

## Background

- Rabies is a viral disease that affects the central nervous system of warm-blooded animals, including humans. Once symptoms appear, rabies is almost always fatal.
- Rabies resides in the saliva of infected animals and is usually spread by bites, but in rare circumstances it may spread when saliva enters open wounds, the eyes, mouth, or nose.
- The last confirmed human case of rabies acquired in Ontario was in 1967.
- In Ontario, the most common carriers of rabies are bats as there is no effective way to vaccinate this species. Cases of rabies in domestic animals in Ontario are uncommon.
- If you are bitten or injured by an animal, wash the wound with soap and report it to your local health unit immediately.

## Rabies in Humans

- The number and rate of incidents of rabies exposure requiring post-exposure prophylaxis (PEP) among Windsor-Essex County and Ontario residents for 2010-2014 is reported in **Figure 1**.
- During this time period, there was a slight increasing trend in incidents of rabies exposure requiring PEP. In 2014, the rate of PEP in Windsor-Essex (29.1 per 100,000 people) was nearly twice the provincial rate (15.4 per 100,000 people).
- During the 5-year period of 2010-2014 there were 491 incidents of rabies exposure requiring PEP among residents of Windsor-Essex County.
- The locations of exposure to rabies among Windsor-Essex County residents were recorded as follows: 465 incidents in Windsor-Essex County, 5 incidents from other Ontario jurisdictions, 19 incidents from outside Canada, and 2 incidents with an unknown location.
- The rate of rabies exposure by age group is reported in **Figure 2** for Windsor-Essex County residents during 2010-2014. Incidents were most common among individuals aged 20-29 years and least common among children (0-9 years) and seniors (65+). Age was not recorded for 169 individuals.
- Of the Windsor-Essex County residents that received PEP for rabies in 2010-2014, there were 159 females and 139 males. Sex was not recorded for 193 incidents.
- The seasonality of incidents of rabies exposure requiring PEP is reported in **Figure 3**. Incidents are more common during the warm months (June-August) and least common during the cold months (December-February).
- The animals involved in incidents of rabies exposure requiring PEP in Windsor-Essex County residents is reported in **Figure 4**. From 2010-2014, 85-90% of incidents involved either a dog or cat, and approximately 5% of incidents involved a bat.

## Rabies in Animals

- The number of animals testing positive for rabies in Ontario during the previous 15 years (2000-2014) is reported in **Figure 5**. There were no cases of rabies in animals reported in Windsor-Essex County in 2014.
- The last case of rabies in animals in Windsor-Essex County was in 2008 in a bat. The last cases of rabies in terrestrial mammals in Windsor-Essex were in 1994.
- In 2014, there were 18 cases of rabies in animals in Ontario; all cases were in bats. No terrestrial mammals tested positive in 2014.
- Since 1989, the government continues to run annual baiting programs to vaccinate wildlife against rabies as part of the strategy to eliminate rabies from Ontario,
- The number of rabies cases in animals in Ontario has experienced a 10-fold decrease since 2000 and a 100-fold decrease since 1988. The number of rabies cases in animals in 2014 is the lowest ever reported in Ontario. This massive decline may be attributed to the success of the government baiting programs.
- The proportion of rabies cases by type of animal (wild terrestrials, domesticated terrestrials, and bats) in Ontario (2005-2014) is reported in **Figure 6**.
- During the previous five years (2010-2014) in Ontario, two dogs and one cat tested positive for rabies.
- Bats now account for the vast majority of rabies cases in Ontario. There is no effective way to vaccinate bat species primarily due to their diet of insects.
- The number of rabies cases by animal species is reported in **Figure 7** for regions near Windsor-Essex County (2012-2014). Despite no cases of rabies in terrestrial animals in southern Ontario, neighboring states (Michigan and Ohio) still occasionally report rabies in domestic and wild terrestrial animals.
- Bats are the most common reservoir of rabies in Michigan and Ohio. Raccoon rabies has not been reported in Michigan, but is present in Ohio.

## Data Sources

The data presented in this report were sourced from the integrated Public Health Information System (iPHIS), the Canadian Food Inspection Agency (CFIA), and the Ontario Ministry of Natural Resources (MNR).

## Additional Resources

Public Health Ontario:

[https://www.publichealthontario.ca/en/DataAndAnalytics/Documents/2012\\_September\\_PHO\\_Monthly\\_Report.pdf](https://www.publichealthontario.ca/en/DataAndAnalytics/Documents/2012_September_PHO_Monthly_Report.pdf)

Ministry of Natural Resources: <http://www.ontario.ca/environment-and-energy/rabies>

Canadian Food Inspection Agency: <http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/rabies/eng/1356138388304/1356152541083>

Ontario Ministry of Agriculture, Food, and Rural Affairs:

[http://www.omafra.gov.on.ca/english/livestock/general/facts/info\\_rabies.htm](http://www.omafra.gov.on.ca/english/livestock/general/facts/info_rabies.htm)

Lambton Public Health: <https://lambtonhealth.on.ca/health-information/rabies-control/rabies-in-lambton-county>

London-Middlesex Health Unit: <https://www.healthunit.com/local-rabies-statistics>

State of Michigan: [www.michigan.gov/rabies](http://www.michigan.gov/rabies)

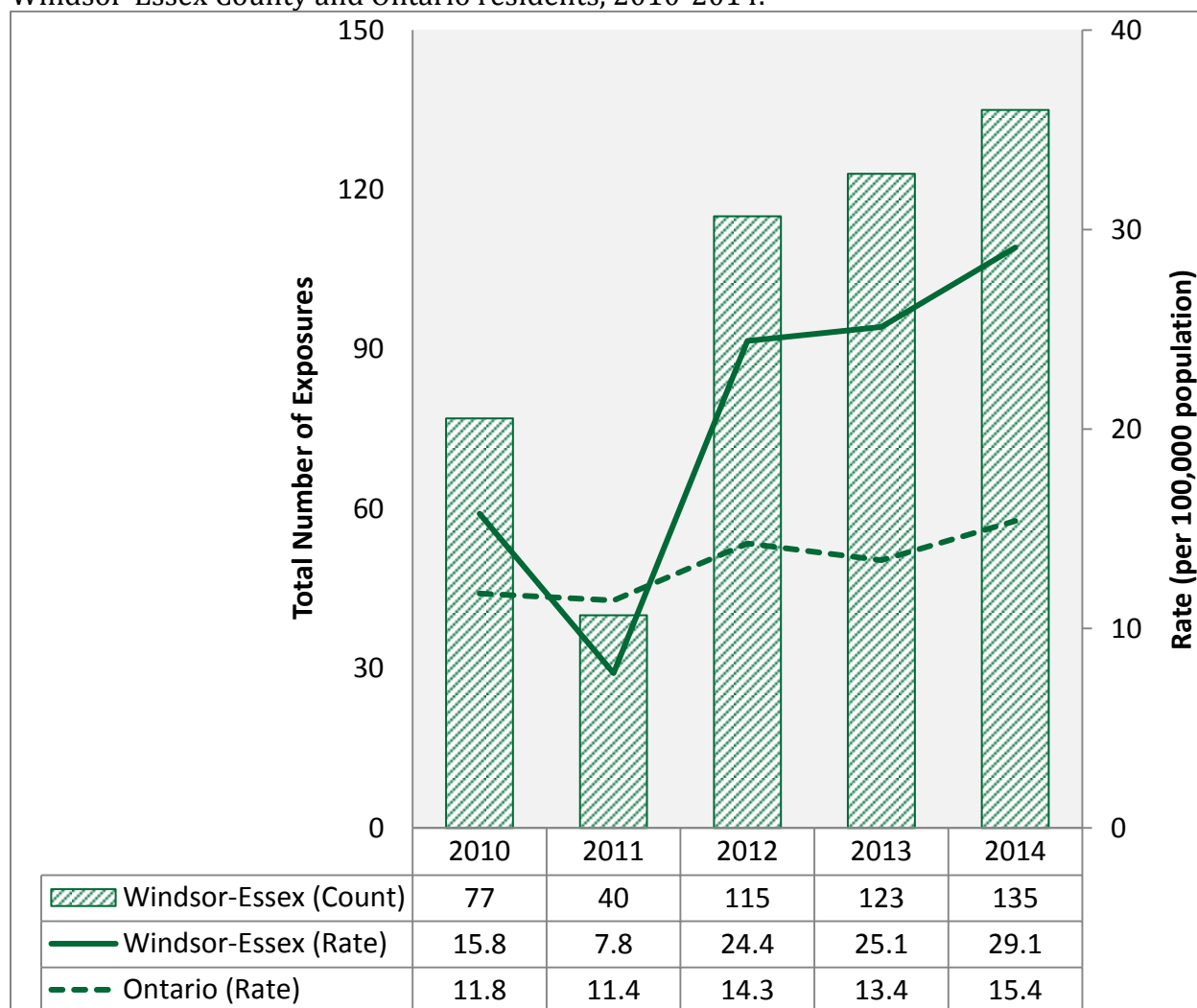
Ohio Department of Health: <http://www.odh.ohio.gov/rabies>

Centers for Disease Control and Prevention:

<http://www.cdc.gov/rabies/location/usa/surveillance/index.html>

## Figures

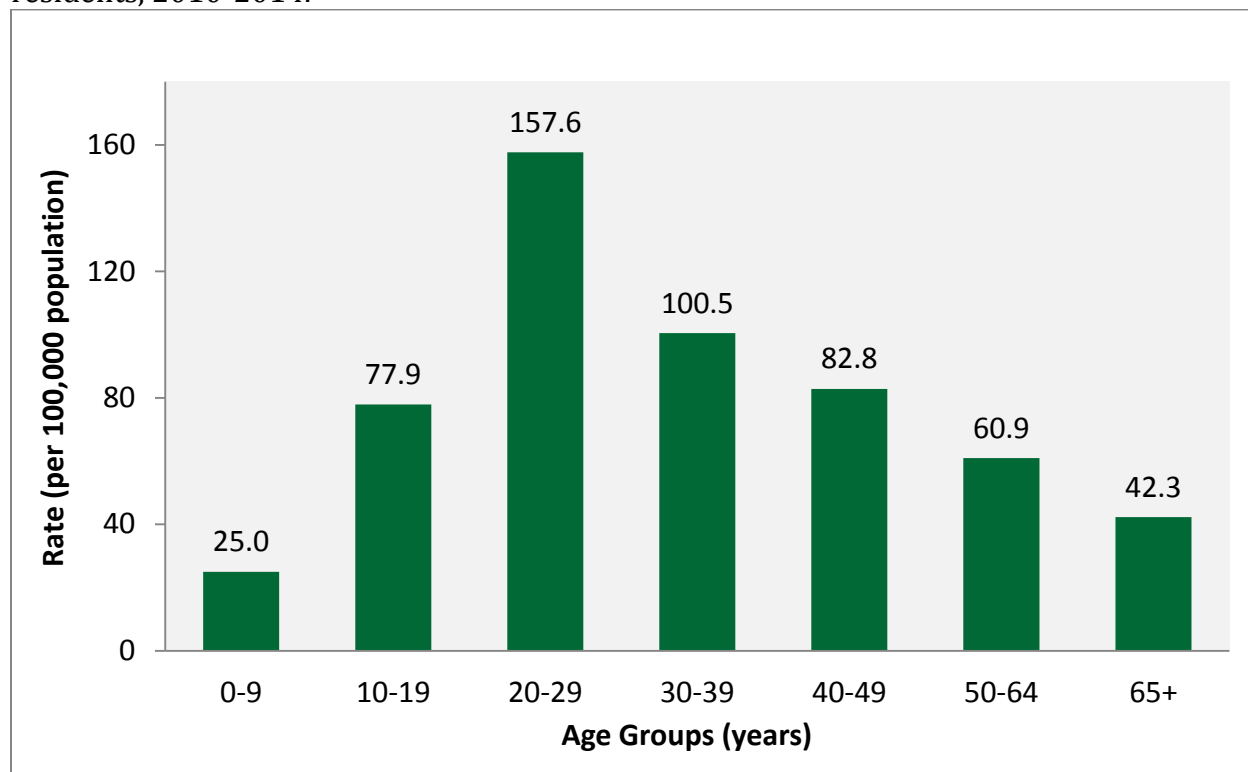
**Figure 1.** Number and rate of incidents of rabies exposure requiring PEP per calendar year, Windsor-Essex County and Ontario residents, 2010-2014.



**Data source:** MOHLTC, integrated Public Health Information System (iPHIS) database [2010-2014], extracted by Public Health Ontario [2015/09/09].

**Note:** 1 unknown date.

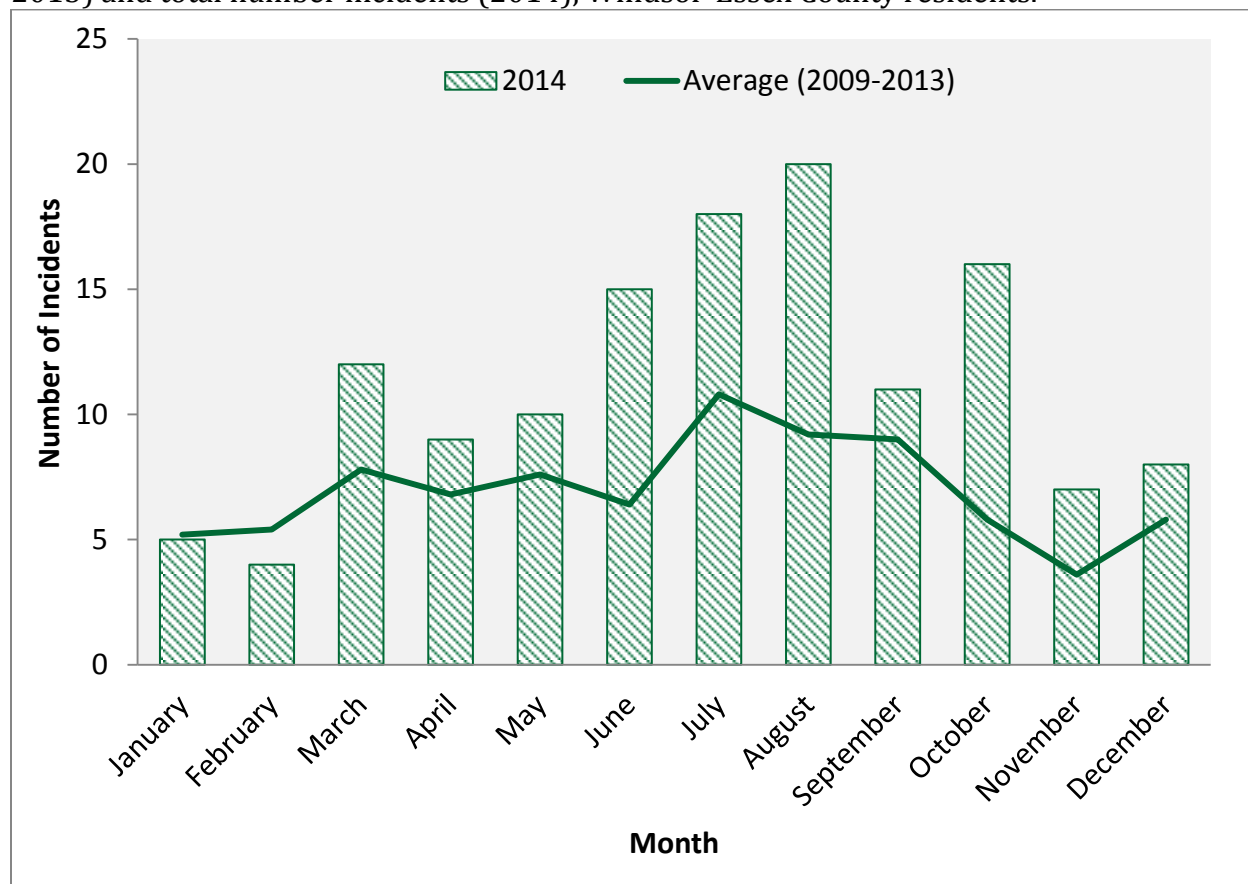
**Figure 2.** Rate of rabies exposure requiring PEP by age group, Windsor-Essex County residents, 2010-2014.



**Data Source:** MOHLTC, integrated Public Health Information System (iPHIS) database [2010-2014], extracted [2015/08/20].

**Note:** 169 unknown ages.

**Figure 3.** Average number of incidents of rabies exposure requiring PEP per month (2009-2013) and total number incidents (2014), Windsor-Essex County residents.

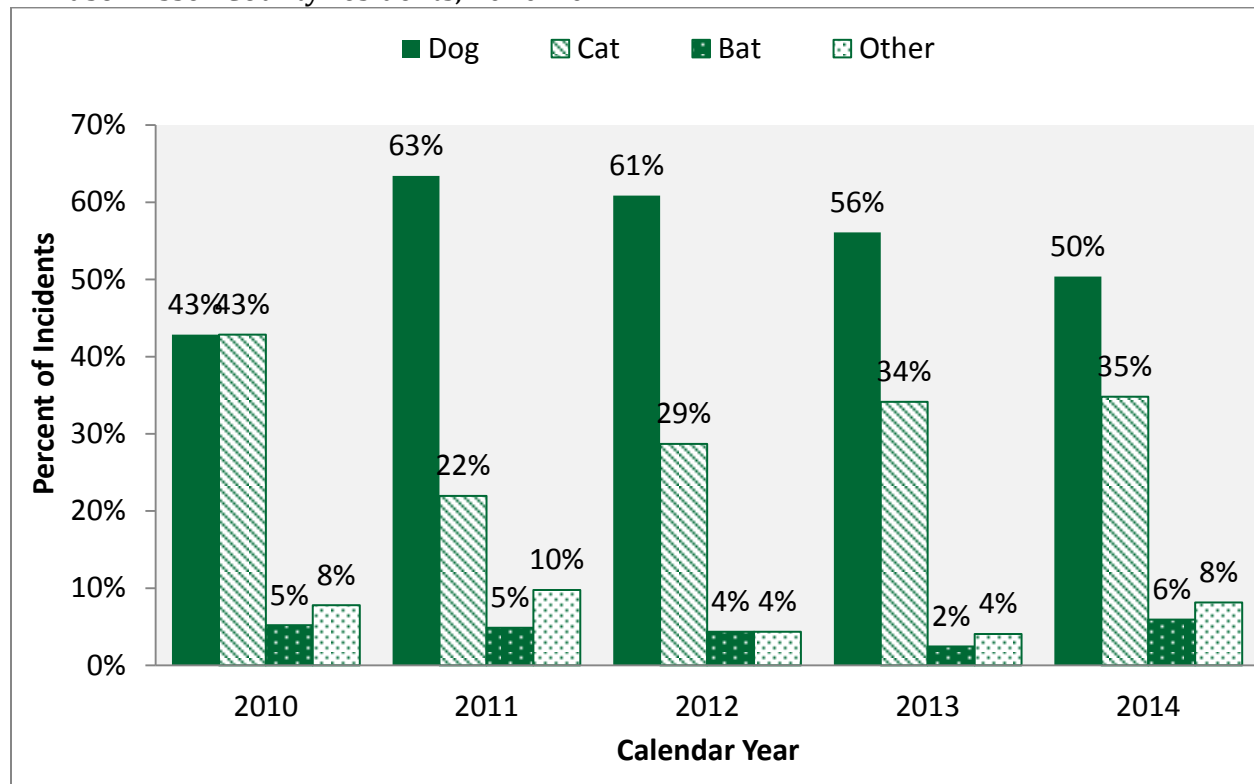


**Data Source:** MOHLTC, integrated Public Health Information System (iPHIS) database [2009-2014], extracted [2015/08/20].

**Note:** 3 unknown dates.



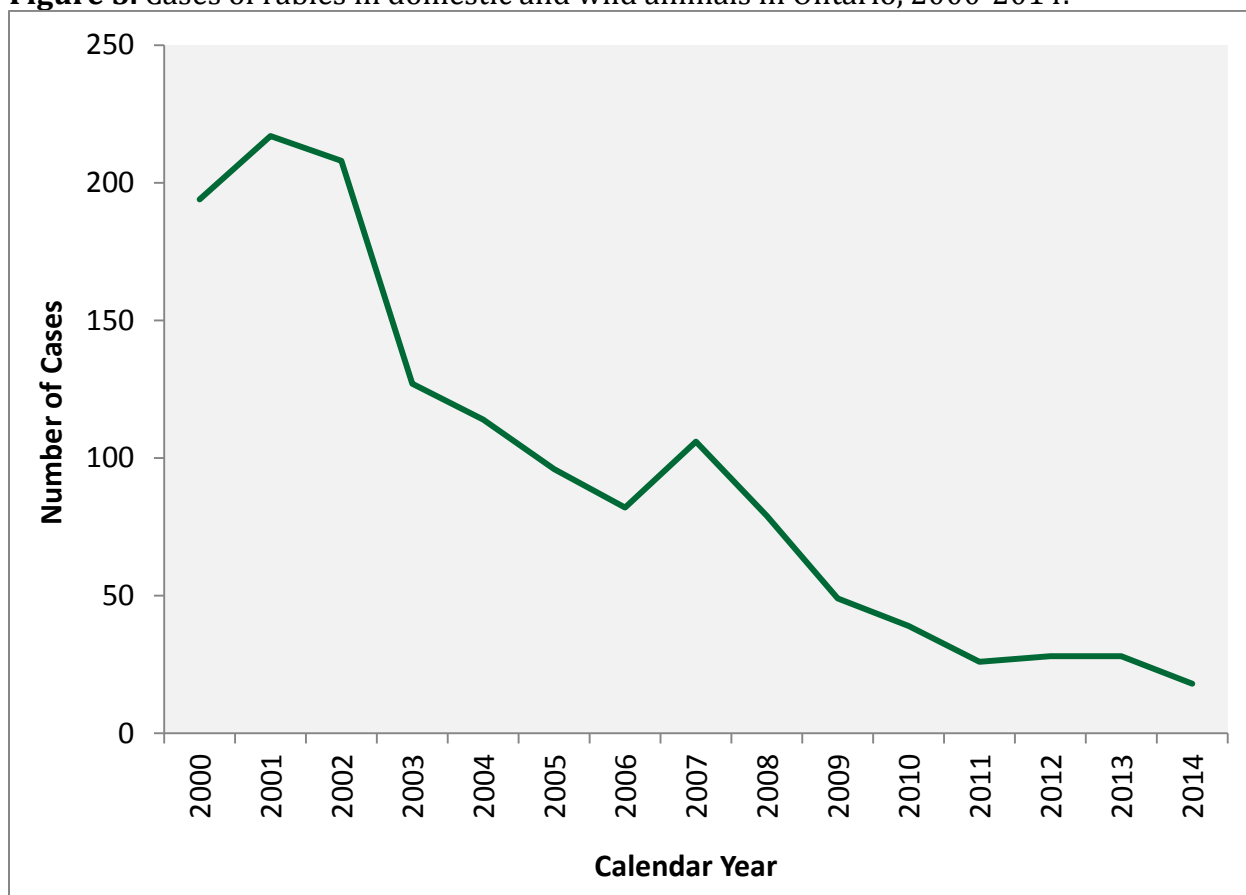
**Figure 4.** Animals involved in incidents of potential rabies exposures requiring PEP for Windsor-Essex County residents, 2010-2014.



**Data Source:** MOHLTC, integrated Public Health Information System (iPHIS) database [2010-2014], extracted [2015/08/20].

**Note:** 8 unknown animals.

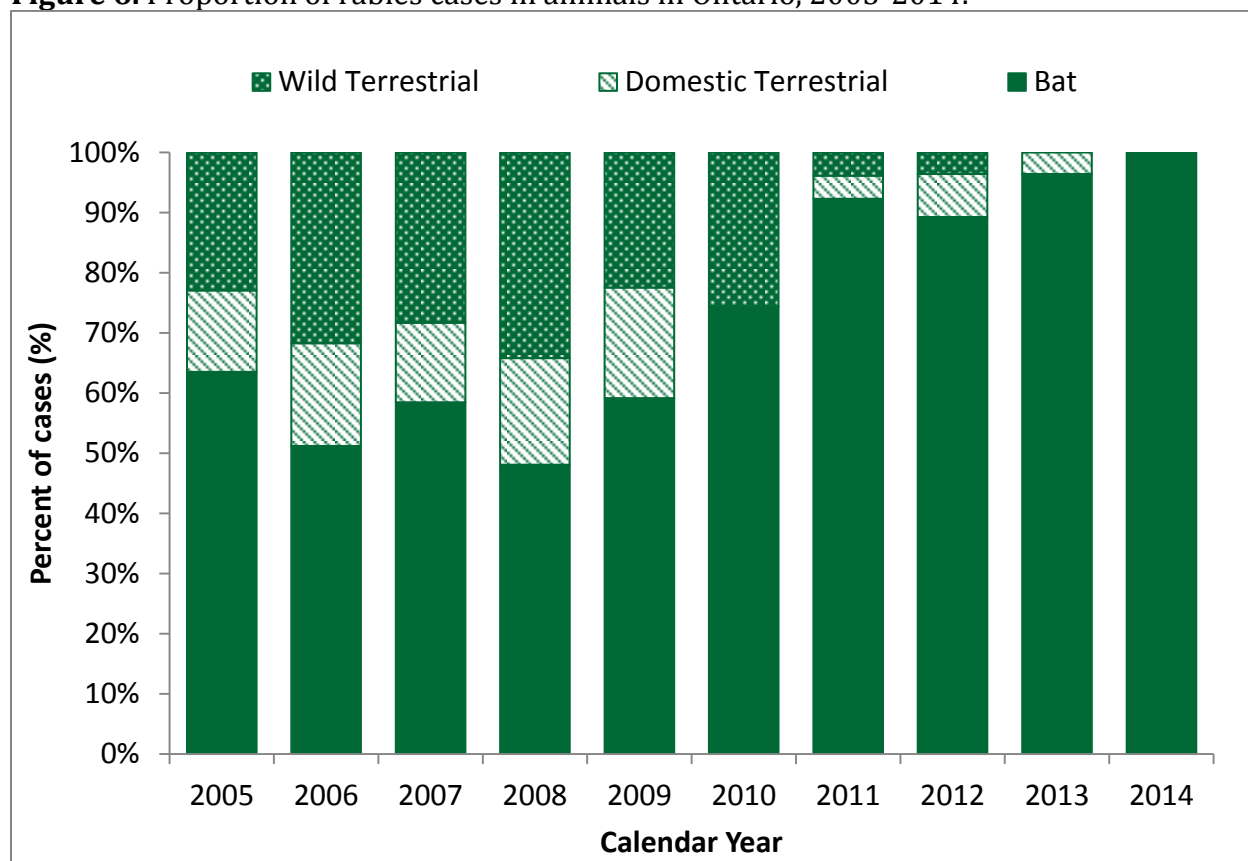
**Figure 5.** Cases of rabies in domestic and wild animals in Ontario, 2000-2014.



**Data Source:** Canadian Food Inspection Agency (CFIA) [2000-2014], extracted [2015/08/24].



**Figure 6.** Proportion of rabies cases in animals in Ontario, 2005-2014.



**Data Source:** Canadian Food Inspection Agency (CFIA) [2000-2014], extracted [2015/08/24].

**Note:** wild terrestrials include skunks, raccoons, foxes, and domestic terrestrials include dogs, cats, and livestock.

**Figure 7.** Rabies in animals in regions near Windsor-Essex County, 2012-2014.

Region	Year	Bat	Dog	Cat	Skunk	Fox	Rac-coon	Other	Total
Windsor-Essex	2012	0	0	0	0	0	0	0	0
	2013	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	0
Chatham-Kent	2012	2	0	0	0	0	0	0	2
	2013	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	0
Lambton	2012	0	0	0	0	0	0	0	0
	2013	3	0	0	0	0	0	0	3
	2014	0	0	0	0	0	0	0	0
London-Middlesex	2012	1	0	0	0	0	0	0	1
	2013	3	0	0	0	0	0	0	3
	2014	3	0	0	0	0	0	0	3
Michigan	2012	52	0	0	8	1	0	0	61
	2013	41	0	0	0	0	0	0	41
	2014	39	0	0	3	0	0	0	42
Ohio	2012	39	0	0	0	0	2	0	41
	2013	54	0	3	0	7	0	0	64
	2014	20	0	0	1	0	4	0	25

**Data Source:** Ministry of Natural Resources (MNR) [2012-2014], received [2015/09/11]; State of Michigan [2012-2014], received [2015/09/11]; Ohio Department of Health [2012-2014], received [2015/09/11].