



HAMILTON  
**BIODIVERSITY**  
ACTION PLAN

Draft for Consultation **April 2023**

Grindstone Creek in Hendrie Valley (RBG). Photo by Hamilton Naturalists' Club.



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Red-bellied Woodpecker.  
Photo by Hamilton Naturalists' Club.

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Hendrie Valley. Photo by Royal Botanical Gardens.



## Land Acknowledgement

The Biodiversity Action Plan Working Group acknowledges the many First Nations and Indigenous peoples who have, and continue to, serve as caretakers of this land.

The City of Hamilton is situated upon the traditional territories of the Erie, Neutral, Huron-Wendat, Haudenosaunee and Mississaugas and is covered by the Dish with One Spoon Wampum Covenant, which was an agreement between the Haudenosaunee and Anishinaabek to share and care for the resources around the Great Lakes. This land is covered by the Between the Lakes Purchase, 1792, between the Crown and the Mississaugas of the Credit First Nation.

For thousands of years, Indigenous worldview and stewardship have protected Mother Earth for future generations. With deep appreciation, and in the name of Truth and Reconciliation, the contributing organizations who have helped to develop the Biodiversity Action Plan are committed to working collectively to ensure our natural world will be protected so it can sustain future generations.



Planting at Joe Sams Leisure Park.  
Photo by Hamilton Naturalists' Club.

## Executive Summary





The Biodiversity Action Plan is a city-wide, multi-stakeholder strategy that will protect Hamilton's future generations by enhancing and protecting the natural environment around us.

Hamilton's Biodiversity Action Plan (BAP) will guide the protection and restoration of biodiversity through a set of proposed actions.

The BAP contains actions related to policy, regulatory and on-the-ground programs across multiple organizations. The Biodiversity Action Plan will also expand on activities already taking place and fill gaps in areas where action is currently lacking.

### Most importantly, everyone has a role to play in implementing the Biodiversity Action Plan.

Hamilton's Biodiversity Action Plan aims to:

-  **Protect** biodiversity by incorporating best practices to protect natural areas and greenspaces in policy and land management activities.
-  **Explore** and learn about biodiversity together through partnerships and community science.
-  **Connect** partner agency policies, processes, data and workflows to streamline efforts to support biodiversity in Hamilton.
-  **Restore** biodiversity across Hamilton through nature-based stewardship activities.



# A Biodiversity Action Plan for Hamilton

Biodiversity is the variety of life on Earth, including people, plants, animals, fungi, and bacteria. It includes the complex relationships and interactions that all forms of life have with one another and their environment. All species, including humans, depend on one another to survive.

Biodiversity is everywhere. It's on land and in water, in forests, in parks, and in your garden. You'll find biodiversity in even the most densely populated and developed areas of a city in balcony planters and curbside garden beds.

However, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)\* Global Assessment Report on Biodiversity and Ecosystem Services finds that **“around 1 million animal and plant species are now threatened with extinction, many within decades, more than ever before in human history”** (IPBES, 2019). Consistent with these global trends, Hamilton's biodiversity is threatened by invasive species, habitat loss and fragmentation, climate change, and pollution.

In order to support local biodiversity for future generations, Hamilton needs to be resilient to human-induced climate change and biodiversity loss. This can be accomplished through a **Biodiversity Action Plan** to guide collective action toward protecting and enhancing Hamilton's biodiversity.

Whether you live in, work in, or visit Hamilton, you can have a positive impact on biodiversity.

## Let's take action together.

*\* IPBES is an intergovernmental organization established to improve the interface between science and policy on issues of biodiversity and ecosystem services. It is intended to serve a similar role to the Intergovernmental Panel on Climate Change.*

### The State of Global Biodiversity

To recognize the global impacts of the loss of biodiversity, the United Nations Convention on Biological Diversity was initiated in 1993 to conserve biological diversity. Canada joined the Convention in 1992. Loss of biodiversity and degradation of ecosystems is one of the top threats facing humanity. The United Nations is continuing work on biodiversity to reach the goal of the 2050 Vision for Biodiversity, “living in harmony with nature”.

Canada has committed to protecting 25 percent of our lands and waters by 2025, and 30 percent by 2030. The targets build upon prior commitments set under the Convention on Biological Diversity in 2010. Known as the Aichi Biodiversity Targets, these include a commitment to protect 17 percent of our lands and inland waters by 2020.

The UN Biodiversity Conference - COP15 was held in Montreal in December 2022. The Montreal Pledge asks Canadian municipalities to commit to 15 areas of action (Ville de Montreal, 2022), many of which are represented in the actions of Hamilton's Biodiversity Action Plan.



### Did You Know?

An Ecoregion is an ecologically and geographically defined area. Hamilton falls within the Lake Erie Lowland ecoregion. A 2020 study in the journal Biodiversity and Conservation determined that southern Canadian ecoregions are in a deep biodiversity conservation crisis (Kraus & Hebb, 2020). Due to habitat loss these ecoregions represent less than 5% of Canadian lands and inland waters but provide habitat for over 60% of Canada's species at risk.

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Forest in the Fall.  
Photo by Pete Kelly.



# Where We Are



Leafcutter Bee on Butterfly Milkweed.  
Photo by Hamilton Naturalists' Club.

## What is Biodiversity?

“ I will argue that every scrap of biological diversity is priceless, to be learned and cherished, and never to be surrendered without a struggle. ”

- E.O. Wilson, Renowned Researcher and Naturalist

Biodiversity is the complex web of life that makes up our planet.

An ecosystem is made up of all of the living and nonliving things in an area. A healthy, thriving ecosystem provides everything all living things need to survive. It includes all of the plants, animals, and other living things that make up the communities of life in an area.

The health and wellbeing of humans is connected to the health and wellbeing of plants, animals, habitats, and ecosystems.

You've probably heard the words "nature" and "biodiversity" used interchangeably. Their meanings are similar; however, they're not the same. Without biodiversity nature could not function.

### Nature vs. Biodiversity

**Nature** is the physical world and everything in it collectively, including plants, animals, geology, and other features, forces, and processes that exist independently of people.

**Biodiversity** is more specific. It's the combination of the words "biological" and "diversity." Biodiversity consists of the variety of living organisms and microorganisms you will find in nature.

Biodiversity is important because the interactions that occur between species create the functioning ecosystems that keep us and our planet healthy.

Well-functioning ecosystems help to clean the air and water, prevent floods, supply oxygen, pollinate plants, and provide the natural resources humans use every day, including food, medicine, and building materials. They also provide us with recreation opportunities, including birdwatching, hiking, camping, and fishing.



Canada Anemone.  
Photo by Hamilton Naturalists' Club.

## **Biodiversity is not just nice to have; it is essential for Hamiltonians to thrive for generations to come. It is also often underappreciated.**

Healthy, functioning ecosystems provide services to humans, including food and clean air and water. They also reduce noise levels in urban and rural areas. Green spaces and other permeable surfaces reflect sound less than buildings, paved roads, and other structures. Vegetated areas promote evaporation, filter the air, provide high water retention capacity which prevents flooding, and shade and cool houses and other buildings during warm weather which reduces energy costs. Vegetation in urban areas can also assist in combatting the urban heat island effect, providing a climate change adaptation benefit to urban neighbourhoods.

According to the Organisation for Economic Co-operation and Development (OECD) report *Biodiversity: Finance and the Economic and Business Case for Action*, ecosystem services delivered by biodiversity, such as crop pollination, water purification, flood protection and carbon sequestration, are worth an estimated 125-140 trillion (US dollars) per year, more than one and a half times the size of global gross domestic product (GDP) (OECD, 2019).

Ecosystems provide many of the services that make life possible for people and animals to thrive, including air and water filtration, waste decomposition, and erosion prevention. The 2016 report entitled *Ontario's Good Fortune: Appreciating the Greenbelt's Natural Capital* estimates the value derived from the natural capital of the Greenbelt. This is used to establish a baseline natural capital accounting framework that can be maintained and built upon over time to support decision making and advocacy work related to the Greenbelt. It also presents a natural capital accounting framework that demonstrates to decision makers how to identify and measure the benefits derived from natural capital.



### **Did You Know?**

Hamilton is a sizeable part of Ontario's Greenbelt — the world's largest, protecting farmland, forests, wetlands, rivers, and lakes. Two million acres of protected land work together to provide fresh air, clean water, local food and drink, and outdoor recreation opportunities.

According to the report *Ontario's Good Fortune: Appreciating the Greenbelt's Natural Capital*, the Greenbelt delivers \$3.2 billion in ecosystem services every year, making it an irreplaceable resource critical for the future of the province (Friends of the Greenbelt Foundation, 2016).

## Urban Benefits

**Green streetscapes and natural features** make urban commercial spaces more appealing, which stimulates local economic growth, lowers energy costs for businesses and residents, and gives cities a competitive edge by attracting a highly skilled, educated workforce.

**Access to nature** provides children in cities with tremendous benefits that are essential to their development.



**Even passive experiences**, like viewing nature from an office window or walking by trees, parks, and gardens, can help people recover from daily and chronic stress.



**Spending time in nature** can decrease stress and anxiety, boost our attention, and improve our physical health by helping to prevent disease and boosting our immune function (often resulting in shorter hospital stays).

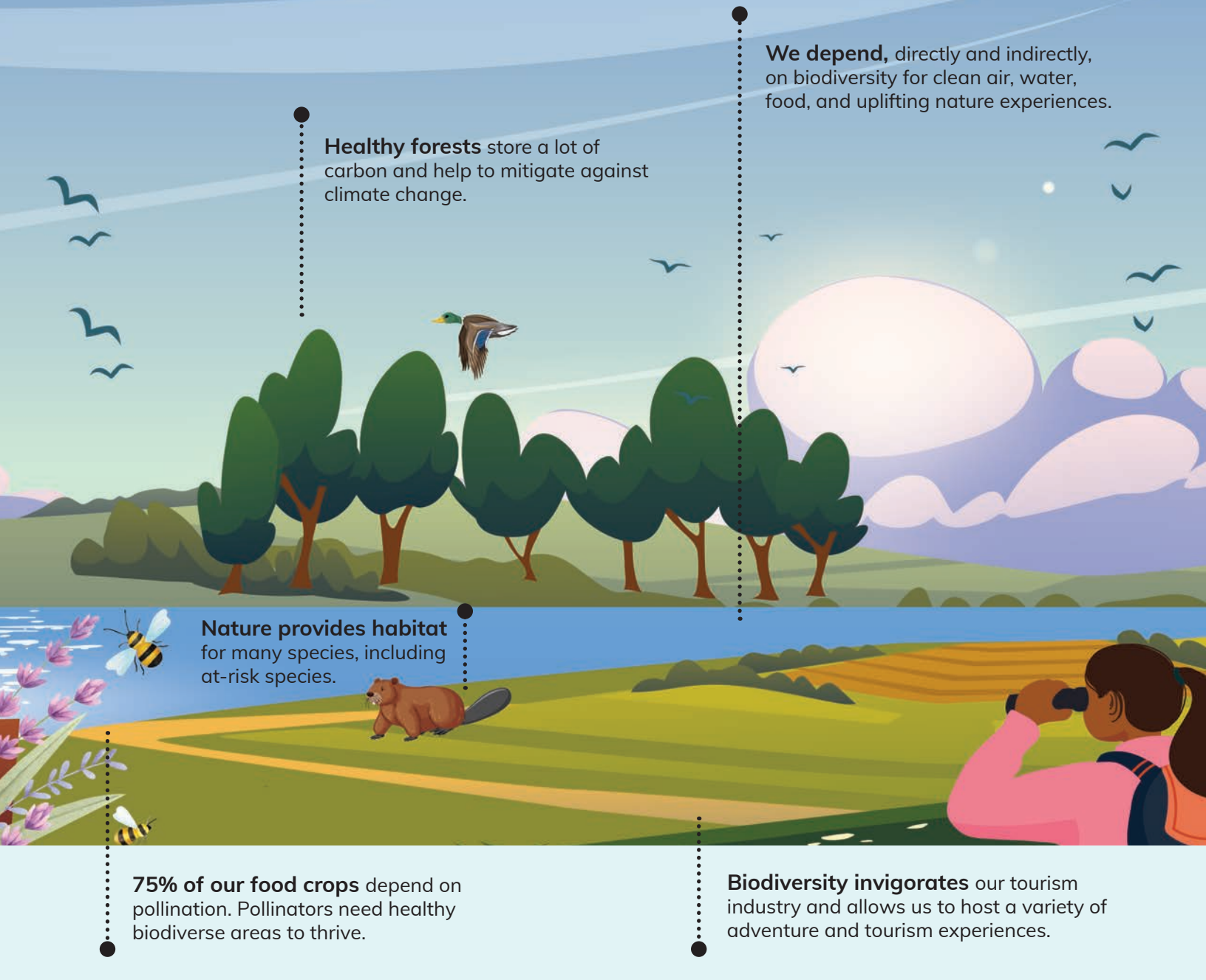


## The Benefits of Biodiversity

Both urban and rural communities benefit from healthy functioning habitats and the services they provide, including clean air and water, that are essential to our wellbeing and our local economy. Studies show that having nature nearby has the above, and other, benefits.

The urban communities that could most benefit from nearby nature are often those without adequate trees, parks, and gardens. Protection and enhancement of Hamilton's biodiversity can assist in rehabilitating even the smallest natural areas within the City, making them more resilient to the pressures of the urban environment.

# Rural Benefits



**Healthy forests** store a lot of carbon and help to mitigate against climate change.

**We depend**, directly and indirectly, on biodiversity for clean air, water, food, and uplifting nature experiences.

**Nature provides habitat** for many species, including at-risk species.

**75% of our food crops** depend on pollination. Pollinators need healthy biodiverse areas to thrive.

**Biodiversity invigorates** our tourism industry and allows us to host a variety of adventure and tourism experiences.

In urban communities, nature provides services like managing stormwater and buffering traffic noise. The relationship between green streetscapes and positive health outcomes is notable. Small actions — such as creating parkettes, applying street-side landscaping, and planting front yard rain gardens — can yield big results. Through the application of a climate change lens, natural assets have the ability to enhance the resiliency of the city over time.

Nature provides many benefits to us such as managing flooding by storing water, significantly reducing air pollution by sequestering carbon, filtering out harmful air particulates, and cooling which reduces the harmful effects of heatwaves.



## Hamilton's Biodiversity

Hamilton's biodiversity is rich with an incredibly diverse variety of species due to its unique climate and geography. The shoreline features of Lake Ontario, including Hamilton Harbour and the Cootes Paradise Marsh lie below cliffs, waterfalls, gorges and valleys of the Niagara Escarpment – an over 700km long cliff stretching through the United States and Ontario. Hamilton is home to one of the few sections of the Niagara Escarpment with south facing cliffs, and also lies in a transition zone between southern and northern forests.

The unique habitats created by this geography support a wide variety of species. These include Bald Eagle, Peregrine Falcon, Blanding's Turtle, Jefferson Salamander, Brook Trout, Monarch Butterfly, American Columbo and Eastern Flowering Dogwood. Hamilton is situated within the Atlantic Flyway, one of 4 pathways followed by migratory birds.

Due to its geography, location amongst the Great Lakes and rich diversity, the landscape has been strongly influenced by human settlement and land use activities. Local Indigenous peoples have been stewards and caretakers of this land for thousands of years. These natural areas of Hamilton continue to be essential to local Indigenous people that collect plants and other medicines and exercise their hunting rights in certain areas.

Webster's Falls.  
Photo by City of Hamilton.





Niagara Escarpment.  
Photo by Conservation Halton.

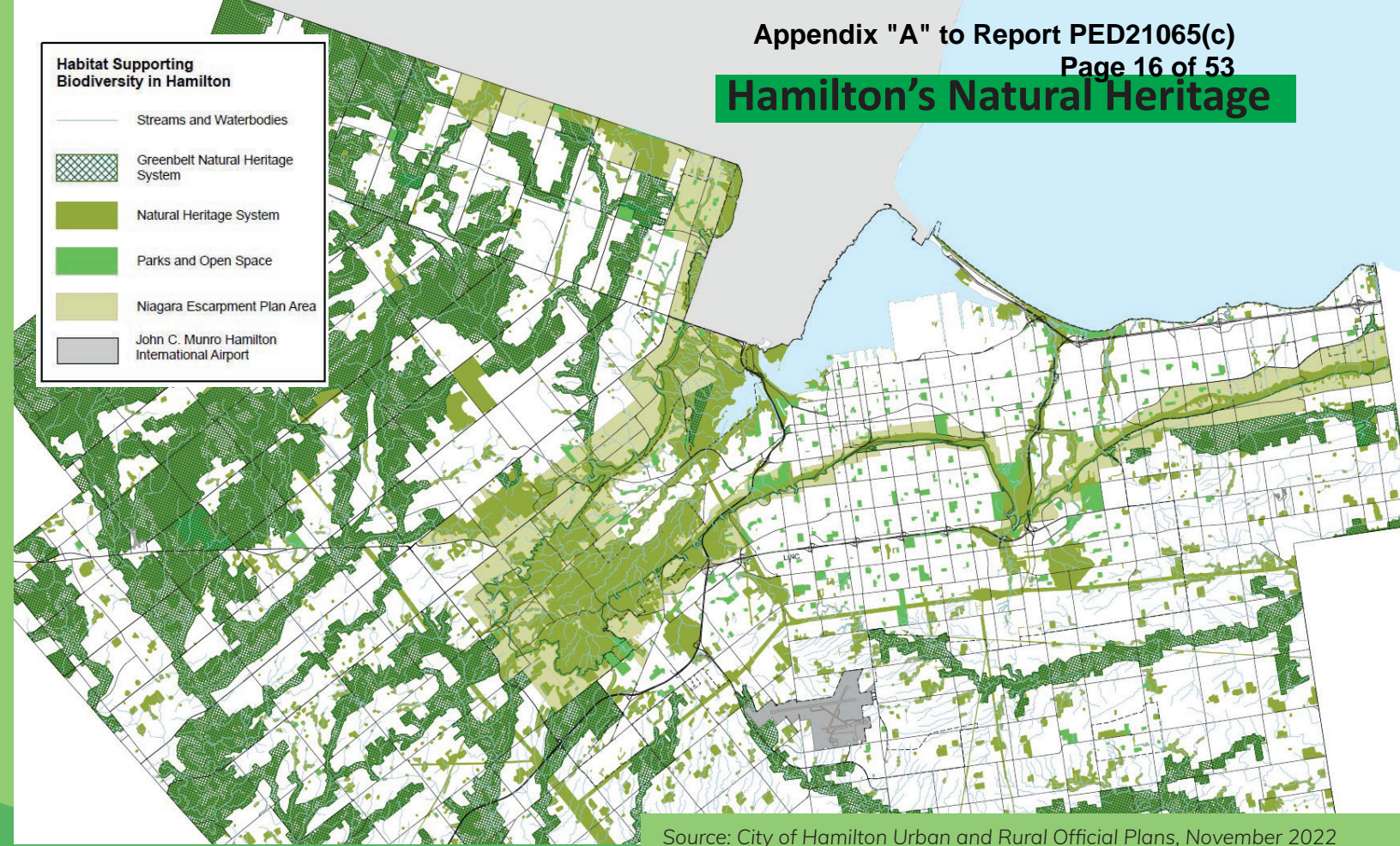
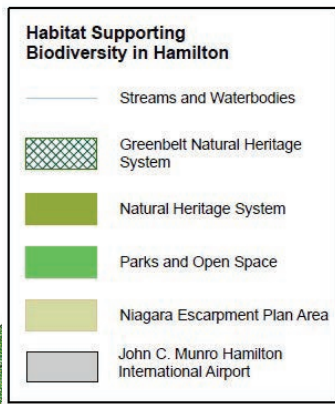
## Niagara Escarpment World Biosphere Reserve

The Niagara Escarpment is an internationally recognized landform and was designated as a UNESCO World Biosphere Reserve in 1990. Biosphere reserves are intended to promote solutions to live, work, and play in and around important natural areas so that biodiversity is conserved and enjoyed sustainably. The Niagara Escarpment travels through the City of Hamilton, providing a ribbon of green and separating the lower and upper city.

You can think of the natural areas of Hamilton as a system — a network of meadows, streams, forests, wetlands and other ecosystems that provide core areas and linkages for all forms of life. The healthy functioning of these ecosystems and the services they provide, including clean air, water, and stormwater management are essential to our wellbeing and our local economy.

Conserving and enhancing Hamilton's biodiversity is important because healthy ecosystems sustain healthy people and healthy communities. Healthy ecosystems are also more resilient and help to mitigate the changing climate. Our system of forests, waterways, and trails brings with it countless social and recreational opportunities for us all to enjoy. There are already many success stories here in Hamilton.

# Hamilton's Natural Heritage



Source: City of Hamilton Urban and Rural Official Plans, November 2022

## Policy Context: Hamilton's Natural Heritage

The City of Hamilton Urban and Rural Official Plans contain policies and definitions for the the City's Natural Heritage System. Specifically, **Core Areas** and **Linkages** of natural lands across Hamilton are mapped, and provided with specific protections though land use policy in both the Rural and Urban context.

### What is a Core Area?

A Core Area is a natural area that is considered highly valuable for providing many irreplaceable benefits. Core Areas are critical to sustaining species populations, performing important ecological functions such as groundwater recharge and discharge, controlling flooding and erosion, and providing breeding and foraging habitat for wildlife. They are necessary for improving Hamilton's resiliency to a changing climate and providing a healthy environment for all life. Hamilton's Core Areas provide habitats for many species and opportunities for people to experience nature.

### What is a Linkage?

Linkages are natural corridors such as old fields, meadows, thickets, hedgerows, streams and associated riparian areas, and woodlands that ecologically connect cores or larger natural areas. Linkages provide plants and wildlife with the opportunity to move to new areas in response to environmental changes and life cycle requirements. Linkages can be important natural features on their own, or degraded habitat which can be improved through restoration, leading to enhanced biodiversity.





## Get to Know Hamilton's Biodiversity



Barn Swallow.  
Photo by Hamilton Naturalists' Club.



Muskrat.  
Photo by Hamilton Naturalists' Club.



Forest. Photo by Brian Wylie.

- Carolinian life-zone stretches from Toronto to Windsor and its forests provide habitat for one-third of the country's species at risk, many of which are found in Hamilton.
- Biological inventories have identified 98 species of damselflies and dragonflies.
- In Hamilton, over 5,000 observers have made almost 125,000 observations using iNaturalist. Over 6000 species have been observed within the urban areas of Hamilton.
- The partners in the Cootes to Escarpment EcoPark System are responsible for stewarding 1,900 hectares (4,700 acres) of natural lands and open space connecting the Niagara Escarpment to Hamilton Harbour at the western end of Lake Ontario. It is one of the most biologically-rich areas in Canada, with more than 1,580 documented species. It provides habitat for more than 50 species at risk.
- The Dundas Valley contains important interior forest habitat and supports a nationally significant community of forest birds. During recent years, about 100 species of breeding birds have been recorded within the valley, making it one of the most species rich areas in southern Ontario.
- Confederation Park, Fifty Point Conservation Area, and the west end of Lake Ontario are all considered important areas for migratory birds.
- Eramosa Karst Conservation Area is considered an Area of Natural and Scientific Interest and has the largest number of unique karst features in the province, providing unique habitats which support a diverse number of species.



### Become a Community Scientist!

iNaturalist is a community of naturalists of all levels sharing nature sightings using a free phone app. It is the primary app used by community scientists! Participants contribute their nature sightings in the cloud. Identification tips are provided and experts can help confirm identification of the organisms. Every observation can contribute to biodiversity science, from the rarest butterfly to the most common backyard weed. The findings are shared with scientific data repositories like the Global Biodiversity Information Facility to help scientists find and use the data.



## Threats to Biodiversity

Globally, we are experiencing a biodiversity crisis.

Human activities are threatening biodiversity and putting the complex ecosystems of Earth at risk of collapse at a rate unseen in human history. According to Cowie et al (2022), in their article “The Sixth Mass Extinction: fact, fiction or speculation?”, scientists agree that habitat loss and climate change together are leading to the sixth mass extinction event in Earth’s history.

A report published in 2019 by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) states that negative trends in nature will continue to 2050 and beyond in all of the policy scenarios explored in the report, except those that include transformative changes that ensure biodiversity is protected and enhanced — due to the projected impacts of increasing land-use change, exploitation of organisms and climate change (IPBES, 2019).

There isn’t one single threat to biodiversity — there are many, including human-caused habitat loss and fragmentation, unsustainable building practices and energy production, climate change, industrial agriculture, invasive species, and pollution. According to the *Global Assessment Report on Biodiversity and Ecosystem Services*, around the world three-quarters of the land-based environment, and about two-thirds of the marine environment, have been significantly altered by human actions. The loss of biodiversity can have lasting consequences, including floods, famine, collapse of fisheries, the spread of invasive species and disease, disrupted wildlife migration corridors, and habitat loss (IPBES, 2019).

**Everything in nature is connected.** The repercussions of unsustainable human activity are made worse by climate change, which is, in turn, made worse by damage to ecosystems, such as the loss of forests that convert carbon dioxide into oxygen.



Photo by Royal Botanical Gardens.



## Threats to Biodiversity in Hamilton

Hamilton is no exception to the global biodiversity crisis. The threats to biodiversity currently occurring within Hamilton include invasive species, habitat loss and fragmentation, climate change, and pollution.

### Invasive Species

An invasive species is an organism or plant that is not native to a particular area and whose introduction has a negative impact on the natural environment, society, or human health. Invasive species can damage natural ecosystems, outcompete native species, threaten infrastructure, impair water quality, and affect agricultural practices, among other things.



Staff and volunteers managing invasive species.  
Photo by Hamilton Conservation Authority.

A diversity of native species in a natural area is vitally important for the health of Hamilton's ecosystems. Local plants and wildlife have evolved alongside each other for millennia. The relationships between them, from predator-prey interactions to providing forage, nesting habitat, and cover, are so deeply entrenched that some species have even physically adapted over time, such as Monarch Butterflies and their dependence on the Milkweed plant. Invasive species can dominate an area, spread introduced disease, alter soil chemistry, and outcompete native species for habitat, forage and cover, limiting the quality of habitat available for wildlife.

Invasive species in Hamilton are many and include garlic mustard, common buckthorn, Japanese knotweed, spongy moth, emerald ash borer, carp, beech bark scale, dog strangling vine, periwinkle, goutweed among many others. Invasive species can be found in forests, grasslands, ravines, and very commonly in gardens.



### Did You Know?

Organizations across Hamilton have been working to battle **phragmites**, one of the most aggressive invasive species in Ontario. *Phragmites australis*, or European Common Reed, is a tall grass with a large seed head on top, often seen in ditches and wet areas. Hamilton Conservation Authority and Royal Botanical Gardens are examples of organizations that have been working hard to manage "phrag" on their properties around Cootes Paradise. After several years, the hard work is paying off as the population has dramatically decreased and native plants are returning to the area. The area will continue to be monitored and phragmites will continue to be managed across Hamilton.



Invasive Phragmites.  
Photo by Hamilton Conservation Authority.



Hamilton Harbour and Cootes Paradise. Photo by the Royal Botanical Gardens.

## Habitat Loss and Fragmentation

According to the World Wildlife Fund (WWF) habitat loss is a predominant threat to species diversity in Canada (WWF, 2020), and it is happening here in Hamilton. Habitat loss occurs when natural habitats are converted to agriculture and urban development. Habitat loss also occurs as a result of invasive species making areas less suitable for wildlife.

One result of habitat loss is fragmentation. Fragmentation occurs when habitats are cut into smaller pieces of land or water because of roads and development, as an example. Fragmentation interrupts essential wildlife corridors and eliminates habitats for species that require large natural areas of a specific habitat type, including Bald Eagles, Pileated Woodpeckers, Jefferson Salamanders, and all native turtle species.



### Did You Know?

The Cootes to Escarpment EcoPark System was created by a collaborative that was formed, in part, to help “fight the fragmentation” of the natural lands in the Dundas and Aldershot area and ensure a green corridor exists between Cootes Paradise and the Niagara Escarpment. EcoPark System partners have permanently protected over 200 acres of natural lands to help connect the 9,600 acres that are already protected. The Partners continue to acquire natural lands as they become available.



Bayfront Trail Flooding. Photo by the City of Hamilton.

## Climate Change

Climate change and biodiversity are interconnected. Even small changes in average temperature and precipitation have a significant effect on ecosystems and the wildlife that rely on them.

For example, in Hamilton, extreme weather caused by climate change, including increased rainfall, challenges the combined sewer system in the older parts of the city. This system, which includes combined sewer overflow tanks that hold both storm and sanitary sewer effluent, can be overwhelmed with stormwater flows, causing the tanks to discharge this waste directly into creeks and impacting aquatic organisms.

Climate change and the more frequent extreme weather events that it brings, is causing more frequent combined storm/sanitary wastewater discharges into our aquatic ecosystems.

A strong healthy ecosystem can help to mitigate the impacts of climate change. The Biodiversity Action Plan focuses on maintaining and enhancing biodiversity, as well as ecosystem health, to increase resiliency to climate change.



### Did You Know?

The positive changes we make in our communities will help biodiversity and facilitate climate mitigation and adaptation. Addressing stormwater management challenges by using low impact development (LID)/green infrastructure opens the door to creating more native habitat and helping to boost local biodiversity while, at the same time, helping to slow stormwater flows. The solution, done right, is a benefit.



Industrial pollution in Hamilton. Photo by Lynda Lukasik.

## Pollution

All forms of pollution threaten biodiversity. For example, acid rain can lead to excess levels of acid in waterways and can damage soil, affecting aquatic life and causing unsuitable growing conditions. Pollutants, including fertilizer, road salt and heavy metals are absorbed into the ground and transported into natural systems via stormwater runoff where they damage aquatic ecosystems.

Locally, particulate pollution and other air contaminants emitted from our industrial sector and trucks and cars negatively impact Hamilton’s terrestrial life and human health. Air deposition of contaminants into waterways is a problem for aquatic ecosystem health. It is caused in the atmosphere when water particles mix with carbon dioxide, sulphur dioxide, and nitrogen oxides to form a weak acid. When acid rain pollutes marine habitats, such as rivers and lakes, aquatic life is harmed (Government of Canada, 2013). Prior to modern pollution laws, waste was dumped into the Harbour by industries, which today, continues to threaten public health, contaminate fish and wildlife, and restrict the full use of the waterfront. Over the past century, sediment on the harbour bottom has been contaminated by metals, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and other hazardous chemicals.

Damage done to Hamilton Harbour watershed through industrial development and population growth has resulted in the area’s designation as a Great Lakes “Area of Concern” (AOC) through the international Great Lakes Water Quality Agreement (Government of Canada, 2012). As a source for social, economic, and ecological progress, significant work has been done to remediate the Harbour and delist it as an AOC using a Remedial Action Plan (RAP).

The benefits of our success in addressing specific issues such as restoration of riparian habitat are being overshadowed by the negative impacts of larger, system-wide challenges. As a community, our ability to improve Harbour water quality has never been stronger, but our technology and processes must keep up with challenges posed by regional population growth, land development and climate change.



### Did You Know?

The construction of the Randle Reef containment facility is the single most significant step forward in containing toxic sediment in the Harbour. It is not, however, the only step. Importantly, according to the 2017 Bay Area Restoration Council Report Card, the contamination of fish and wildlife is slowly declining overall (Bay Area Restoration Council, 2017). The clean-up will lead to further reductions in exposure to and the effects of toxic deposits.



## Hamilton Success Stories



Volunteer community tree planting events across Hamilton.  
Photos by Hamilton Naturalists' Club.



Transformative changes are needed to protect, restore, and enhance biodiversity. However, the news isn't all bleak. Work is being done in Hamilton and beyond.

The Biodiversity Action Plan is the thread that sews our collective actions together. Many of the actions in this Plan aren't new. Partners have been working to protect, explore, enhance, and restore Hamilton's biodiversity for decades. There are many success stories to share, including the return of top predators like Bald Eagles and Peregrine Falcons to the area. Recently, Hamiltonians have delighted in creating native pollinator plant gardens to increase pollinators in their backyards and community gardens.

### Community Tree Plantings

The City of Hamilton has been working with Environment Hamilton, Hamilton Naturalists' Club and Green Venture to host community volunteer tree plantings across Hamilton. This has resulted in thousands of trees being planted, in addition to the thousands planted by the City each year.

### Pollinator Paradise Certification

Since 2015, Environment Hamilton and the Hamilton Naturalists' Club have been building a Pollinator Paradise of certified gardens across the city to provide food and shelter for native pollinators. By doing this with our community we are strengthening and enhancing Hamilton's unique biodiversity. Over 400 residents have certified their garden helping to build the pollinator network. This work led to Hamilton being certified as a Bee City.



## Hamilton Success Stories (continued)



Snapping Turtle Hatchling.  
Photo by Hamilton Naturalists' Club.

### Project Paradise (in Cootes Paradise)

This is an innovative freshwater marsh restoration venture for two large rivermouth wetland systems and includes a range of conservation projects. It is dependent on the Fishway separating Cootes Paradise from Hamilton Harbour, the first carp barrier/two-way fishway structure on the Great Lakes. The structure is both an invasive species management structure as well as a public information and education site. The current restoration initiatives began in 1993 as a component of the Hamilton Harbour Fish and Wildlife Habitat Restoration Project. This broader project is part of the Hamilton Harbour Remedial Action Plan, supported by citizens through the federal and provincial governments and based in the Great Lakes Water Quality Agreement.



Trail through forest.  
Photo by Hamilton Naturalists' Club.

### Natural Heritage System

The Natural Heritage System is informed by the Natural Areas Inventory (NAI) which collects data on plants, mammals, birds, butterflies/moths, reptiles/amphibians, and fish. The NAI is focused on large natural areas primarily in rural Hamilton. It is a partnership between City of Hamilton, Hamilton Conservation Authority and Hamilton Naturalists' Club and has been conducted in 1993, 2003, 2013. The database is maintained by the Hamilton Conservation Authority.





Peregrine Falcon.  
Photo by Brian Wylie.



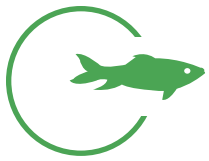
# Where We Are Going



Monarch caterpillar on Common Milkweed.  
Photo by Hamilton Naturalists' Club.

## Our Vision

A Hamilton that is resilient to climate change, celebrates nature, and provides a healthy environment for all life.



# A Biodiversity Action Plan for Hamilton

Hamilton's Biodiversity Action Plan (BAP) outlines the actions needed to protect and enhance the biodiversity within Hamilton to ensure our community remains a healthy, biodiverse place for people to live, work, visit or invest and for plant, animal, and insect species to thrive.

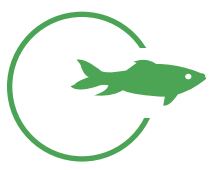
The BAP is our opportunity to create a Hamilton that is resilient to climate changes, protects nature, and provides a healthy environment for all life. Everyone that lives, works, invests in, travels to, or relies on Hamilton and the health of its ecosystems has a role to play in its implementation. Government, institutional, and not-for-profit stakeholders and organizations have a particularly important role to play.



Community members engaged in an outreach event.  
Photo by Hamilton Naturalists' Club.



Installing interpretive signage.  
Photo by Hamilton Naturalists' Club.



## A Biodiversity Action Plan for Hamilton (Continued)

Achieving the identified key priorities and actions in this Plan will build on Hamilton's successful history of collaboration, innovation, and project scaling to protect biodiversity from the impacts of a growing city.

The BAP fills existing gaps and complements and aligns with strategies and activities, many of which are already happening, including the Natural Heritage System in the City of Hamilton's Official Plan, the City's Strategic Plan, and Our Future Hamilton. It also considers plans, including the Urban Forest Strategy and the Hamilton Climate Action Strategy.

It will also support the work of current projects by Hamilton Conservation Authority, Environment Hamilton, the Hamilton Naturalists' Club, Hamilton 350, Action 13, the Bay Area Climate Change Council, along with the City of Hamilton's Office of Climate Change Initiatives.

Hamilton's Biodiversity Action Plan aligns with existing local, provincial, federal, and international goals and commitments that move toward global sustainability. Some examples include the United Nations Convention on Biological Diversity and the Great Lakes Water Quality Agreement. These guiding frameworks, along with special legislation to protect Species at Risk at both the provincial and federal level, form the foundation of biodiversity sustainability.

**This plan is ambitious and aspirational.** It includes Actions to be accomplished in the next five years and into the future. Monitoring and measuring the actions detailed in this document is key to achieving the BAP vision.

Hamilton has always been a diverse community with forward thinking and ambitious leaders. It is time to harness our collective talents, knowledge, expertise and efforts to work together and find innovative ways to benefit all life in Hamilton.



Monarch Butterfly. Photo by Hamilton Naturalists' Club.



## How We Get There



## Key Priorities and Guiding Actions

The following Key Priorities and Guiding Actions have been identified by the BAP partners as strategic areas of focus to enhance biodiversity conservation in Hamilton. The Key Priorities provide a high-level description of the areas of focus that are required to ensure the long-term protection, enhancement, and restoration of biodiversity in Hamilton.

A total of **7 Key Priorities** are provided:

- Key Priority 1:** Develop an administrative framework to manage the on-going implementation of the Biodiversity Action Plan's Actions.
- Key Priority 2:** Understand the current baseline state of Hamilton's biodiversity to inform future monitoring and priorities.
- Key Priority 3:** Protect natural areas and their functions within Hamilton over the long-term to support diversity and connectivity.
- Key Priority 4:** Enhance public awareness of the importance of biodiversity and explore opportunities to enhance biodiversity through stewardship.
- Key Priority 5:** Protect Hamilton's biodiversity by implementing coordinated, city-wide efforts to control, remove, and manage invasive species.
- Key Priority 6:** Enhance local aquatic habitats through sustainable stormwater management practices and restoration of degraded watercourses, waterbodies, and wetlands.
- Key Priority 7:** Ensure impacts on or improvements to local biodiversity are clearly considered in all municipal decision making related to the development or use of urban and rural lands.

The Guiding Actions describe the intended work to be completed by partner organizations to address the Key Priorities. The Guiding Actions complement and build upon current initiatives being undertaken across the city, rather than duplicating efforts.

**For a complete list of specific Actions for each Key Priority, including time frames and lead organizations, please see Appendix A: Biodiversity Action Plan - Actions Table.**

The Actions listed in Appendix A will evolve over time by incorporating new ideas and responding to changing conditions. They will be implemented over the next five years as the resources and budgets of active stakeholders allow. Annual monitoring will be used to assess the effectiveness of the Actions and identify additional opportunities.

This BAP is committed to collaborating and learning from local Indigenous communities and Indigenous-led conservation to ensure that Indigenous worldview and traditional knowledge are respected and implemented in biodiversity action. Everyone has a role to play in protecting and enhancing biodiversity. Each Key Priority includes ideas for action that any person or organization can take to improve Hamilton's local biodiversity.

## Key Priority 1: Develop an administrative framework to manage the on-going implementation of the Biodiversity Action Plan's Actions.



Native bee on annual Sunflower.  
Photo by Hamilton Naturalists' Club.

### Rationale

To maintain momentum of the Biodiversity Action Plan and ensure implementation of the Actions is successful, an on-going administrative framework is needed. This will help ensure that Actions committed to by participants are executed in a coordinated way and that their implementation is communicated to the public effectively.

### Guiding Actions

- Form a Biodiversity steering committee, which includes representatives from contributing partners and the community-at-large, that is responsible for monitoring progress and tracking the implementation of BAP Actions and identifying gaps.
- Secure funding for an administrative coordinator position for central management of the BAP for all contributing partners.
- Develop and implement a communications plan to help raise awareness about biodiversity in Hamilton and the role everyone can play in protecting and celebrating it.

### What Can You Do?

- Share information from the BAP with friends, family, co-workers, and community groups.
- Follow the BAP project partners on social media to stay informed about opportunities to get involved in volunteer opportunities or local events.
- Support existing efforts — to promote and enhance biodiversity by participating in learning events, workshops, campaigns, and stewardship initiatives.

## Key Priority 2: Understand the current baseline state of Hamilton's biodiversity to inform future monitoring and priorities.



Monitoring Hamilton's Biodiversity.  
Photo by Hamilton Conservation Authority.

### Rationale

This Key Priority and its Actions will assist in identifying the gaps in the collection and sharing of data about biodiversity between partners involved in collection of biodiversity data in Hamilton. It also sets the baseline information about the state of biodiversity across Hamilton so that future monitoring reports can measure the effectiveness of the Actions.

### Guiding Actions

- Develop a biodiversity report and monitoring framework to depict the baseline state of Hamilton's biodiversity health, and determine the methods for how it will be assessed in the future.
- Improve coordination of biodiversity data collection and monitoring efforts across local partnering organizations.
- Collect additional information about Hamilton's biodiversity through community science programs, including the free iNaturalist app.
- Plan opportunities to bring together experts in ecology and biology to discuss local biodiversity issues and successes with the community.
- Report regularly on the progress of BAP action implementation.

### What Can You Do?

- Review and share the BAP report.
- Download iNaturalist and start recording the species you see around Hamilton.



## Key Priority 3: Protect natural areas and their functions within Hamilton over the long-term to support diversity and connectivity.



Wildlife need safe passage.  
Photo by Royal Botanical Gardens.

### Rationale

There are spaces around Hamilton that are important for the overall health and long-term stability of local biodiversity, but which may not have protections from development for the long-term. This Key Priority and its Actions focus on investigating public, institutional, or private lands that could be permanently protected to enhance opportunities for biodiversity and provide safe passage for wildlife movement.

### Guiding Actions

- 🌿 Assess local wildlife corridors to understand current patterns of movement of local species.
- 🌿 Investigate options for protected wildlife corridors to promote habitat connectivity.
- 🌿 Identify terrestrial and aquatic habitats that require further protection.

### What Can You Do?

- 🌿 Help identify wildlife corridors by sharing where you see wildlife at road crossings as well as road mortality sightings by contributing to iNaturalist.

## Key Priority 4: Enhance public awareness of the importance of biodiversity and explore opportunities to enhance biodiversity through stewardship.



Painted Lady Butterfly.  
Photo by Hamilton Naturalists' Club.

### Rationale

This Key Priority and its Actions focus on the role that everyone must play in protecting and enhancing Hamilton's biodiversity, including opportunities for urban and rural biodiversity enhancement projects at the watershed and neighbourhood scale.

### Guiding Actions

- 🌿 Increase outreach opportunities to educate the public on the importance of biodiversity in Hamilton.
- 🌿 Provide increased opportunities for planting native species to connect fragmented landscapes, and create new, biodiverse natural areas.
- 🌿 Celebrate local biodiversity excellence through award and certification programs.

### What Can You Do?

- 🌿 Provide habitat for nature by planting native trees, shrubs, and wildflowers to enhance biodiversity and on your property. In rural areas, use agricultural best management practices to improve water quality and wildlife habitats.
- 🌿 Participate in native species planting events.

## Key Priority 5: Protect Hamilton's biodiversity by implementing coordinated, city-wide efforts to control, remove, and manage invasive species.



Managing invasive species.  
Photo by Hamilton Conservation Authority.

### Rationale

This Key Priority and its Actions build on existing initiatives to pool resources and expertise to manage invasive species collaboratively. Invasive species are prevalent in Hamilton and are one of the key threats to biodiversity. A focused effort is needed to manage invasive species and is critical for the protection and enhancement of local biodiversity. For more information on invasive species, review the Threats to Biodiversity in Hamilton section of this document.

### Guiding Actions

- 🌿 Share data and expertise and collaborate on management initiatives and maximize resources where possible with organizations involved with managing invasive species.

### What Can You Do?

- 🌿 Learn to identify Hamilton's invasive species and how to curb their spread. Learn how to manage and dispose of invasive species at home through resources such as the Ontario Invasive Plant Council and their "Grow Me Instead" guide (2020).
- 🌿 Participate in invasive species management activities such as garlic mustard pulls and buckthorn removal. Visit partners' websites and social media channels for upcoming opportunities.

## Key Priority 6: Enhance local aquatic habitats through sustainable stormwater management practices and restoration of degraded watercourses, waterbodies and wetlands.



Seabin trap to collect garbage.  
Photo by Pollution Probe.

### Rationale

This Key Priority and its Actions investigate opportunities to improve the health of aquatic habitats and source water protection through the adoption of innovative stormwater low impact development practices, noted agricultural Best Management Practices and mitigating the effects of stormwater run-off into the local ecosystem.

### Guiding Actions

- Investigate opportunities for enhancing on-site stormwater management practices through redevelopment.
- Deliver education programs to the public about sustainable stormwater management practices.
- Install sea bins and litter traps in catch basins surrounding the Harbour to collect litter entering the Harbour.

### What Can You Do?

- Learn about and implement techniques to manage stormwater at home, for example creating a rain garden or installing a rain barrel to slow down or eliminate the flow of storm water to the municipal sewer system.
- Disconnect your downspout from the sewer system and, instead, direct flow to a permeable area of your yard.
- Do not release live aquatic plants and animals, including live bait, into rivers, streams, and lakes.

**Key Priority 7: Ensure impacts on or improvements to local biodiversity are clearly considered in all municipal decision making related to the development or use of urban and rural lands.**



Native plant pollinator garden.  
Photo by Hamilton Naturalists' Club.

## Rationale

This Key Priority and its Actions focus on prioritizing biodiversity in all planning, development, and decision making. It will help to ensure that developments consider and minimize their impact on biodiversity by reducing habitat fragmentation, managing stormwater innovatively, and providing opportunities for enhancements to the local ecosystem.

## Guiding Actions

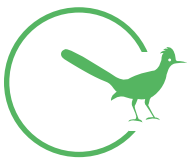
- Create development standards and site plan design guidelines that protect biodiversity and improve local habitats.
- Protect biodiversity and consider enhancement during all project planning by ensuring the BAP's Key Priorities and Actions are upheld in this context.
- Investigate potential for wildlife sweeps and plant salvages ahead of development when impact on natural areas cannot be avoided.

## What Can You Do?

- Participate in municipal planning approvals processes to understand how natural areas are being protected in decision making.
- Get in touch with your local Councillor to let them know what your concerns are about biodiversity and natural spaces in your community.
- Contribute your thoughts on the Biodiversity Action Plan, and other important City initiatives, on the Engage Hamilton website. Your ideas and feedback will ensure Hamilton is an even better place to live, work, and play. Visit <https://engage.hamilton.ca>.



Looking out over Hamilton Harbour.  
Photo by Hamilton Naturalists' Club.



## Conclusion: The Future of Biodiversity in Hamilton

As you've read, the partners who have developed Hamilton's Biodiversity Action Plan are committed to protecting and enhancing Hamilton's biodiversity. Hamilton's biodiverse areas are relatively healthy; however, they depend on an engaged and interested public, as well as policies in place to protect them at municipal, provincial, and federal levels.

Biodiversity monitoring conducted by partners shows that Hamilton's biodiversity needs to be better protected and enhanced in order to have healthy, functioning ecosystems that provide countless ecosystem services, while also providing important habitats for common and at-risk species. Biodiversity is threatened by habitat loss, pollution, invasive species, and climate change. Yet, until now, there is no one document to pull together the partners and collaborative Actions needed to protect biodiversity.

The Biodiversity Action Plan proposes Actions that can be undertaken right away, along with longer term Actions that will need collaboration from several partners. All of the Actions will be started in the first five years of BAP implementation. At that point the Actions will be reviewed to see what is working and what needs to be adapted or added to the list of Actions.

Most importantly, everyone has a role to play in protecting biodiversity. We hope that the work already being done by partners, and other Actions outlined in this BAP, will inspire us all into action.



# HAMILTON BIODIVERSITY ACTION PLAN

## Partner organizations



The creation of this BAP was made possible by financial contributions from:



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HAMILTON  
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Aquatic plants in wetlands.  
Photo by Royal Botanical Gardens.



## **APPENDIX A: Key Priorities and Actions**



**Key Priority 1:** Develop an administrative framework to manage the on-going implementation of the Biodiversity Action Plan's Actions.

Actions	Timeframe	Lead
1.1 Establish a Biodiversity Action Plan (BAP) coordinator position within a partner agency to monitor the implementation of the BAP actions and lead public communications initiatives.	1 Year	To be determined by the Biodiversity Action Plan Partners
1.2 Identify long-term funding strategies for the protection and enhancement of the natural environment to improve biodiversity.	1 – 3 Years	Biodiversity Action Plan Partners
1.3 Formalize and continue the BAP partnership to ensure coordinated actions and ongoing communication between all partner organizations.	1 Year	Biodiversity Action Plan Partners



**Key Priority 2:** Understand the current baseline state of Hamilton’s biodiversity to inform future monitoring and priorities.



Actions	Timeframe	Lead
2.1 Develop a “State of the Environment” report periodically to track the City’s progress towards natural heritage protection goals and report on on-going City initiatives related to natural heritage.	1 - 3 Years	City of Hamilton, (Planning and Economic Development – Planning Division)
2.2 Centralize and standardize the collection and sharing of biodiversity data across all Biodiversity Working Group partner organizations.	1 – 3 Years	BAP Coordinator
2.3 Develop a process for updating Natural Areas Inventory along with ongoing maintenance.	1 – 3 Years	Hamilton Conservation Authority  City of Hamilton  Hamilton Naturalists’ Club
2.4 Develop an Annual Report Card to be completed by Biodiversity Action Plan partners to report on Actions and to assist in writing future progress reports.	1 Year	BAP Coordinator
2.5 Organize an annual Biodiversity workshop to discuss monitoring, results, and projects related to the BAP, and to share progress on the BAP actions with the public.	1 – 3 Years	BAP Coordinator

**Key Priority 3:** Protect natural areas and their functions within Hamilton over the long-term to support diversity and connectivity.



Actions	Timeframe	Lead
3.1 Investigate wildlife corridors and identify the tools and mechanism needed to support their protection.	3 – 5 Years	City of Hamilton (Planning and Economic Development – Planning Division)
3.2 Review existing inventories of protected lands to identify additional key habitats that need to be viewed as part of an overall land securement strategy.	3 – 5 Years	Hamilton Naturalists' Club
3.3 Investigate the feasibility for eco-passages in areas identified as significant wildlife corridors to reduce vehicle strikes and road mortality.	3 – 5 Years	BAP Coordinator
3.4 Continue to support opening vistas at key areas along the escarpment to deter unauthorized trails which result in negative impact to sensitive escarpment habitat.	Ongoing	City of Hamilton (Public Works - Parks and Cemeteries)
3.5 Preserve and enhance City managed dune habitat along the Lake Ontario shoreline by reducing erosion through maintaining dedicated beach access and leaving deadwood.	1 – 3 Years	City of Hamilton (Public Works - Parks and Cemeteries)
3.6 Review the Natural Heritage policies of the Rural and Urban Hamilton Official Plans and investigate options for amendments to strengthen protection of biodiversity in both the rural and urban contexts.	1 – 3 Years	City of Hamilton (Planning and Economic Development – Planning Division)

**Key Priority 4:** Enhance public awareness of the importance of biodiversity and explore opportunities to enhance biodiversity through stewardship.



Actions	Timeframe	Lead
4.1 Encourage regular use of native plants in all planting projects led by Biodiversity Action Plan partners to maximize the resilience of greenspaces and to support habitats.	1 – 2 Years	BAP Coordinator
4.2 Seek opportunities to work with institutional and industrial landowners to enhance biodiversity on their lands.	3 – 5 Years	Hamilton Naturalists' Club Environment Hamilton
4.3 Celebrate local biodiversity excellence through initiatives including the Monarch Awards, Pollinator Paradise certification programs, and others.	1 – 2 Years	Hamilton Naturalists' Club
4.4 Establish a working group to develop and implement a communications plan to raise awareness about biodiversity in Hamilton and the role everyone has to play in protecting and celebrating it.	1 – 2 Years	BAP Coordinator
4.5 Partner with new developments and developers to craft messaging for homebuyers and commercial property purchasers to understand property boundaries at natural areas.	1 – 2 Years	BAP Coordinator
4.6 Communicate with developers and realtors about policies on vacant lands, good biodiversity practices, property boundaries, and owners of natural lands and their policies and practices.	1 – 3 Years	Cootes to Escarpment EcoPark System Secretariat
4.7 Develop a community science program using iNaturalist to engage residents in collecting information about Hamilton's biodiversity and to learn more about previously inventoried areas.	1 – 3 Years	BAP Coordinator



**Key Priority 4 (cont'd):** Enhance public awareness of the importance of biodiversity and explore opportunities to enhance biodiversity through stewardship.

Actions	Timeframe	Lead
4.8 Investigate the potential of hosting workshops for landowners on topics including manure runoff and well decommissioning.	Ongoing	Hamilton Conservation Authority (Hamilton Watershed Stewardship Program)
4.9 Host volunteer and community events to plant native species on public lands to increase biodiversity, connect fragmented landscapes, and create new natural areas.	Ongoing	Hamilton Conservation Authority (Hamilton Watershed Stewardship Program, Outdoor Education Program, Capital Projects and Strategic Services, Conservation Area Services)  Hamilton Naturalists' Club
4.10 Develop a focal habitat creation site in each Ward to demonstrate the potential to increase biodiversity in the urban area by planting native trees, shrubs and wildflowers.	3 – 5 Years	Hamilton Naturalists' Club
4.11 Install trial pollinator gardens in areas of the City designed to promote increased pollination and are focused on native species of plants and pollinating insects (i.e. bees, butterflies etc.).	1 – 3 years	City of Hamilton (Public Works - Forestry & Horticulture, Environmental Services)



**Key Priority 4 (cont'd):** Enhance public awareness of the importance of biodiversity and explore opportunities to enhance biodiversity through stewardship.



Actions	Timeframe	Lead
4.12 Create naturalized areas in selected parks by planting native perennials and low growing shrubs.	2 – 4 Years	City of Hamilton (Public Works - Environmental Services: Parks and Cemeteries, Facilities, Forestry and Horticulture, Landscape Architectural Services)
4.13 Community tree planting through volunteer groups planting native species of container stock trees to rehabilitate public lands within the City.	Ongoing	City of Hamilton (Public Works - Forestry & Horticulture, Environmental Services)  Environment Hamilton  Hamilton Naturalists' Club
4.14 Encourage increased use of natural burial in City of Hamilton cemeteries that will consider biodiversity through landscape design, species selection and maintenance approach.	1 – 2 Years	City of Hamilton (Parks and Cemeteries)
4.15 Develop tools that will support biodiversity friendly plantings on cemetery properties by cemetery patrons.	1 – 2 Years	City of Hamilton (Parks and Cemeteries)
4.16 Identify opportunities for ecological restoration, enhancement, and connectivity on private properties, offering technical and financial assistance (if applicable) to private property owners to enhance or create new connections.	Ongoing	Hamilton Conservation Authority (Hamilton Watershed Stewardship Program)
4.17 Include consideration of biodiversity in the evaluation of submissions for the City of Hamilton's Urban Design and Architecture Awards.	1 – 2 years	City of Hamilton, (Planning and Economic Development – Planning Division)

**Key Priority 5:** Protect Hamilton’s biodiversity by implementing coordinated, city-wide efforts to control, remove, and manage invasive species.



Actions	Timeframe	Lead
5.1 Form a working group of local stakeholders and agencies undertaking invasive species management in Hamilton to share data and expertise and to collaborate on management initiatives and maximize resources, where possible.	Ongoing	Hamilton Conservation Authority (Terrestrial Ecology)
5.2 Expand the Adopt-a-Park Program to include support for adopting natural open spaces, pollinator patches, seed banks, habitat structures, and invasive species management on Parks properties.	1 – 2 Years	City of Hamilton (Public Works - Business Programs/ Parks and Cemeteries)
5.3 Offer technical, volunteer, and (if applicable) financial assistance to private property owners to manage invasive species on private lands.	Ongoing	Hamilton Conservation Authority (Hamilton Watershed Stewardship Program, Terrestrial Ecology)
5.4 Adopt in-field and workshop-based protocols for the cleaning and sanitization of equipment and machinery between sites.	Ongoing	Hamilton Conservation Authority (Terrestrial Ecology)
5.5 Implement Invasive Species Strategy and identify goals related to mapping and management of invasive species in priority areas.	Ongoing	Hamilton Conservation Authority (Terrestrial Ecology) Hamilton Naturalists' Club
5.6 Provide education and awareness programs to reduce bird deaths from outdoor cat population.	1 – 3 Years	City of Hamilton (Planning and Economic Development)

**Key Priority 6:** Enhance local aquatic habitats through sustainable stormwater management practices and restoration of degraded watercourses, waterbodies and wetlands.



Actions	Timeframe	Lead
6.1 Develop a Watershed Action Plan to meet the expectations for a cleaner aquatic environment. Build on the City-assembled consortium of agencies with a common goal of improving harbour conditions and ultimately delisting Hamilton Harbour as an Area of Concern.	1 – 3 Years	City of Hamilton (Hamilton Water, Waste Management)
6.2 Through the development of City-wide Low Impact Development Guidelines, the City will consider landscape-based stormwater infiltration techniques for enhancement of onsite local biodiversity in accordance with area specific EIS and sub watershed study recommendations.	1 – 3 Years	City of Hamilton (Planning and Economic Development - Growth Management)
6.3 Consider lot level stormwater management, green infrastructure, and grey water reuse opportunities at the design stage of park and cemetery projects.	1 – 3 Years	City of Hamilton (Public Works - Landscape Architectural Services/Parks and Cemeteries)
6.4 Advocate for a fair stormwater fee to help address contaminants that flow into the wastewater management system during storm events.	1 – 2 Years	Environment Hamilton
6.5 Deliver education programs about stormwater management to the public and businesses (ex. Yellow Fish Road Program that is delivered by BARC) to increase stormwater management on private lands.	Ongoing	Bay Area Restoration Council
6.6 Deliver technical and (where applicable) financial assistance to private property owners implementing agricultural Best Management Practices (BMPs) and Stormwater Low Impact Development (LID) practices on private properties.	Ongoing	Hamilton Conservation Authority (Hamilton Watershed Stewardship Program)

**Key Priority 6 (cont'd):** Enhance local aquatic habitats through sustainable stormwater management practices and restoration of degraded watercourses, waterbodies and wetlands.



Actions	Timeframe	Lead
6.7 Mitigate flooding and erosion risks and improve water quality in the lower urban area of Stoney Creek by increasing stormwater retention via the installation of constructed wetlands in the upper watershed area of Battlefield and Stoney Creek.	Ongoing	Hamilton Conservation Authority (Watershed Management Services)
6.8 Install sea bins and litter traps in catch basins surrounding the Harbour to collect litter entering the Harbour.	1 – 2 Years	City of Hamilton (Public Works - Parks and Cemeteries)
6.9 Assess opportunities to reduce water consumption through monitoring, maintenance, and implementing best practices.	1 – 3 Years	City of Hamilton (Public Works - Parks and Cemeteries)
6.10 Implement the Hamilton Salt Management Plan as it applies to public roads, bicycle infrastructure, sidewalks, and pathways.	Ongoing	City of Hamilton (Public Works - Parks and Cemeteries)



**Key Priority 7:** Ensure impacts on or improvements to local biodiversity are clearly considered in all municipal decision making related to the development or use of urban and rural lands.



Actions	Timeframe	Lead
7.1 Develop an Open Space Management Plan to guide City of Hamilton natural open space stewardship.	2 – 4 Years	City of Hamilton (Public Works - Parks and Cemeteries)
7.2 Develop and implement Sustainable Building and Development Guidelines.	Ongoing	City of Hamilton (Planning and Economic Development)
7.3 Perform an initial review of Parks Bylaw for areas for improvement from a biodiversity perspective.	1 – 2 Years	City of Hamilton (Public Works - Parks and Cemeteries)
7.4 Incorporate biodiversity in the Non-Public Facing Yards Review as a guiding principle for any new projects.	3 – 5 Years	City of Hamilton (Public Works - Environmental Services, Facilities)
7.5 Consider the Biodiversity Action Plan when initiating City projects and studies, looking for opportunities for mitigation of key threats to local biodiversity.	1 – 2 Years	City of Hamilton, and Community Groups
7.6 Investigate potential for wildlife sweeps and plant salvages ahead of development through consultation with local experts.	3 – 5 Years	Hamilton Naturalists' Club
7.7 Undertake a revision of existing, and compose new Master Plans as needed for Hamilton Conservation Authority owned Conservation Areas and natural areas. Incorporate the protection and enhancement of biodiversity into planned land management activities.	Ongoing	Hamilton Conservation Authority (Capital Projects and Strategic Services)