

The Rabies Reporter

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RACCOON RABIES IN NEW YORK DURING THE SPRING OF 1998

There have been significant movements of raccoon rabies into St. Lawrence County, New York, as shown in figure 1. This is a complex map, and requires explanation. The first bait drop in the area was done in October 1995. That was a "wall" 26 km (15 miles) wide, and at the time of the drop the rabies front was still some distance away, to the southwest. In 1996, the wall was treated again, and the area was enlarged westward in Jefferson County. In April 1997, a rabid raccoon was encountered near Gouverneur, 10 km east of the "wall". The Cornell team mounted a quick response by dropping baits for a radius of 10 km around this first case. During the rest of 1997, there were several more cases, but all within the spring baiting area. During the fall drop in September, that radius was increased by a further 8 km.

In February of this year there was a case east of the expanded bait zone. By early May it was quite clear that a major outbreak was in progress on the "wrong" (east) side of the "wall". However, if you look carefully at figure 1, you will see that there are very few cases within the zone which has been treated since 1995. The same cannot be said for the region first baited in April 1997, where there have already been 4 cases, plus two just outside the boundary. Within the area west of the 1997 baiting, there are not as many cases this year as in the last

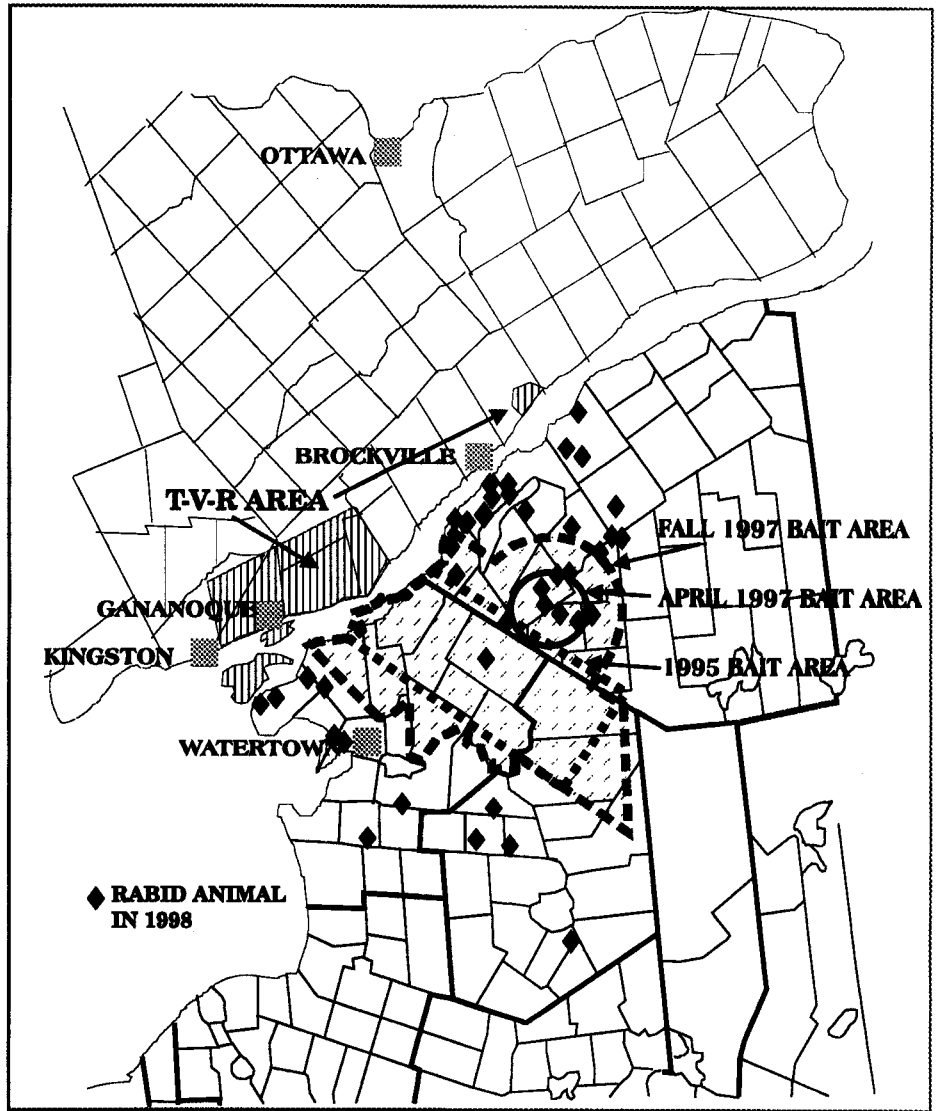


Figure 1. Raccoon strain rabies cases along the St. Lawrence River in 1998, up to 15 May. Data courtesy of Dr. Laura Bigler, Cornell University.

two years. The northern part of Jefferson County was baited in 1996, but it has also had two years of high rabies levels, so a decline in the number of cases was to be expected, vaccination or not.

There was an intense debate within the Rabies Unit in February, about whether we should start a point outbreak control project around that first case east of the vaccination "wall". The logic was two-fold: (1) this is a major threat to Ontario, although the outbreak is still in New York, and (2)

this could be an experimental test of the point outbreak control plan. As events have unfolded since then, it would have been a wasted effort. For point outbreak control to succeed, the first case reported almost has to be the first invader. If the first invader passes rabies to several other raccoons, and the first reported case is one of the latter, then the spread of cases which will occur soon after the first will be too large to control with trapping and vaccination. Had we decided to start point outbreak control, we could not have

started until April, both because live-traps have low success before mid-April, and because it would have taken that long to get such an operation organized. By April, the area covered by rabies cases was larger than we could have covered without a very large effort and expense. The circle where baits were put in April 1997 is slightly larger than a planned point outbreak control, around a single case. Compare that, on figure 1, with the extent of the cases plus a belt in the surrounding uninfected area..

There is good news on the New York oral vaccination front. The Niagara County test area, where vaccination began on top of the first rabies outbreak, appears to be very successful. The control area, Orleans county, just east of Niagara, is experiencing its second round of raccoon rabies, but cases are very scarce within the vaccinated area (fig. 2).

There is some not-so-good news, too. The overall budget for the Cornell experiments in New York has been cut by the state, so not all areas will be treated next September, unless there is a change. Considering that a much wider wall east of the St. Lawrence

outbreak was planned, this is bad news indeed.

Last year the Cornell group also baited in Vermont, where raccoon rabies is moving north toward the Quebec border. So far, money from Quebec to continue that work has not been confirmed, although Quebec authorities are trying to find funds.

The question has been raised in Ontario as to whether this detailed tracking of events in New York amounts to "crying wolf". That is not any easy allegation to counter. How likely is raccoon rabies to jump across the Niagara and St. Lawrence Rivers?? Well, we do know that four raccoons with Ontario ear tags have been recovered in New York, two in the Niagara region, and two along the St. Lawrence. Since no-one is engaged in large-scale trapping in either area in New York, to look for animals tagged on our side, it is impossible to estimate how many raccoons have actually crossed the rivers.

The major movements of raccoon rabies along the St. Lawrence appear to have begun during the mating season. Raccoons mate in February and March, and at that time, if the weather is right, males may travel more than 20

kilometres in search of mates. Good weather for travel is warm, with not much snow on the ground, conditions which prevailed in the region this year. However, there was one factor this winter which was much in Canada's favour: the St Lawrence was not frozen over. I doubt that a raccoon could swim the river in March, even if it was fool enough to want to! However, if there were ice across the river, with no great depth of soft snow to wade through, I think lusty male raccoons might well walk across the frozen river. (Note: the river is not as wide as indicated in figure 1. That map was patched together from two different sources, and I could not make the two halves fit exactly as they should.)

Another feature of the "cry wolf" story is also important. Although the Rabies Unit began planning for raccoon rabies in 1992, our efforts were, as far as possible, behind the scenes. However, when raccoon rabies invaded the southern suburbs of Buffalo, in 1993, the media on the Canadian side picked up the story, and, of course, asked what Ontario was doing, so we were brought to the public's attention whether we wanted that or not. We began Trap-Vaccinate-Release on the Canadian side of the Niagara River in May 1994, in advance of the first cases, which occurred in April 1995. Then, in 1997, there were cases right along the St. Lawrence.

The question remains, could the rivers alone have held raccoon rabies out of Ontario. Farther south, raccoon rabies was along the west side of the Susquehanna River near Harrisburg, PA, for 21 months before the first cases occurred on the east bank. Raccoon rabies jumped from 60 km west of the Hudson River to 60 km east, just north of New York City.

So, I believe that raccoon rabies will eventually make it across either or both of the St. Lawrence and the Niagara Rivers, but I cannot predict when. Given the high level of vaccination achieved by the TVR program along the Niagara, it is possible that a single

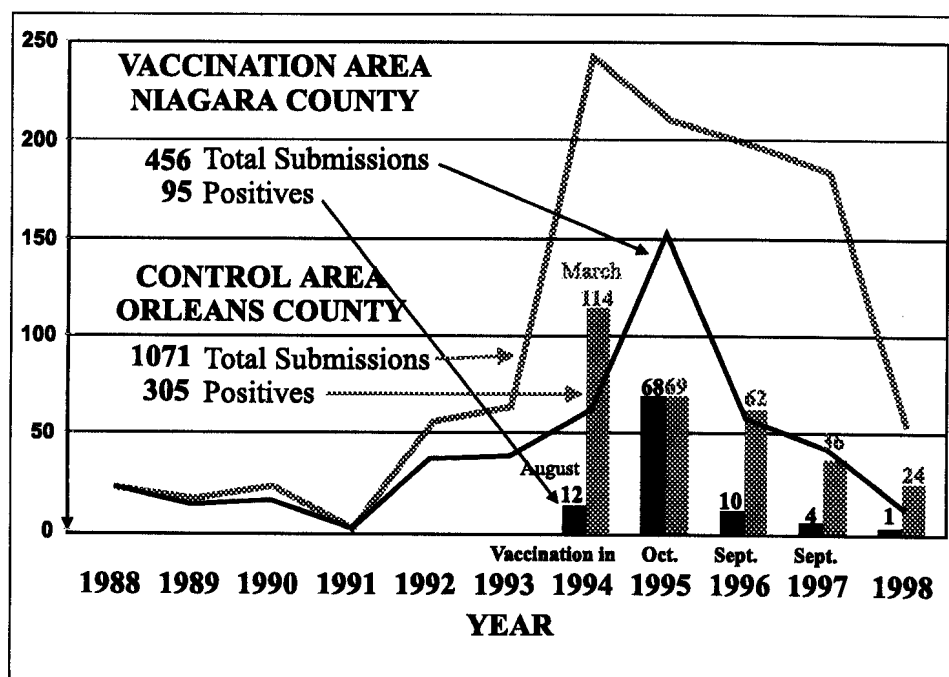


Figure 2. Success of the oral vaccination experiment in Niagara County, New York. Data courtesy of Dr. Laura Bigler, Cornell University

raccoon incubating raccoon rabies has already crossed, and died undetected. If it did not infect any raccoons on our side because most that it encountered were protected, and it died without being seen by humans, we would not know the event had happened.

It's going to be an interesting summer! The prediction is that the first case of raccoon rabies, if it occurs in 1998, will be in Quebec, not Ontario.

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BAITING IN OHIO APRIL 1998

On Ontario Twin Otter, C-FOPG arrived at the Youngstown-Elser airport in the suburbs of Youngstown, Ohio, on Sunday, 19 April, to carry out the first fixed-wing bait drop in Ohio. This was not the first vaccination effort in Ohio, as the Ohio Department of Health put out baits, by helicopter and by hand in April and September of 1997. The operation this year was very carefully planned. The Ontario aircraft covered much of the area, but an Ohio helicopter was needed to put baits along lakes shores, and in the green belts where rivers and creeks run through Youngstown. In addition, teams from the County Health Departments hand-baited urban areas. It took me only one flight to see the wisdom of this combined approach: there are too many subdivisions around Youngstown to permit thorough coverage from a Twin Otter.

The ODH leaders were Forrest Smith, Kathy Smith and Bob Hale. One other feature worth mentioning was the support from other departments, both Agriculture and Natural Resources.

Figure 1 shows the extent of the raccoon rabies incursion into Ohio. It also shows the scattered nature of raccoon rabies in western Pennsylvania. Surveillance is not as intensive in Pennsylvania, but it is also true that the country there is more mountainous,

and thinly populated compared to eastern Ohio. The Cornell experimental bait drops in Chautauqua County, New York occurred just off the eastern side of this map. Raccoon rabies has made an "end run" around that area, coming into the City of Erie (PA) from the south-east during 1997.

Here are notes made on the spot, as the bait drop progressed.

Sunday April 19, 1998

0907 I got to Buttonville to discover OPG was already there. We were off Buttonville at 0930 for the 25 minute hop to Niagara Falls, NY, to clear US customs. We had to stay the better part of an hour, as the Customs man had a lot of questions. Then there was an hour flight, for a noon landing at the Youngstown-Elser airport, whose call sign is 4G4. Youngstown is right on the Pennsylvania line about 60 miles south of Lake Erie. The weather was beautiful in Niagara, but we ran into low cloud and rain as we approached the Pennsylvania line, and it was foggy with light rain when we landed.

Sunday afternoon was training time, in pouring rain. However, between a barn on the airport, and hiding under the wing of the aircraft, we got all the Ohio crew up to speed on aircraft safety and how to run the bait machines.

We also had a lesson in communication. According to Bob Hale, when you say it, there is no "O" in Ohio. It's pronounced Ahia, eh?

The Ohio operation is spearheaded by the Ohio Department of Health. However, USDA-Wildlife Services actually wrote the contract for our flying, and there were four familiar Texans to

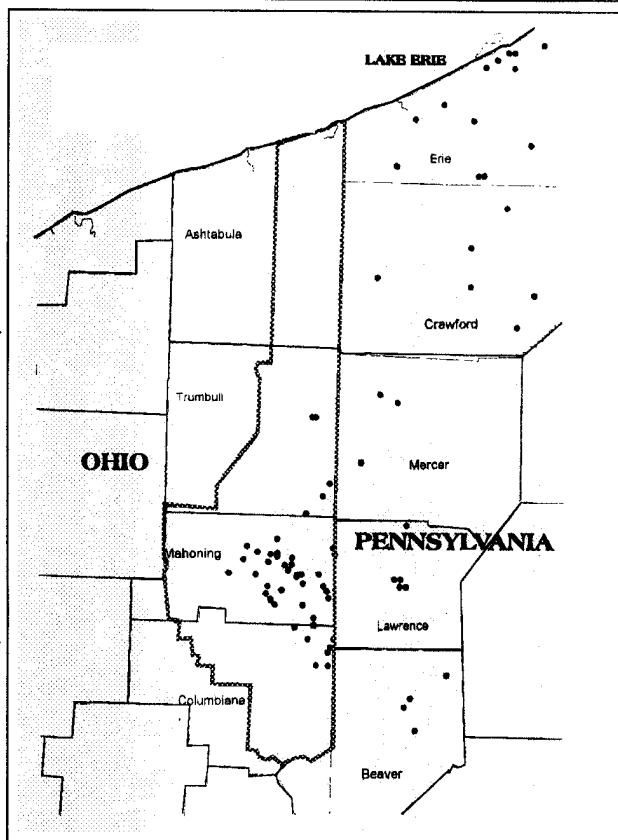


Figure 1. Map of 1997 raccoon rabies case (black dots) in western Pennsylvania and eastern Ohio. The area covered by the April Oral Vaccination Project is enclosed in the heavy line. The City of Youngstown occupies most of Mahoning County.

greet us. Three were from the Texas Department of Health (Gayne Fearneyhough, Brad Hicks and Connie Lawrence), while the fourth (Hoppy Turman) was from the Texas group of USDA-Wildlife Services. Brad Hicks was the person responsible for the computer mapping. Dave Ball at Queen's actually drew the flight lines, and put them on the FTP site. Brad picked them up via internet, and took charge of uploading to the aircraft.

Monday April 20. It wasn't raining at daybreak, but there was fog and the ceiling was low. We were out to the airport by 0700, but the first flight did not leave until 1100. The problem was low cloud up near Lake Erie, the northern end of the planned flights for the day. The sun started to show through the clouds before 1000, and I really felt for the Ohio people. It is

hard to believe you can't fly when the sun is shining at your airport. I have been on enough flights that had to turn back because of low cloud that I can appreciate the pilots' caution.

We got 3 3-hour flights done by the end of the day. On the first 2, the amount of off-time was sufficient that they returned with about 40% of their bait load. On the third flight we upped the baits/second, and came much closer to target.

We had a series of meetings through the afternoon, first on the bait rate problem, and the second to make sure that the operation would be self-sufficient after the Texans leave on Thursday.

Tuesday 21 April. This was a beautiful day, and the first flight was off the ground by 0700. Six flights were planned, including two short flights, one for the Director of the Health Department, and one for the Health Department TV crew. The air was still, so flights were easy for the beginners. When the fifth flight landed, there was only enough daylight left to complete a bit more than half of the planned sixth flight, so we called it a day, had an early supper, and made an early night of it.

The Director of the Ohio Department of Health (equivalent to our Minister in Ontario) came to review the operation at noon. He went up as a baiter on a 0.8 hour flight, and came down enthusiastic about the whole thing. He presented each agency head with a very attractive version of the Great Seal of Ohio. In return, Ontario presented him with a commemorative plate sent by the Mayor of Peterborough, plus our various pins, and an Air Service hat.

Wednesday 22 April. Pilots and MNR crew had the plane ready to roll at 0640, but the baiting crew were a bit later, so the flight only got airborne at 0702. Another beautiful day for baiting, sunny, clear air, and little wind.

Kim Bennett did two bait flights in the Ohio helicopter, and said it is a really neat way to see the country. They

were baiting river shores, and she said the scenery in the valleys was wonderful. I had a flight on Thursday, and I echo her sentiments. The flowering dogwood was in bloom, both the wild tree, white in the understory of the forest, and the cultivated forms, the size of apple trees and with pale pink flowers. The helicopter pilot was one of the characters of the operation. His name is Keaton, so of course he is always known as Buster!!

In addition to the Twin Otter and one Jet Ranger helicopter, the three local county health departments are setting out baits on the ground in urban areas. By mid-afternoon, the base phone started to ring as each crew chief reports what they have got done that day.

We had two families of ground baiters visit today - gave them tours of the plane once it was down for the day.

Thursday 23 April. Day 4 dawned nice - light, high overcast and promises of sun by noon, with highs close to 70F. The aircraft was off at 0657, not 0645 as planned, but everything went well. The original plan was one flight left for Friday, but as Thursday went on, it became clear that we could finish it today.

Friday 24 April. All that was left was to go home - and that went smoothly.

This was a very good operation. I hope we will be back in September.

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RABIES IN ONTARIO FIRST QUARTER, 1998

Rabies was so quiet in the quarter reported here that this story is not the lead! There were 13 rabid animals in all of Ontario during the quarter, down from 16 a year ago, 32 the year before, and down 97.2 % from the 1980-89 average of 471. Skunks and cattle accounted for all the cases, divided 8

skunks to 5 cattle. Again, we are much concerned about the reporting rate for skunks. There was one rabid skunk sent to ADRI from Peterborough county, but the district veterinarian tells us that there were several more reports of skunks that probably were rabid.

Perth County has always been remarkable for the high number of rabid skunks, compared to foxes, and that situation remains. In fact, as you can see on the map, seven of the eight rabid skunks this quarter occurred in a small area in northern Perth and adjacent Huron and Bruce Counties.

The next quarter will tell us a lot more. Will there still be rabid foxes in northern Ontario? Where will the cases be in the south? Will a focus develop in Peterborough County? Stay tuned, it's getting interesting.

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The Rabies Reporter, a scientific newsletter about current issues in rabies research and control, is a joint effort of the Rabies Research Unit, Ontario Ministry of Natural Resources; the Food Production and Inspection Branch of Agriculture Canada; The Ontario Ministry of Health and the Department of Geography, Queens University, Kingston.. Articles for future issues will be welcomed by the editor. Comments, letters, submissions and enquiries should be sent to:

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Animal Rabies Report: January to March 1998

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Animal Type	Fox			Skunk			Other Wildlife			Dog			Cat			Livestock			Total		
	#	98	97	#	98	97	#	98	97	#	98	97	#	98	97	#	98	97	#	98	97
Northern (continued)																					
Thunder Bay																				0	0
Rainy River																				0	0
Kenora																				0	0
Subtotals																					
Eastern																				0	1
Central				1	1	1														1	1
Western				7	7	7										5	5	3	12	12	11
Southern																				0	0
Northern																				0	3
Totals	0	0	3	8	8	8	0	0	1	0	0	1	0	0	0	5	5	3	13	13	16

Livestock this quarter: 5 cattle

Other wildlife this quarter: none

