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.

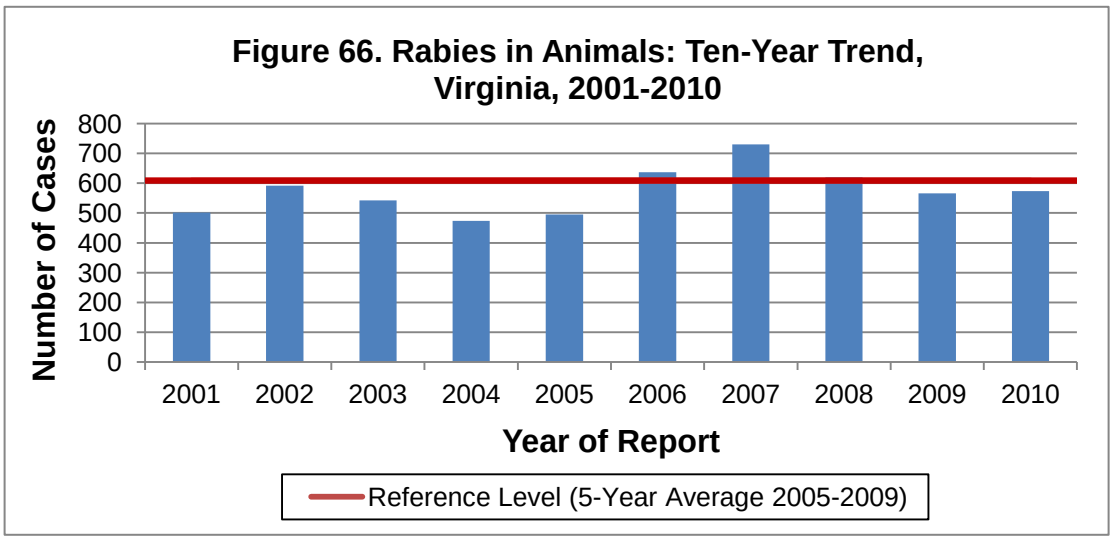
Human

There were no reports of human rabies cases in Virginia in 2010. The last case of human rabies in Virginia occurred in 2009 in an adult male from the northern region 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 2010, 1,423 people were reported as having received rabies post-exposure prophylaxis (PEP) in Virginia. This represents an 18% increase from the previous year when 1,201 persons were reported as having received PEP. The largest proportion of those receiving PEP lived in the Fairfax Health District (257 people, 18%). The district with the second highest number of residents receiving rabies PEP was Central Virginia (91 people, 6%), which was followed by Loudoun Health District (81 people, 6%). When comparing regions, the northern region had the highest number of residents receiving PEP (425 people, 30%), and the eastern region had the fewest (201 people, 14%). The rabies PEP series may be initiated for a number of reasons including exposure to a confirmed positive animal and exposure to an animal that is not available for testing or observation. On average, for every domestic animal confirmed with rabies, 3 people received rabies PEP.

Animal

The number of animals testing positive for rabies was 573 in 2010, compared to 564 in 2009 (Figure 66). By region, the southwest region reported the largest number of laboratory-confirmed rabid animals with 144 (25%) cases, followed by the central region with 115 (20%) cases. The range for the remaining regions was 93 to 111 laboratory-confirmed cases each.



Of all species tested for rabies, cats were the most commonly tested animal, with 938 tests; however, only 3% of cats tested were found to be positive for rabies (Table 10). Although skunks had the highest positivity (66%) among all animals tested, over half of all rabid animals identified in Virginia in 2010 were raccoons (55%). Bobcat and deer had a high percentage of samples testing positive for rabies, but this was mainly due to a small sample size. All small rodents submitted for testing were negative.

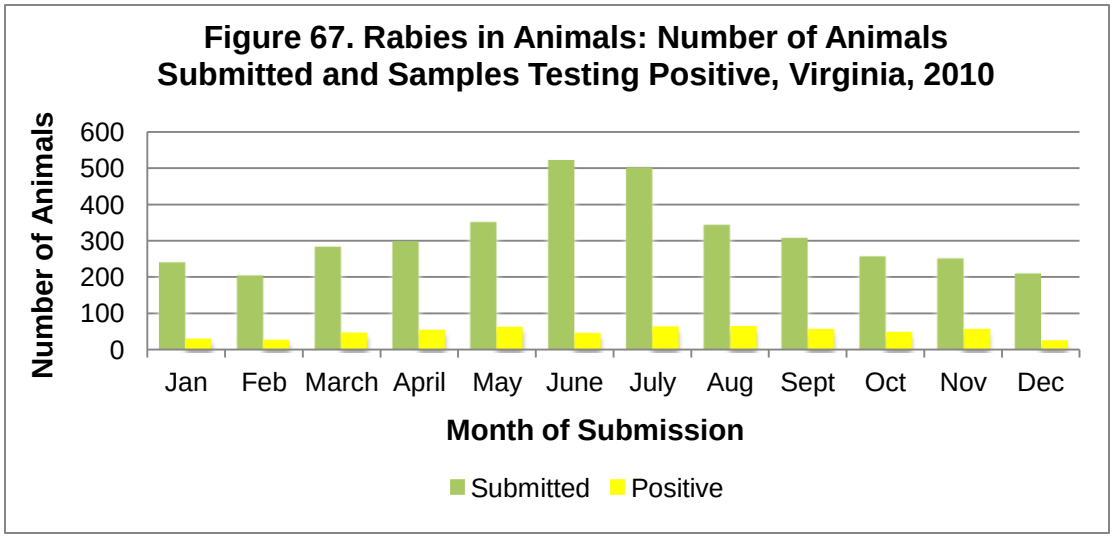
Table 10. Animals Testing Positive for Rabies by Species, Virginia, 2010

Animal Species	Number of Animals Tested	Positive	
		Number	Percent
Alpaca	5	0	0%
Bat	752	19	3%
Bear	1	0	0%
Beaver	1	0	0%
Bobcat	4	2	50%
Bovine	68	11	16%
Camel	1	0	0%
Cat	938	27	3%
Chipmunk	2	0	0%
Coyote	2	0	0%
Deer	2	1	50%
Dog	547	5	1%
Donkey	3	0	0%
Equine	23	1	4%
Ferret	8	0	0%
Fox	141	60	43%
Goat	30	0	0%
Gopher	1	0	0%
Groundhog	94	3	3%
Hamster	2	0	0%
Llama	2	0	0%
Mole	2	0	0%

Table 10. Animals Testing Positive for Rabies by Species, Virginia, 2010 (cont.)

Mouse	8	0	0%
Muskrat	5	0	0%
Opossum	180	1	1%
Pig	3	0	0%
Rabbit	9	0	0%
Raccoon	640	315	49%
Rat	4	0	0%
Sheep	8	0	0%
Skunk	195	128	66%
Squirrel	83	0	0%
Vole	2	0	0%
TOTAL	3,766	573	15%

June and July saw the largest number of animals submitted for rabies testing during 2010 while the winter months of January, February, and December saw the fewest 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%-15% for the last three years. By district, Fairfax reported the highest number of rabid animals with 51 (9%) cases, followed closely by Chickahominy with 38 (7%) cases, and Alleghany with 35 (6%) cases.