

# Rabies in Ohio, 2013



## Overview

In 2013, 3911 animals were tested in Ohio for rabies compared to 3930 tested in 2012 (Appendix 1). Testing was conducted by three laboratories:

- The Ohio Department of Health Laboratory (ODHL) tested 3493 specimens. These were primarily public health submissions of suspect animals that had potentially exposed humans or domestic animals or rabies suspect animals.
- The United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services (USDA-APHIS-WS) laboratories tested 418 sick and dead wild animals as part of an active surveillance program for raccoon rabies variant (RRV) in northeast Ohio.
- The Centers for Disease Control and Prevention (CDC) laboratory confirmed USDA-APHIS-WS rabies positive samples and conducted rabies variant identification on non-bat ODHL positive samples.

*The total number of rabid animals identified increased from 41 in 2012 to 64 in 2013. In addition, there was an increase in the number of animals identified with raccoon rabies variant from two raccoons in 2012 to seven raccoons and three cats in 2013 (Table 1).*

### Contents:

1. Overview
2. Bats
3. Raccoon Rabies Variant

### Figure:

4. Ohio Rabies Positive Cases, 2013

### Appendix:

5. Ohio Rabies Testing and Percent Positive, 2008-2013
6. Ohio Rabies Testing by Decade, 1980-2009





Big Brown Bat (*Eptesicus fuscus*)

## Bats

There are eleven species of bats found in Ohio. All of these species are insectivorous (feed on insects) and are nocturnal (active at night) or crepuscular (most active at dusk and dawn). Bats feed on and help to control many agricultural pests.

All species of bat found in Ohio can carry and transmit rabies. Since 2000, on average, 5.4% of the bats tested at the ODHL are positive for rabies. The distribution of bat rabies in Ohio continues to be sporadic with 25 counties reporting at least one rabid bat (Figure 1). Historically, bats have been identified in all but nine of Ohio's eighty-eight counties. Twenty-eight bats exposed at least one person. Ohio's local health departments (LHDs) reported that 57 people received post exposure prophylaxis (PEP) as a result of bites or possible exposures to rabid bats. Because bats are responsible for the majority of human rabies fatalities in the United States, all human-bat interactions should be evaluated by public health officials.

In addition to the human exposures, 12 bats exposed 15 dogs and all the dogs were quarantined. Eleven bats exposed 13 cats; 12 of the cats were quarantined and one was euthanized because it was unvaccinated. Several of the cats were exposed in the home, emphasizing the need to vaccinate all cats, including indoor only cats, against rabies.

Although rabies is rare in people and in bats, bats are the most common source of domestically acquired human rabies in the United States. On average, two to three people a year develop rabies. Once symptoms develop, the disease is almost always fatal. Rabies is transmitted when saliva from a rabid animal gets into a wound (usually a bite) or mucous membrane.

All human-bat interactions should be medically evaluated. Bat bites can be very small and sometimes an individual may be unaware that he or she was bitten.

Bats that may have exposed people or pets should be captured and tested for rabies. Save the bat and contact your local health department. Learn more about bats and rabies and how to safely capture a bat on the CDC rabies webpage.

### CDC web page

<http://www.cdc.gov/rabies/bats/index.html>

## Raccoon Rabies Variant (RRV)

Other than bats, all confirmed rabid animals in 2013 were infected with the raccoon rabies variant (RRV). This includes seven raccoons and three cats.

Four rabid raccoons were identified in Mahoning County and three were identified in Trumbull County. One of the raccoons in Mahoning County was a juvenile raccoon that exposed three people who had found it and attempted to nurse it back to health. All three individuals received PEP. The remaining raccoons were all identified through USDA-APHIS-WS surveillance activities.

Three rabid cats were identified in Trumbull County. All three cats exposed at least one person. One of the cats was a stray that bit a person when she was trying to remove it from her garage. The other two cats were outdoor or 'barn cats.' One of the cats bit its owners and five other cats. The owners received PEP and the cats were vaccinated and quarantined. The other cat bit one of its owners and several employees at a veterinary hospital where it was receiving care. The cat also potentially exposed two dogs, six horses and numerous other barn cats. All exposed individuals received PEP and the animals were vaccinated and quarantined.

These incidents are a reminder to animal care professionals that rabies should be considered in any mammal showing neurologic signs, especially if it has not been vaccinated. Rabies suspect animals should be isolated and staff should protect themselves from skin contact with saliva and other body fluids. Veterinary clinics and animal shelters are strongly encouraged to have a policy in place to deal with animal bites and rabies exposures for staff, volunteers and clients. This policy should include immediate wound cleansing, a medical evaluation and a report to the local health department. The CDC recommends that people who frequently work with rabies susceptible animals receive the pre-exposure rabies vaccine series, even in areas where rabies is uncommon. If such persons are exposed to rabies in the future, they are considered immunologically primed against rabies and require only two booster doses of vaccine and not the full series.

The detection of ten animals infected with raccoon rabies variant in 2013 highlights the importance of continued rabies surveillance throughout the state and oral raccoon rabies vaccine (ORV) distribution in the rabies barrier zone along the Pennsylvania and West Virginia borders. The ORV program has provided an effective barrier to the spread of raccoon rabies variant into the rest of Ohio; however, continuous surveillance is still needed to identify areas of concern for raccoon rabies variant spread and to rapidly recognize and respond if raccoon rabies variant is identified in areas outside the ORV baiting area.

## Oral Rabies Vaccination (ORV) Program

The Ohio Department of Health began the ORV program in 1997 to halt the spread of RRV from Pennsylvania into Ohio. Since that time many other states including Pennsylvania and West Virginia have instituted baiting programs. The current multi-state program is administered by USDA-APHIS-WS in conjunction with state and local health departments. Baiting occurs each year in late August/ early September in 14 Ohio Counties along our eastern border. Baits are distributed by fixed wing aircraft in rural areas and by helicopter and ground teams in suburban and urban areas of the baiting zone.

For more information consult:

<http://www.odh.ohio.gov/odhprograms/dis/zoonoses/rabies/orv/orv1.aspx>

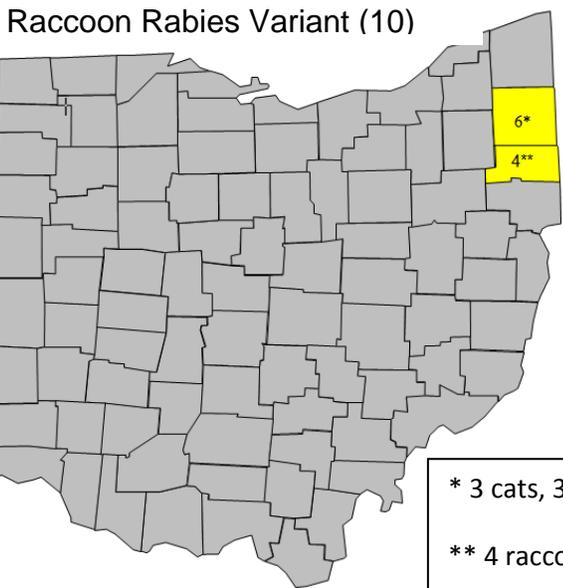
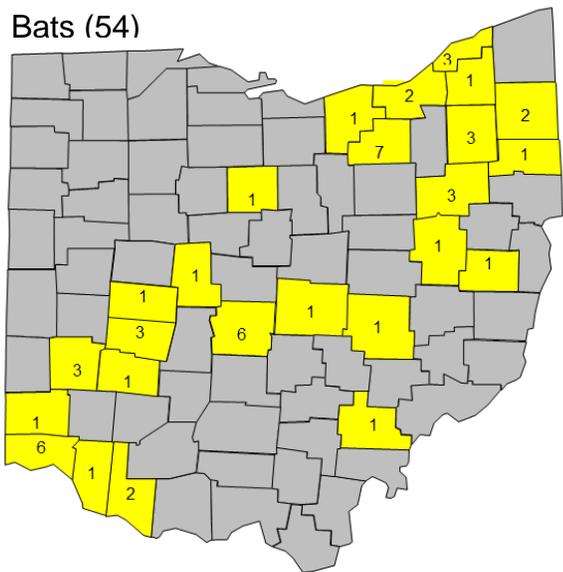
or

[http://www.aphis.usda.gov/wildlife\\_damage/oral\\_rabies/](http://www.aphis.usda.gov/wildlife_damage/oral_rabies/)

**Table 1: Animals Confirmed with Rabies in Ohio, 2012 and 2013**

Animal	2012		2013	
	Number	% Positive	Number	% Positive
Bats	39	4.66	54	5.10
Raccoons*	2	0.20	7	1.22
All Other*	0	-	3**	-
Total	41	-	64	-
*All RRV positive			** Cats (Trumbull)	

**Figure 1: Ohio Positive Rabies Cases, 2013 (n = 64)**



## Appendix 1

### Ohio Rabies Testing and Percent Positive, 2008 - 2013\*

Species	2008		2009		2010		2011		2012		2013		Total		
	Positive	Tested	Positive	Tested	% Pos										
Bat	55	912	43	933	41	752	36	612	39	837	54	1058	268	5,104	5.25%
Cat	0	1,008	0	869	0	916	0	819	0	828	3	916	3	5,356	0.06%
Chipmunk	0	9	0	9	0	5	0	5	0	4	0	6	0	38	0.00%
Cow	0	24	0	22	1	23	0	21	0	28	0	25	1	143	0.70%
Coyote	1	11	0	8	0	8	0	9	0	5	0	2	1	43	2.33%
Deer	0	1	0	1	0	2	0	6	0	8	0	5	0	23	0.00%
Dog	0	997	0	993	0	953	1	962	0	958	0	1086	1	5,949	0.02%
Ferret	0	4	0	6	0	6	0	3	0	6	0	2	0	27	0.00%
Fox	0	17	0	20	0	14	0	10	0	20	0	20	0	101	0.00%
Gerbil	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.00%
Goat	0	20	0	13	0	12	0	11	0	14	0	15	0	85	0.00%
Groundhog	0	26	0	22	0	13	0	14	0	19	0	13	0	107	0.00%
Hamster	0	2	0	1	0	3	0	1	0	0	0	0	0	7	0.00%
Horse/Donkey	0	52	0	29	0	28	0	28	0	17	0	24	0	178	0.00%
Llama/Alpaca	0	8	0	4	0	3	0	3	0	2	0	7	0	27	0.00%
Mink	0	5	0	7	0	3	0	2	0	9	0	2	0	28	0.00%
Mole	0	1	0	1	0	1	0	1	0	1	0	1	0	6	0.00%
Monkey	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.00%
Mouse	0	6	0	8	0	2	0	3	0	5	0	1	0	25	0.00%
Muskrat	0	4	0	4	0	3	0	3	0	6	0	3	0	23	0.00%
Opossum	0	38	0	32	0	27	0	33	0	34	0	40	0	204	0.00%
Pig/Hog	0	2	0	0	0	2	0	1	0	2	0	3	0	10	0.00%
Rabbit	0	5	0	5	0	2	0	4	0	3	0	5	0	24	0.00%
Raccoon	5	1,009	1	1,149	2	733	5	985	2	985	7	572	22	5,433	0.40%
Rat	0	13	0	9	0	2	0	5	0	4	0	6	0	39	0.00%
Sheep	0	1	0	10	0	0	0	1	0	5	0	3	0	20	0.00%
Skunk	3	179	3	198	3	106	8	170	0	102	0	75	17	830	2.05%
Squirrel	0	41	0	35	0	21	0	25	0	21	0	19	0	162	0.00%
Weasel	0	1	0	1	0	0	0	0	0	1	0	0	0	3	0.00%
Wolf/Hybrid	0	3	0	1	0	1	0	0	0	1	0	0	0	6	0.00%
Other Wild	0	6	0	3	0	0	0	2	0	5	0	1	0	17	0.00%
Unknown	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.00%
<b>Totals</b>	<b>64</b>	<b>4,405</b>	<b>47</b>	<b>4,394</b>	<b>47</b>	<b>3,641</b>	<b>50</b>	<b>3,740</b>	<b>41</b>	<b>3,930</b>	<b>64</b>	<b>3,911</b>	<b>313</b>	<b>24,021</b>	<b>1.30%</b>

\* Includes Ohio Department of Health and USDA Wildlife Testing (USDA began rabies testing in 2004)

### Ohio Rabies Testing by Decade, 1980 - 2009

Species	1980-1989			1990-1999			2000-2009			1980-2009		
	Positive	Tested	% Pos	Positive	Tested	% Pos	Positive	Tested	% Pos	Positive	Tested	% Pos
Bat	135	4,445	3.04%	178	4198	4.24%	460	8,476	5.43%	773	17,119	4.52%
Cat	3	4,445	0.07%	6	8833	0.07%	1	9,460	0.01%	10	22,738	0.04%
Chinchilla		3			2						5	
Chipmunk		320		1	155	0.65%		119		1	594	0.17%
Cow	19	531	3.58%	1	451	0.22%	1	218	0.46%	21	1,200	1.75%
Coyote		6			28		2	58	3.45%	2	92	2.17%
Deer	1	21	4.76%		26			13		1	60	1.67%
Dog	12	6,989	0.17%	1	8906	0.01%		9,493		13	25,388	0.05%
Ferret		327			213			86			626	
Fox	17	690	2.46%	3	400	0.75%	2	223	0.90%	22	1,313	1.68%
Gerbil		57			10			8			75	
Goat		71			104			125			300	
Groundhog	2	577	0.35%		325		1	251	0.40%	3	1,153	0.26%
Guinea Pig		29			9			4			42	
Hamster		241			54			22			317	
Horse	9	206	4.37%	4	273	1.47%	3	411	0.73%	16	890	1.80%
Human		7			9						16	
Llama/Alpaca		2			16			96			114	
Mink		47			32			40			119	
Mole		75			37			22			134	
Monkey		12			4						16	
Mouse		354			123			101			578	
Mule/Donkey		5			2			8			15	
Muskrat		112			77			34			223	
Opossum	1	417	0.24%		330		1	313	0.32%	2	1,060	0.19%
Pig/Hog		25			21			12			58	
Rabbit		328			119			53			500	
Raccoon	3	3,126	0.10%	86	7264	1.18%	110	13,440	0.82%	199	23,830	0.84%
Rat		316			160			90			566	
Rodent		496			14			7			517	
Sheep		66			120			38			224	
Shrew		30			19			3			52	
Skunk	172	1,176	14.63%	11	453	2.43%	18	1,004	1.79%	201	2,633	7.63%
Squirrel		770			414			359			1,543	
Vole		7			9			2			18	
Weasel		50			11			11			72	
Wolf/Hybrid		10			27			30			67	
Other Domestic		3			2			4			9	
Other Wild		22			28			35			85	
Unknown		2			20			2			24	
<b>Totals =</b>	<b>374</b>	<b>26,416</b>		<b>291</b>	<b>33,298</b>		<b>599</b>	<b>44,671</b>		<b>1,264</b>	<b>104,385</b>	

Updated: January 17, 2014



Zoonotic Disease Program

Bureau of Infectious Diseases

246 North High Street

Columbus, OH 43215



