Rabies in Animals, Texas - 2015

Department of State Health Services
Zoonosis Control

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. Bats and skunks are the primary 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 2015, 952 (8%) of 12,314 animal specimens in Texas that were tested (this report refers only to specimens confirmed as positive or negative) were positive for rabies. This was a 16% decrease in cases from the 1,132 cases confirmed in 2014. In 2015, there were 77 positive rabies cases per 1,000 specimens tested, which was down from 92 positive rabies cases per 1,000 specimens tested in 2014. Yearly totals for 1994 through 2015 are illustrated in Figure 1.

During 2015, the highest monthly number of laboratory-confirmed rabies cases (153) occurred in April with skunks (81) being the predominant rabid species reported; March had the second highest number of cases (116) with skunks (77) being the predominant rabid species. Cases of rabies were confirmed in 115 of the 254 Texas counties (Figure 2) compared with 130 counties with reported cases in 2014. Travis County had the highest number of reported rabies cases per

county statewide with 104 cases in 2015, 101 of which were bats. In 2014, Williamson County had the highest number of reported cases with 163 (154 of which were bats).

Rabid wildlife accounted for 901 (95%) of the confirmed cases throughout the state in 2015; in 2014, rabid wildlife accounted for 1,069 (94%) of the confirmed cases (Table 1). Skunks were the primary source of positive cases reported in 2015 (45% of all positive cases). During 2015, 431 skunks were positive for rabies compared with 504 (45% of all positive cases) in 2014. Of all skunks tested for rabies, 42% were positive in 2015 and 46% were positive in 2014. South-central skunk (SCS) remains an established variant of terrestrial rabies virus in Texas. Rabies cases in 2015 in which the SCS rabies virus variant could be confirmed included 429 skunks, 32 raccoons, 15 cats, 18 foxes, 16 bovines, 13 dogs, 3 equines, 1 coyote, 1 goat, 1 pig, and 1 rabbit.

Bats had the second highest number of confirmed rabies cases with 418 (44% of all positive cases) in 2015 compared with 512 (45% of all positive cases) in 2014. Of all bats tested for rabies, 14% were positive in 2015 and 17% were positive in 2014. Rabies in bats is enzootic in Texas; there are numerous bat variants of rabies virus throughout the state. In 2015, there were no identified cases in which there was spillover of a bat rabies virus variant to a terrestrial animal.

Rabid domestic animals continue to be a concern because they are more likely to have contact with humans than are rabid wildlife. In 2015, there were 51 reported rabies cases in domestic animals (5% of all positive cases); of these rabies cases, 16 were cats and 13 were dogs (Table 2). In 2014, there were 63 reported rabies cases in domestic animals (6% of all positive cases);

of these rabies cases, 22 were cats and 14 were dogs.

A canine rabies epizootic (an epidemic in animals) began in 1988 and ultimately involved 21 counties in South Texas. Statewide there were no reported cases with the domestic dog/coyote (DDC) variant of the rabies virus in 2015. The last reported case with the DDC rabies virus variant was in March 2004.

Similarly, a Texas gray fox rabies epizootic also began in 1988, but it eventually involved 53 counties in West-Central Texas. Statewide there were no reported cases with the Texas fox (TF) variant of the rabies virus in 2015. The last reported case with the TF rabies virus variant was in a bovine in May 2013; previous to this case, the last reported case was in May 2009.

To control 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 implemented in January 1996. The goals of the ORVP were 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 were detected in order to eventually eliminate the epizootics. Immunization is accomplished by aerial distribution of edible baits containing oral rabies vaccine. The programs have continued annually and are now combined into a border maintenance zone targeting reservoir species for the DDC and TF variants of the rabies virus, specifically coyotes and gray foxes, respectively. With the elimination of the DDC variant from Texas, plus the control of the TF variant, the ORVP now serves as an ongoing barrier to prevent reintroduction from Mexico.

In 2015, the skunk ORVP expanded study area to determine the effectiveness against the skunk variant of the rabies virus was continued in all or part of seventeen counties in East-Central Texas. Analysis of the results is ongoing.

As part of the monitoring and evaluation of the ORVP, brainstems and other samples from target species are collected for enhanced surveillance and post-ORVP surveillance. During 2015, 645 brainstems were tested for rabies; six (2 foxes, 2 raccoons, and 2 skunks) were positive. All six were infected with the SCS rabies virus variant and are included in the totals reported for 2015. Due to only the brainstems being tested for the remaining 639 animals, these specimens did not meet the criteria to be included among the confirmed negatives reported for 2015.

Figure 1. Positive Animal Rabies Cases: Texas 1994 - 2015

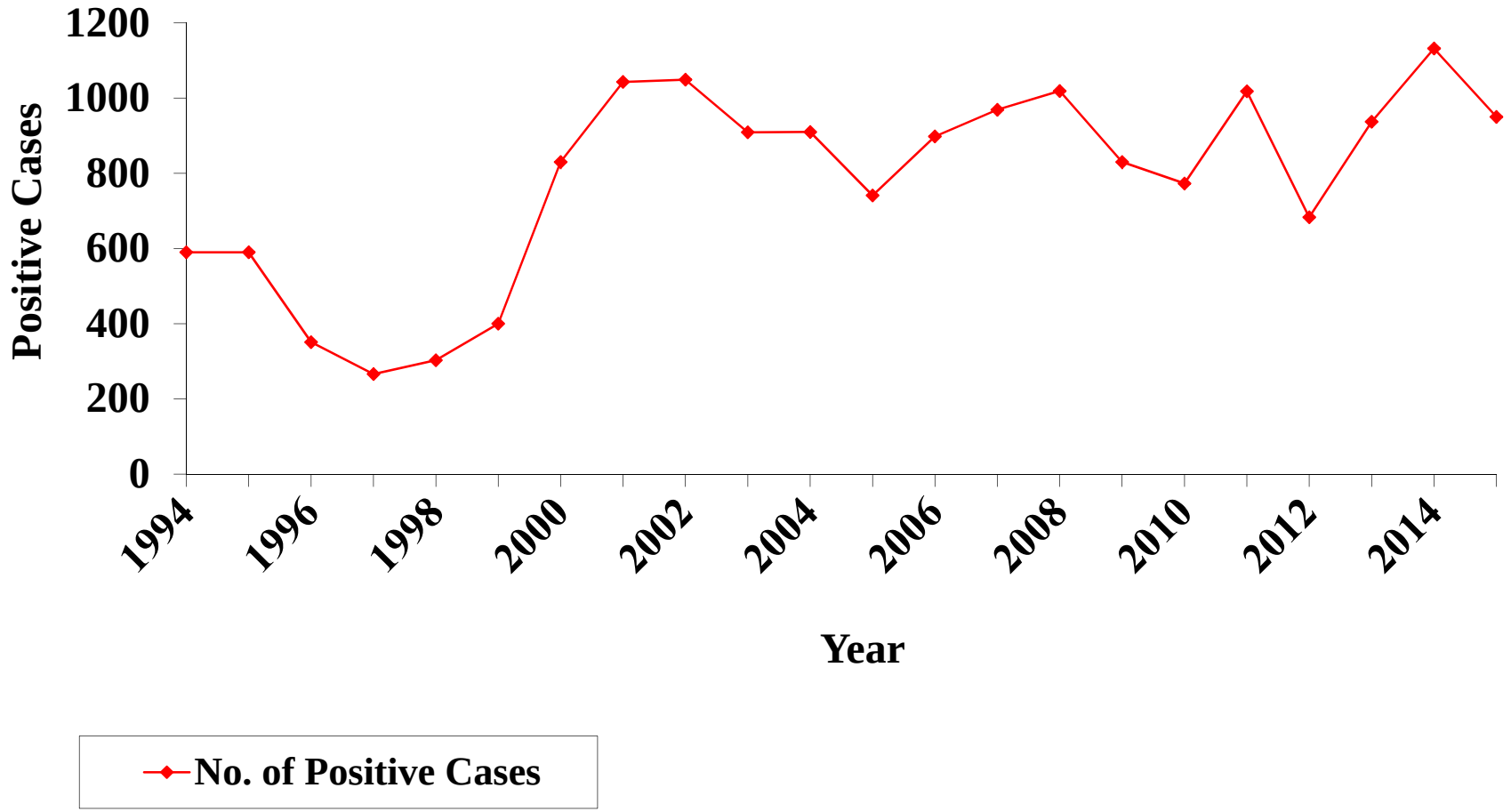

Figure 2. Confirmed Cases of Animal Rabies (all species) by County, 2015

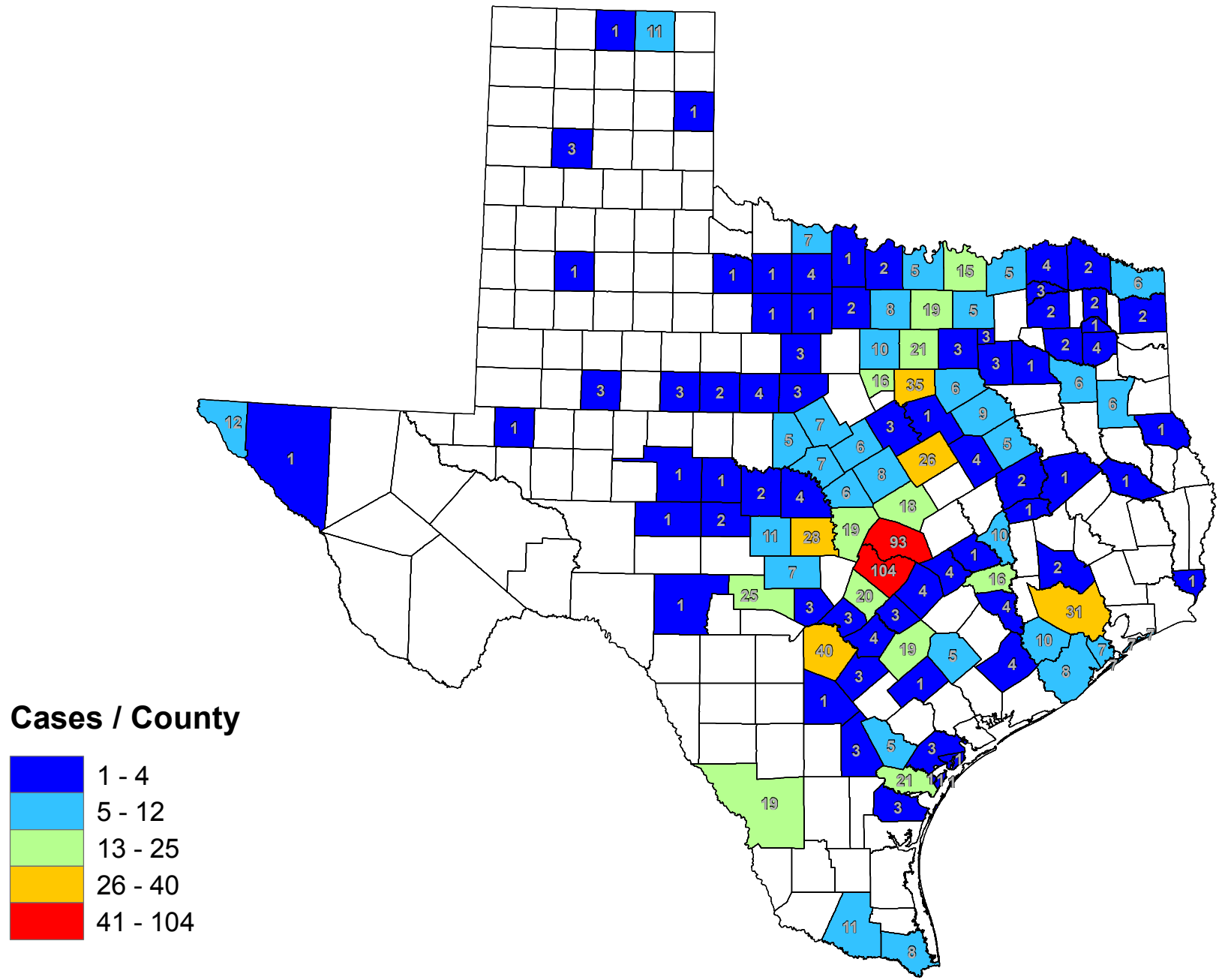

Table 1. Confirmed Cases of Rabies in Wild Animal Species: Texas 2014 and 2015

Species	2014	2015
Bats	512	418
Bobcat	1	0
Coyotes	2	1
Foxes	22	18
Raccoons	28	33
Skunks	504	431
Total	**1,069**	**901**

Table 2. Confirmed Cases of Rabies in Domestic Animal Species: Texas 2014 and 2015

Species	2014	2015
Bovines	15	16
Cats	22	16
Dogs	14	13
Equines	11	3
Goats	1	1
Pig	0	1
Rabbit	0	1
Total	**63**	**51**