



# Rabies in Canada – 2023

Cin Thang, Mark Snodgrass, Zaheer Iqbal and Christine Fehlner-Gardiner

## INTRODUCTION

Laboratory diagnosis for rabies suspect animal and human cases is conducted by the Canadian Food Inspection Agency's (CFIA) laboratories located in Ottawa, Ontario and Lethbridge, Alberta. Some eastern provinces perform enhanced wildlife surveillance testing using the Direct Rapid Immunohistochemical Test (DRIT), with confirmatory fluorescent antibody test (FAT) performed in the CFIA laboratories.

## FACILITIES AND PEOPLE

**Facilities:** • Biocontainment Level 3 Laboratory and animal facilities • HPTA Licenses for rabies and other lyssaviruses • ISO 17025 Accreditation • CCAC Certified

**Subject Matter Experts:** • Provision of scientific advice to the WHO and WOHAI

• Support of provincial governments through collaborative research projects

• Participation in provincial and federal advisory committees and working groups

**Training and Collaboration:** • Scientist interchange/Sabbatical opportunities for professionals

• Student opportunities through co-operative education placements and graduate projects

• Large collections (isolates, antibodies, virus isolates) available for sharing

## SUMMARY

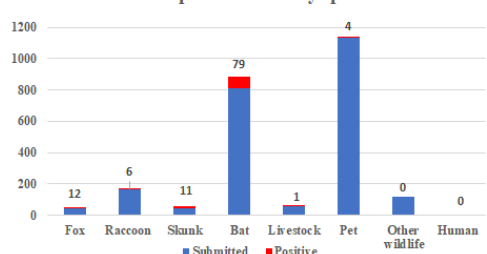
Test summary, 2019- 2023

Year	Tested	Positive cases	Bat	Fox	Raccoon	Skunk	Other wildlife	Livestock	Pet	Human
2019	3369	116	66	4	9	22	2*	1	11	1
2020	2675	104	75	3	4	15	0	3	4	0
2021	2443	105	51	13	2	27	0	4	8	0
2022	2535	136	56	32	7	28	0	3	10	0
2023	2372	113	79	12	6	11	0	1	4	0
<b>Total</b>	<b>13394</b>	<b>574</b>	<b>327</b>	<b>64</b>	<b>28</b>	<b>103</b>	<b>2</b>	<b>12</b>	<b>37</b>	<b>1</b>

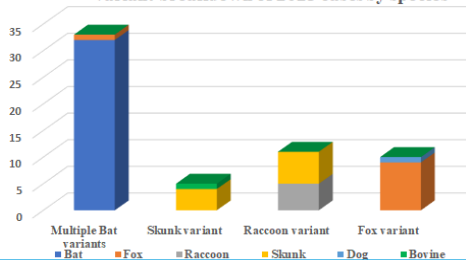
\*1 Wolf & 1 Mink

**Testing Summary:** A total of 2372 samples were analysed by the FAT, with a small number tested by quantitative RT-PCR (n=3; a skunk and 2 human suspect cases, all negative). Confirmatory tests on wildlife surveillance samples with no known human or animal contact accounted for 23 of the 113 (20.3%) positive samples, which were initially tested by DRIT in provincial laboratories.

Submitted and positive cases by species in 2023



Variant breakdown of 2023 cases by species



## Regional Highlights

**Southwestern Ontario:** Outbreak of raccoon-variant virus persisted with a decreased case count in 2023 (n=6) compared to 2022 (n=25). Fox-variant rabies cases have not been observed in the province for the last 3 years.

**New Brunswick:** Raccoon-variant rabies that re-emerged in New Brunswick in 2022 (n=2) has also remained in 2023 (n= 6).

**Northern Canada:** Arctic fox-variant virus cases declined in 2023 (n=12) after reaching its peak in 2022 with 40 cases (17 arctic foxes, 15 red foxes, 8 dogs).

**Western Canada:** Skunk-variant virus cases were detected exclusively in Manitoba in 2023 (n=5; 4 skunks & 1 bovine), while 10 cases were observed from both Manitoba (n=9) and Saskatchewan (n=1) in 2022.

RABIES IN CANADA: 1 JAN 2023 - 31 DEC 2023

