
LIVING WITH BRAMPTON'S NATURAL HERITAGE SYSTEM (NHS)



BRAMPTON'S NATURAL HERITAGE SYSTEM

To view this map
in detail, visit
brampton.ca/nhs

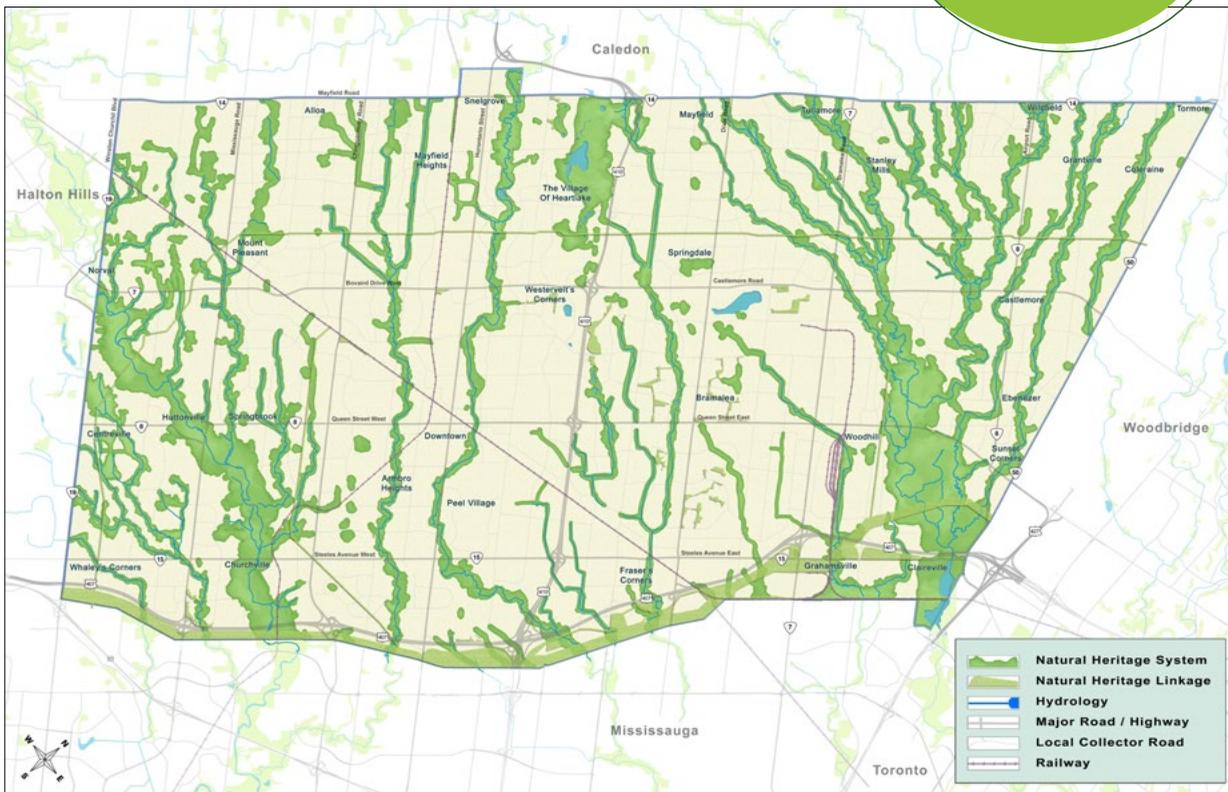




TABLE OF CONTENTS

WHAT IS THE NHS? 2

ECOSYSTEM SERVICES THE NHS PROVIDES 4

STORMWATER AND WATER QUALITY 5

NATIVE SPECIES: PLANTS 6

NATIVE SPECIES: ANIMALS 8

INVASIVE SPECIES 10

HOW YOU CAN SUPPORT THE NHS: AT HOME 12

HOW YOU CAN SUPPORT THE NHS: WHEN VISITING 13

FREQUENTLY ASKED QUESTIONS 14

GLOSSARY 16

WHAT IS THE NHS?

NHS stands for Natural Heritage System; this term is used to describe the network of Brampton's natural features and areas.

The NHS is made up of interconnected forests, watercourses, wetlands, and meadows that are conserved and managed to protect biodiversity and ecological processes. The NHS is everywhere in Brampton, and you will often see these natural features while visiting local parks. The City of Brampton offers a unique living landscape made up of a natural and built environment.

Brampton's forests are part of the Carolinian zone. This zone has more endangered and rare species than any other woodland zone in Canada. That's why it's important to stay on the trail when visiting these places to prevent habitat loss and damage.

**DID YOU
KNOW?**

NHS FEATURES

Woodlands – Areas of land covered in a high quantity of trees, shrubs, and flowers. Woodlands provide homes for plants and animals, reduce flooding, and clean our air. They are great places to relax and be active. Visit Massey Woodland or Springdale Forest by bike!

Valleylands – These areas receive and carry water from headwaters (the source or beginning of a river or stream) through streams to Lake Ontario. They provide habitat for fish, and act as a corridor to allow plants and animals to move between areas. Brampton's three main valley corridors are the Credit River and Fletcher's Creek, Etobicoke Creek, and West Humber River.



Springdale Forest



Etobicoke Creek Trail

Wetlands - There are several different types of wetlands including marshes, swamps, fens and bogs. Wetlands temporarily store and filter stormwater runoff before it enters watercourses, removing pollutants and creating cleaner habitats for local species. Visit Heart Lake Conservation Area to experience a wetland in action!



Conservation Dr. Park Wetland

Watercourses and Lakes - Sun, sports, fishing and beautiful scenery - find it all and more at Brampton's beautiful lakes and beaches! One of Brampton's best-kept secrets is its picturesque lakes and rivers that are home to a variety of aquatic species including the endangered redbreasted dace! To enjoy the many lakes and beaches in Brampton through a self-guided tour visit: www.brampton.ca/lakestour.



Norton Lake

Meadows - Often bursting with colourful wildflowers and alive with the sound of birds and insects, these biodiversity hotspots support wildlife, capture carbon emissions, and help mitigate flooding by storing rainwater. Meadows are a great place to take photos and go for a walk with friends and family. Visit the Cowton Family Meadow and see how many butterflies you can spot!



Cowton Family Meadow

The City of Brampton is actively working to restore natural areas through the Natural Heritage and Environmental Management Strategy

Visit brampton.ca/nhs to learn more!

DID YOU KNOW?



ECOSYSTEM SERVICES THE NHS PROVIDES

Brampton's Natural Heritage System (NHS) provides a wide range of essential ecosystem services, benefiting the city and its residents in various ways:



Biodiversity Support:

The NHS serves as a home to diverse plant and animal species, contributing to biodiversity conservation and maintaining ecological balance.

Carbon Sequestration:

Trees and vegetation help capture and store carbon dioxide, mitigating climate change and improving air quality.

Flood Mitigation:

Wetlands and natural water features within the NHS act as natural sponges, absorbing and storing excess rainwater, reducing the risk of flooding in urban areas.

Water Regulation:

The NHS helps regulate water flow, preventing erosion, maintaining stream health, and replenishing groundwater supplies.

Pollination and Crop Production:

Native pollinators, such as bees and butterflies, thrive in the NHS and contribute to the pollination of plants, including agricultural crops, ensuring food production.

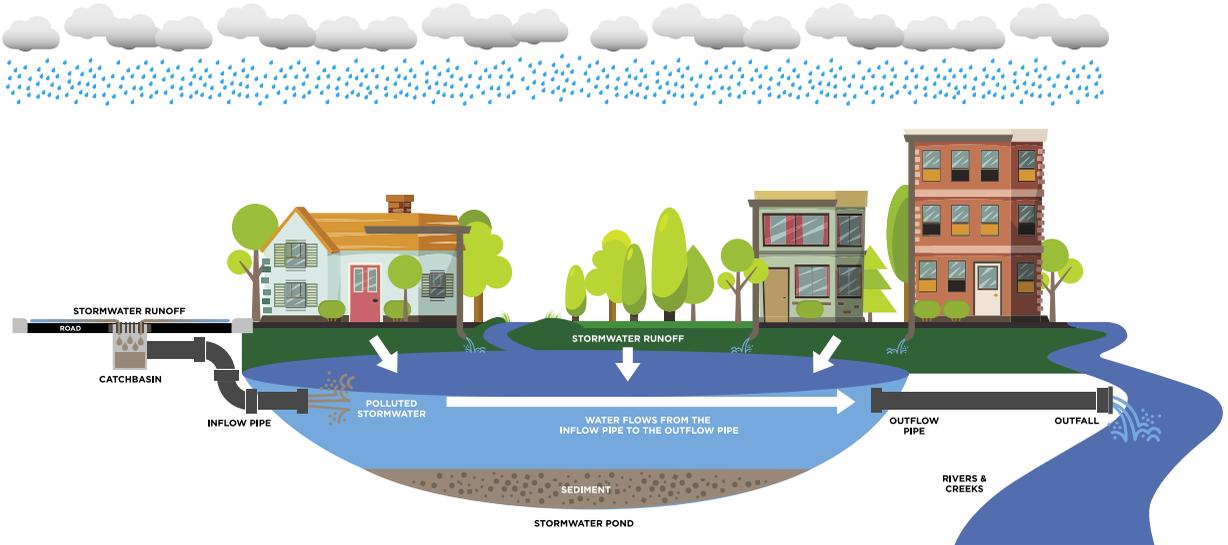
Soil Health and Nutrient Cycling:

The NHS supports healthy soil ecosystems, enhancing nutrient cycling, improving soil fertility, and promoting sustainable agriculture.

Recreational and Cultural Values:

Natural areas offer opportunities for recreation, outdoor activities, and cultural connections with nature, improving overall well-being and quality of life for residents.

STORMWATER AND WATER QUALITY



Stormwater is the rain and melted snow flowing from our properties onto the streets. Stormwater is directed into the City's stormwater drainage system through catchbasins and ultimately into the environment. As the City of Brampton grows, we are seeing more frequent and intense storms due to climate change and more stormwater runoff from roofs, sidewalks, and parking lots in developed areas.

If left uncontrolled, stormwater runoff can cause flooding, erosion, environmental damage, and can impact public safety. It can also carry harmful materials like litter, soaps, fertilizer, road salt, and motor oil that pollute local rivers and creeks that are part of the Natural Heritage System. The runoff that ends

up in these rivers and creeks eventually drains into Lake Ontario, the source of drinking water for the City of Brampton and other municipalities in Southern Ontario.

To protect the water quality of local rivers and creeks, the City of Brampton inspects and maintains over 180 stormwater ponds that have been installed in newer neighbourhoods. Stormwater ponds are engineered infrastructure that help control the flow of water, manage flooding, and improve water quality by temporarily storing and slowly releasing stormwater runoff over time (see above). While the runoff is stored in the pond, sediment settles at the bottom so that cleaner water flows back into rivers and creeks.

NATIVE SPECIES: PLANTS

Brampton's Natural Heritage System is rich in biodiversity. These plants not only create visually stunning landscapes, but they are imperative to support pollinator species, among others. In particular, native trees, flowers, and grasses play a critical role in providing habitats for wildlife, restoring soil, and protecting biodiversity. Native Species are those that naturally exist within a certain area, meaning they were not introduced, either intentionally or unintentionally.



Sugar Maple:

The Sugar Maple tree is a food source for various animals and provides habitats for insects and birds. Its sap is used to make maple syrup.



White Oak:

White Oak trees provide food and habitat for birds, bears, squirrels, and other animals. They offer perching and nesting sites for songbirds and denning sites for raccoons and squirrels.



White Spruce:

The White Spruce tree is a food source for deer, rabbits, birds, and rodents. It has an average lifespan of 250-350 years and sometimes even reaches 1,000 years.



Milkweed:

Milkweed is a crucial species for Monarch Butterfly, as the caterpillars feed exclusively on Milkweed leaves. The flowers also attracts pollinators like bumblebees, moths, and carpenter bees.



Goldenrod:

Goldenrod wildflowers host numerous butterfly and moth species and it provides pollen and nectar for fall pollinators, including Queen Bumblebees. There are various species such as Zigzag Goldenrod and Stiff Goldenrod.



Asters:

Asters are food sources for many butterfly and moth species, including the Pearl Crescent and Monarch Butterflies. They also provide food for pollinators before migration and come in varieties like New England Asters and Swamp Asters.



Black-eyed Susans:

These flowers are a larval host to several moth and butterfly species. They are also a great source of pollen and nectar for bees, some of which, like the Mining Bee, are specialists, collecting only from this species.



Bottle Brush Grass:

Shade-tolerant and adaptable, Bottle Brush grass hosts caterpillars and its seeds provide food for birds. It can be planted alongside Bluestem, Goldenrod, and Large-Leaved Asters.



Little Bluestem:

This grass is drought-tolerant, supports butterflies, and provides food and habitat for birds.



NATIVE SPECIES: ANIMALS

Animals are incredibly important for both the environment and the human population. They play a vital role in maintaining biodiversity through essential functions like pollination, seed dispersal, and population control.



Eastern Coyotes:

Eastern Coyotes, common in urban areas including Brampton, help control populations of small mammals. Visit brampton.ca/coyotes to learn more about coexisting with coyotes.



Common Garter:

Common Garter Snakes, are harmless and found in Brampton. They play a vital role in Ontario's ecosystem by controlling rodent and insect populations.



Redside Dace:

Redside Dace, an endangered species in the GTA, are impacted by the removal of vegetation along streams, which affects their food supply, riverbank stability, and water temperature.



Monarch Butterfly:

Monarch Butterflies rely on Milkweed plants for egg-laying and nectar sources. Habitat degradation poses a significant threat to their survival.



Midland Turtle:

Midland turtles, identified by their red or orange markings, face population decline in Ontario due to habitat loss and fragmentation, predation, and road accidents.



Bumble Bees:

Bumble Bees, crucial native pollinators, contribute to our ecosystem and play a vital role in crop production. Habitat loss has resulted in a decline in bumble bee populations.



Eastern Screech Owl:

Eastern Screech Owls are small owls with brown feathers and yellow eyes that help them blend into wooded areas. They are active at night and known for their pleasant trilling sound.



Little Brown Myotis Bat:

The Little Brown Myotis Bat is the most common bat species in Canada, often roosting in human-made structures. Threats include disturbances and White Nose Syndrome, a fungus that affects hibernation.



Northern Leopard Frog:

The Northern Leopard Frog is characterized by its distinctive green or brown coloration with dark spots. This species is commonly found in wetlands and grasslands across North America.



Brown Rats:

The Brown Rat, builds intricate tunnel systems below ground surfaces. These tunnels contribute to healthier soil and plant growth by allowing for better airflow and nutrient distribution in the ground. Brown Rats serve as a food source for owls, hawks, and snakes.



Eastern Chipmunk:

Eastern Chipmunks inhabit deciduous forests and urban parks, preferring rocky areas with brush, logs, and shrubs. They have diverse diets and face predation from hawks, owls, foxes, snakes, and coyotes.



Canada Geese:

Canada Geese thrive in urban areas due to ample food and few natural predators. They are commonly found in parks and near freshwater sources and are protected under the Migratory Birds Protection Act. They help to disperse seeds and provide nutrients to natural areas.





INVASIVE SPECIES

Invasive species refers to non-native plants or animals that are introduced into a new ecosystem, often by human activities, which can rapidly spread and negatively impact the native species and their habitats. These species can outcompete native species for resources, disrupt ecological balance, and cause economic and environmental harm.



Common Buckthorn

Impacts:

- Forms dense thickets that shade out native plants
- Alters nitrogen levels in the soil discouraging the growth of native species
- Hosts oat rust, a fungus that affects the yield and quality of oats, and the soybean aphid, an insect that damages soybean crops



Garlic Mustard

Impacts:

- Can invade undisturbed forests and displace native wildflowers
- Discourages native plants by interfering with the growth of fungi which brings nutrients to the roots of plants
- Threatens several of Ontario's species at risk, including American ginseng



Japanese Knotweed

Impacts:

- Spreads quickly, creating dense thickets that degrade wildlife habitats
- Reduces plant biodiversity by competing with other native vegetation
- Aggressive with a strong root system that can break through asphalt and concrete



Phragmites

Impacts:

- Crowds out native vegetation, decreasing plant biodiversity
- Provides poor habitat and food for wildlife
- Grows very quickly lowering water levels by using more water than native plants



Spongy Moth

Impacts:

- Defoliates and kills large amounts of trees, which to replace, could mean a large economic burden on cities or businesses
- Caterpillars may completely strip a canopy, depending on age and population size



Asian Carp

Impacts:

- Competes with native species for food and habitat
- Uproots plants and disturbs sediment which causes water to become cloudy, slowing the growth of aquatic plants



Goldfish

Impacts:

- Competes with native species for food and habitat
- Stirs up mud when feeding, increasing the cloudiness of the water, slowing the growth of aquatic plants
- Potential to produce large populations in stagnant waters with few predators

WHAT YOU CAN DO TO PREVENT THE SPREAD OF INVASIVE SPECIES

- Educate yourself on identifying and managing invasive species. Visit invadingspecies.com for more information.
- Utilize apps like Seek by iNaturalist for species identification.
- Avoid using invasive plants in landscaping and opt for native alternatives from garden centers suppliers.
- Properly dispose of invasive plants in the garbage, to prevent seed production.
- Minimize the spread of invasive plants while hiking by sticking to trails and keeping pets leashed.

REPORT SIGHTINGS OF INVASIVE SPECIES TO THE INVADING SPECIES HOTLINE AT 1-800-563-7711 OR THROUGH EDDMAPS.ORG

HOW YOU CAN SUPPORT THE NHS: AT HOME

Protect Water Quality

- Never dump or wash chemicals, oil, dirt, or polluted water into catchbasins, ponds, ditches, creeks, or rivers. Properly dispose of household hazardous waste at designated waste disposal sites in Brampton.
- Wash your car at a commercial car wash when possible, and dispose of polluted water from washing your car at home in the sink or toilet so that it gets treated.
- Be mindful of the amount of road salt you use in the winter, as excess salt can pollute waterways.

Support Wildlife

- Store garbage and compost in animal-proof containers or bins.
- Clean up seeds on the ground around bird feeders.
- Leave fallen tree branches and dead trees where they are if possible. These materials provide important nutrients for soil and are a source of food and shelter for wildlife.

Plant Native Species

- Take a more naturalized approach to the design of your yard to attract birds, butterflies and other wildlife.
- Plant native trees, shrubs, and flowers. Native species increase biodiversity, provide food and shelter for wildlife and require less watering and maintenance than non-native species.
- Avoid using toxic chemicals, herbicides, or pesticides to control plants. Choose eco-friendly options like vinegar mixed with dish soap instead.

Manage Invasive Plants

- Stop the spread of Invasive species by removing them before they become established or go to seed. Dispose of all invasive species in the garbage, do not include as yard waste.
- Do not dump yard waste or compost material in natural areas, as this spreads invasive species. Instead, use the Region of Peel's green bin and yard waste collection programs.



HOW YOU CAN SUPPORT THE NHS: WHEN VISITING

Leave Nature Alone

- Do not feed wildlife, human food is harmful to their health and discourages animals from finding their own food sources.
- Do not prune or remove branches from trees, as this can harm trees and hinder forest regeneration.
- Do not disturb or capture small creatures like frogs, salamanders, and butterflies. Enjoy seeing them in their home, not yours.

Avoid Encroachment

- Encroachment occurs when residents utilize natural areas improperly or for private uses such as extended landscaping. Residents that encroach on natural areas deteriorate the quality of the NHS. Encroachment is prohibited in Brampton and may lead to fines.

Stop the Spread

- When leaving a natural area remove plant matter that is on you or your belongings to stop the spread of invasive species.
- Prevent the spread of harmful pests by not taking or moving wood, branches and plant matter.

Leave No Trace

- **Don't litter. Properly dispose of all waste in bins provided or by carrying it out with you.**
- **Clean up pet waste and keep them leashed. If allowed to run loose, pets can trample the vegetation and harm birds or other small animals.**
- **Don't create new trails. Additional trails cause damage to the NHS, spread invasive species, and disturb native species.**



FREQUENTLY ASKED QUESTIONS

Q What can I do about the rodents and nuisance animals attracted to my property because of natural areas?

A Animals leave their natural habitat to search for food. Keep garbage and compost stored properly and clean up seed spills from bird feeders to discourage animals from coming to your property.

Q I have seen a coyote near my property, what should I do?

A Incidents of coyotes attacking people are very rare. In all known cases of coyote interactions with people, the animals had lost their fear of humans because people were feeding them. Do not feed the coyotes to ensure that they do not become comfortable around people. Visit brampton.ca/animalservices to access information about coyote sightings in Brampton or submit a sighting. If you see a sick or injured coyote, contact Animal Services by calling 311.

Q Will weeds spread from natural areas onto my property?

A There are many benefits of living next to natural areas. The migration of plant species from natural areas is a healthy process that is part of living next to and coexisting with nature.



Chinguacousy Trail

Q What about my allergies?

A Natural areas can impact allergies due to the presence of pollen and other airborne allergens. Climate Change can actually influence the severity and duration of allergy season due to factors like increased pollen production and longer growing seasons. Since warmer weather signals plants to bloom earlier, pollen seasons are starting earlier and lasting longer.

Q The natural area behind my property looks messy

A Immature natural areas may look messy until they have had time to develop into mature woodlands. However, these areas still provide many benefits including wildlife habitat and food sources.



Q Leaves, pollen and plant matter from trees are falling into my yard. Can the City remove the trees?

A No, the City will not remove trees from neighbouring public land, unless it poses an immediate risk to property or people (e.g., falling, dead or dying trees). It is important to understand that natural processes such as leaf litter, seeing wildlife, and other by-products are a natural result of living next to, and with nature. Trees are important for their role in fighting climate change.

Q What should I do with yard & garden waste?

A Properly dispose of your yard waste through the Peel Region yard waste collection program and your green bin. It is illegal to dump yard waste in natural areas or water bodies as it can harm the environment.

Q What are the consequences of encroaching into natural areas?

A Extending lawns past property boundaries into natural areas, destroys diverse habitat and reduces biodiversity. Encroachment is prohibited and will result in a penalty from Brampton By-Law services.

If you see anyone harming or disrupting the NHS through illegal dumping, cutting trees or throwing yard waste over their fence, report the action to by-law immediately by calling 311.

DID YOU KNOW?



Loafers Lake

GLOSSARY

Biodiversity

All living things and the ways they interact with each other and their environment.

Ecosystem

A community of organisms and the physical environment they inhabit and depend on, functioning as a unit.

Ecosystem Services

The benefits provided by the natural environment. This includes flood control, soil retention, water purification, improved air quality, pollination, climate change mitigation and the provision of wildlife habitat, forest and freshwater foods, and places for outdoor recreation and activities.

Natural Areas

Lands that are protected by the city that contain natural heritage features, such as woodlands, valleylands, wetlands, lakes, rivers, ponds, and meadows.

Natural Heritage System

The network of Brampton's natural features and areas, including woodlands, valleylands, wetlands, lakes, rivers, ponds, and meadows. The NHS provides benefits and vital services to the City and its residents, such as cleaning our air and water, maintaining biodiversity, reducing flooding, providing recreational opportunities, and absorbing and storing greenhouse gas (GHG) emissions.

Naturalization

A process by which alternative land management practices encourage the regeneration of an ecosystem.

Pollinator

Pollinators are insects or animals that carry pollen from the male part of the flower (stamen) to the female part of the same or different flower (stigma). The movement of pollen must occur for the plant to become fertilized and produce fruits, seeds, and young plants.



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**Invasive
Plants**

Learn more about how you can get involved
in supporting Brampton's Natural Heritage System.

Visit brampton.ca/growgreen

