

Rabies

Agent: Rabies virus, a rhabdovirus of the genus *Lyssavirus*

Mode of Transmission: Most commonly transmitted through the bite of an infected animal, but may be transmitted through any method by which virus-infected saliva or central nervous system tissue enters the body.

Signs/Symptoms: Vary widely, but often include an initial headache, fever and apprehension which progresses to paralysis, spasms of the muscles used for swallowing, delirium and convulsions. Once symptoms appear, rabies is almost invariably fatal.

Prevention: Important prevention methods include vaccinating cats and dogs, eliminating stray animals, and avoiding handling wildlife. A pre-exposure vaccine should be given to people at high risk of exposure (e.g., veterinarians and laboratorians working with rabies virus). Post-exposure vaccine should be administered to anyone who meets the definition of exposure to rabies.

Other Important Information: The main reservoir of rabies in the United States is wildlife. In most other countries, the main reservoir is dogs.

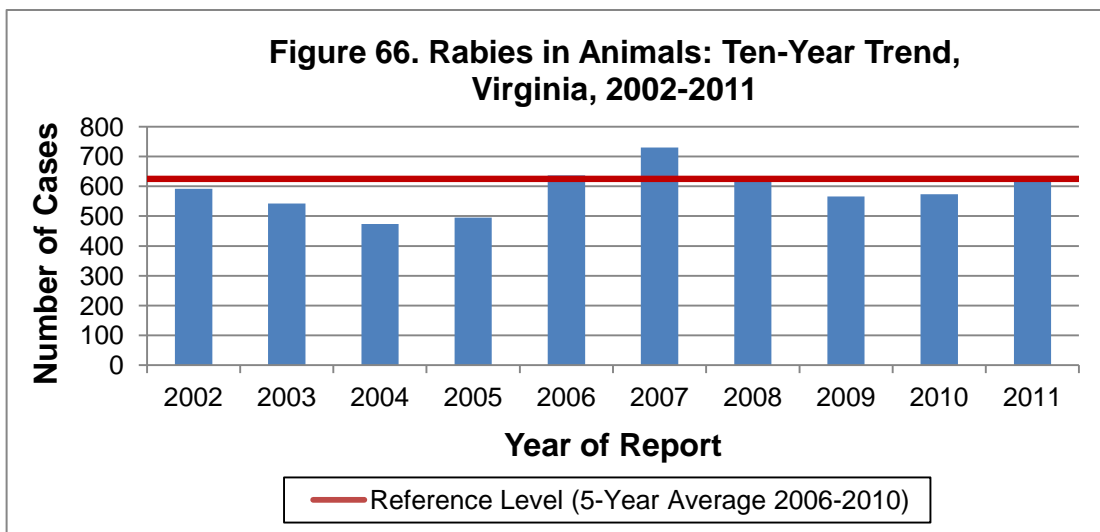
Human

No human rabies cases were reported in Virginia in 2011. The last case of human rabies in Virginia occurred in 2009 in an adult male who was infected with the Indian canine variant of the rabies virus and was thought to have been exposed during an encounter with a dog while traveling in India. The patient died as a result of this infection.

In 2011, 1,443 people were reported as having received rabies post-exposure prophylaxis (PEP) in Virginia. This represents a small increase from the previous year when 1,423 persons were reported to have received PEP. The highest incidence of PEP occurred in the New River Health District (92 people, 51.6 per 100,000). The second highest rate was reported from the Eastern Shore Health District (92 people, 46.1 per 100,000), followed closely by the Rappahannock/Rapidan Health District (72 people, 43.4 per 100,000) and the Lord Fairfax Health District (92 people, 41.4 per 100,000). When comparing regions, the northwest region had the highest rate of residents receiving PEP (330 people, 26.7 per 100,000), and the eastern region had the lowest rate (196 people, 10.8 per 100,000). The rabies PEP series may be initiated for a number of reasons including exposure to a confirmed positive animal or exposure to an animal that is not available for testing or observation. On average, for every domestic animal confirmed with rabies, 2 to 3 people received rabies PEP, with some domestic animal exposures resulting in up to 11 people receiving rabies PEP.

Animal

The number of animals testing positive for rabies in 2011 was 618, compared to 573 in 2010 (Figure 66). This is an 8% increase in reported rabid animals. The southwest region had the highest number of laboratory-confirmed rabid animals (210 cases, 34%), followed by the northwest region (146 cases, 24%). The range for the remaining regions was 74 to 104 laboratory-confirmed cases.



Of all species tested for rabies, cats were the most commonly tested animal, with 946 tests; however, only 3% were found to be positive for rabies (Table 10). Among all animals tested, bobcats had the highest percentage of positive test results (100%), but only four animals were tested. Skunks had the next highest positivity rate (70%), but raccoons accounted for almost half (45%) of all rabid animals identified in Virginia in 2011 (281 positive results). All small rodents submitted for testing were negative.

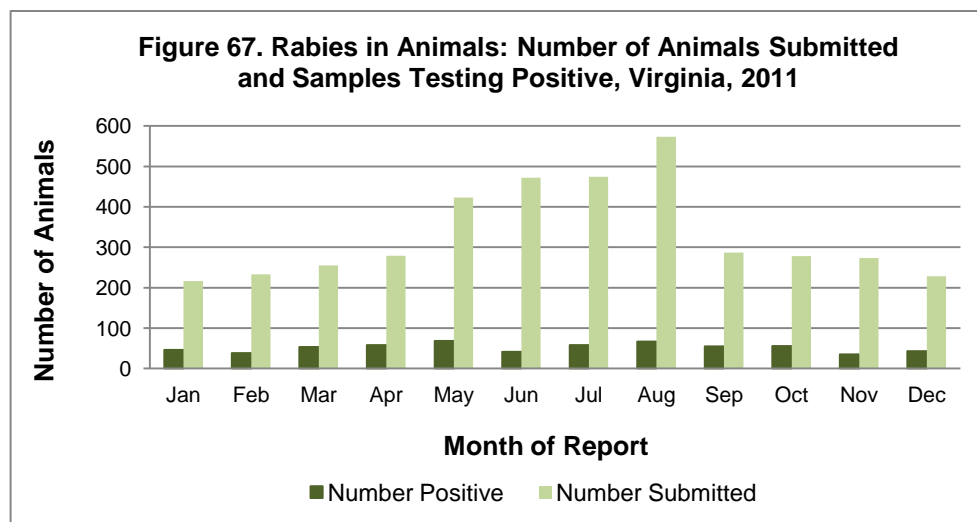
Table 10. Animals Testing Positive for Rabies by Species, Virginia, 2011

Animal Species	Number of Animals Tested	Positive	
		Number	Percent
Alpaca	5	0	0%
Bat	811	20	2%
Beaver	4	0	0%
Bobcat	4	4	100%
Bovine	54	10	18%
Camel	1	0	0%
Cat	946	30	3%
Chipmunk	3	0	0%
Coyote	7	1	14%
Deer	1	0	0%
Dog	593	3	0%
Donkey	4	0	0%
Equine	35	2	6%
Ferret	2	0	0%
Fox	167	70	42%
Goat	21	0	0%
Groundhog	109	6	5%
Hamster	1	0	0%
Llama	4	0	0%

Table 10. Animals Testing Positive for Rabies by Species, Virginia, 2011 (cont.)

Mink	1	0	0%
Mole	5	0	0%
Monkey	1	0	0%
Mouse	13	0	0%
Muskrat	5	0	0%
Nutria	1	0	0%
Opossum	183	0	0%
Otter	1	0	0%
Pig	1	0	0%
Rabbit	15	0	0%
Raccoon	619	281	45%
Rat	10	0	0%
Sheep	10	1	10%
Skunk	272	190	70%
Squirrel	80	0	0%
Sugar Glider	1	0	0%
Vole	2	0	0%
Zebra	1	0	0%
TOTAL	3992	618	15%

August saw the largest number of animals submitted for rabies testing, while the winter months of December and January saw the fewest number of submissions (Figure 67). This seasonal pattern is likely a result of increased interactions with wildlife during warmer months. No seasonal pattern was observed in the number of animals testing positive for rabies.



The proportion of animals that tested positive has remained relatively constant at 14-16% for the last three years. By district, the highest proportion of rabid animals was in Fairfax Health District (7%), followed by Fauquier and Loudoun Health Districts, with 4% each.