

Ajax Climate Risk & Resiliency Plan 5 Year Progress Report (2019–2024)

June 2024





Land Acknowledgement

We acknowledge that the land on which we gather is situated within the traditional and treaty territory of the Mississaugas of Scugog Island First Nation and all Mississaugas First Nation signatories of the Gunshot Treaty of 1788 and the Williams Treaties of 1923. Indigenous communities have long been the stewards of the land and it is the goal of the Town to honour that history through open dialogue, engagement, and the shared knowledge of Indigenous Peoples.

Message from the Mayor

Five years ago, the Town embarked on a journey to address climate-related risks and enhance our resiliency. We adopted the Ajax Climate Risk and Resiliency Plan, with tangible objectives and associated actions.

This plan outlines and addresses risks in three key areas; emergency preparedness and response, natural systems and storm water, flooding and erosion. We are now halfway through this 10-year exercise, and I am proud of the progress we have made.

Ajax has undertaken significant restoration efforts, including large scale wetland creation, community tree planting events, LEAF (Local Enhancement and Appreciation of Forests) Backyard Tree Planting Program and urban forest improvements. This restoration work supports climate resilience, mitigates extreme heat events, sequesters carbon, cleans air and water, and supports biodiversity.

As our community grows within our fixed urban boundary, the Ajax Green Standard will ensure new development is prepared to mitigate and adapt to climate change.

We've completed work on several major plans, such as the Corporate Asset Management Plan, Recreation and Parks Master Plan, Lake Ontario Shoreline Hazard Management Plan, and the Ajax Waterfront Erosion Mitigation Project.

The introduction of the Stormwater Management Fee will go a long way in protecting and improving our valuable stormwater infrastructure while also protecting the safety of our community.

Meanwhile, the Town has supported residents looking to make change on a hyper-local level through the Sustainable Neighbourhood Action Plan (SNAP). The project has been an overwhelming success and has inspired other municipalities to duplicate the program.

In recent years, the Town has been impacted by an increasing number of extreme climatic events, including localized flooding, significant drought, and violent storms that result in property damages, energy and transportation disruptions. Through the Ajax Climate Risk and Resiliency Plan and continued work with partners and stakeholders, we are ensuring that Ajax is climate ready.

Sincerely,



Shaun Collier, Mayor and CEO, Town of Ajax





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Introduction

The Ajax Climate Risk & Resiliency Plan (ACRRP), and associated Implementation Strategy, was approved by Town Council in June 2019. The ACRRP was developed to provide Town Council and staff with a strategic framework to address current and future climate change risks and to support greater adaptive capacity and resilience to the impacts of climate change. The 10-year vision encourages coordinated action and real progress in response to multiple climate related threats across a variety of sectors.

The projected impacts of climate change are wide-ranging, and encompass risks to property, infrastructure, and the economy. Climate change impacts can also cause significant transportation and utility service disruptions. The potential for public health and wellbeing impacts are also significant, with the most vulnerable populations in the community experiencing a disproportionate level of impacts.

Following the framework established in Ajax's Official Plan, the ACRRP has outlined a pathway of adaptation planning. Whereas mitigation is about doing our part to prevent unmanageable climate changes, adaptation planning is about equipping our community to adapt to the degree of change that can no longer be avoided.

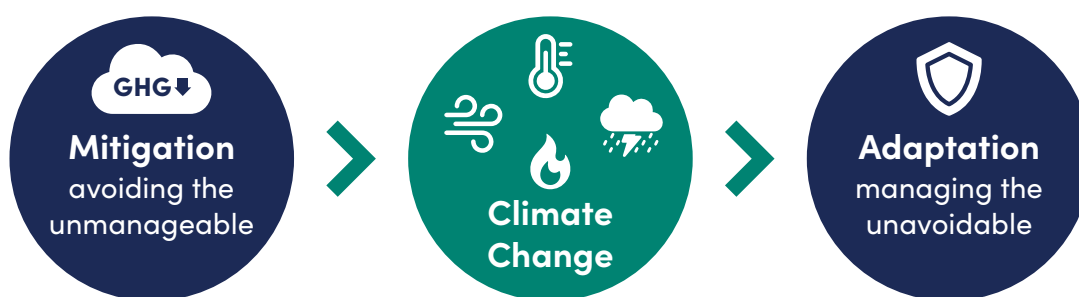


Figure 1: Understanding climate change action: Mitigation vs. Adaptation



In September 2019, the Town of Ajax declared a climate emergency to acknowledge the impacts of climate change and reaffirm our commitment to proactively mitigating and adapting to those impacts wherever possible through the Town's continued leadership, advocacy, and intergovernmental partnerships.

Objectives-Oriented Approach – 5 Year Progress

Through detailed Vulnerability and Risk Assessments, the ACRRP identified three strategic focus areas:

1. Emergency Preparedness and Response
2. Natural Systems
3. Stormwater, Flooding, and Erosion

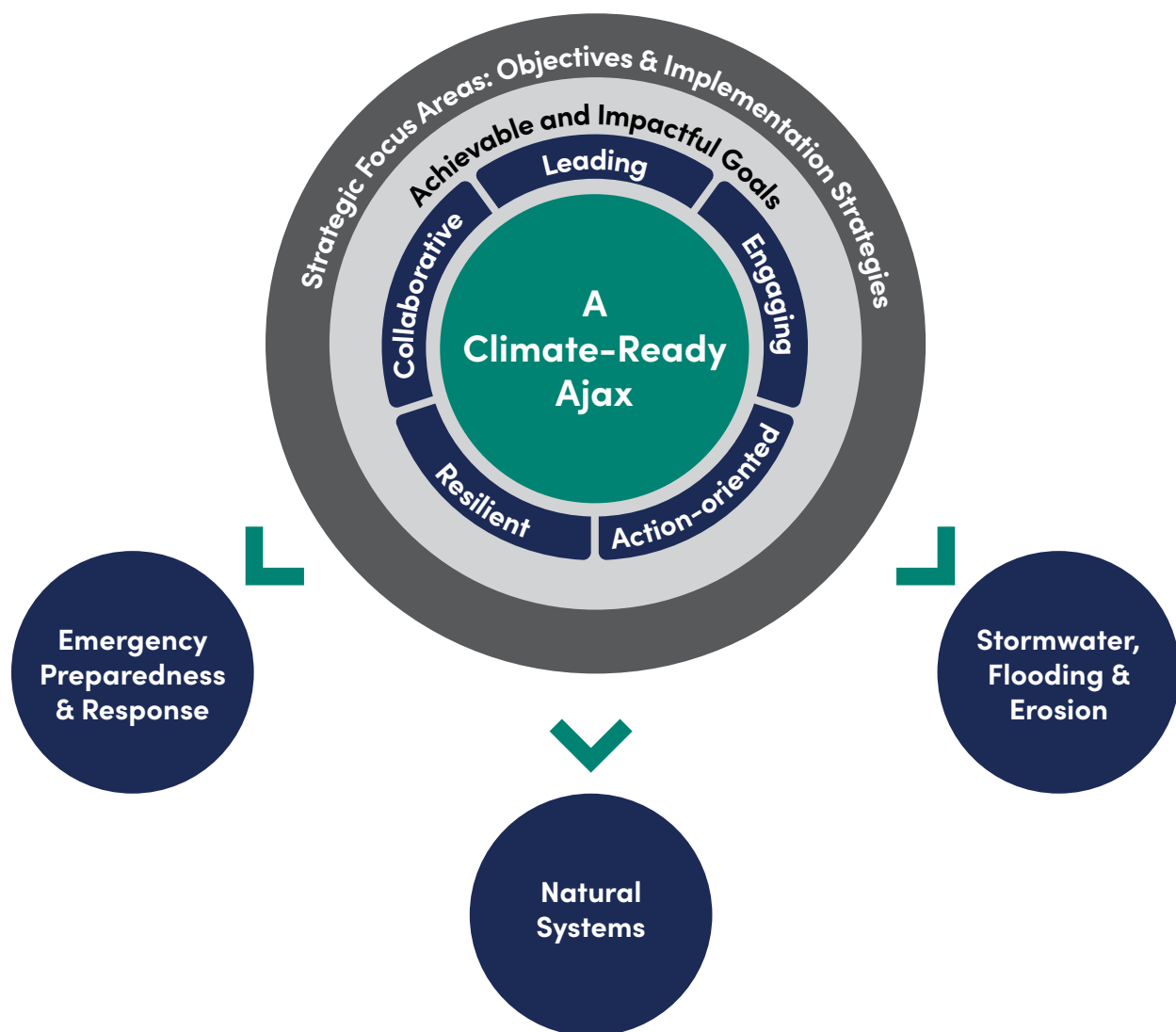


Figure 2: Framework for the Ajax Climate Risk and Resiliency Plan

Across these three focus areas, eight Objectives were identified to represent the measurable steps the Town of Ajax needs to take to achieve the vision for limiting climate related risk and improving community resilience. The ACRRP Implementation Strategy identified 50 realistic action items that were organized within the eight Objectives. The following sections provide a five-year progress report associated with each of the eight Objectives. Infographics identify the number of actions, and their status, for each Objective. Significant projects for each Objective that have been completed in the first five years of the ACRRP are also highlighted. A comprehensive list of all the actions and their status is provided as an Appendix.



OBJECTIVE #1: Town residents, priority populations and businesses are communicated with about emergency preparedness and have access to emergency resources and information.



Strong communication and accessible education materials are central to raising awareness of imminent risks, especially for priority populations. An individual's vulnerability to climate variability can be influenced by their exposure to a hazard or stressor, their level of sensitivity to the effect of that hazard, or their capacity to adapt. All of these factors can have lasting and consequential effects on the health, life, safety and overall well-being of certain demographic groups.



Town of Ajax Emergency Preparation

Ajax's [Emergency Preparation website](#) contains education materials and other resources to help residents prepare for any type of emergency situation. Additional information on [Flooding and Extreme Weather](#) was developed in 2021 with a focus on preparing residents to respond to flooding and weather emergencies, understanding personal flood risk, and staying informed on potential flood situations. Information regarding [Extreme Heat](#) was published in 2023 to help residents identify the indicators of heat stress and prepare for extreme heat events.

Climate Resiliency: A Resident's Guide

The Durham Environmental Advisory Committee (DEAC) developed the [Resident's Guide to Climate Resiliency](#). The guide contains practical information on the impacts of climate change, how it affects residents and business owners, and offers some advice and suggestions on how to prepare for climate change impacts and build resiliency.

Back-up Generators at Town Facilities

Town facilities that are designated as shelter and relief areas are equipped with back-up generators. These facilities include Town Hall, Operations Centre, Fire HQ, Fire Hall #1, Fire Hall #2, and Audley Recreation Centre. Many of these facilities operate as warming/cooling centres and relief areas when Ajax experiences extreme weather or climate events. These facilities were also promoted as "Clean Air Quality Centres" during poor Air Quality Health Index days resulting from wildfire smoke in 2023.



OBJECTIVE #2: Existing and future critical and social infrastructure is adapted to withstand the impacts of climate change.



Damage to the Town's social and critical infrastructure could lead to service disruptions, or loss of service entirely, with the potential for widespread social, environmental, and economic impacts on the community. Adapting the community's assets, essential services, and most vulnerable buildings to withstand the impacts of climate change involves locating these types of facilities, determining the degree to which they are at risk, and reinforcing or relocating them, if needed, to less vulnerable areas.

Renewable Energy Generation

Photovoltaic systems that have been installed at the Operations Centre (100kW) and Greenwood Pavilion (2kW) use solar panels to collect energy from the sun which is subsequently converted to alternating current as useful electricity and sold to the grid. These systems offset approximately 6.6 tonnes CO₂e of GHG emissions and generate a revenue of nearly \$90,000, annually. Since 2015, these systems have avoided 37 tonnes CO₂e of GHG emissions while generating a revenue of over \$834,000 for the Town.



South Ajax Home Retrofit Program

Launched in May 2023 as part of the [Ajax SNAP](#), the South Ajax Home Retrofit Program is targeted towards residents who live in the Ajax SNAP neighbourhood. The program provides 1-on-1 guidance and support from Town of Ajax staff, expert-led workshops, and personalized retrofit and incentive opportunities made available through other partners including the [Durham Greener Homes Program](#).

The Corporate Asset Management Plan – Core Assets

The Corporate Asset Management Plan – Core Assets, approved in November 2021, describes Ajax's approach to effectively managing assets to deliver services to the Ajax community. The Asset Management Plan was updated to identify infrastructure needs and assess that infrastructure's vulnerability to climate change to ensure that existing and future critical infrastructure is resilient to the impacts of climate change.

Permeable Parking Lots

The ACRRP identified the importance of permeable paving to help mitigate overland flooding and the urban heat island effect. Since 2019, the Town has installed permeable paving on over 4,300 square meters of municipal parking lots across the Town.

Community Tree and Pollinator Planting Events

From 2022 to 2023, the Town hosted seven (7) community planting events that engaged hundreds of community members to help plant 3,750 native trees and shrubs and 500 wildflowers!





Rotary Park Boardwalk

In response to climate change and significant shoreline erosion, the [Rotary Park Boardwalk](#) was reconstructed in 2021 to raise it above the regional flood level, re-establish the dynamic beach, enhance natural habitats for wildlife, and improve accessibility for all users exploring the William A. Parish Waterfront Trail. This project is just one example of how important infrastructure projects are designed to be resilient to our future climate.

Naturalization

[Naturalization](#) is a process that involves returning an altered or degraded site (i.e. manicured and mown turf grass) to a more natural condition through the planting of trees, shrubs, and flowers that are native to the area. Naturalization can provide habitat and enhance the abundance and diversity of wildlife including birds and other pollinators. There is also the added benefit of reducing maintenance costs for property owners and a reduction in GHG emissions associated with the reduction in the use of gas-powered lawn equipment. In January 2023, the Town of Ajax identified [three mown areas for naturalization](#). In March 2024, the Town's Five-Year Restoration/Naturalization Plan was approved by Council.



OBJECTIVE #3: The Town has implemented supporting plans, programs, and policies to manage human health impacts resulting from climate change.



Extreme weather, in particular extended periods of extreme heat, are expected to increase in frequency and severity as climate change impacts are realized. Heat and cold-related health impacts can be reduced through early intervention and preparation. Encouraging and supporting the provision of more shaded areas on private and public property will help provide relief and protection from ultraviolet rays reducing risk to heat stroke or other heat related illnesses.

Durham Region Heat Warning and Cold Warning and Information System

To help Durham Region residents take protective action during extreme heat and cold events, Durham Region Health Department has implemented both the [Heat Warning and Information System \(HWIS\)](#) and the [Cold Warning and Information System \(CWIS\)](#). The HWIS and CWIS can reduce heat- and cold- related illnesses during extreme temperature events by alerting the public about extreme temperature events, directing community response and outreach to vulnerable and priority populations, and providing individuals with information and resources on how to prevent temperature-related illnesses.

Town of Ajax LEAF Program

The Town of Ajax has partnered with Local Enhancement & Appreciation of Forests (LEAF) to deliver the [LEAF Backyard Tree Planting Program](#). The popular program works with residents and business owners to plant native trees and shrubs on private properties at a subsidized price. Annually, the LEAF Backyard Tree Planting Program plants a minimum of 55 trees across the Town of Ajax.

Ajax SNAP

The [Ajax Sustainable Neighbourhood Action Program \(SNAP\)](#) is a collaborative, neighbourhood-based approach to advancing urban renewal and climate action in older urban areas. SNAPs help municipalities and other community collaborators improve efficiencies, draw strong local support, and build innovative partnerships for the implementation of a broad range of initiatives in the public and private realms. Launched in 2023, the Ajax SNAP is a collaboration of the Town of Ajax, the Region of Durham, and the Toronto and Region Conservation Authority (TRCA).

Recreation and Parks Master Plan

The [Recreation and Parks Master Plan \(RPMP\)](#), approved in 2022, guides investments and priorities for recreation and park services to the year 2031. The RPMP identifies 48 recommendations including the recommended provision of splash pads, shade structures, and tree plantings.





OBJECTIVE #4: Emergency plans are in place for transportation and accessibility within the Town.



Establishing strategies and policies to address climate change-related closures and service disruptions is key to ensuring the safety of our community. It is important that residents, businesses, and visitors are aware of emergency response plans and do their part to prepare for extreme weather events and other emergencies.

Annual Flood Contingency Manual

Annual flood contingency plans are intended for all public officials and agency staff likely to play a role in the prevention, mitigation, preparedness, response, and recovery pertaining to flood events. The Town of Ajax, together with other municipalities, Conservation Authorities, and the Ministry of Natural Resources and Forestry, supports the development of an annual Flood Contingency Plan that provides general information related to flood forecasting and warning as well as specific information and contacts for municipalities. Flood contingency plans are critical in emergency preparedness and response.

Flood Talks: Durham

In early 2020, in response to concerns related to record high Lake Ontario levels and large rainfall events, the Town of Ajax hosted a [Flood Talks](#) event to discuss the causes of different flood events and to help prepare residents for flood-related emergencies.





OBJECTIVE #5: Naturalized urban areas and green infrastructure within the Town are enhanced to be resilient and supportive of biodiversity, to help protect critical and social infrastructure from climate change impacts, and are planned and maintained to limit conflicts with critical infrastructure.



To ensure current and future generations can enjoy naturalized areas within the Town, several related policies, management plans and data must be updated and enhanced. Increasing urban forest cover and improving naturalized areas such as wetlands can have significant benefits on mitigating and adapting to the impacts of climate change, supporting biodiversity, and enhancing existing greenspace for public recreation. In addition, the implementation of sustainability considerations for new developments, such as Low Impact Development (LID) and passive cooling techniques, will provide long-term benefits towards a more resilient community.

Ajax Green Standard

The [Ajax Green Standard \(AGS\)](#) is a tiered municipal green standard that establishes sustainability-related performance measures and design guidelines for new development and redevelopment in the Town of Ajax. The AGS, approved in 2022, promotes higher building standards and development practices to help prepare, mitigate, and adapt to climate change as well as protect and enhance natural features. The AGS is now required for all new Site Plan and/or Draft Plan of Subdivision applications submitted to the Town.

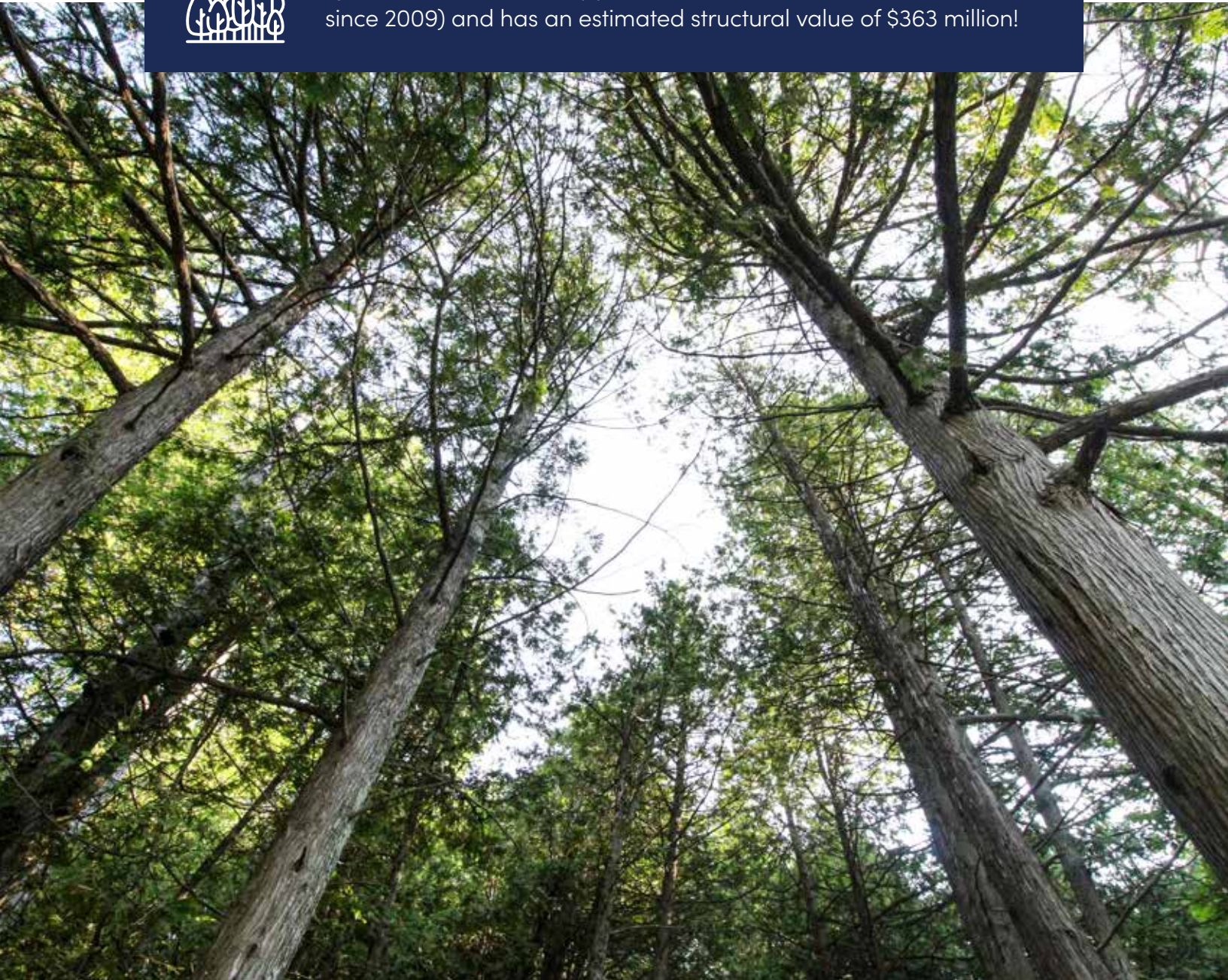


Ajax Urban Forest Study

Completed in 2023, in partnership with Toronto and Region Conservation Authority (TRCA), the [Ajax Urban Forest Study](#) examines the distribution of canopy cover by land use type, available planting opportunities, size and species composition, the structural value of the forest, and forest function. Additionally, the report explores changes since the last assessment completed in 2009, the potential future state of the forest, and urban heat mapping and planting priorities.



Ajax's urban forest canopy cover is current 24% (an increase of 2% since 2009) and has an estimated structural value of \$363 million!





OBJECTIVE #6: Natural heritage systems across the Town have been protected, restored, and expanded to support biodiversity and improve their overall resiliency to climate change impacts.



The components that make up the Town’s natural heritage system include forests, wetlands, and meadows. These natural features provide services to support human prosperity and well-being, as well as providing habitat and ecological functions for plants and wildlife. The Town is committed to working towards protection and enhancement of its natural heritage system to be able to withstand the impacts of changing temperature and precipitation patterns resulting from climate change. This includes supporting biodiversity and ecosystem health of natural areas, expanding forested areas and tree cover adjacent to watercourses, developing education programs to limit pollution and the spread of invasive species, and supporting decision-making with improved information on vulnerable habitats.

Wetland Restoration

Creating and restoring wetland habitat is vital to the health of our watersheds. The benefits of wetlands are many including protecting and improving biodiversity, increasing natural cover and habitat for local wildlife, mitigating the impacts of stormwater, and enhancing greenspace for the community. In 2020, the Town worked with our partners to complete the Wetland Selection Prioritization Report and associated mapping. This report identified wetland restoration opportunities located on publicly owned lands in Ajax and the funding required to implement the projects. The report will be updated on an ongoing basis to identify new potential wetland locations and to help seek funding opportunities.

In 2021, Ducks Unlimited Canada (DUC) and Toronto and Region Conservation Authority (TRCA), with support from Town of Ajax and Region of Durham, completed the restoration of one of these identified wetland opportunities in the Duffins Creek watershed located south of Bayly Street and east of Church Street South. The [Bayly and Church Wetland](#) project enhanced approximately 1 hectare of carefully designed, variable-depth wetland basins. The new wetland will attract wildlife and help protect downstream habitats from extreme storm events. The project was funded entirely by the [Ontario Wetlands Conservation Partner Program](#).

In 2022, the Town of Ajax, in partnership with TRCA, Region of Durham, and DUC, completed the [Kerrison Wetland Restoration Project](#). The wetland restoration project, located within the Carruthers Creek watershed north of Kingston Road East, created and expanded 3 hectares of marsh and swamp wetland habitat, decommissioned two old farm ponds and associated infrastructure, restored and stabilized stream bank erosion, re-aligned and reconstructed the Carruthers Creek multi-use trail, and managed populations of invasive species. Thousands of native trees and shrubs were planted across 6 hectares of riparian habitat. The project received funding through the [Investing in Canada Infrastructure Program](#).



Since 2019, the Town of Ajax has successfully secured 37 hectares (91 acres) of environmentally significant land that has been transferred to public ownership!

Invasive Species Awareness Program

The [Invasive Species Awareness Program](#) was initiated in 2020 with the goal of raising public awareness about invasive species and their impacts on the environment, economy, and public health. The Town officially joined the [Invasive Species Centre's Municipal Community of Practice](#) to collaborate with municipal and Conservation Authority partners involved in invasive species management and control. In addition to launching a comprehensive, education-focused website regarding invasive species, the Town has hosted annual virtual and in-person workshops focused on teaching residents about invasive species and gardening using native, pollinator-friendly species. The program also improved staff training to help mitigate potential human health impacts on outdoor and seasonal staff.

Invasive Phragmites Strategic Management Plan

In 2023, the Town was successful in securing external funding, through the [Invasive Phragmites Control Fund](#), to develop the Invasive Phragmites Strategic Management Plan. This management plan includes the mapping of existing populations of invasive Phragmites across the town and development of a management plan to prioritize these locations for strategic and effective management.

Road Salt Management

The Town's Road Salt Management Plan was updated in 2021 to support best practices around road salt handling, storage, and application. In 2023, a Salt Vulnerable Areas Assessment was completed to complement the Town's Road Salt Management Plan. The assessment used a multi-criteria decision analysis to identify and rank environmentally sensitive areas across the Town of Ajax that are vulnerable to the impacts of road salt. The assessment also identifies potential mitigation opportunities and recommendations to minimize the impacts of road salt application on vulnerable areas. To raise awareness around road salts and their potential negative impacts on the environment, the Town has hosted several workshops geared towards educating private landowners. In addition, the Town also launched a [Winter Response website](#) to inform Ajax residents and business owners about all matters related to winter maintenance, snowplowing, and winter safety tips.





OBJECTIVE #7: Town staff are equipped with improved decision making tools to identify areas of high vulnerability and risk of flooding and erosion.



Up to date modelling and detailed risk assessments are important tools used to identify and prioritize at risk areas and infrastructure. This information can be used to inform future infrastructure improvements and new projects to help mitigate the impacts of climate change such as flooding and erosion.

CLOCA's Lake Ontario Shoreline Management Plan

Completed by Central Lake Ontario Conservation Authority (CLOCA) in 2020, the [Shoreline Management Plan](#) was updated to increase the resilience of coastal communities by integrating climate change impacts into future coastal hazard projections and shoreline management recommendations.

Town of Ajax Waterfront Erosion Mitigation Project

In 2024, the town completed the [Town of Ajax Waterfront Erosion Mitigation Project](#) to develop long-term flood and erosion mitigation measures to protect the Ajax Waterfront from the impacts of shoreline erosion.





OBJECTIVE #8: Stormwater infrastructure resiliency has been enhanced across areas of known high flooding risk.



Improving stormwater infrastructure resiliency is critical to protecting our valuable stormwater system (which consists of storm sewers, catch basins, bridges, culverts, watercourse, and facilities) and the health and safety of our community. It also helps protect the quality of our waterways like rivers and lakes from becoming polluted, prevents flooding that can cause property damage or harm to residents, and decreases unwanted erosion that affects our shoreline, trail networks, and open spaces.

Durham Region Urban Flood Hazard Risk Assessment

Throughout 2022, the Town of Ajax supported the Region of Durham in undertaking the Urban Flood Hazard Risk Assessment to utilize existing spatial information to inform regional urban flood risk potential and priorities. The results of this assessment are being utilized to target urban flooding adaptation and mitigation efforts in prioritized areas. The information was used to inform the [Flood Ready Durham website](#) which was launched in 2023.

Town of Ajax Stormwater Fee

In 2021, the [Stormwater Funding Feasibility Study](#) identified the annual funding required to fully fund the Town's stormwater management program, including maintenance and rehabilitation. In May 2023, the resulting [Stormwater Fee and Credit Program](#) was introduced to ensure the Town protects our valuable stormwater system and the health and safety of the community.

Stormwater and Low Impact Development (LID) Outreach

In 2023, information regarding lot-level stormwater management and LID was developed and added to the [Stormwater Initiatives website](#) to help educate residents on what can be done to mitigate the impacts of stormwater on their properties. Every year, the Town hosts workshops and outreach events to talk about the importance of LID initiatives such as installing rain barrels, rain gardens, permeable paving, and more.



Monitoring and Reporting

The ACRRP Implementation Strategy is intended to be a living document that is updated on an ongoing basis throughout the implementation process. The Implementation Strategy requires consistent monitoring and evaluation to ensure that the objectives of the plan remain relevant, achievable, and realistic. Consistent monitoring and evaluation are central to identifying the most effective actions as well as those that need to be added or adjusted. An implementation progress report is presented to Ajax Council annually to highlight success stories and progress for each identified action item.

Updating the Implementation Strategy

Given the rapid pace of climate change, unpredictability of emerging trends, and the necessity to consider changing priorities across the community, the Implementation Strategy is to be updated every five years. The updates will consider new information on climate change risks and vulnerable areas and align with other leading planning initiatives and strategic guidance developed within the Town, at other levels of government, and through partners and other stakeholders.



Conclusion

The ACRRP is designed to improve the Town's adaptive capacity to achieve each of the eight Objectives. The Town will continue to exemplify strong leadership in environmental sustainability through collaboration between all internal departments, other municipalities, and government partners. This strong collaboration will continue to ensure resiliency is a top priority across the community.