2014 Rabies Surveillance Report
(January - December)

Contents:

2014 Rabies Summary ----------------------------- Pages 2-3
Data Comparison of 2012, 2013, -------------- Page 4
and 2014 Rabies Surveillance

Rabies Positives Graphs 2005-2014 ---------- Pages 5-10
  Animal Rabies Cases by Report Year ---------------------- Page 5
  Number of Animal Rabies Cases in WV -------------------Page 6
  Wildlife Animal Rabies Cases -------------------------- Page 7
  Domesticated Animals Rabies Cases --------------------- Page 8
  Animal Rabies Cases by Report Month ------------------- Page 9
  Distribution of Animal Rabies Strains ------------------ Page 10

WV DHHR Rabies Positives Map -------------- Page 11
WV Surveillance Map ------------------------ Page 12
In 2014, 50 rabies-positive animals were identified in West Virginia (see Table 1). In 2013, there were 88 rabies-positive animals (see Table 2). This compares to 2012 when there were 71 rabies-positive animals (see Table 3). Attached are five graphs showing the epidemiology of animal rabies in West Virginia from 2005 through 2014. *(For ease of viewing, these graphs are combined into one PDF document.)*

**Table 4: Summary of Rabies Specimens Tested, West Virginia, 2014**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>541</td>
<td>Animals tested at Office of Laboratory Services (OLS)</td>
</tr>
<tr>
<td>215</td>
<td>Animals tested at United States Department of Agriculture laboratory (USDA)</td>
</tr>
<tr>
<td>756</td>
<td>Total Animals Tested</td>
</tr>
</tbody>
</table>

50 Positive animals identified:

<table>
<thead>
<tr>
<th>31 Raccoons</th>
<th>2 Bats</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 Skunks</td>
<td>1 Goat</td>
</tr>
<tr>
<td>1 Fox</td>
<td>1 Lamb</td>
</tr>
<tr>
<td>2 Cats</td>
<td></td>
</tr>
<tr>
<td>1 Dog</td>
<td></td>
</tr>
</tbody>
</table>

- 389 animals were tested because of human exposures
  - 7 were positive (2%)
- 76 animals were tested because of pet/domestic animal exposures
  - 27 were positive (36%)
- 291 animals were tested for surveillance or other reasons
  - 16 were positive (5%)

Tables 1-3 compare annual submissions and the number of rabies-positive animals for 2014, 2013, and 2012. These tables are divided into three regions: the active surveillance region in the middle of the state, the eastern region consisting of 20 counties east of the active surveillance counties, and the western region consisting of 6 counties west of the active surveillance counties. This comparison better demonstrates how rabies surveillance has changed during this time period. During 2014, 97 surveillance animals (raccoons, skunks, foxes and coyotes) were submitted in the active surveillance area. During the same time period in 2013, 164 surveillance animals were submitted for testing from this area.

In addition to the information provided here, a map illustrating raccoon strain rabies surveillance efforts is also included. This map includes only active surveillance animals: raccoons, coyotes, skunks and foxes. A second map is included with the coordinate data of all positive animals.
Other rabies resources including surveillance data (updated monthly) and rabies brochures can be found on the DIDE rabies webpage:

http://www.dhhr.wv.gov/oeps/disease/Zoonosis/Rabies/Pages/default.aspx

For national rabies data, please visit the CDC web site:
http://www.cdc.gov/rabies/

Some Local Health Departments have asked for data from neighboring states.

For Ohio data, please visit the Ohio web site:

For Virginia rabies data, please visit the Virginia web site:
http://www.vdh.virginia.gov/Epidemiology/DEE/Rabies/

For Kentucky rabies data, please visit the Kentucky web site:
http://chfs.ky.gov/dph/epi/rabies.htm

For Maryland rabies data, please visit the Maryland web site:
http://ideha.dhmh.md.gov/OIDEOR/CZVBD/SitePages/rabies.aspx

For Pennsylvania rabies data, please visit the Pennsylvania web site:
http://www.portal.health.state.pa.us/portal/server.pt/directory/rabies/127970?Dir Mode=1

Please let us know if you have questions.

Miguella Mark-Carew, MPH, PhD
Zoonotic Disease Epidemiologist

Susan Stowers
Data Analyst II for Zoonotic Diseases
## Comparison of 2014 and 2013 and 2012 Rabies Surveillance

### Table 1: Summary of January-December 2014 Rabies Surveillance Data

<table>
<thead>
<tr>
<th>Animal</th>
<th>Active Surveillance Counties</th>
<th>Eastern Counties</th>
<th>Western Counties</th>
<th>Total</th>
<th># Tested</th>
<th># Positive (%)</th>
<th># Tested</th>
<th># Positive (%)</th>
<th># Tested</th>
<th># Positive (%)</th>
<th># Tested</th>
<th># Positive (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raccoons</td>
<td>80</td>
<td>175</td>
<td>11</td>
<td>266</td>
<td>4 (5)</td>
<td>27 (15)</td>
<td>0 (0)</td>
<td>31 (12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skunks</td>
<td>13</td>
<td>21</td>
<td>3</td>
<td>37</td>
<td>0 (0)</td>
<td>11 (52)</td>
<td>0 (0)</td>
<td>11 (30)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fox</td>
<td>3</td>
<td>11</td>
<td>3</td>
<td>17</td>
<td>0 (0)</td>
<td>1 (9)</td>
<td>0 (0)</td>
<td>1 (6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coyote</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bat</td>
<td>41</td>
<td>24</td>
<td>4</td>
<td>69</td>
<td>1 (2)</td>
<td>1 (4)</td>
<td>0 (0)</td>
<td>2 (3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>145</td>
<td>183</td>
<td>38</td>
<td>366</td>
<td>0 (0)</td>
<td>5 (3)</td>
<td>0 (0)</td>
<td>5 (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>283</td>
<td>414</td>
<td>59</td>
<td>756</td>
<td>5 (2)</td>
<td>45 (11)</td>
<td>0 (0)</td>
<td>50 (7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 2: Summary of January-December 2013 Rabies Surveillance Data

<table>
<thead>
<tr>
<th>Animal</th>
<th>Active Surveillance Counties</th>
<th>Eastern Counties</th>
<th>Western Counties</th>
<th>Total</th>
<th># Tested</th>
<th># Positive (%)</th>
<th># Tested</th>
<th># Positive (%)</th>
<th># Tested</th>
<th># Positive (%)</th>
<th># Tested</th>
<th># Positive (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raccoons</td>
<td>156</td>
<td>223</td>
<td>3</td>
<td>382</td>
<td>9 (6)</td>
<td>46 (21)</td>
<td>0 (0)</td>
<td>55 (14)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skunks</td>
<td>6</td>
<td>28</td>
<td>2</td>
<td>36</td>
<td>0 (0)</td>
<td>18 (6)</td>
<td>0 (0)</td>
<td>18 (50)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fox</td>
<td>2</td>
<td>7</td>
<td>0</td>
<td>9</td>
<td>0 (0)</td>
<td>3 (43)</td>
<td>0 (0)</td>
<td>3 (33)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coyote</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bat</td>
<td>56</td>
<td>32</td>
<td>19</td>
<td>107</td>
<td>1 (2)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>1 (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>150</td>
<td>199</td>
<td>41</td>
<td>390</td>
<td>0 (0)</td>
<td>11 (6)</td>
<td>0 (0)</td>
<td>11 (3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>370</td>
<td>490</td>
<td>65</td>
<td>925</td>
<td>10 (3)</td>
<td>78 (16)</td>
<td>0 (0)</td>
<td>88 (10)</td>
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<td></td>
</tr>
</tbody>
</table>

### Table 3: Summary of January-December 2012 Rabies Surveillance Data

<table>
<thead>
<tr>
<th>Animal</th>
<th>Active Surveillance Counties</th>
<th>Eastern Counties</th>
<th>Western Counties</th>
<th>Total</th>
<th># Tested</th>
<th># Positive (%)</th>
<th># Tested</th>
<th># Positive (%)</th>
<th># Tested</th>
<th># Positive (%)</th>
<th># Tested</th>
<th># Positive (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raccoons</td>
<td>378</td>
<td>438</td>
<td>16</td>
<td>832</td>
<td>5 (1)</td>
<td>35 (8)</td>
<td>0 (0)</td>
<td>40 (5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skunks</td>
<td>11</td>
<td>38</td>
<td>0</td>
<td>49</td>
<td>1 (6)</td>
<td>13 (34)</td>
<td>0 (0)</td>
<td>14 (29)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fox</td>
<td>30</td>
<td>19</td>
<td>1</td>
<td>50</td>
<td>0 (0)</td>
<td>4 (21)</td>
<td>0 (0)</td>
<td>4 (8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coyote</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bat</td>
<td>30</td>
<td>41</td>
<td>14</td>
<td>85</td>
<td>2 (7)</td>
<td>2 (5)</td>
<td>0 (0)</td>
<td>4 (5)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Other</td>
<td>147</td>
<td>195</td>
<td>47</td>
<td>389</td>
<td>0 (0)</td>
<td>9 (5)</td>
<td>0 (0)</td>
<td>9 (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>597</td>
<td>732</td>
<td>78</td>
<td>1407</td>
<td>8 (1)</td>
<td>63 (9)</td>
<td>0 (0)</td>
<td>71 (5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

**Active Surveillance Counties Include:** Boone, Braxton, Brooke, Calhoun, Clay, Doddridge, Fayette, Gilmer, Hancock, Harrison, Kanawha, Lewis, Logan, Marshall, McDowell, Mercer, Mingo, Nicholas, Ohio, Pleasants, Raleigh, Ritchie, Roane, Tyler, Webster, Wetzel, Wirt, Wood, and Wyoming (Most of these counties are in the ORV distribution zone. Many have had Raccoon Strain Rabies (RSR) identified within their borders in previous years.)

**Eastern Counties Include:** Barbour, Berkeley, Grant, Greenbrier, Hampshire, Hardy, Jefferson, Marion, Morgan, Mineral, Monroe, Monongalia, Pendleton, Pocahontas, Preston, Randolph, Summers, Taylor, Tucker, Upshar, (Some of these counties are within the ORV distribution zone. All have had RSR identified within their borders.)

**Western Counties Include:** Cabell, Jackson, Lincoln, Mason, Putnam, Wayne (None of these counties are in the ORV distribution zone and none have had RSR identified within their borders.)
Total Rabies Positive Animals by Year of Report, West Virginia, 2005–2014, (N=945)

Year of Report

Number of Animals

2005: 73
2006: 125
2007: 85
2008: 95
2009: 123
2010: 97
2011: 138
2012: 71
2013: 88
2014: 50
Animal Rabies Cases, West Virginia, 2005–2014, (N=945)

- Total Wildlife
- Raccoons
- Skunks
- Fox
- Bats
- Other Wildlife

Number of Cases

Year of Report

Livestock includes cows, horses, pigs, sheep, goats and other "farm" animals.

*Livestock includes cows, horses, pigs, sheep, goats and other "farm" animals.
West Virginia Animal Rabies Cases by Month of Report, 2005–2014, (N=945)
DISTRIBUTION OF ANIMAL RABIES STRAIN TYPES, USING MAB TYPING, WEST VIRGINIA, 2005-2014, (N=945)
The content of the above map depicts geographic coordinate data for all positive rabies results reported by the WV Office of Laboratory Services from 1/1/2014 through 12/31/2014 and from USDA Wildlife Services from 1/1/2014 through 12/31/2014.

Legend

Location of Rabies-Positive Animals (N=50)

MAb_Type

- Bat
- Racoon
- Untypable

*All positive rabies results reported by USDA Wildlife Services are documented preliminarily as raccoon strain rabies, pending CDC confirmation.
Distribution of surveillance animals\(^1\) tested for rabies at the WVOLS and USDA– West Virginia, 2014

\(^1\)The content of the above map depicts the number (by county) of surveillance animals (defined as raccoons, skunks, foxes, or coyotes) that were tested for rabies and the number of those that tested positive for raccoon-strain rabies. Date represents samples processed by the WVOLS and USDA from January 1, 2014 to December 31, 2014.