

# The Rabies Reporter

The Ministry of Northern Development, Mines,  
Natural Resources and Forestry  
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The Rabies Reporter is a scientific newsletter about current issues in rabies research and control. It is a joint effort of the Wildlife Research and Monitoring Section of the Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry; the Rabies Laboratory at the Ottawa Laboratory (Fallowfield) of the Canadian Food Inspection Agency; and the Ontario Ministry of Health. Articles for future issues will be welcomed by the editor. The Rabies Reporter is not peer reviewed and should be cited as a newsletter. Send contributions, letters and inquiries to: [rabies@ontario.ca](mailto:rabies@ontario.ca).

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## Rabies program demonstrates continued success

Anne McCarthy, Ministry of Northern Development, Mines, Natural Resources and Forestry

We are happy to report that we continue to make progress towards our goal of controlling and eliminating terrestrial rabies in Ontario. In 2021, 42 rabies cases were detected in the province. Of those, only 14 were raccoon strain rabies. No cases of fox strain rabies were detected (Figure 1). This was a slight increase from last year (9 raccoon strain), however, cases remained low and were contained to a small area of Southern Ontario near Niagara. In 2021, we tested 2,872 samples from sick, strange acting, found dead, or roadkill wildlife which was less than in 2020 (3,358). The rabies control zone was reduced by approximately half (~10,000 km<sup>2</sup>) in 2021 as 463 of the 485 cases detected between December 2017 and July 2021 were more than two years old and there were no recent cases in the northern part of the zone.

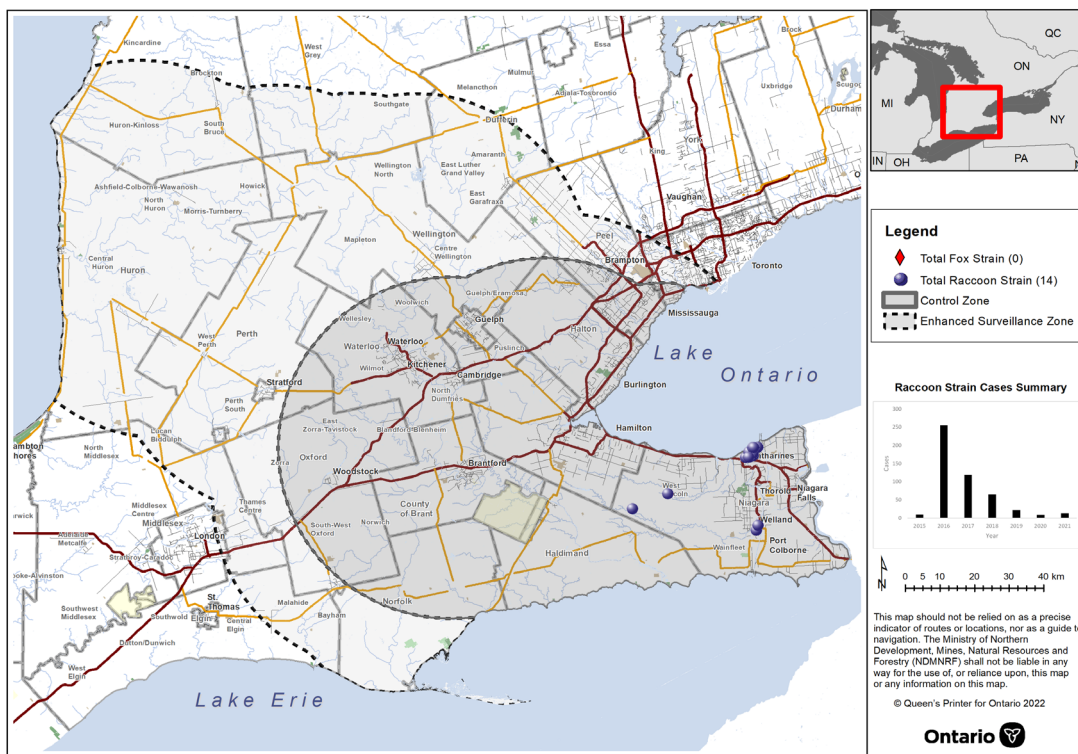
**Raccoon strain:** Between January and December, only 14 raccoon rabies cases were detected — all were detected in Niagara (2 raccoons and 12 skunks). During the same period last year, nine cases were detected in the city of Hamilton and in Niagara region.

**Fox strain:** For the third year in a row, no fox strain cases were detected. Monitoring and sampling continues to be done regularly for dead, sick or strange acting animals within the surveillance area.

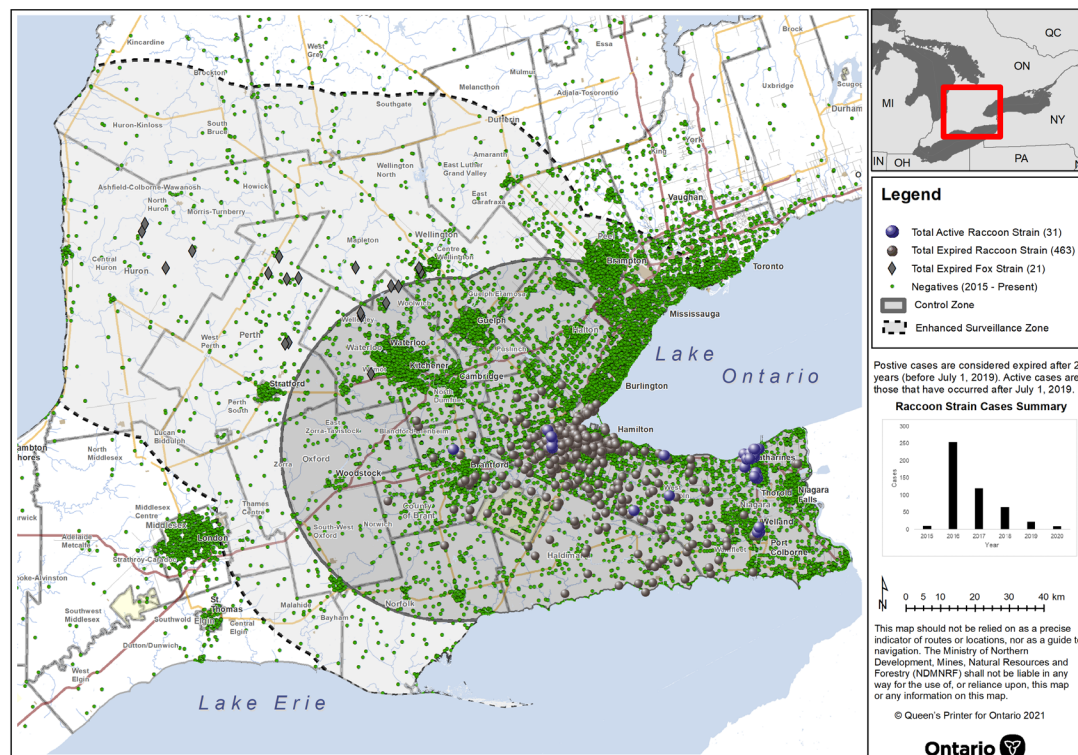
**Bat strains:** In 2021, 27 cases of bat rabies detected — fewer than the 40 cases detected in 2020. All cases were detected in bats (24 big brown and 3 little brown bats). The cases were detected in Cochrane, Durham, Grey, Halton, Hamilton, Lambton, Leeds and Grenville, Middlesex, Niagara, Nipissing, Norfolk, Ottawa-Carleton, Oxford, Perth, Prescott-Russell, Renfrew, Stormont-Dundas-Glengarry, Toronto, Waterloo, and Wellington-Dufferin-Guelph counties.

In 2021, a dog imported from Iran was infected with Iranian dog strain rabies. From December 2015 to December 2021, 494 raccoon strain and 21 fox strain cases were detected in Ontario (Figure 2). NDMNRF will continue surveillance and rabies control efforts throughout 2022.

**Note:** Starting in 2022, the rabies reporter will move from bi-annual to annual distribution.



**Figure 1.** Terrestrial rabies cases (N=14) detected in southern Ontario from January–December 2021.



**Figure 2.** All terrestrial rabies cases active and expired (>2 years) detected in southern Ontario from December 2015–December 2021 along with the current surveillance and control zone.

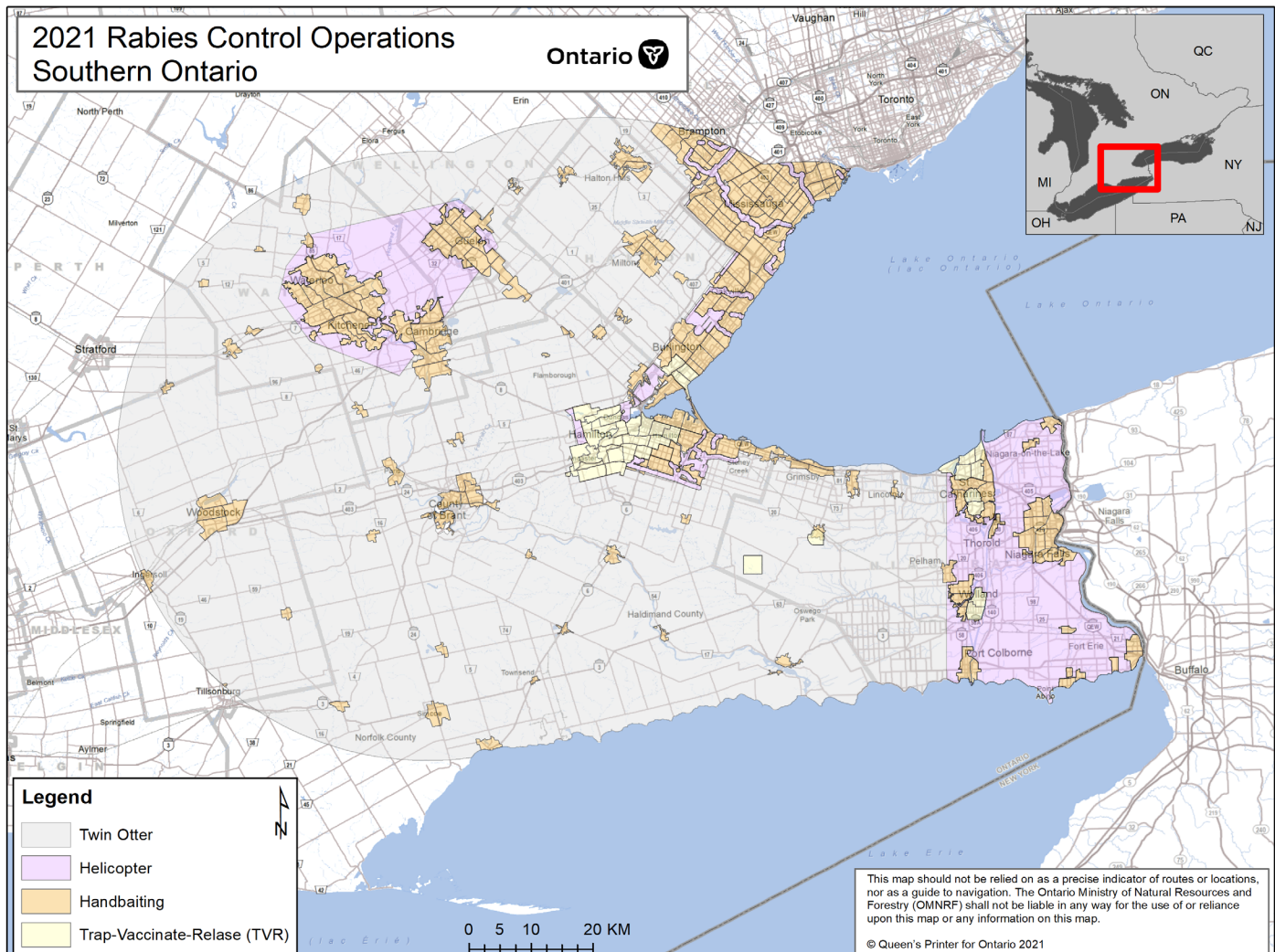
## Rabies surveillance and control program – 2021

Ministry of Northern Development, Mines, Natural Resources and Forestry

In 2021, we continued efforts to control terrestrial rabies in southern Ontario. This year there were only 14 cases of terrestrial rabies — all were raccoon strain and all were in the Niagara region.

The 2021 rabies control zone was reduced by approximately half (~10,000 km<sup>2</sup>) as 463 of the 485 cases detected between December 2017 and July 2021 had expired (more than 2 years old) and there were no recent cases in the northern part of the zone.

We continued to focus on oral rabies vaccine distribution using the ONRAB bait, trap-vaccinate-release (TVR) and enhanced surveillance within 50 km of any positive cases (Figure 3). In 2021, almost 850,000 baits were distributed in southern Ontario by hand, air and bait station. Enhanced surveillance focused on the collection of sick, strange acting, or found-dead wildlife for rabies testing.



**Figure 3.** Southern Ontario aerial baiting, hand-baiting and trap vaccinate release was conducted from June to October; almost 850,000 baits were distributed in 2021.

### Aerial baiting

We distributed baits by helicopter from August 9–10 in green spaces in urban areas. In southwestern Ontario, 19,500 baits were distributed across 130km<sup>2</sup> at a density of 150 baits/km<sup>2</sup>, and in Kitchener-Waterloo, 17,400 baits were distributed across 262km<sup>2</sup> at a density of 75 baits/km<sup>2</sup>. We also distributed 488,326 baits throughout rural southwestern Ontario by fixed wing aircraft from August 16–23, at 75 baits/km<sup>2</sup>. From September 7–8, we distributed 53,200 baits by helicopter at 75 baits/km<sup>2</sup> in the Niagara region from east of St. Catharines to the Ontario/US border.

### Ground Distribution

Our staff on the ground distributed baits by hand (hand-baiting) and via bait stations. Hand-baiting targets urban skunk and raccoon habitat where the use of aircraft would not be practical or feasible (Figure 3). Hand-baiting also gives staff the opportunity to interact directly with members of the public, educating them about the rabies program and that rabies may be present in the area.

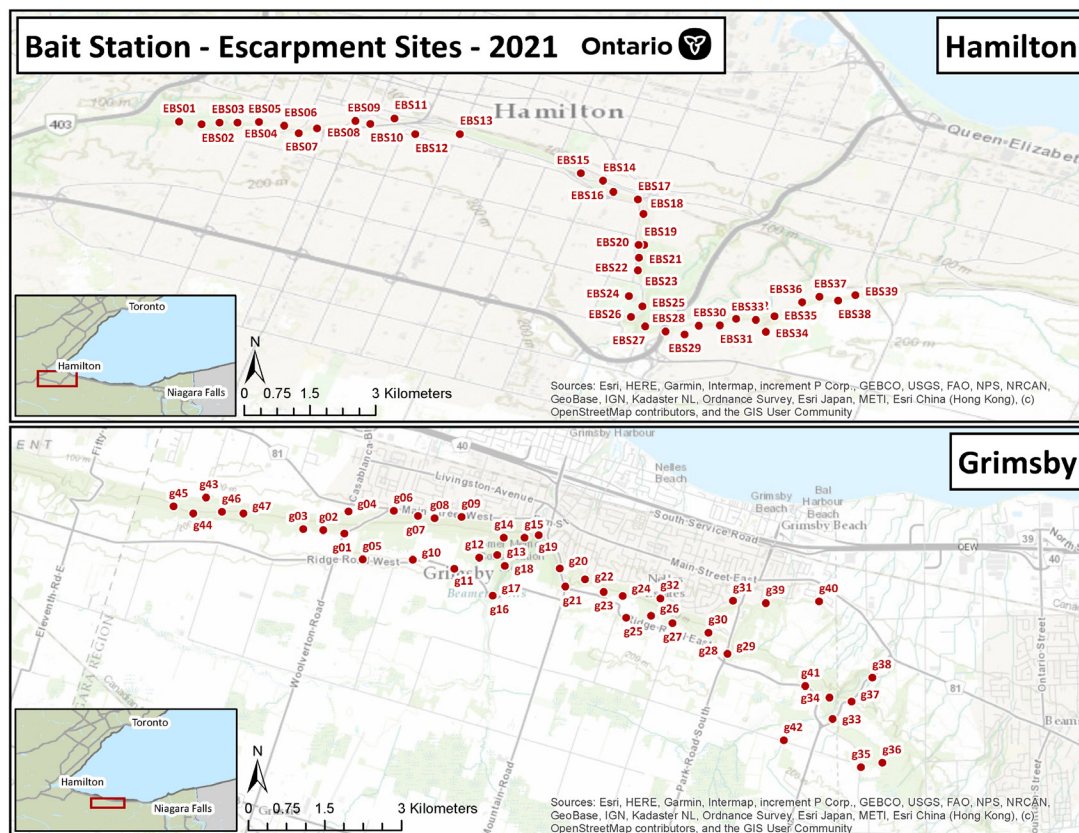
Hand-baiting was done throughout the summer in the Golden Horseshoe area from June 28 to October 7. Our crews distributed 213,835 baits at 150 baits/km<sup>2</sup> covering an area of 1,489 km<sup>2</sup> (Figure 3).

### Bait stations

In 2021, we installed temporary bait stations (along the escarpment in the Hamilton and Grimsby areas to target wildlife corridors in urban and semi-urban areas. Bait stations are polyvinyl chloride (PVC) tubes that are filled with baits once a week. Wildlife that encounter the stations can self serve by taking a bait or two to get vaccinated and keep moving. Thirty-nine stations were set up along the escarpment in Hamilton and 47 sites in Grimsby (Figure 4). Stations were rebaited with 75 baits per station once per week. All together, 16,844 baits were dispensed using bait stations along the escarpment in 2021.

### Eastern Ontario proactive baiting

To help prevent another re-incursion of raccoon strain rabies from New York State, we distributed 25,350 ONRAB baits by fixed-wing aircraft over a 431 km<sup>2</sup> area along the St. Lawrence River (Figure 5) on August 7. This area on the mainland borders the St. Lawrence River near Kingston and Wolfe Island. Baits were dropped at a density of 75 baits/km<sup>2</sup> over agricultural and forested habitats. From September 13–16, our hand-baiting crews distributed 5,425 baits in Cornwall (Figure 5). Once again, we also partnered with the Mohawks of Akwesasne First Nation to provide 1,560 baits for distribution on Cornwall Island (Akwesasne).



**Figure 4. 2021 Hamilton and Grimsby escarpment bait stations.**

## Trap-vaccinate-release

Our trap-vaccinate-release (TVR) program operated between July 5 and October 29, in Burlington, Dundas, Hamilton, St. Catharines and Welland. Our crews trapped 30 cells covering approximately 180 km<sup>2</sup> and six spot treatment cells covering 36km<sup>2</sup>. Staff targeted strategic areas where rabies cases were ongoing and in strategic areas to create a wall of vaccinated animals to prevent the spread of rabies. Animals were captured and vaccinated with an intramuscular injection of IMRAB3 rabies vaccine. Staff also applied ear tags with unique identification numbers so that mark recapture data could be used to estimate raccoon and skunk population density and the percentage of animals vaccinated. In 2021, our staff vaccinated 3,406 raccoons, 618 skunks, 7 coyotes, and 36 foxes during TVR.

From September 27 until October 8, 2021, we conducted a study to estimate the proportion of the raccoon and skunk populations that were successfully vaccinated during the 2021 baiting campaign. To do this, our staff collected blood samples from live-trapped raccoons and skunks to test for rabies antibodies, which indicates that the animals have been successfully vaccinated. Vaccination rates were assessed in four cells in Burlington and Oakville, which have been monitored for 5 consecutive years. The overall proportion of animals that were seropositive (an indication of protection against rabies) was consistent with previous results at 15% for raccoons (20/130; excluding 40 historic recaptures), as well as skunks at 16% (9/55; excluding 1 historic recapture).

## NDMNRF 2021 communications

Anne McCarty, Ministry of Northern Development, Mines, Natural Resources and Forestry

Public education and outreach are an important part of the rabies program. We work closely with municipal and ministry partners to inform and engage the public and key audiences about rabies in wildlife. The 35 organic and 6 paid rabies social media posts on Facebook, Instagram and Twitter that were published in 2021 reached (the number of people who saw the post) over 2.7 million people and engaged (the number of interactions with the post) over 16,200.

The "Rabies in Ontario" website was updated with weekly rabies case maps, planned baiting operations, vaccine bait information, and information on rabies in humans, pets, and livestock. In October 2021, a new webpage was created to split rabies outbreak information and control operations from general rabies in wildlife information. The new webpage allows for more targeted content and linking directly to operational activities. Visits to the rabies in Ontario webpages were similar in 2021 to 2020 (Table 1).

**Table 1.** Number of site visits to Rabies in Ontario web pages from 2015–2021.

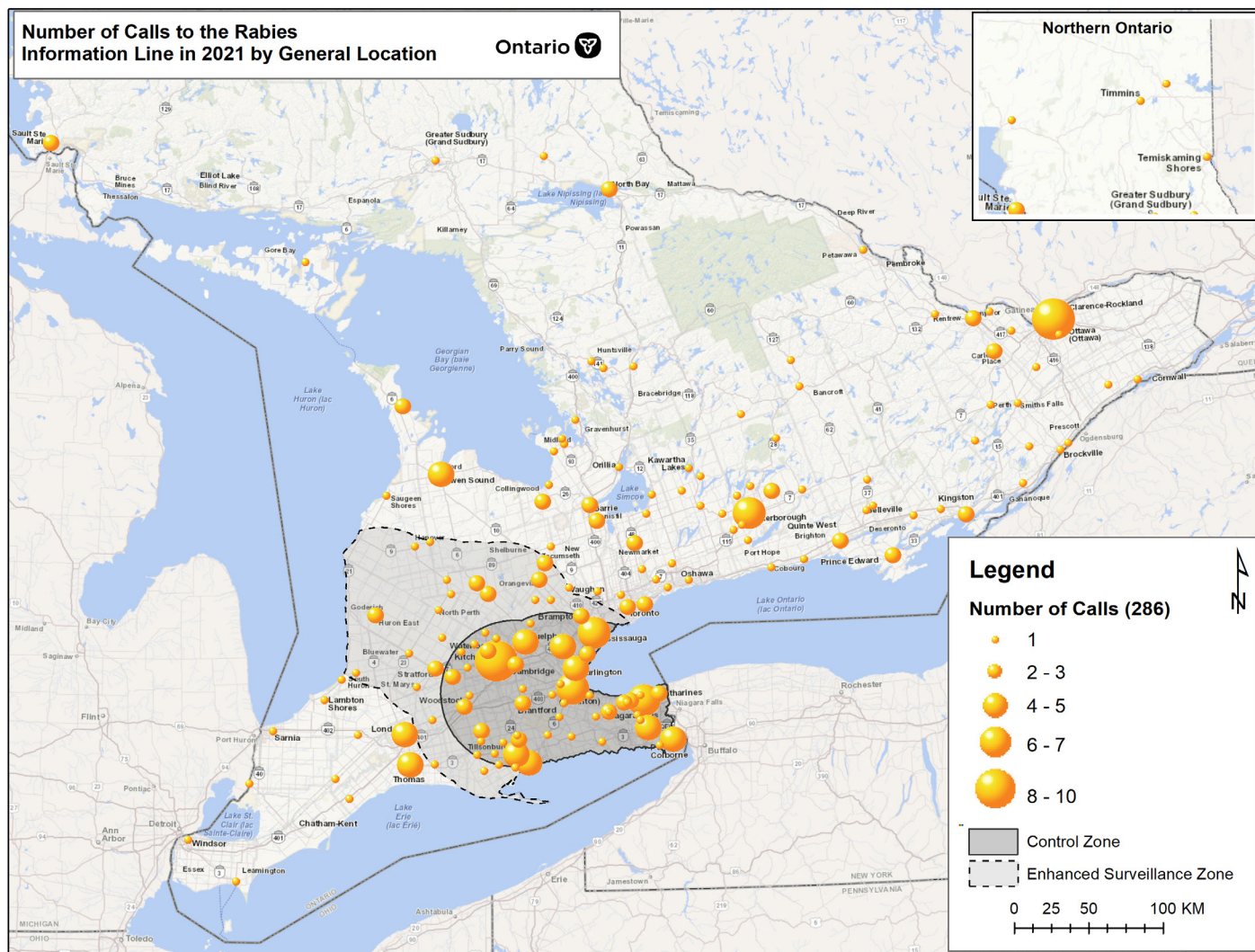
| Webpages                   | 2015         | 2016          | 2017          | 2018          | 2019          | 2020          | 2021          |
|----------------------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Rabies</b>              | 5,733        | 23,956        | 9,071         | 8,929         | 19,397        | 7,844         | 5,368         |
| <b>Rabies cases</b>        | n/a          | 4,530         | 8,058         | 6,764         | 4,585         | 3,922         | 4,988         |
| <b>Rabies in humans</b>    | n/a          | 1,790         | 8,057         | 10,688        | 13,402        | 8,379         | 9,082         |
| <b>Rabies in livestock</b> | n/a          | 73            | 853           | 1,285         | 970           | 466           | 417           |
| <b>Rabies in pets</b>      | n/a          | 1,132         | 9,444         | 11,837        | 16,939        | 13,906        | 15,433        |
| <b>Rabies in wildlife</b>  | n/a          | 2,813         | 10,138        | 9,538         | 18,251        | 11,765        | 10,581        |
| <b>Rabies operations*</b>  | n/a          | n/a           | n/a           | n/a           | n/a           | n/a           | 524           |
| <b>Total</b>               | <b>5,733</b> | <b>34,294</b> | <b>45,621</b> | <b>49,041</b> | <b>73,544</b> | <b>46,282</b> | <b>46,393</b> |

\* New rabies outbreak and control operations webpage was published October 14, 2021.

In 2021, we received and responded to over 280 calls to the rabies information line – down about 30% from 2020. Of the calls:

- Almost 30% requested pickup of dead, sick or strange-acting wildlife for rabies testing.
- Over 20% were for advice regarding sick or strange acting animals,
- Over 15% were about ONRAB oral rabies vaccine baits. Calls about baits included queries about the baiting schedule, baits found by dogs and bait safety.

Most calls were received between June and August, when wildlife are most active and baiting operations are underway. The fewest calls were received in winter, when wildlife are less active and baiting operations have ended. As in previous years, most calls originated in or near the control zone (Figure 5).



**Figure 5:** General locations and number of calls to the rabies information line in Ontario in 2021. Calls lacking geographic information are not shown.

### Interview with Natalie Pulham - NDMNRF rabies laboratory lead

Anne McCarthy, Ministry of Northern Development, Mines, Natural Resources and Forestry

Natalie Pulham is the lead technician in NDMNRF's rabies testing lab. She has been with the ministry since 2010, and with the rabies program since 2015. Before joining the rabies program, Natalie also worked in the ministry's wildlife policy section and enforcement branch. Natalie loves animals; she has worked with wildlife for many years, owns two Arabian horses, and operates a dog rescue in her spare time.

I had the opportunity to sit down with Natalie and find out more about her experience and what it's like to work in the rabies lab.

#### **How did you get into this type of work?**

My interest in a natural resources career began by accompanying my dad (Sr. Policy Advisor) to conferences and other networking opportunities where I could talk to people from all departments of the ministry to learn more about career possibilities. I went to my first conference when I was in high school; we went out for a wolf howl after the presentations, and I was hooked. I did ride-alongs with conservation officers where I learned more about their careers. I knew I wanted to have a field-based job related to natural resources. I started college and was most interested in wildlife research so I went to Trent University and got a degree in biology. My career began as a project biologist in wildlife policy with the ministry. I took every opportunity I could to volunteer for field projects to gain experience. After that, I did internships and other positions within the ministry until I was hired as a wildlife research technician with the rabies program.

#### **What is your typical routine each week?**

On Mondays we extract brain samples from wildlife carcasses collected from surveillance partners. These animals did not have any contact with humans or domestic animals. We test the brain samples for rabies using the direct rapid immunohistochemical test (dRIT). The sample collection and testing take 1 or 2 days. Rabies positive samples are sent to the Canadian Food Inspection Agency (CFIA) for confirmatory testing. After testing is finished, lab staff collect carcasses from our surveillance partners (such as animal control agencies, humane societies, and independent agencies). These wildlife carcasses were found dead or sick/strange acting. They are tested the following week. At the end of the week, all the rabies negative carcasses are disposed of and rabies positive carcasses are kept in the freezer to be sent for incineration. Lastly, we put the newly collected carcasses out in our lab on Friday to thaw over the weekend for sampling on the following Monday.

#### **How long does it usually take for the results to be available for a sample (from collection to reporting results)?**

From the time we collect carcasses from partner agencies, we have results in a week. Rabies positive samples are sent to CFIA for confirmatory testing which usually takes another day. We typically report positive results to health units 8 days after we pick up the samples.

#### **How many samples has the team tested since 2015?**

Since 2015, the rabies lab team have tested over 23,000 animals which have mostly been rabies vector species (raccoon, skunk, fox), but we have also tested other species such as mink, coyote, beaver, groundhog, white-tailed deer, squirrel, and rabbit to name a few.

### **How is dRIT testing different from fluorescent antibody testing (FAT) and how accurate is it?**

Both tests require brain smear impressions made on slides. The main difference between the two tests is that FAT is based on antigen detection and uses a fluorescence microscope to detect rabies virus antigen, while dRIT uses stains to detect the antigens and a traditional light microscope. The FAT is considered the gold standard by the World Health Organization which is why all our positive samples are sent for confirmation before they are officially reported as positive. The overall accuracy of our dRIT testing is 98.8%; however, since February 2016 our dRIT results have agreed 100% with CFIA's results.

### **How does this work inform the rabies control program?**

Information on rabies positive cases directly informs our rabies control operations, including locations for oral rabies vaccine baiting as well as trap-vaccinate-release and rapid response spot treatments.

### **What's the most surprising thing you've been sent or found?**

The most shocking things are usually just unexpected; we have had some skinned animals collected from fur harvesters submitted and those are always a surprise.

### **What do you enjoy most about your job?**

I really enjoy seeing the results of our hard work and the progress we are making towards eliminating terrestrial rabies from Ontario! The decline in positive cases and reduced spread in the locations of cases is a good indication of how our work is paying off. There is also variety with a mixture of lab/field/office work, so I'm doing something different each day of the week. I also get the opportunity to participate in other research projects throughout the year and I'm always learning (Figure 6).

### **What's the most unpleasant thing about this work?**

The smell of rotting carcasses, and roadkill samples can be very unpleasant to look at. In warmer weather, we get a lot of ticks on the carcasses too. The ticks survive in the freezers so we see a lot of live ones moving around on and off the animals. For me, the ticks are worse than any of the smells or sights.

### **What would you tell someone who wanted to get into this type of work?**

If you are passionate about wildlife and working in different types of environments, don't wait — start your education or look for volunteer and work opportunities. It is very rewarding work, and there are lots of careers related to wildlife and other natural resources that include field work, lab work or more office-based work.



**Figure 6:** Natalie Pulham and a Northern shoveler (her favourite duck) captured on the airboat project.

### Charlie MacInnes: The legend may be gone but his legacy lives on

Beverly Stevenson, Ministry of Northern Development, Mines, Natural Resources and Forestry

Charlie's passing this past September resounded throughout the science community. During his lifelong career in wildlife research he made significant contributions to waterfowl research and led the development and implementation of the Ontario rabies control program. His leadership resulted in keeping countless North Americans safe from rabies.

Charlie began his career as a goose biologist in the 1960s and taught at Western University until 1973, before moving to the ministry as a supervisor of Wildlife Research Section in 1973. A visionary, Charlie recognized that the newly created Rabies Research Unit needed a dedicated coordinator and he stepped down from the section manager role to lead the rabies program in 1990.

Charlie's success was in large part due to his ability to talk to anyone. He was knowledgeable about many subjects, a persuasive speaker, practical, and forward thinking. He was such an accomplished speaker and advocate that some of the initial funding for the rabies program came from the Ontario Lottery and Gaming Corporation! Charlie even convinced leadership that it would be beneficial to Ontario to contribute to New York's rabies control programs. In some areas like St. Lawrence River there are no natural barriers that would stop rabies from continuing to spread into the province from New York. He showed that supporting programs south of our borders with a modest contribution would save significant money in the long run and result in better protection for the people, pets and wildlife of Ontario.

Charlie was also responsible for convincing many other states and provinces to implement rabies control programs. Ontario shared its methods and technologies with Quebec, New Brunswick, New York, Vermont, Maine, Ohio, Texas, and Florida to name just a few (Figure 7). Under Charlie's leadership, Ontario went from being the rabies capital of North America to practically eliminating fox strain rabies and containing raccoon rabies to a small part of southern Ontario before his retirement in 2002. Quite a remarkable and accomplished career!



**Figure 7:** Charlie MacInnes (right) advises Texas rabies lead Gayne Fearneyhough on rabies control operations 1997.

# Ontario Animal Rabies Report

Detected rabies cases by region from January to December 2021 compared to same period in 2020.

| Animal type<br>Year            | Fox<br>2020 | Fox<br>2021 | RAC<br>2020 | RAC<br>2021 | SSK<br>2020 | SSK<br>2021 | Other<br>2020 | Other<br>2021 | Bat<br>2020 | Bat<br>2021 | Dog<br>2020 | Dog<br>2021 | Cat<br>2020 | Cat<br>2021 | LVSTK<br>2020 | LVSTK<br>2021 | Total<br>2020 | Total<br>2021 |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|---------------|---------------|---------------|
| <b>Eastern Ontario</b>         |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               |               |               |
| Frontenac                      |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Lanark                         |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Leeds and Grenville            |             |             |             |             |             |             |               |               |             | 1           |             |             |             |             |               |               | 0             | 1             |
| Lennox & Addington             |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Prescott-Russel                |             |             |             |             |             |             |               |               |             | 1           |             |             |             |             |               |               | 0             | 1             |
| Ottawa-Carleton                |             |             |             |             |             |             |               |               | 5           | 1           |             |             |             |             |               |               | 5             | 1             |
| Renfrew                        |             |             |             |             |             |             |               |               | 5           | 1           |             |             |             |             |               |               | 5             | 1             |
| Stormont, Dundas,<br>Glengarry |             |             |             |             |             |             |               |               | 4           | 2           |             |             |             |             |               |               | 4             | 2             |
| <b>Central Ontario</b>         |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               |               |               |
| Durham                         |             |             |             |             |             |             |               |               |             | 1           |             |             |             |             |               |               | 0             | 1             |
| Haliburton                     |             |             |             |             |             |             |               |               | 1           |             |             |             |             |             |               |               | 1             | 0             |
| Hastings                       |             |             |             |             |             |             |               |               | 1           |             |             |             |             |             |               |               | 1             | 0             |
| Northumberland                 |             |             |             |             |             |             |               |               | 2           |             |             |             |             |             |               |               | 2             | 0             |
| Peterborough                   |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Prince Edward                  |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Simcoe                         |             |             |             |             |             |             |               |               | 1           |             |             | 1           |             |             |               |               | 1             | 1             |
| Toronto                        |             |             |             |             |             |             |               |               |             | 2           |             |             |             |             |               |               | 0             | 2             |
| Victoria                       |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| York Region                    |             |             |             |             |             |             |               |               | 1           |             |             |             |             |             |               |               | 1             | 0             |
| <b>Western Ontario</b>         |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               |               |               |
| Bruce                          |             |             |             |             |             |             |               |               | 2           |             |             |             |             |             |               |               | 2             | 0             |
| Grey                           |             |             |             |             |             |             |               |               | 1           | 1           |             |             |             |             |               |               | 1             | 1             |
| Halton                         |             |             |             |             |             |             |               |               | 2           | 1           |             |             |             |             |               |               | 2             | 1             |
| Huron                          |             |             |             |             |             |             |               |               | 2           |             |             |             |             |             |               |               | 2             | 0             |
| Peel                           |             |             |             |             |             |             |               |               | 2           |             |             |             |             |             |               |               | 2             | 0             |
| Perth                          |             |             |             |             |             |             |               |               |             | 2           |             |             |             |             |               |               | 0             | 2             |
| Waterloo                       |             |             |             |             |             |             |               |               | 1           | 1           |             |             |             |             |               |               | 1             | 1             |
| Wellington-Dufferin-<br>Guelph |             |             |             |             | 1           |             |               |               | 3           | 3           |             |             |             |             |               |               | 4             | 3             |

| Animal type<br>Year     | Fox<br>2020 | Fox<br>2021 | RAC<br>2020 | RAC<br>2021 | SSK<br>2020 | SSK<br>2021 | Other<br>2020 | Other<br>2021 | Bat<br>2020 | Bat<br>2021 | Dog<br>2020 | Dog<br>2021 | Cat<br>2020 | Cat<br>2021 | LVSTK<br>2020 | LVSTK<br>2021 | Total<br>2020 | Total<br>2021 |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|---------------|---------------|---------------|
| <b>Southern Ontario</b> |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               |               |               |
| Brant                   |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Elgin                   |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Essex                   |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Haldimand               |             |             |             |             |             |             |               |               | 1           |             |             |             |             |             |               |               | 1             | 0             |
| Hamilton                |             |             |             |             | 2           |             |               |               |             | 1           |             |             |             |             |               |               | 2             | 1             |
| Kent                    |             |             |             |             |             |             |               |               | 1           |             |             |             |             |             |               |               | 1             | 0             |
| Lambton                 |             |             |             |             |             |             |               |               |             | 2           |             |             |             |             |               |               | 0             | 2             |
| Middlesex               |             |             |             |             |             |             |               |               |             | 2           |             |             |             |             |               |               | 0             | 2             |
| Niagara                 |             |             | 3           | 2           | 4           | 12          |               |               | 1           | 1           |             |             |             |             |               |               | 8             | 15            |
| Norfolk                 |             |             |             |             |             |             |               |               | 2           | 1           |             |             |             |             |               |               | 2             | 1             |
| Oxford                  |             |             |             |             |             |             |               |               |             | 1           |             |             |             |             |               |               | 0             | 1             |
| <b>Northern Ontario</b> |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               |               |               |
| Algoma                  |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Cochrane                |             |             |             |             |             |             |               |               |             | 1           |             |             |             |             |               |               | 0             | 1             |
| Kenora                  |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Muskoka                 |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Nipissing               |             |             |             |             |             |             |               |               |             | 1           |             |             |             |             |               |               | 0             | 1             |
| Parry Sound             |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Rainy River             |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Sudbury                 |             |             |             |             |             |             |               |               | 1           |             |             |             |             |             |               |               | 1             | 0             |
| Thunder Bay             |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| Timiskaming             |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               | 0             | 0             |
| <b>Regional Totals</b>  |             |             |             |             |             |             |               |               |             |             |             |             |             |             |               |               |               |               |
| <b>Eastern</b>          | 0           | 0           | 0           | 0           | 0           | 0           | 0             | 0             | 14          | 6           | 0           | 0           | 0           | 0           | 0             | 0             | 14            | 6             |
| <b>Central</b>          | 0           | 0           | 0           | 0           | 0           | 0           | 0             | 0             | 6           | 3           | 0           | 1           | 0           | 0           | 0             | 0             | 6             | 4             |
| <b>Western</b>          | 0           | 0           | 0           | 0           | 1           | 0           | 0             | 0             | 13          | 8           | 0           | 0           | 0           | 0           | 0             | 0             | 14            | 8             |
| <b>Southern</b>         | 0           | 0           | 3           | 2           | 6           | 12          | 0             | 0             | 5           | 8           | 0           | 0           | 0           | 0           | 0             | 0             | 14            | 22            |
| <b>Northern</b>         | 0           | 0           | 0           | 0           | 0           | 0           | 0             | 0             | 1           | 2           | 0           | 0           | 0           | 0           | 0             | 0             | 1             | 2             |
| <b>Totals</b>           | 0           | 0           | 3           | 2           | 7           | 12          | 0             | 0             | 39          | 27          | 0           | 1           | 0           | 0           | 0             | 0             | 49            | 42            |

#### Acronym Legend

RAC: raccoon

SSK: striped skunk

Other: other wildlife

LVSTK: livestock

