

# Heart Lake Road Ecology Monitoring Project

## 2025 Report

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## Project Overview

The Heart Lake Road Ecology Monitoring Project (HLREMP) was relaunched in June of 2025 as a collaborative, community-based initiative between the City of Brampton and TRCA, with support from the Heart Lake Turtle Troopers (HLTT), to monitor and enhance turtle nesting sites along a segment of Heart Lake Road in Brampton. This project centers community stewardship and education in efforts to support turtle conservation in the GTA. Volunteers registered and trained by TRCA will work, with support from the HLTT, to collect data on turtle observations, nesting sites, and mortality, while taking the appropriate measures to protect identified nesting sites.

Beyond turtle species, the HLREMP collects road mortality data for all wildlife using the monitored segment of Heart Lake Road, including mammals, reptiles and amphibians, and birds, and observations on the integrity of the exclusion fencing, which was installed nine years prior. The results from these observations provide insight into how wildlife interact with Heart Lake Road, the effectiveness as well as update on fence repair needs.

## Objectives

- Expand ongoing partnerships between TRCA’s Community Stewardship Program (CSP) and the City of Brampton
- Develop a turtle monitoring protocol that adheres to the Health and Safety standards of the involved municipalities and the TRCA
- Deliver educational, community-oriented monitoring programming through the CSP that contributes to a collaborative goal of turtle conservation
- Utilize collected data to adapt and expand road ecology measures, such as traffic calming implements, wildlife directional fencing and eco-passages
- Maintain public awareness of the program through communication campaigns to garner and maintain public awareness and support

## Deliverables

The Road Ecology Monitoring Project deliverables for the two monitoring areas are outlined below in table 1.

*Table 1. Project deliverables for the current approved monitoring sites in the City of Brampton.*

CITY OF BRAMPTON		
Site Name	Monitoring Activities	Activity Area Extent

Heart Lake Road (South of Countryside)	<ul style="list-style-type: none"> <li>• Making wildlife observations and recording on Survey123 application</li> <li>• Monitoring activities will only be conducted by trained volunteers and/or TRCA staff during pre-scheduled shifts (Monday, Wednesday, and Friday from 9 am – 11 am), and not in low light conditions, rain, thunder or high winds, where weather conditions inhibit safety while on or near the roads</li> <li>• Monitoring activities will only occur with the supervision and direction of Brampton Roads staff</li> <li>• Installing turtle nest protectors on confirmed nesting sites within the approved areas</li> <li>• Ensuring use of proper PPE appropriate for the assigned tasks</li> <li>• Completing and submitting a daily safety form</li> <li>• Following specified roadside procedures</li> </ul>	Heart Lake Road from Countryside Drive south to Sandalwood Pkwy E
Heart Lake Road (North of Countryside)	<ul style="list-style-type: none"> <li>• Making wildlife observations and recording on Survey123 application</li> <li>• Monitoring activities will only be conducted by TRCA staff during daylight hours, between 8am-6pm, and not in low light conditions, rain, thunder or high winds, where weather conditions inhibit safety while on or near the roads</li> <li>• Installing turtle nest protectors on confirmed nesting sites within the approved areas</li> <li>• Ensuring use of proper PPE appropriate for the assigned tasks</li> <li>• Completing and submitting a daily safety form</li> <li>• Following specified roadside procedures</li> </ul>	Heart Lake Road from Countryside Drive north to Mayfield Road

## Project Implementation

### Preparation

In April 2025, a storage box was constructed and delivered by the City of Brampton to Heart Lake Conservation Park to house materials for the HLREMP (figure 1). The storage box was reinforced by TRCA staff with sealant, application of a natural rodent deterrent, and steel wool to prevent further rodent activity or entry. In preparation for the project and monitoring season, the storage box was equipped with high-visibility safety vests, reptile and amphibian identification guides, a collapsible trolley, dust pans and paint scrapers to remove road mortalities, a shovel, garbage pickers, garbage bags, hand sanitizer,

sunscreen, bug repellent, turtle nest protectors, stakes and flags for installation, natural rodent deterrent, and the appropriate MSDS for all materials.

For the security of all materials and the integrity of the box, additional latches were installed, and a combination lock was added, to which all trained volunteers were provided with the code for entry.



*Figure 1 Storage box constructed by the City of Brampton for storage of HLREMP materials.*

Prior to the start of the monitoring season in June, TRCA staff and HLTT executives walked the monitoring route between Countryside Dr and Sandalwood Pkwy E, adding numbered tags to the exclusion fence at an interval of 10 panels. These tags were recorded using a handheld GPS unit and mapped for future reference and training purposes (appendix A). Project volunteers were trained to record the tag numbers to provide a spatial reference for exclusion fencing damage, and subsequently to provide City of Brampton staff with precise panels requiring repair.

## Speed Reduction Signs

In early June, two signs were installed on Heart Lake Road at Countryside Dr and Sandalwood Pkwy E providing notice to drivers of monitoring activity on the roads (figure 2).

These signs encourage drivers to slow down during the monitoring season when volunteers would be most active, and also with consideration to the increased wildlife passage and road usage.



*Figure 2 The design for the speed reduction signs installed along Heart Lake Road for the monitoring season.*

## Volunteer Recruitment

Volunteers for the HLREMP were recruited on TRCA's Better Impact volunteer portal. Recruitment for the HLREMP began in May, prior to the initial training session in early June. The opportunity was presented first to the trained Turtle Nest Monitoring volunteers, who previously received training in turtle identification, nest protection, and nest monitoring, all delivered and supported by the HLTT. These trained volunteers comprised the first cohort in June.

Prior to the second round of training in August, the HLREMP opportunity was also made available more generally to the wider TRCA volunteer network through the internal and external opportunity posting on the volunteer portal. The second cohort of volunteers consisted of a mix of trained HLTT volunteers and new volunteers.

## Volunteer Training

Volunteer orientation and training for the HLREMP occurred over two distinct sessions, the first of which occurred on June 2<sup>nd</sup> and the second on August 15<sup>th</sup>. Over the course of these two training sessions, 27 volunteers were trained in preparation for the HLREMP. Support from senior and executive HLTT members supplemented turtle-specific training and questions regarding nest protector installation and monitoring.

At the June session, occurring at the start of the monitoring season, City of Brampton Public Works staff were in attendance to support the delivery of the Safe Work Procedure, and to provide a walk-through of the monitoring route.



*Figure 3 The HLREMP volunteer monitoring route, where the pin at the starting point is the Heart Lake Conservation Park entrance at Heart Lake Road.*

The August training session was supplementary and opened the HLREMP opportunity to new volunteers. This session occurred during construction on Heart Lake Road and thus was confined to the boundaries of Heart Lake Conservation Park. Volunteers were provided with a diagram to illustrate the monitoring route (figure 3), which was accessible exclusively during the temporary Sunday monitoring shifts. The pivot to the volunteer monitoring schedule is addressed in more detail in the challenges section of this report.

In both the June and August training sessions, orientation topics were as follows:

- a. Overview of the HLREMP and volunteer role
- b. Safe Work Procedure
- c. Monitoring protocol, both within and beyond permitted areas
- d. Protocol for managing road mortalities
- e. Protocol for reporting precarious turtle nests
- f. Survey123 training for data entry
- g. Storage box
- h. Monitoring route demonstration or walk-through

The training materials a-d are outlined in detail in appendix B.

## Methods

### South Heart Lake Road, Countryside Drive to Sandalwood Parkway E

Volunteer monitoring shifts for the HLREMP Road began on June 2<sup>nd</sup> and ended on November 14<sup>th</sup> and were scheduled weekly, except during the modified construction schedule. Volunteers registered for their respective shifts on the Better Impact volunteer portal, managed by TRCA volunteer administrators. A minimum of two volunteers were required per shift, with a maximum allowance of four volunteers. On the regular schedule, volunteers monitored Heart Lake Road from Countryside Drive to Sandalwood Parkway E every Monday, Wednesday, and Friday from 9am-11am, with the accompaniment of City of Brampton Public Works staff. The decision to include City of Brampton Public Works staff was decided by the City of Brampton in response to the heavy traffic and road usage on Heart Lake Road, a near miss experienced by TRCA staff during the planning phase of this project, and the inherent risk of a volunteer role situated on an active road. As a preventative measure and additional safety precaution, City of Brampton staff parked vehicles with hazard lights on Heart Lake Road at Countryside Dr and Sandalwood Pkwy E to alert oncoming traffic of road activity. Brampton staff walked with the volunteers for the entire monitoring route, with one staff member leading and the second staff member following behind the volunteers.

Volunteers began their shifts by loading all required materials from the storage box into the provided trolley, and meeting Brampton staff at the entrance of Heart Lake Conservation Park. Volunteers and Brampton staff walked the same monitoring route (figure 3) every shift, beginning and ending at the park entrance.

During a scheduled shift, volunteers would record any observations, including road mortalities, live wildlife observations, turtle nests, evidence of hatchlings or predated eggs, and exclusion fencing damage on the Survey123 application. Survey123 is a desktop and mobile application powered by ESRI used to record and track observations for the HLREMP. An existing survey from the grandfathered HLREMP was reintroduced for the 2025 monitoring season.

Following each shift, volunteers would perform a 15-minute traffic count from the safety of their vehicles or the park entrance. Assisted by an analog tally counter, volunteers would count each vehicle passing the Heart Lake Conservation Park entrance within the 15-minute survey period. Observations and the final tally were recorded in Survey123 at the end of each monitoring shift. The traffic count provides additional information on the use of Heart Lake Road.

## North Heart Lake Road, Countryside Drive to Mayfield Road

Monitoring of Heart Lake Road from Countryside Drive to Mayfield Road was conducted by TRCA staff twice a month on Friday mornings, beginning on June 30<sup>th</sup> and ending on November 14<sup>th</sup>. Staff traveled by vehicle on Heart Lake Road from Countryside Drive north to Mayfield Road, and back south to Countryside Drive (figure 4). One staff member walked with high-visibility clothing for stretches of the road with shoulders wide enough to have a safe buffer from traffic.

As with the volunteer monitoring shifts, staff would record any observations on the Survey123 application. On this northern stretch of Heart Lake Road, exclusion fencing has not been installed, and thus fence damage was not included in the monitoring protocol.



*Figure 4 The HLREMP monitoring route for the northern segment of Heart Lake Road, from Countryside Dr to Mayfield Rd.*

Following each shift, TRCA staff would perform a 15-minute traffic count from the safety of their vehicles or the park entrance. Assisted by an analog tally counter, staff would count each vehicle passing the Heart Lake Conservation Park entrance within the 15-minute survey period. Observations and the final tally were recorded in Survey123 at the end of each monitoring shift. The traffic count provides additional information on the use of Heart Lake Road.

## Protocol for Reporting Exclusion Fence Damage

Volunteers also monitored and reported damage to the exclusion fencing on the Survey123 platform. In reference to the fence tags (appendix A), volunteers would record the nearest tag number, the number of panels damaged, and a description of the damage. TRCA staff would summarize these results and communicate them to City of Brampton staff for repair.

## Results

### Wildlife Observations

A total of 147 wildlife observations were recorded throughout the monitoring season, including both live and deceased. Most observations were recorded to the familial level, with some identifications down to species. The total observations include both live and deceased wildlife recorded by volunteers and TRCA staff. All recorded observations are detailed in appendix C and mapped in appendix D.

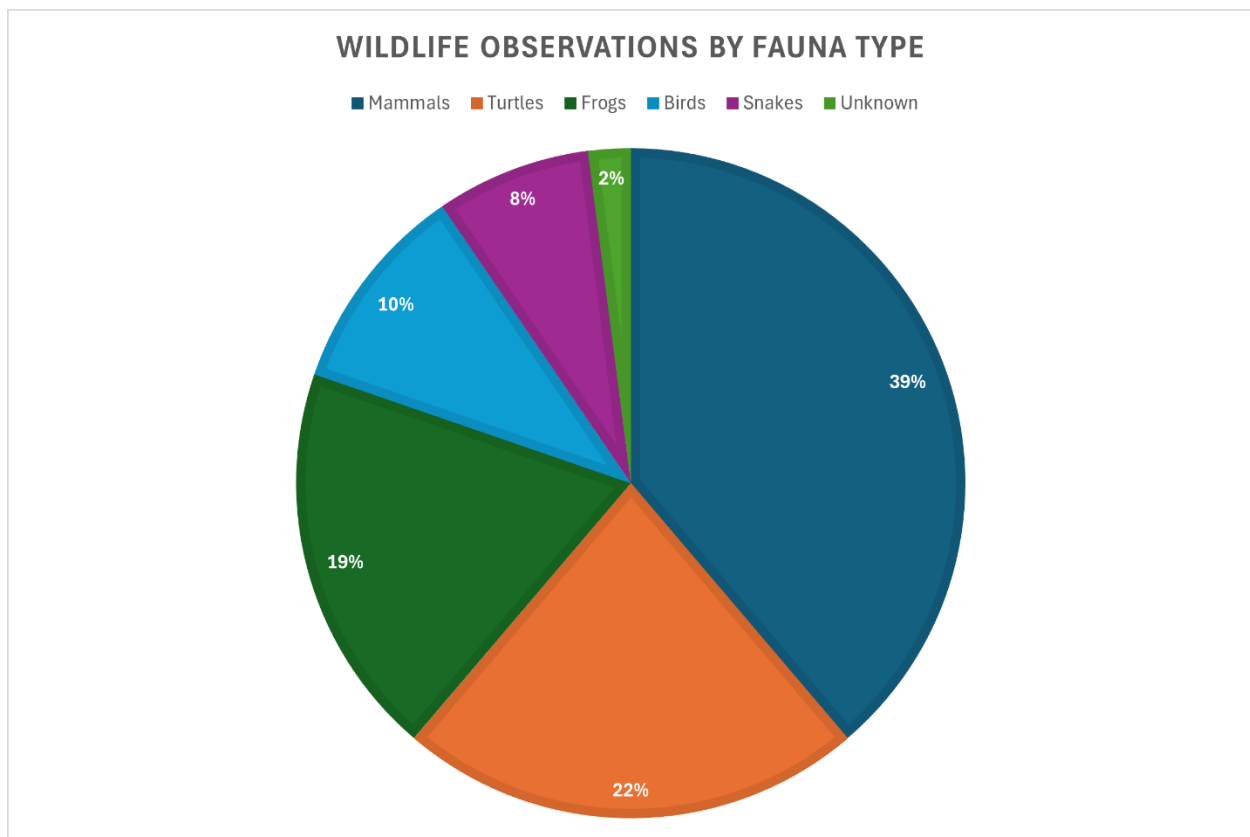


Figure 5 All wildlife observations by fauna type, as observed by monitoring volunteers and TRCA staff.

The wildlife observations by fauna type are summarized in figure 5. Mammals were amongst the most reported fauna type along both monitoring segments of Heart Lake Road. The most recorded mammal species, both alive and dead, was the Gray Squirrel (*Sciurus carolinensis*).

Turtles were the second highest recorded fauna type. Nearly half of the observed turtles (48%) were found deceased on the road or on the shoulder. All Midland Painted Turtles

(*Chrysemys picta*) recorded as alive were observed off-road, beyond the exclusion fencing and in the surrounding wetlands. Figure 6 summarizes all recorded turtle observations by species. Of the recorded observations, 6% were hatchlings, 18% were juveniles, 54% were adults, and 21% were unknown.

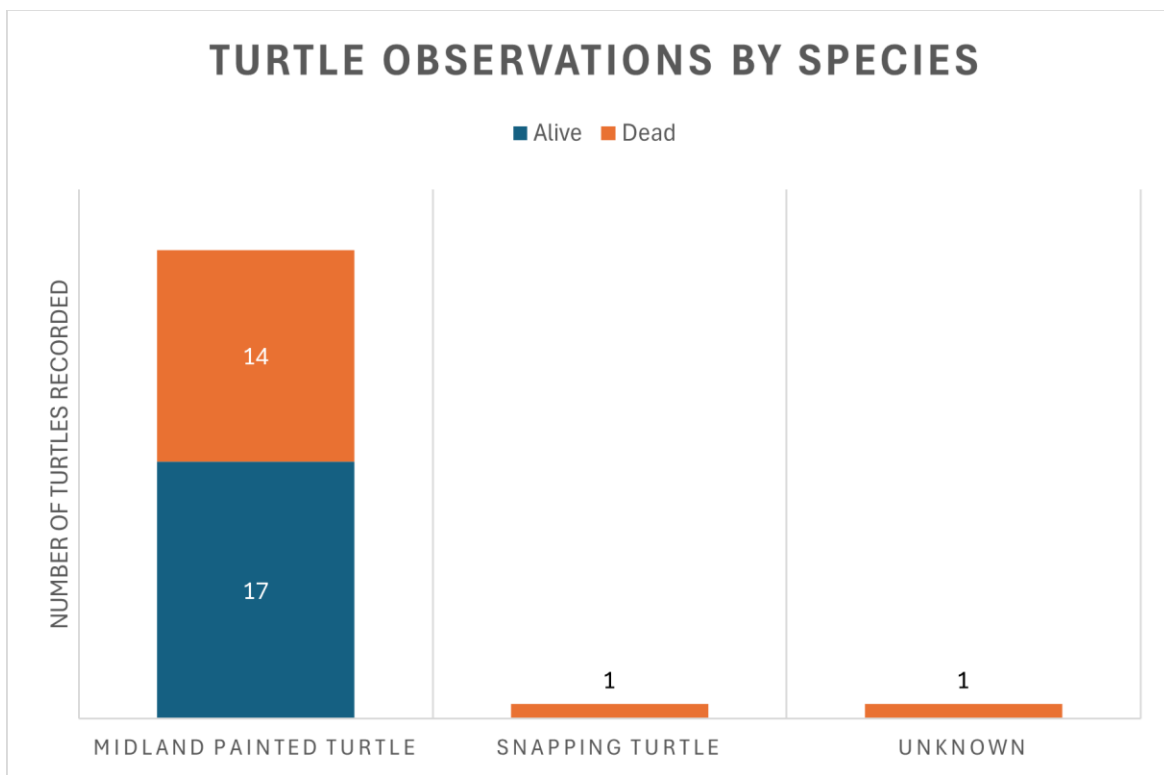
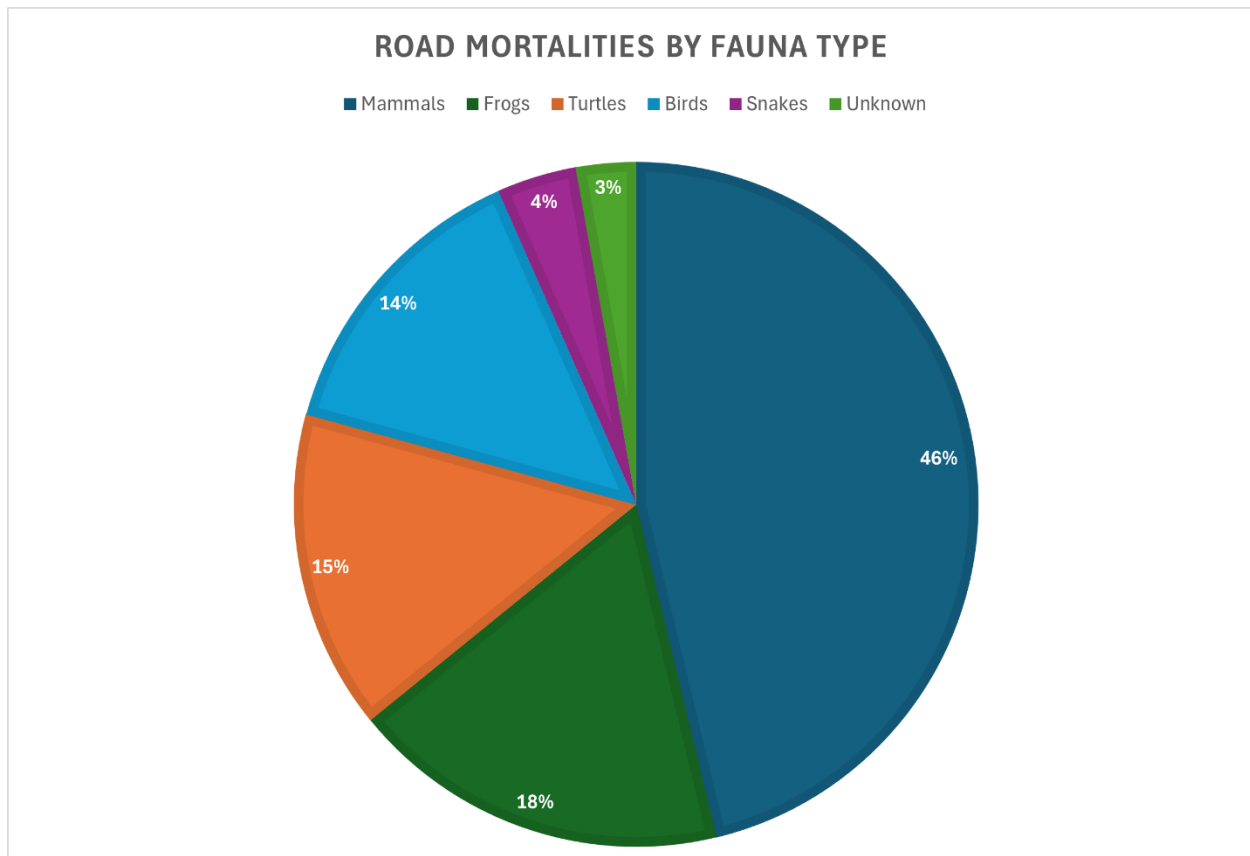


Figure 6 The number of recorded turtle observations by species.

## Wildlife Vehicle Collisions

Mortalities caused by Wildlife Vehicle Collisions (WVCs) dominated the observations collected by both volunteers and TRCA staff. A total of 106 mortalities were reported, with mammals being the most impacted by WVCs (figure 7). Species identification of WVCs was less certain or reliable, depending on the severity of the collision or the duration of time between collision and observation. Of the mammal mortalities, 21% were labelled as unknown, due to the severity of the collisions, predation or time elapsed since the collision occurred. Despite this, mammal mortalities proved to be the easiest to identify, as they remained intact for longer than their herpetofauna or ornitofauna counterparts. Gray Squirrels (*Sciurus carolinensis*) were amongst the highest reported mortalities (24.5%).

Frog, toad, and snake mortalities proved to be challenging to identify, depending on the time elapsed since the collision. These animals would quickly dry up, especially in the warmer months of the season, making it difficult to identify down to the species level.



*Figure 7 Percentage of Wildlife Vehicle Collision mortalities by fauna type, as observed by monitoring volunteers and TRCA staff.*

## Turtle Nests

While volunteers and TRCA staff monitored Heart Lake Road for turtle nests, none were recorded up until November 7<sup>th</sup>. During the second last monitoring shift, two predated turtle nests were found on the eastern side of Heart Lake Road, less than 30 meters north of Highway 410. TRCA staff and a volunteer observed a hole dug at each nest and fragments of eggs scattered (figure 8).



*Figure 8 Predated turtle nest observed on South Heart Lake Road monitoring route.*

## Traffic

The results from traffic counts completed during this project are summarized in figure 9. The highest number of vehicles was observed in the month of July, with a total of 1,176 recorded. Total traffic counts plateaued between the months of August and November, with the limitations imposed by the construction along Heart Lake Road. Traffic counts remained a component of the monitoring shift, however fewer shifts were delivered at this time, and traffic was bottlenecked with the reduction of the road to one lane for both directions of traffic. Despite construction complications, an average of 143 vehicles per 15-minute count was observed. Further monitoring would be required to provide greater insight into the use of Heart Lake Road.

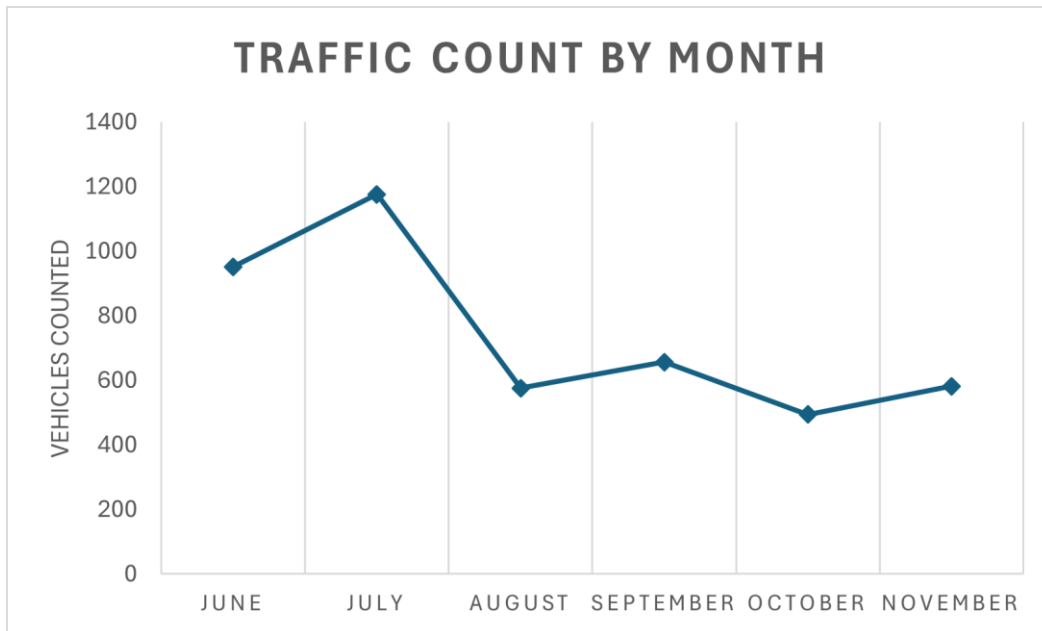


Figure 9 Vehicles counted within a 15-minute time period throughout the monitoring season.

## Volunteer Monitoring Efforts

During the two orientation sessions, a total of 27 volunteers received training on the protocols and tasks for the HLREMP. From this group that received training, approximately 57% (15 volunteers), returned for at least one monitoring shift. Over the course of the project, 41 volunteer monitoring shifts were scheduled, accounting for the disruption caused by construction. Of these 41 shifts, 70% were actualized in the field. Volunteers logged a total of 192 hours between the start of the season in June to the final shift in November.

A lack of interest and availability was observed with the introduction of Sunday monitoring shifts during the period of construction, and the disinterest coupled with the reduction in monitoring frequency resulted in a significant loss of data throughout August, September and October. Monitoring shifts during this time were cancelled due to lack of volunteer availability and insufficient numbers of volunteers to safely proceed with the shifts. Volunteer efforts and dedicated hours throughout the monitoring season are summarized in figure 10.

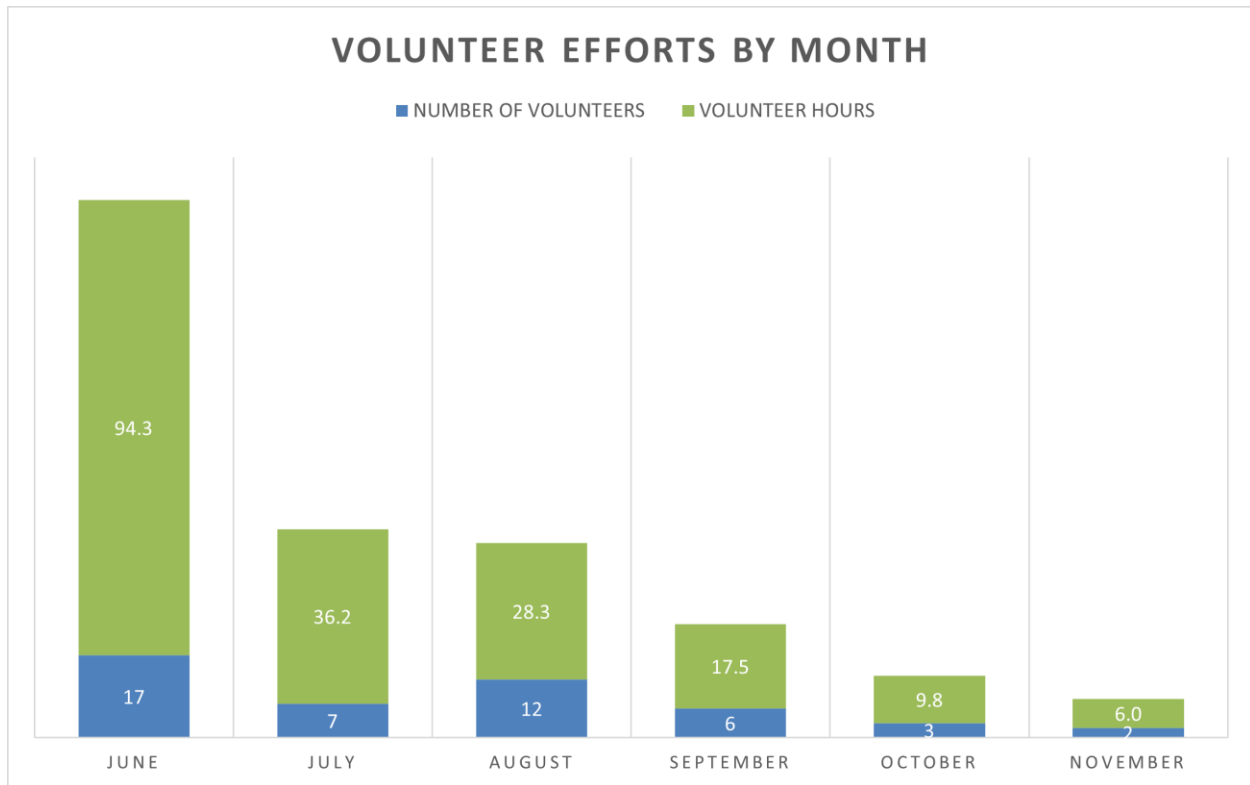


Figure 10 Volunteer efforts by month, where the green bar represents the number of hours contributed, and the blue bar represents the number of volunteers responsible for these efforts.

## Exclusion Fence Repairs

Repairs to the exclusion fencing were completed by City of Brampton staff twice during the project. The first round of repairs was completed on July 23<sup>rd</sup>, and included patching damaged sections of fence, using gravel to fill gaps between the fence and ground caused by wash out, and extending the exclusion fencing another 30ft towards Sandalwood Pkwy E. The second request for repairs was submitted in late August, however due to construction on the road, City of Brampton staff could not safely access the road or fencing to complete the repairs. Once construction had concluded and more fence damage data had been collected by volunteers, the second round of repairs were completed by City of Brampton staff on November 4<sup>th</sup>.

## Study Challenges and Limitations

### Street Sweeping

On June 4<sup>th</sup>, TRCA staff were informed about a street sweeping vehicle clearing the monitoring route on Heart Lake Road. Concerns were raised about the quality of data that would result of this disruption, and TRCA staff worked with City of Brampton staff to find a solution. The schedule of the street sweeper was quickly adjusted to avoid the 9am-11am monitoring shifts, however this practice was still mandated by nearby development and occurred outside of the volunteer shifts.

While the schedule was adjusted to accommodate for monitoring, street sweeping may still have influenced the quality of data captured throughout the monitoring season in ways that were not measured by the HLREMP. Street sweeping may have removed evidence of wildlife vehicle collisions, and as a result, those potential WVC's could not be recorded.

### Heart Lake Road Construction

Construction on Heart Lake Road began in early August and affected the southern monitoring route, between Countryside Dr and the Heart Lake Conservation Park entrance. In response to the construction, the volunteer monitoring schedule pivoted for the safety of volunteers and the limited access to the road that resulted. Throughout most of the month of August and the entirety of September and October, HLREMP volunteer monitoring shifts were held exclusively on Sundays from 9:30am-11:30am. Weekday monitoring shifts did not resume until the final week of the field season on Monday, November 3<sup>rd</sup>.

While it was fortunate that the option to pivot was available, the construction complicated the monitoring protocol and quality of data being captured. The exclusion fencing between tags S00651-S00661 (appendix A, Map C) was removed during construction and had not been replaced by the end of the monitoring season. Of particular concern is the section of removed fencing surrounding the northern wildlife passage (figure 11).



*Figure 11 Wildlife culvert passage exposed, allowing wildlife to bypass and cross the road.*

The fencing intended to direct wildlife into the concrete passage has not been replaced, making this tool ineffective and posing threats to the safety of wildlife using the road. The sediment fencing installed in place of the wildlife fencing had been punctured in several places, creating gaps for wildlife to pass through and cross Heart Lake Road.

Furthermore, the construction caused undue damage to some of the existing wildlife fencing, with several panels damaged due to improperly discarded silt socks (figure 12).



*Figure 12 Improperly discarded silk sock causing damage to the exclusion fencing.*

The construction work generated misrepresentative data by altering the flow of traffic and reducing the frequency of monitoring shifts. For much of the construction duration, Heart Lake Road was reduced to one lane, which resulted in significantly lower traffic counts. With the reduction of traffic and loss of 66% of volunteer shifts, fewer road mortalities and wildlife observations were collected.

The available data do not allow us to determine whether the observed reductions in mortality rates resulted from decreased traffic volumes or from the reduced number of monitoring shifts, which substantially limited our ability to document mortalities. In addition, the frequency of street sweeping conducted during the construction period remains unknown and may represent an additional source of uncertainty.

## Exclusion Fence Integrity

The age and integrity of the existing exclusion fencing was a challenge during the monitoring season. Reports of fencing damage received from volunteers were compiled throughout the monitoring season and communicated to City of Brampton staff for repair. While repairs along the southern stretch of fencing were completed on two separate

occasions, all repairs were halted during the period of road construction, as the fence could not be accessed. During these three months, which coincided with the critical timing when many hatchlings are emerging, the integrity of the exclusion fencing was impacted at numerous sections along the monitoring route. Some of the most frequently reported damage resulted from wash out following rain events, which created gaps between the gravel and the base of the fencing. Wildlife had numerous opportunities to access the road during the period of construction.

Independent of the construction work, the fencing showed evidence of wear and deterioration along the entire monitoring route. There are many segments of fence that have lost the necessary overhang, enabling wildlife to easily cross the road. Sections of fence bordering wetlands, especially near Countryside Dr, are experiencing overgrowth of vegetation, allowing wildlife to easily cross over the fencing. Numerous sections of the fence contain temporary repairs that are deteriorating. Substantial portions of the exclusion fencing require maintenance to remain functional and provide effective protection for wildlife.

## Paper Wasp Nests

In late July, two Paper Wasp (*Polistes spp.*) nests were found in the storage box by TRCA staff. The first, more mature, nest had been built on a turtle nest protector. The second nest, caught in the beginning stages of construction, was found hanging from the top of the storage box. The wasps were active and present in both nests (figure 13).



*Figure 13 Paper Wasp nests in the HLREMP storage box. The more mature nest is pictured on the right, and the newer nest is on the left.*

The nests were promptly dealt with by TRCA staff. The more mature nest was relocated by transporting the attached turtle protector into a safe location within the neighbouring forest. The nest protector was retrieved in November, at the end of the monitoring season. The smaller nest was treated chemically and disposed of in the appropriate disposal site at Heart Lake Conservation Park. For the health and safety of the volunteers, two monitoring shifts were cancelled during the removal and treatment phase as a preventative measure.

Following removal, the storage box was treated with a vinegar solution to counteract the wasp pheromones that may have persisted. On a subsequent date, an over-the-counter wasp deterrent was applied to the entirety of the storage box, with a particular focus on the openings around the doors. These methods were effective at preventing the return of wasps.

## Recommendations

### Earlier Start in Monitoring Season

To support volunteer engagement and minimize the interval between recruitment and monitoring activities, we recommend beginning the monitoring season in April, rather than June. Volunteer interest typically increases in late winter and early spring, with the beginning of our field season. Aligning the project start date with this period will reduce the delay between recruitment and orientation, thereby helping to sustain volunteer interest and build momentum.

Given the heightened turtle activity in April and May, establishing routine monitoring during this period is essential for documenting turtle nesting observations and implementing appropriate protection measures. Additionally, because monitoring and maintenance activities are limited during the winter months, early spring monitoring would facilitate the identification necessary repairs in the exclusion fence, reducing risks to sensitive fauna.

### Exclusion Fence Upgrades

While fence repairs were implemented twice during the monitoring season, the age and integrity of the existing exclusion fence is a concern for the wildlife using Heart Lake Road. Nearly 10 years after installation, the fence is deteriorating at numerous points throughout the extent. To better protect wildlife and encourage the use of the wildlife passages, new exclusion fencing is strongly recommended. In its current state, there are innumerable holes to be patched, wash outs in the gravel at the base of the fence, overhangs that are missing and require replacement, and entire segments of missing fence. Regular maintenance is also required along the areas adjacent to the fencing. Vegetation is growing over much of the fence, creating a bridge for wildlife to bypass the fence and cross the road.

With the complications caused by construction, there was significant delays in completing the second round of repairs due to the inability of staff to access the exclusion fence. Timely repairs are essential in maintaining an effective barrier for wildlife and mitigating WVCs, particularly during key migratory periods where fauna are more active and vulnerable.

Regular maintenance and permanent, more structurally sound solutions are recommended to effectively protect wildlife and keep them off the road.

## Maintenance and Monitoring of Wildlife Passages

To encourage continued use of the two wildlife passages, additional maintenance and monitoring is recommended. While monitoring of the passages were outside the scope of the project this year, there may be benefit in re-installing a trail camera or similar image collection device to understand the fauna using the passages and how it may be enhanced. We recommend regular maintenance to ensure that the passage is kept clean and safe for wildlife. With the development and road construction taking place, additional efforts may be required to prevent buildup of materials in these passages. This includes clearing debris from inside the passages and seasonal flushing.

Maintenance of directional fencing surrounding the culverts is essential in ensuring that wildlife use these passages as intended. If silt fence is to be installed during construction, it should be enhancing the function of the passage by directing wildlife to use the structures.

## Illegal Dumping and Litter Management

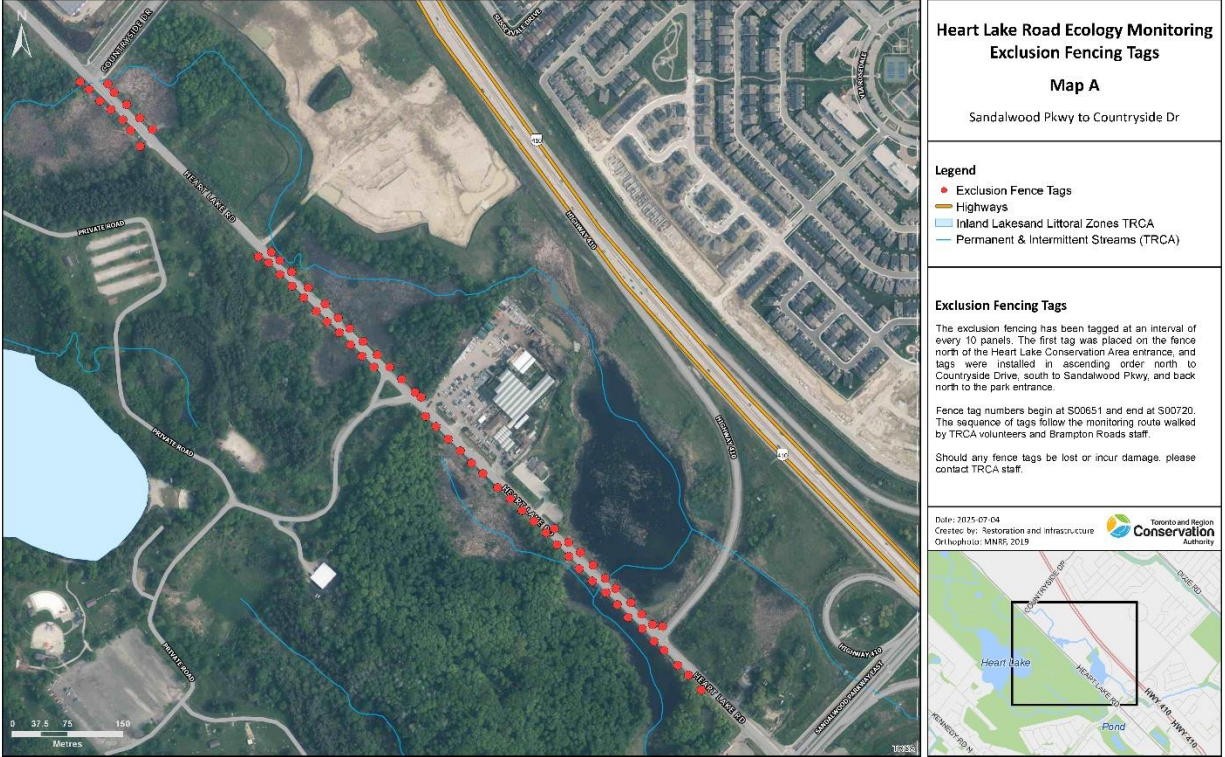
The accumulation of litter and evidence of illegal dumping was identified by volunteers, but especially by TRCA staff monitoring the northern stretch of Heart Lake Road, between Countryside Dr to Mayfield Rd. Both volunteers and TRCA staff collected litter during monitoring, using the provided latex gloves, garbage bags, and garbage pickers. Some instances of illegal dumping were too large, heavy, or precarious to remove, such as tires, vehicle bumpers, mattresses, bedsprings, and other disposed furniture. To discourage illegal dumping and mitigate the movement of litter into natural spaces, we recommend the installation of panel fencing or barriers (i.e., fencing structures, densely planted shrubs, thorny shrubs) and regular maintenance.

## Conclusions

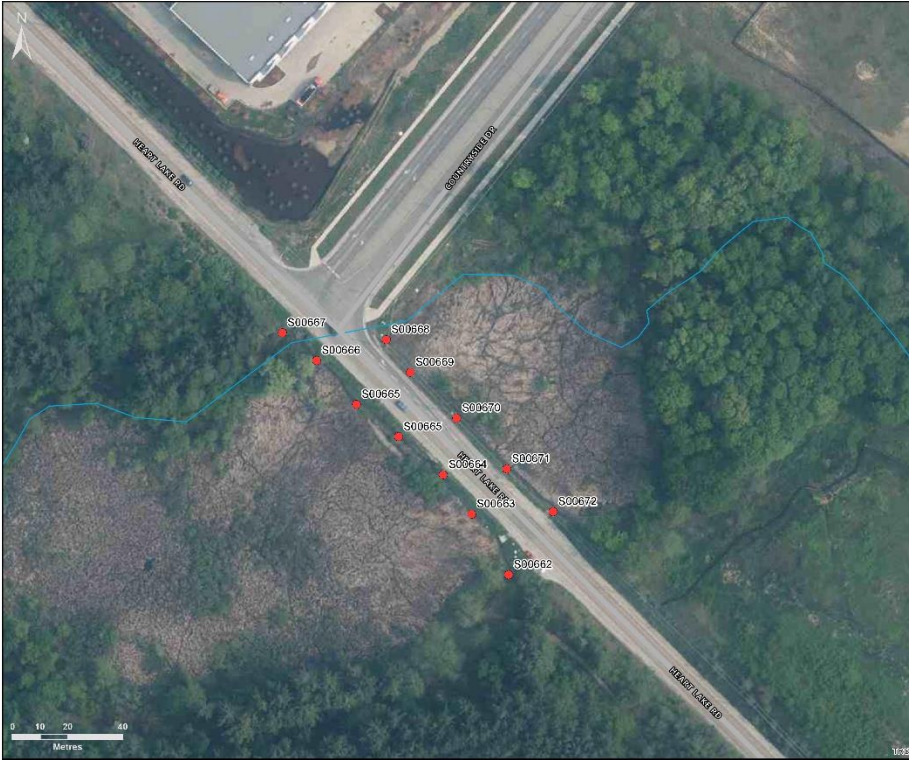
The reintroduction of the HLREMP collected preliminary data for future comparison and fostered a sense of care and collective action in volunteers who gained exposure and knowledge to the threats concerning wildlife on Heart Lake Road. The results from the 2025 monitoring program help to demonstrate opportunities to replace and remove current WVC mitigation measures.

If a decision is made to continue the HLREMP in 2026, we recommend beginning project planning and volunteer recruitment in January to maintain current momentum, engage volunteers, and expand training opportunities to a wider network of volunteers.

# Appendix A



Disclaimer: The data used to create this map was compiled from a variety of sources & dates. The TRCA takes no responsibility for errors or omissions in the data and retains the right to make changes & corrections at anytime without notice. For further information about the data on this map, please contact the TRCA Restoration and Infrastructure Division, (416) 661-6000. May not be reproduced without permission. This is not a plan of survey. Prepared by Toronto and Region Conservation Authority under license with the Ministry of Natural Resources & Forestry. © Queen's Printer for Ontario.



**Heart Lake Road Ecology Monitoring  
Exclusion Fencing Tags**

**Map B**

S00662-S00672

**Legend**

- Exclusion Fence Tags
- Highways
- Inland Lakes and Littoral Zones TRCA
- Permanent & Intermittent Streams (TRCA)

**Exclusion Fencing Tags**

The exclusion fencing has been tagged at an interval of every 10 panels. The first tag was placed on the fence north of the Heart Lake Conservation Area entrance, and tags were installed in ascending order north to Countryside Drive, south to Sandalwood Pkwy, and back north to the park entrance.

Fence tag numbers begin at S00651 and end at S00720. The sequence of tags follow the monitoring route walked by TRCA volunteers and Brampton Roads staff.

Should any fence tags be lost or incur damage, please contact TRCA staff.

Date: 2015-07-04

Created by: Restoration and Infrastructure

Orthophoto: MNR, 2013



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**Heart Lake Road Ecology Monitoring  
Exclusion Fencing Tags**

**Map C**

S00651-S00661; S00674-S00686

**Legend**

- Exclusion Fence Tags
- Highways
- Inland Lakes and Littoral Zones TRCA
- Permanent & Intermittent Streams (TRCA)

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Should any fence tags be lost or incur damage, please contact TRCA staff.

Date: 2015-07-07

Created by: Restoration and Infrastructure

Orthophoto: MNR, 2013



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**Heart Lake Road Ecology Monitoring Exclusion Fencing Tags**

**Map D**

S00687-S00692; S00705-S00720

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**Legend**

- Exclusion Fence Tags
- Highways
- Inland Lakes and Littoral Zones TRCA
- Permanent & Intermittent Streams (TRCA)

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**Exclusion Fencing Tags**


The exclusion fencing has been tagged at an interval of every 10 panels. The first tag was placed on the fence north of the Heart Lake Conservation Area entrance, and tags were installed in ascending order north to Countryside Drive, south to Sandalwood Pkwy, and back north to the park entrance.

Fence tag numbers begin at S00651 and end at S00720. The sequence of tags follow the monitoring route walked by TRCA volunteers and Brampton Roads staff.

Should any fence tags be lost or incur damage, please contact TRCA staff.

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Date: 2025-07-07  
Created by: Restoration and Infrastructure  
Orthophoto: MNR, 2019



Disclaimer: The data used to create this map was compiled from a variety of sources & dates. The TRCA takes no responsibility for errors or omissions in the data and retains the right to make changes & corrections at anytime without notice. For further information about the data on this map, please contact the TRCA Restoration and Infrastructure Division, (416) 663-6500. May not be reproduced without permission. This is not a plan of survey. Produced by Toronto and Region Conservation Authority under license with the Ministry of Natural Resources & Forestry, © Queen's Printer for Ontario.



**Heart Lake Road Ecology Monitoring Exclusion Fencing Tags**

**Map E**

S00693-S00704

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**Legend**

- Exclusion Fence Tags
- Highways
- Inland Lakes and Littoral Zones TRCA
- Permanent & Intermittent Streams (TRCA)

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**Exclusion Fencing Tags**


The exclusion fencing has been tagged at an interval of every 10 panels. The first tag was placed on the fence north of the Heart Lake Conservation Area entrance, and tags were installed in ascending order north to Countryside Drive, south to Sandalwood Pkwy, and back north to the park entrance.

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## Appendix B

### Overview of Volunteer Role

<b>Description of Role</b>	Volunteering for this opportunity, you will play a critical role in collecting data on wildlife sightings and install nest protectors as required along Heart Lake Road to protect turtle nests. Purpose is to collect data on wildlife sightings, road mortalities, and road usage to understand the use and impact of the road on wildlife and help support future protection measures.
<b>Monitoring Season</b>	April to November
<b>Monitoring Schedule</b>	Monday, Wednesday, Friday from 9am-11 am Temporarily Sundays from 9am-11am while construction is occurring
<b>Volunteer Tasks</b>	<ul style="list-style-type: none"> <li>• Collect data on collisions/mortality rates of wildlife along Heart Lake Road.</li> <li>• Remove, if safe to do so, any deceased turtles and smaller wildlife from Heart Lake Road.</li> <li>• Identify and report structural issues with existing wildlife fencing.</li> <li>• Search for turtles and nesting activity.</li> <li>• Install nest protectors on observed or suspected nesting sites in permitted areas.</li> <li>• Record observations using Survey 123 app</li> </ul>

### Safe Work Procedure

#### Equipment

All personal protective equipment must be inspected before use, to ensure it is in safe working condition. All equipment must be worn and used as per the manufacturer's recommendations and without modification.

#### Personal Protective Equipment Requirements:

1. High visibility class 2 safety vest
2. Nitrile gloves
3. Hand sanitizer
4. First aid kit including tick removal kit
5. Working cell phone (minimum 1 per group)

**Be prepared for the conditions with:**

1. Sunscreen (in storage box)
2. Bug spray containing deet (in storage box)
3. Extra clothing layers
4. Extra drinking water

**1. Pre-monitoring Set-up**

- a. Ensure monitoring of Heart Lake Road occurs only during the approved shifts of 9 am – 11 am with City of Brampton Public Works staff present.
- b. Observe weather conditions. Refrain from monitoring if there is rain, thunder and/or high winds or where weather conditions inhibit safety while on or near the roads. You will be notified by email if shifts have been cancelled for this reason.
- c. Park vehicles at designated parking area.
- d. Review all personal protective equipment and ensure that you have all items on the Personal Protective Equipment Requirements list.
- e. Identify roles for the shift: Volunteer A, Volunteer B, Volunteer C

Role	Responsibility
A (Spotter and safety set up)	<ul style="list-style-type: none"> <li>• Observes oncoming traffic in both directions at all times.</li> <li>• Observes oncoming traffic (work side) during removal.</li> </ul>

	<ul style="list-style-type: none"> <li>• Communicates potential hazards to team.</li> <li>• Shifts safety set-up as required.</li> <li>• Activates 911 if necessary.</li> </ul>
B (Data Collection)	<ul style="list-style-type: none"> <li>• Collects data</li> <li>• Observes for wildlife on roadway</li> <li>• Communicates potential hazards to team</li> </ul>
C (Support)	<ul style="list-style-type: none"> <li>• Observes for wildlife on shoulder</li> <li>• Observes oncoming traffic (opposite work side) during removal</li> <li>• Assists with data collection at roadside</li> <li>• Communicates potential hazards to team</li> </ul>

## 2. At Work Procedure

- a. City of Brampton Public Works staff to set up ‘men at work’ roadside signs.
- b. Carry a copy of the Road Occupancy Permit for your site at all times while on site.
- c. Walk on shoulder facing on-coming traffic, following the route identified in the site fact sheets.
- d. Volunteer B (Data Collector) to only remove wildlife (dead or alive) when City of Brampton Public Works staff deem it is safe to do so. Volunteers are not authorized to stop or direct traffic.
- e. Avoid all visual and auditory distractions throughout shift such as wearing ear buds, texting, phone calls, etc.
- f. Carry a charged cell phone (minimum 1 per group).
- g. Not eat during surveys.
- h. Wear nitrile gloves when handling wildlife.
- i. Use hand sanitizer at the end of the survey and before eating.

## 3. Close Out Procedure

- a. Upload data at secure Wi-Fi location.

- b. Record volunteer hours worked on the volunteer Better Impact Volunteer website

## Monitoring Protocol for Observations Beyond Permitted Areas

If nests, wildlife, or any other monitoring related concerns are observed beyond the boundaries of approved monitoring sites, volunteers should:

- Remain in the permitted monitoring area. Do not investigate sites beyond approved monitoring sites.
- Do not install nest protectors on any nests outside of the permitted areas.
- Notify TRCA staff members of the observation. TRCA staff will notify parks staff of the concern.

## Protocol for Managing Road Mortalities

When volunteers encounter road mortalities of wildlife turtle-sized or smaller, they should:

- Allow City of Brampton Public Works staff to assess road conditions for safe crossing conditions.
- Ensure proper high-visibility clothing and PPE is being used/worn at all times.
- Volunteer B (Data Collector) to only remove roadkill from the shoulders of the road. Volunteers are not authorized to stop or direct traffic.
- Volunteers are not to remove roadkill from the road. Please record the finding and do your best to identify what it is and enter into Survey 123.
- All materials must be sterilized after removing roadkill and hands must be sanitized.

When volunteers encounter road mortalities of wildlife larger than turtle-sized, they should:

- Contact Brampton Animal Services to request removal of the animal:  
Phone: 905-458-5800  
Email: [animal.Services@brampton.ca](mailto:animal.Services@brampton.ca).

## Protocol for Precarious Turtle Nests

1. If a nest in a precarious spot (i.e. on the road, shoulder, etc.) is identified, notify the Heart Lake Turtle Troopers.
2. It is illegal to excavate or move a turtle nest without the necessary permits.

3. Do not place a nest protector on the road, shoulder, parking lot, or anything of this sort.

## Appendix C

### Bird Observations

Observer	Date	Status	Number Recorded	Location	Species	Latitude	Longitude
volunteer	2025-06-02	Dead	1	OffRoad	Unknown	43.741322	-79.787431
volunteer	2025-06-04	Dead	1	OnRoad	Downy Woodpecker	43.738285	-79.783217
volunteer	2025-06-09	Dead	1	OnRoad	Unknown	43.73812	-79.783032
volunteer	2025-06-11	Dead	1	OnRoad	Unknown	43.730473	-79.772717
volunteer	2025-06-13	Dead	1	OffRoad	Unknown	43.744169	-79.791694
volunteer	2025-06-18	Dead	1	OnRoad	Unknown	43.73806	-79.783186
volunteer	2025-06-30	Dead	1	OffRoad	European Starling	43.740699	-79.787254
staff	2025-06-30	Dead	1	OnRoad	Unknown	43.746626	-79.794688
volunteer	2025-07-07	Dead	1	OnRoad	Unknown	43.744469	-79.791924
volunteer	2025-08-24	Dead	1	OnRoad	Unknown	43.738337	-79.782492
staff	2025-08-29	Dead	1	OnRoad	Grey Catbird	43.746611	-79.794577
staff	2025-10-09	Dead	1	OnRoad	Grey Catbird	43.74694	-79.795128
volunteer	2025-11-05	Dead	1	OnRoad	Black-Capped Chickadee	43.744644	-79.791916
staff	2025-11-07	Dead	1	OnRoad	Northern Cardinal	43.741891	-79.788229
staff	2025-11-14	Dead	1	OnRoad	Unknown	43.738881	-79.784225

### Frog and Toad Observations

Observer	Date	Status	Number Recorded	Location	Species	Latitude	Longitude
volunteer	2025-06-04	Dead	1	OnRoad	Unknown	43.741444	-79.787837
volunteer	2025-06-04	Dead	1	OnRoad	Unknown	43.741976	-79.788603
volunteer	2025-06-04	Dead	1	OnRoad	Unknown	43.742166	-79.788884
volunteer	2025-06-06	Dead	1	OnRoad	Unknown	43.740015	-79.787933
volunteer	2025-06-06	Dead	1	OnRoad	Unknown	43.74004	-79.785197
volunteer	2025-06-11	Dead	1	OnRoad	Unknown	43.741544	-79.787962
volunteer	2025-06-18	Dead	1	OnRoad	Unknown	43.741406	-79.787763
volunteer	2025-07-14	Dead	2	OffRoad	Unknown	43.743592	-79.790561
volunteer	2025-07-16	Dead	1	OffRoad	Leopard Frog	43.737935	-79.783056

volunteer	2025-07-23	Dead	1	OnRoad	Unknown	43.740841	-79.787437
volunteer	2025-08-17	Alive	2	OnRoad	Unknown	43.74331	-79.790187
volunteer	2025-08-17	Alive	5	OnRoad	Unknown	43.737971	-79.782858
volunteer	2025-08-17	Alive	1	OnRoad	Green Frog	43.737837	-79.782728
volunteer	2025-08-17	Dead	1	OnRoad	Unknown	43.740655	-79.786721
volunteer	2025-08-24	Dead	1	OnRoad	Leopard Frog	43.744567	-79.792047
volunteer	2025-08-24	Dead	1	OnRoad	Unknown	43.738301	-79.782514
volunteer	2025-08-24	Dead	1	OnRoad	Unknown	43.738393	-79.782407
volunteer	2025-08-24	Dead	1	OnRoad	Unknown	43.738235	-79.782596
volunteer	2025-08-24	Dead	1	OnRoad	Unknown	43.737626	-79.782582
volunteer	2025-08-24	Dead	1	OnRoad	Unknown	43.740879	-79.787358
volunteer	2025-09-07	Alive	1	OffRoad	Leopard Frog	43.744261	-79.791657
volunteer	2025-09-07	Dead	1	OnRoad	Unknown	43.739629	-79.78843

## Mammal Observations

Observer	Date	Status	Number Recorded	Location	Species	Latitude	Longitude
volunteer	2025-06-02	Dead	1	OnRoad	Meadow Vole	43.741967	-79.788585
volunteer	2025-06-02	Dead	1	OffRoad	Deer Mouse	43.742493	-79.789224
volunteer	2025-06-03	Alive	1	OffRoad	White Tailed Deer	43.746915	-79.79507
volunteer	2025-06-04	Dead	2	OnRoad	Unknown	43.741563	-79.788026
volunteer	2025-06-04	Dead	1		Unknown	43.741794	-79.788364
volunteer	2025-06-04	Dead	1	OnRoad	Unknown	43.737456	-79.782181
volunteer	2025-06-04	Alive	1	OnRoad	Gray Squirrel	43.741578	-79.787782
volunteer	2025-06-04	Dead	1	OnRoad	Raccoon	43.746924	-79.79472
volunteer	2025-06-09	Alive	1	OnRoad	Coyote	43.741326	-79.787662
volunteer	2025-06-09	Dead	1	OnRoad	Unknown	43.744289	-79.791431
volunteer	2025-06-09	Dead	1	OnRoad	Gray Squirrel	43.743076	-79.789838
volunteer	2025-06-11	Dead	1	OnRoad	Unknown	43.742499	-79.789115
volunteer	2025-06-11	Alive	1	OnRoad	Gray Squirrel	43.7417	-79.788006
volunteer	2025-06-13	Dead	1	OnRoad	Gray Squirrel	43.740681	-79.785985
volunteer	2025-06-13	Dead	1	OnRoad	Raccoon	43.745468	-79.79286
volunteer	2025-06-13	Dead	1	OnRoad	Gray Squirrel	43.746089	-79.791475
volunteer	2025-06-18	Dead	1	OnRoad	Eastern Chipmunk	43.743364	-79.790451

volunteer	2025-06-18	Dead	1	OnRoad	Unknown	43.742454	-79.789169
volunteer	2025-06-18	Dead	1	OnRoad	Gray Squirrel	43.743857	-79.791071
volunteer	2025-06-23	Dead	1		Unknown	43.743488	-79.790586
volunteer	2025-06-23	Dead	1	OnRoad	Eastern Chipmunk	43.743824	-79.790872
volunteer	2025-06-27	Dead	1	OffRoad	Gray Squirrel	43.741826	-79.788423
staff	2025-06-30	Dead	1	OnRoad	Unknown	43.746616	-79.794662
staff	2025-06-30	Dead	1	OnRoad	Unknown	43.75037	-79.799987
volunteer	2025-06-30	Dead	1	OffRoad	Deer Mouse	43.744058	-79.791198
volunteer	2025-06-30	Dead	1	OnRoad	Unknown	43.740708	-79.786833
volunteer	2025-07-02	Dead	1	OnRoad	Unknown	43.742605	-79.789199
volunteer	2025-07-04	Dead	1	OffRoad	Raccoon	43.742188	-79.7889
volunteer	2025-07-07	Dead	1	OnRoad	Eastern Chipmunk	43.742383	-79.789002
volunteer	2025-07-09	Dead	1	OnRoad	Gray Squirrel	43.741006	-79.78738
volunteer	2025-07-09	Alive	1	OffRoad	Deer Mouse	43.738734	-79.784165
volunteer	2025-07-16	Dead	1	OffRoad	Eastern Cottontail	43.741585	-79.788048
staff	2025-07-18	Dead	1	OnRoad	Unknown	43.746604	-79.794679
staff	2025-07-18	Dead	1	OnRoad	Virginia Opossum	43.749918	-79.799313
volunteer	2025-07-23	Dead	1	OnRoad	Unknown	43.73868	-79.784005
staff	2025-08-01	Dead	1	OnRoad	Virginia Opossum	43.741031	-79.787141
volunteer	2025-08-17	Dead	1	OnRoad	Raccoon	43.743738	-79.790779
volunteer	2025-08-17	Dead	1	OnRoad	Striped Skunk	43.74095	-79.787008
volunteer	2025-08-24	Alive	1	OnRoad	Gray Squirrel	43.739174	-79.784521
staff	2025-08-29	Dead	2	OnRoad	Eastern Cottontail	43.74647	-79.794627
volunteer	2025-09-07	Dead	1	OffRoad	Unknown	43.743721	-79.790753
staff	2025-09-11	Dead	1	OffRoad	Eastern Cottontail	43.746099	-79.793956
volunteer	2025-09-21	Dead	1	OffRoad	Striped Skunk	43.733977	-79.824956
volunteer	2025-09-21	Dead	1	OnRoad	Gray Squirrel	43.762465	-79.792699
volunteer	2025-10-19	Dead	1	OffRoad	Gray Squirrel	43.744164	-79.791309
volunteer	2025-10-26	Alive	1	OnRoad	Gray Squirrel	43.740953	-79.787201
volunteer	2025-10-26	Dead	1	OnRoad	Meadow Vole	43.737758	-79.782983
volunteer	2025-11-05	Dead	1	OnRoad	Gray Squirrel	43.740894	-79.786889
volunteer	2025-11-07	Dead	1	OnRoad	Deer Mouse	43.742584	-79.789371
volunteer	2025-11-07	Alive	1	OnRoad	Gray Squirrel	43.737768	-79.782569

staff	2025-11-14	Dead	1	OnRoad	Raccoon	43.750721	-79.800371
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## Snake Observations

Observer	Date	Status	Number Recorded	Location	Species	Latitude	Longitude
volunteer	2025-06-09	Alive	1	OnRoad	Eastern Garter Snake	43.741396	-79.787838
volunteer	2025-06-13	Alive	1	OnRoad	Eastern Garter Snake	43.738101	-79.782777
volunteer	2025-06-18	Alive	1	OffRoad	Eastern Garter Snake	43.741608	-79.788054
volunteer	2025-06-23	Dead	1	OnRoad	Unknown	43.743763	-79.790803
volunteer	2025-06-27	Alive	1	OffRoad	Eastern Garter Snake	43.740847	-79.787321
volunteer	2025-07-09	Dead	1	OffRoad	Unknown	43.739175	-79.784711
staff	2025-08-01	Alive	1	OnRoad	Eastern Garter Snake	43.74145	-79.787876
staff	2025-08-01	Dead	1	OnRoad	Eastern Garter Snake	43.743779	-79.790821
volunteer	2025-08-17	Alive	1	OnRoad	Eastern Garter Snake	43.737985	-79.783049
volunteer	2025-08-17	Dead	1	OnRoad	Unknown	43.739091	-79.784534
volunteer	2025-08-17	Alive	1	OnRoad	Eastern Garter Snake	43.739972	-79.785889

## Turtle Observations

Observer	Date	Status	Number Recorded	Location	Species	Latitude	Longitude
volunteer	2025-06-02	Alive	3	InsideFence	Midland Painted Turtle	43.738605	-79.783955
volunteer	2025-06-04	Alive	5	OffRoad	Midland Painted Turtle	43.743133	-79.796412
volunteer	2025-06-11	Alive	4	InsideFence	Midland Painted Turtle	43.738605	-79.783962
volunteer	2025-06-11	Alive	1	OnRoad	Midland Painted Turtle	43.741333	-79.787456
volunteer	2025-06-18	Alive	4	InsideFence	Midland Painted Turtle	43.738647	-79.783991
volunteer	2025-06-30	Dead	1	OffRoad	Midland Painted Turtle	43.741245	-79.787584
volunteer	2025-07-02	Dead	1	OffRoad	Midland Painted Turtle	43.739743	-79.785551

volunteer	2025-07-16	Dead	1	OffRoad	Snapping Turtle	43.742743	-79.789625
volunteer	2025-07-23	Dead	1	OffRoad	Midland Painted Turtle	43.741956	-79.788492
volunteer	2025-07-23	Dead	1	OffRoad	Midland Painted Turtle	43.743717	-79.79073
volunteer	2025-07-30	Dead	1	OffRoad	Midland Painted Turtle	43.741927	-79.788517
volunteer	2025-07-30	Dead	1	OffRoad	Midland Painted Turtle	43.743115	-79.789929
volunteer	2025-07-30	Dead	1	OffRoad	Midland Painted Turtle	43.742789	-79.789506
volunteer	2025-08-17	Dead	1	OnRoad	Midland Painted Turtle	43.742827	-79.789549
volunteer	2025-08-17	Dead	1	OnRoad	Midland Painted Turtle	43.738103	-79.78281
volunteer	2025-08-17	Dead	1	OnRoad	Midland Painted Turtle	43.738273	-79.783469
volunteer	2025-08-24	Dead	1	OnRoad	Midland Painted Turtle	43.740812	-79.786928
volunteer	2025-09-07	Dead	1	OnRoad	Midland Painted Turtle	43.737741	-79.782799
volunteer	2025-09-21	Dead	1	OffRoad	Unknown	43.762465	-79.792699
volunteer	2025-10-19	Dead	1	OnRoad	Midland Painted Turtle	43.73817	-79.783151
volunteer	2025-11-05	Dead	1	OffRoad	Midland Painted Turtle	43.738361	-79.783392

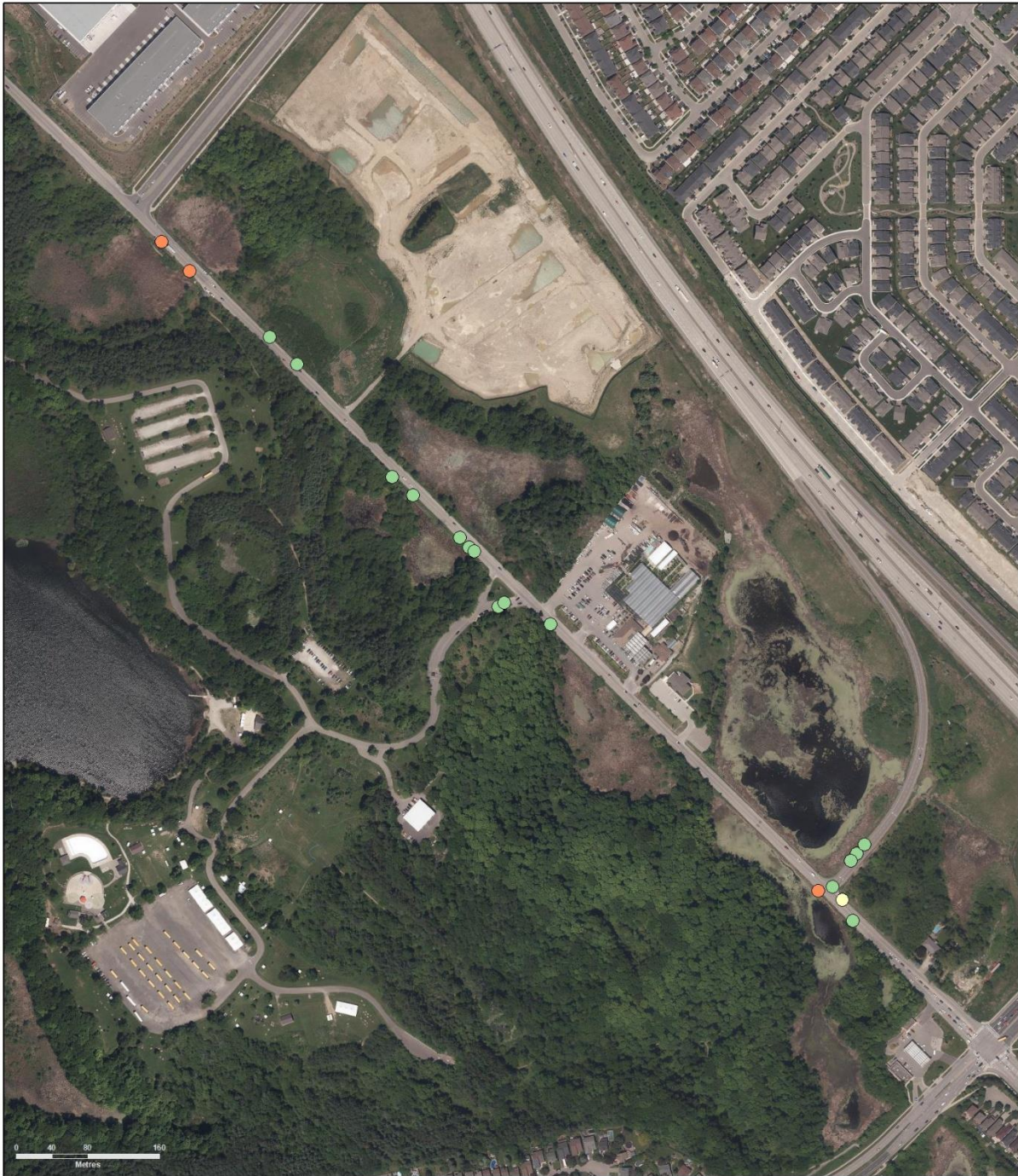
## Appendix D



 <p>Date: 2025-12-04 Created by: Restoration and Infrastructure Ordningshot: First Base Solutions, City of Toronto, Peel Region, York Region, Durham Region, 2024</p>	 <h3>Heart Lake Road Ecology Monitoring</h3> <p>All Observations</p>	<p><b>Legend</b></p> <ul style="list-style-type: none"> <li><span style="color: orange;">●</span> Turtles</li> <li><span style="color: green;">●</span> Frogs</li> <li><span style="color: purple;">●</span> Snakes</li> <li><span style="color: blue;">●</span> Birds</li> <li><span style="color: yellow;">●</span> Mammals</li> <li><span style="color: teal;">●</span> Unknown</li> </ul>
<p><small>Disclaimer: The data used to create this map was compiled from a variety of sources &amp; dates. The TRCA takes no responsibility for errors or omissions in the data and retains the right to make changes &amp; corrections at anytime without notice. For further information about the data on this map, please contact the TRCA Restoration and Infrastructure Division. (416) 661-6600. May not be reproduced without permission. This is not a plan of survey. Produced by Toronto and Region Conservation Authority under licence with the Ministry of Natural Resources &amp; Forestry. © Queen's Printer for Ontario.</small></p>		



 <p>             Date: 2025-12-04              Created by: Restoration and Infrastructure              Orthophoto: First Base Solutions, City of Toronto, Peel Region, York Region, Durham Region, 2024         </p>	<p> <b>Heart Lake Road Ecology Monitoring</b>              Bird Observations         </p>	<p><b>Species Recorded</b></p> <table border="0"> <tr> <td><span style="color: blue;">●</span> Northern Cardinal</td> <td><span style="color: yellow;">●</span> European Starling</td> </tr> <tr> <td><span style="color: green;">●</span> Black-Capped Chickadee</td> <td><span style="color: orange;">●</span> Downy Woodpecker</td> </tr> <tr> <td><span style="color: lightgreen;">●</span> Grey Catbird</td> <td><span style="color: red;">●</span> Unknown Bird</td> </tr> </table>	<span style="color: blue;">●</span> Northern Cardinal	<span style="color: yellow;">●</span> European Starling	<span style="color: green;">●</span> Black-Capped Chickadee	<span style="color: orange;">●</span> Downy Woodpecker	<span style="color: lightgreen;">●</span> Grey Catbird	<span style="color: red;">●</span> Unknown Bird
<span style="color: blue;">●</span> Northern Cardinal	<span style="color: yellow;">●</span> European Starling							
<span style="color: green;">●</span> Black-Capped Chickadee	<span style="color: orange;">●</span> Downy Woodpecker							
<span style="color: lightgreen;">●</span> Grey Catbird	<span style="color: red;">●</span> Unknown Bird							
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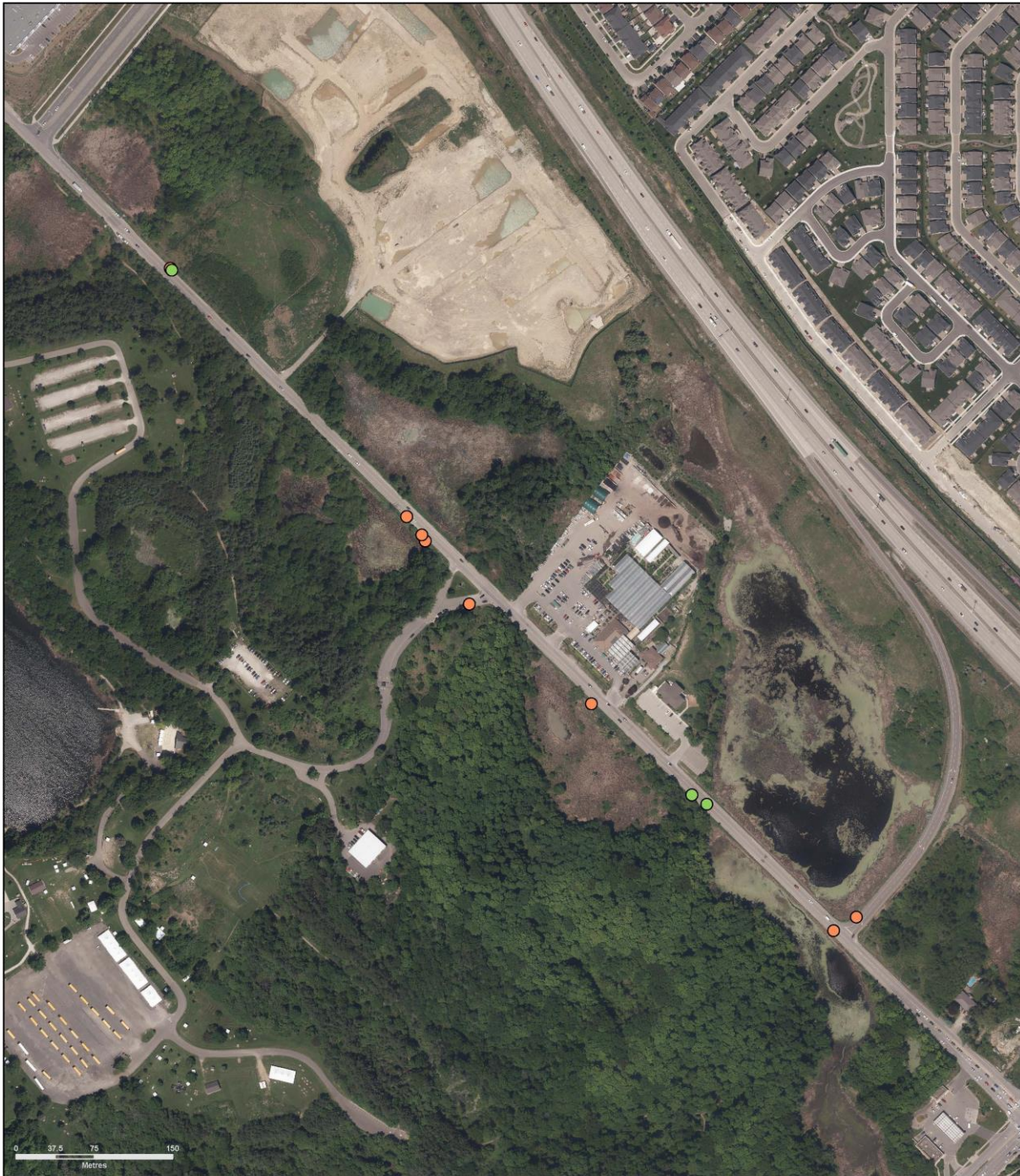

  
 Date: 2025-12-04  
 Created by: Restoration and Infrastructure  
 Orthophoto: First Base Solutions, City of Toronto,  
 Peel Region, York Region, Durham Region, 2024




**Heart Lake Road Ecology Monitoring**  
 Frog and Toad Observations

- Legend**
- Green Frog
  - Leopard Frog
  - Unknown Frog/Toad

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 Orthophoto: First Base Solutions, City of Toronto,  
 Peel Region, York Region, Durham Region, 2024



**Heart Lake Road Ecology Monitoring**  
 Snake Observations

- Species Observed**
- Eastern Garter Snake
  - Unknown Snake

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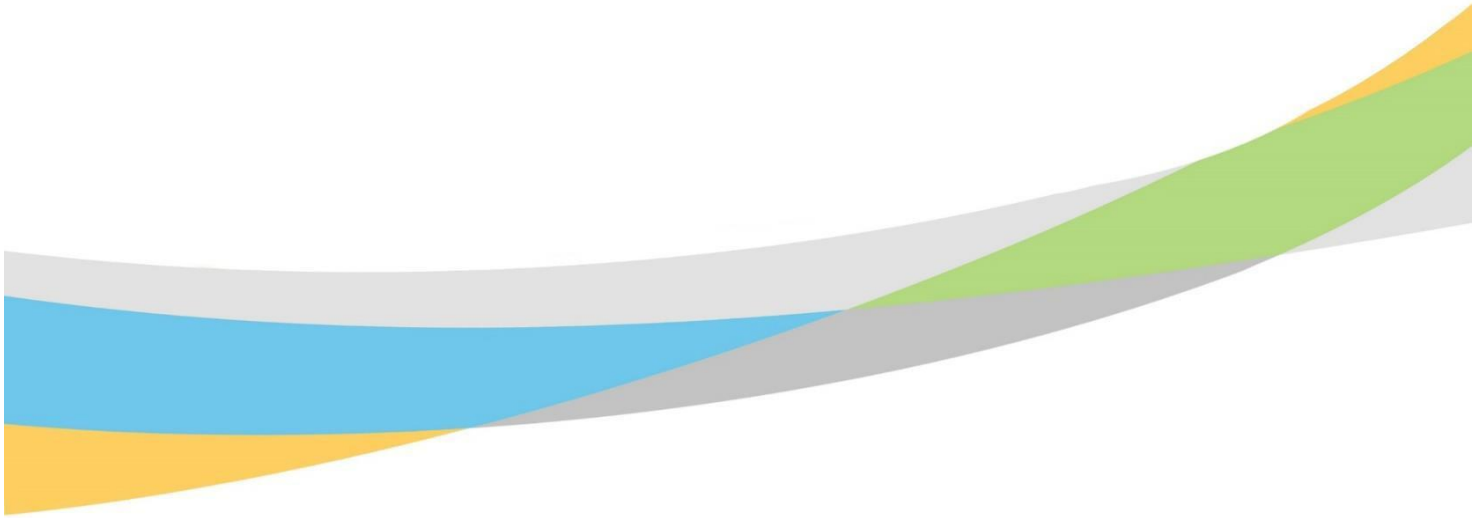


**Heart Lake Road  
 Ecology Monitoring**  
 Turtle Observations

**Species Recorded**

- Snapping Turtle
- Midland Painted Turtle

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