautious about naming specific tools or committing to approaches.

8 Monitoring and Evaluation Plan

8.1 Monitoring Principles

Four principles guide how the Town should monitor and evaluate progress on this plan.

Monitoring is a tool for decision-making, not just reporting. Findings should be reviewed regularly and used to adjust priorities, sequencing, and design as conditions change or new information becomes available.

Progress should be shared openly. Reporting to Council and the community on a regular schedule builds the shared understanding and support needed to sustain implementation over time.

Monitoring should reflect equity. Where actions are intended to reach groups who face higher climate risk, indicators should help show whether those groups are being reached, not only whether the action took place.

Monitoring should fit within what the Town can sustain. Wherever possible, indicators should draw on data the Town already collects, so tracking progress adds value without adding unsustainable burden.

8.2 Indicators Framework

Indicators help the Town understand whether this plan is working. These indicators tell the Town if, in the short term, planned activities are happening as intended, and over time, whether those activities are reducing risk and building resilience.

Two kinds of indicators are used. Process indicators track whether planned activities are underway, such as the completion of a review or the launch of a program. Outcome indicators track whether those activities are having the intended effect, such as a reduction in flood-related damage or improved access to cooling during heat events. Process indicators are available sooner. Outcome indicators often take longer to show a clear pattern, since they depend on data gathered over multiple years.

A full set of indicators for each of the 18 actions is maintained in the Adaptation Action Register (see Definitions and Appendix A), which is reviewed and updated alongside this plan. Keeping the detailed tracking work there allows it to be adjusted as data sources, priorities, or methods change, without requiring a formal amendment to the plan itself.

8.3 Review Cycle and Reporting

Progress on this plan should be reviewed on a regular cycle, aligned with the Town's existing reporting and budget processes wherever possible.

Each year, the lead departments responsible for individual actions should provide an update on implementation progress. These updates should in turn be compiled into a summary report for Council, noting which actions are underway, on schedule, or facing barriers, and identifying any adjustments that may be needed. A public-facing summary should also be made available, so residents can see how the plan progresses.

Roughly every three years, a more substantive review should look at whether the plan's broader objectives are being achieved, not only whether individual actions are proceeding, and whether anything in the plan needs to be adjusted considering new information or experience.

Successful implementation of this plan depends on a single point of accountability for coordination across departments and partners. The 18 adaptation actions in this plan span multiple Town departments and rely on ongoing coordination with Conservation Authorities, Simcoe Muskoka District Health Unit, Simcoe County, emergency services, community organizations, and others. Without a dedicated role to hold this coordination function, responsibility for tracking progress, convening partners, and compiling the annual and triennial reviews described above risks being distributed informally across multiple staff. This can slow implementation and make consistent reporting to Council difficult to sustain over the plan's multi-year horizon.

The Town's Climate Change Specialist currently leads corporate and community mitigation initiatives, and provides an existing foundation of climate expertise to build on. However, the breadth of actions in this plan and the degree of cross-departmental coordination required to implement them warrant dedicated adaptation capacity beyond what this role can be expected to absorb alongside its mitigation mandate. In the near term, this coordination function can be assigned to existing staff, drawing on the Climate Change Specialist's expertise where possible. As implementation progresses, the Town should consider a future adaptation-focused position to support implementation and build organizational capacity, with consideration given to expertise in stormwater management and other high-risk impact areas identified through the vulnerability assessment. Core responsibilities of this function include maintaining the Adaptation Action Register (see Definitions and Appendix A), coordinating with lead departments and

external partners, tracking the indicators described in Section 8.2, and preparing the annual and triennial reports for Council. Should the Town wish to explore external support for this function, planning and capacity-building funding streams may be worth investigating as a partial funding source, including the FCM's Green Municipal Fund, which the Town has already drawn on to fund related adaptation planning work, though the specifics would need to be confirmed with FCM before being relied upon.

8.4 Plan Update Trigger Criteria

This plan is meant to evolve as conditions change. Beyond the regular review cycle described above, certain circumstances should prompt the Town to revisit the plan sooner:

- A significant climate event reveals a gap in the current set of actions or shifts the Town's understanding of its priority risks.
- New climate science or risk information materially changes the assumptions and data that this plan was built on.
- A new provincial or federal policy creates obligations or opportunities that weren't anticipated when the plan was developed.
- Council provides new direction that affects the policy context for one or more actions.
- A meaningful change in the Town's financial capacity, staffing, or service delivery model affects its ability to carry out the plan.

When one of these circumstances arises, the appropriate response may range from a targeted adjustment to a specific action, to a broader review of the plan's priorities and sequencing.

9 Looking Ahead

This plan is intended to function as a living document. As Collingwood moves into implementation, the Town will continue to learn, adjust, and build on what works best for the community.

Climate action takes a community. Bringing these actions to life will depend on the Town, its partners, and residents working together, each contributing the knowledge, resources, and effort that only they can bring.