

# The Rabies Reporter

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**Rabies Reporter**, a scientific newsletter about current issues in rabies research and control, is a joint effort of the Rabies Research Unit of the Ontario Ministry of Natural Resources; the Rabies Laboratory at the Ottawa Laboratory (Fallowfield) of the Canadian Food Inspection Agency; the Ontario Ministry of Health; and the Geographic Information Systems Laboratory at Queens University, Kingston. Articles for future issues will be welcomed by the editor. The Rabies Reporter is not refereed, and should not be cited in papers intended for refereed journals. Send contributions, letters and inquiries to:

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## Rabies in Ontario During the Third Quarter

As expected, the third quarter was busier than the previous two. The total number of rabies cases more than doubled during this three month period with 34 new cases. This brings the total for the first nine months to 65 cases.

Most of the new cases were in bats. There were 27 rabid bats this quarter bringing the total for the year so far to 39. The cases occurred in Peterborough County (4), Durham Region (3), York Region (4), Toronto (1), Simcoe County (2), Peel Region (1), Wellington County (1), Waterloo Region (1), Grey County (1), Bruce County (4), Haldimand-Norfolk (1), Niagara (1), Middlesex (1), Lambton (1), and Muskoka (1).

Terrestrial cases accounted for only 20% of the cases this quarter. There were seven cases in terrestrial animals this quarter including two foxes, two skunks, two cats, and one bovine.

The rabid bovine and one rabid cat were both from Waterloo Region and were located in very close proximity to each other. There were no rabid skunks in the immediate area in either this quarter or in the previous one. However, there were rabid skunks in both Waterloo and Wellington counties surrounding these cases so it would not be unexpected for there to be an undiscovered rabid skunk in this area as well which could have infected both animals.

The second rabid cat was from Wellington County and was located close to the location where a rabid skunk had been found in the previous quarter.

There were only two rabid skunks this quarter; one was from Grey County and the other was from Waterloo Region. This is an unexpected but pleas-

ant surprise. The number of rabid skunks is usually lower during the third quarter. However, it is not usually this low. There were 13 rabid skunks during the first two quarters.

The limited distribution of a new vaccine and bait combination (ultra-lite baits containing ONRAB vaccine) in a small area in southwestern Ontario may help to reduce rabies in skunks. Skunks have been an important reservoir for Arctic strain rabies in southwestern Ontario. Until now, there has not been an effective oral vaccine targeting skunks.

An unexpected but not as pleasant surprise was the discovery of two rabid foxes this quarter. It has been almost two years since we have had two rabid foxes in the same quarter. There was one case each in Grey and Bruce County. Both of these cases were located near the base of the Bruce Peninsula. This area will be aerially baited with vaccine baits targeting foxes in early October.

For the fourth consecutive quarter, there were no cases of raccoon strain rabies in Ontario. This was very good news; there has only been one confirmed case in almost two years.

Hopefully these trends will continue. The low incidence of terrestrial rabies is very good news for our control programs. The distribution of the new ONRAB vaccine, although distributed over only a small area in southwestern Ontario, may help to reduce the incidence in terrestrial species even further.

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## Ontario's New Rabies Vaccine: It's Time for ONRAB

Seventeen years ago the Berlin wall fell, Bart Simpson uttered his first words and the Calgary Flames won the Cup. The year was 1989 and the province of Ontario began the hunt for a novel rabies vaccine, one that held promise to once and for all eradicate the disease from foxes, skunks and raccoons in southern Ontario. Finally, in the summer of 2006, over a decade and a half later, the first bait containing that promise hit the ground in the province.

The vaccine, named ONRAB, is a testament to the enduring collaborative partnerships of the Ministry of Natural Resources (MNR) and many organizations and agencies. The idea began many years earlier when MNR staff, confronted with the stubbornness of skunks to sero-convert using existing vaccines, started to look for new ways to fight the disease in the primary vectors (foxes, raccoons, and skunks). Ontario needed a new vaccine, one that worked on skunks and would prevent them from becoming a natural reservoir for the rabies virus. Recognizing the monumental task before them, MNR researchers

wisely engaged a number of partners to collaborate and develop the new vaccine.

Finally, in 2006, after seventeen years of dedicated effort by the Ministry of Natural Resources and its many partners, the Canadian Food Inspection Agency gave Ontario the green light for the first experimental use of this vaccine to fight the fox strain of rabies in skunks. Four 256 km<sup>2</sup> plots were selected in Grey and Dufferin counties to test the new vaccine. With the help of MNR's Aviation Services, staff from the Rabies Research and Development Unit successfully carried out the research, dropping over 200,000 vaccine baits in the late summer. In the fall, staff returned to the area to collect samples that would allow them to assess the effectiveness of the vaccine.

While early results from field sampling are promising, additional research is necessary. The Rabies Research and Development Unit is hopeful that in 2007, the results of the experiment may be published in a peer reviewed



Figure 2. Skunks are one of the key rabies vector species which ONRAB targets.

scientific journal and that the research will continue. With no other rabies vaccine available that targets skunks and yet still works effectively on all other rabies vector species, the world is once again watching Ontario.

If you would like more information on the experimental design of recent ONRAB research, please contact Dr. Rick Rosatte of the MNR's Rabies Research and Development Unit at [rick.rosatte@ontario.ca](mailto:rick.rosatte@ontario.ca).

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Figure 1. Ontario's new rabies vaccine bait, the ultra-lite, containing the new ONRAB vaccine.

## Animal Rabies Report: July to September 2006

Animal Type	Fox		Raccoon		Skunk		Other Wildlife		Bat		Dog		Cat		Livestock		Totals				
County or Region	#	Cumulative	#	Cumulative	#	Cumulative	#	Cumulative	#	Cumulative	#	Cumulative	#	Cumulative	#	Cumulative	#	Cumulative			
		06	05		06	05		06	05		06	05		06	05		06	05			
<b>Eastern</b>																					
Stormont, Dundas & Glengarry										2							0	0	2		
Prescott-Russell																	0	0	0		
Ottawa-Carleton										2							0	0	2		
Renfrew																	0	0	0		
Lanark																	0	0	0		
Leeds and Grenville				1						1							0	0	2		
Frontenac										1							0	0	1		
Lennox & Addington																	0	0	0		
<b>Central</b>																					
Hastings																	0	0	0		
Prince Edward										1							0	0	1		
Northumberland										1							0	0	1		
Victoria										1							0	0	1		
Haliburton																	0	0	0		
Peterborough									4	5	3						4	5	3		
Durham									3	3	4						3	3	4		
York Region									4	5	3						4	5	3		
Toronto									1	2	2						1	2	2		
Simcoe					1	7			2	2	4						2	3	11		
<b>Western</b>																					
Peel						3				1	1	3					3	1	4	6	
Halton											1	1					0	1	1		
Dufferin			1										1				1	6	0	1	8
Wellington						5	2			1	1	9		1	1		4	2	11	11	
Waterloo					1	1	2			1	2			1	1		1	1	4	6	1
Perth												3					0	0	3		
Grey	1	1			1		1	2	3		1	1					3	5	3		
Bruce	1	1	1								4	4					5	5	1		
Huron							2	2				1					0	2	3		

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Animal Type	Fox		Raccoon		Skunk		Other Wildlife		Bat		Dog		Cat		Livestock		Totals										
County or Region	#	Cumulative	#	Cumulative	#	Cumulative	#	Cumulative	#	Cumulative	#	Cumulative	#	Cumulative	#	Cumulative	#	Cumulative									
		06	05		06	05		06	05		06	05		06	05		06	05		06	05						
<b>Southern</b>																											
Wentworth												2										0	0	2			
Haldimand-Norfolk										1	1												1	1	0		
Brant																							0	0	0		
Niagara										1	4	2											1	4	2		
Elgin												1	2										0	1	2		
Oxford													1										0	0	1		
Middlesex													1	3	3								1	3	3		
Lambton													1	2	1								1	2	1		
Kent																							0	0	0		
Essex																							0	0	0		
<b>Northern</b>																											
Muskoka												1	1										1	1	0		
Parry Sound																							0	0	0		
Nipissing																							0	0	0		
Sudbury																							0	0	0		
Cochrane																							0	0	0		
Timiskaming																							0	0	0		
Algoma																							0	0	0		
Thunder Bay																							0	0	0		
Rainy River																							0	0	0		
Kenora																							0	0	0		
<b>Regional Totals</b>																											
<b>Eastern</b>	0	0	0	0	0	1	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	7		
<b>Central</b>	0	0	0	0	0	0	0	1	7	0	0	0	14	17	19	0	0	0	0	0	0	0	0	14	18	26	
<b>Western</b>	2	2	2	0	1	1	2	14	7	0	0	0	8	10	17	0	0	1	2	2	0	1	6	9	15	35	37
<b>Southern</b>	0	0	0	0	0	0	0	0	0	0	0	0	4	11	11	0	0	0	0	0	0	0	0	0	4	11	11
<b>Northern</b>	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0
<b>Totals</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>15</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>27</b>	<b>39</b>	<b>53</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>6</b>	<b>9</b>	<b>34</b>	<b>65</b>	<b>81</b>

Notes for this quarter:

The livestock was a bovine. All bats were big brown bats except a silver-haired bat in Peterborough and 5 little brown bats in Peterborough (1), Wellington (1), Muskoka (1), and Bruce (2).



