

Rabies in Animals

Rabies is a viral zoonosis affecting the central nervous system of warm-blooded animals.

Transmission occurs when saliva containing rabies virus is introduced into an opening in the skin, usually via the bite (or possibly scratch) of a rabid animal. Though rare, transmission can also occur through contamination of mucous membranes. Animals considered to be high risk for transmitting rabies in Texas include bats, skunks, foxes, coyotes, and raccoons; the first four of these wildlife species serve as reservoirs for specific rabies virus variants (types) in Texas.

Rabies infection in a species other than the reservoir species for the variant is considered “spillover.” An example of spillover would be a cat infected with a skunk variant of rabies virus.

In 2011, 1,018 (9%) of 11,841 animal specimens in Texas that were tested (confirmed as positive or negative) were positive for rabies. This was a 32% increase in cases from the 773 cases confirmed in 2010. In 2011, there were 86 positive rabies cases per 1,000 specimens tested, which was up from 61 positive rabies cases per 1,000 specimens tested in 2010. Yearly totals for 1994 through 2011 are illustrated in Figure 1.

During 2011, the highest monthly number of laboratory-confirmed rabies cases (154) occurred in April with skunks (106) being the predominant rabid species reported; May had the second highest number of cases (124) with skunks (71) being the predominant rabid species. Cases of rabies were confirmed in 134 of the 254 Texas counties (Figure 2) compared with 140 counties with reported cases in 2010. Williamson County had the highest number of reported rabies cases per county statewide with 135 cases in 2011, 86 of which were bats. In 2010, Williamson County also had the highest number of reported cases with 80 (78 of which were bats).

Rabid wildlife accounted for 942 (93%) of the confirmed cases throughout the state in 2011; in 2010, rabid wildlife accounted for 724 (94%) of the confirmed cases (Table 1). Skunks were the primary source of positive cases reported in 2011 (56% of all positive cases). During 2011, 566 skunks were positive for rabies compared with 322 (42% of all positive cases) in 2010. Of all skunks tested for rabies, 43% were positive in 2011 and 28% were positive in 2010. South-central skunk is the most prevalent variant of terrestrial rabies virus in Texas. Rabies cases in 2011 in which the south-central skunk variant could be confirmed included 546 skunks, 36 raccoons, 29 foxes, 28 cats, 21 horses, 10 cows, 9 dogs, 4 goats, 2 deer, 1 alpaca, 1 bobcat, 1 coyote, and 1 donkey.

Bats had the second highest number of confirmed rabies cases with 304 (30% of all positive cases) in 2011 compared with 373 (48% of all positive cases) in 2010. Of all bats tested for rabies, 10% were positive in 2011 and 12% in 2010. Rabies in bats is enzootic in Texas; there are numerous bat variants of rabies virus throughout the state. In 2011, there were 3 cases (1 cat, 1 fox, and 1 skunk) in which there was spillover of a bat rabies virus variant to terrestrial animals.

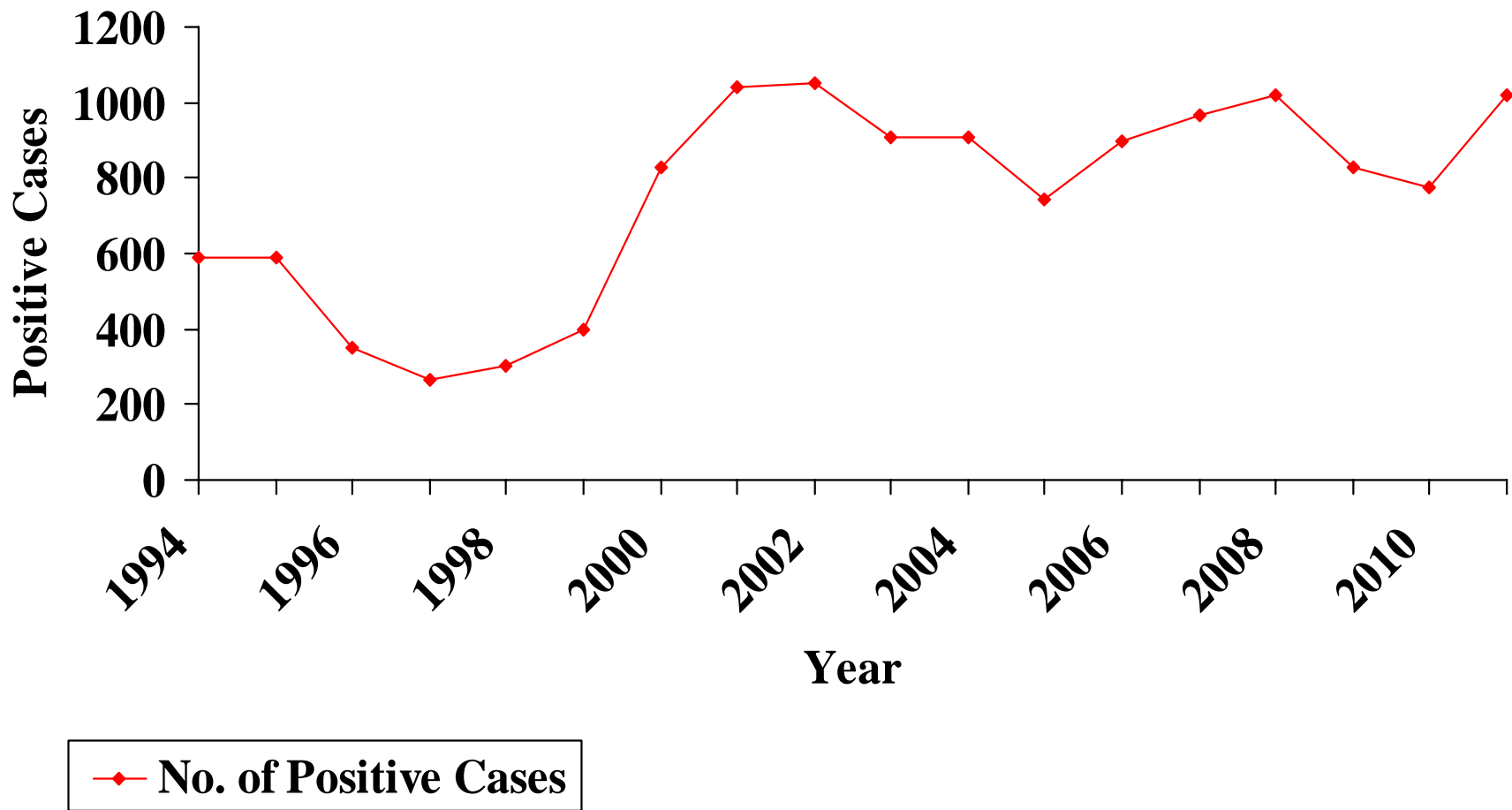
There were 76 reported rabies cases in domestic animals (7% of all positive cases) (Table 2). Rabies in domestic animals continues to be a concern because they are more likely to have contact with humans than are rabid wildlife. Cats (30) represented 3% and dogs (9) represented 1% of all positive cases in 2011. In 2010, there were 49 reported rabies cases in domestic animals (6% of all positive cases); of these rabies cases, 20 were cats and 15 were dogs.

Twenty-one counties have been involved in the South Texas canine rabies epizootic since it began in 1988. Statewide there were no reported cases with the domestic dog/coyote (DDC) variant of the rabies virus in 2011. The last reported case with the DDC rabies virus variant was in March 2004.

Fifty-three counties have been involved in the West-Central Texas gray fox rabies epizootic since it began in 1988. There were no recorded cases of the Texas fox (TF) variant of the rabies virus in 2011 or 2010. The last reported case with the gray fox rabies virus variant was in May 2009.

In response to the canine and gray fox rabies epizootics, the Oral Rabies Vaccination Program (ORVP) for coyotes in South Texas was initiated in February 1995, and the ORVP for gray foxes in West-Central Texas was initiated in January 1996; the programs have continued annually. These programs target reservoir species for the DDC and TF variants of the rabies virus, specifically coyotes and gray foxes, respectively. Immunization is accomplished by aerial distribution of an edible bait containing oral rabies vaccine. The goal of the ORVP has been to create zones of vaccinated coyotes and gray foxes across the epizootic areas or, at a minimum, along the leading edges of the areas where these rabies variants are located in order to eventually eliminate the epizootics. With the elimination of the DDC variant from Texas, the ORVP in South Texas now serves as an ongoing barrier to prevent reintroduction from Mexico.

Figure 1. Positive Animal Rabies Cases:
Texas 1994 - 2011



**Table 1. Confirmed Cases of Rabies in Wild Animal Species:
Texas 2010 and 2011**

Species	2010	2011
Bats	373	304
Bobcats	1	1
Coyotes	0	1
Deer	0	2
Foxes	10	31
Raccoons	18	37
Skunks	322	566
Total	724	942

**Table 2. Confirmed Cases of Rabies in Domestic Animal Species:
Texas 2010 and 2011**

Species	2010	2011
Alpaca	0	1
Cats	20	30
Cattle	5	10
Dogs	15	9
Donkeys	1	1
Goats	1	4
Horses	7	21
Total	49	76