Small Game Harvest
2016-17
By Brian Dhuey

Abstract
The number of licensed small game hunters decreased 2.9% in 2016-17 small game hunting season from 2015-16 levels. The estimated harvest increased from last season for cottontail, gray partridge, mourning dove, pheasant, raccoon, ruffed grouse, squirrel, and woodcock while decreased for bobwhite quail, coyote, crow, gray fox, red fox, and snowshoe hare (Table 2). The number of days afield pursuing small game was 1.82 million, down slightly from the 1.86 million observed during the 2015-16 season.

Methods
A sample of survey names was drawn from 2016-17 sports, small game, senior citizen small game, junior small game, and conservation patron license holders in proportion to the license sales for each county. Ten thousand surveys were mailed in early February. Surveys asked recipients for information on whether they hunted, type of licenses purchased, county of residence, species harvested, number of days hunting each species, and county of harvest for each species. These data were entered into the DNR production server and analyzed using the Statistical Analysis System (SAS).

Results
Responses were received from 3,321 of the hunters surveyed. The corrected response rate was 33%. Most hunters purchased a small game license to hunt during the season. Approximately 48% of the licensed small game hunters used a dog during the season. They own an average of 1.4 dogs. Most dogs were used to hunt game birds (57%). The most commonly used dog was the Labrador Retriever (35%). On average hunter’s spent 45 days afield either training or hunting with their dog. Hunters spend an average of $777.12 on dog maintenance per dog owned (Table 1).

The number of people who bought small game, sportsman, senior citizen small game, non-resident small game, 5-day non-resident small game, or conservation patron licenses decreased from 242,6844 in 2015-16 to 235,754 in 2016-17 (Figure 1). Hunters spent approximately 1.82 million days in the field during the 2016-17 small game season. The total number of days spent in the field pursuing small game was down 2.7% from the 2015-16 season level. The estimated harvest increased from last season for cottontail, gray partridge, mourning dove, pheasant, raccoon, ruffed grouse, squirrel, and woodcock while decreased for bobwhite quail, coyote, crow, gray fox, red fox, and snowshoe hare (Table 2).

Small game hunters who pursued pheasants did so mostly on public land (47%). Seventy-eight percent of land used to pursue pheasants was stocked with pen-reared pheasants (either by the DNR or privately) (Table 1).

No corrections are made for response or prestige bias. Therefore the harvest estimates for some of the less hunted species (bobwhite quail, gray partridge, and gray fox,) are probably less accurate. Small sample size can also have an effect on the results of the counties of highest harvest. Because of this, counties of highest harvest should be viewed with caution. The thirty-year trend in small game harvest for all species is shown in Figure 2.
Table 1. Responses to the 2016-17 Wisconsin Small Game Hunting Questionnaire.

Question 1. Did you hunt small game (excluding waterfowl) in Wisconsin during this season?

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1,831</td>
<td>55.2%</td>
</tr>
<tr>
<td>No</td>
<td>1,484</td>
<td>44.8%</td>
</tr>
<tr>
<td>No Response = 6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Question 2. Did you use dogs while hunting small game?

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>880</td>
<td>48.7%</td>
</tr>
<tr>
<td>No</td>
<td>928</td>
<td>51.3%</td>
</tr>
<tr>
<td>No Response = 1,513</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Question 3. Which of the following did you hunt with the aid of dogs?

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Game Birds</td>
<td>506</td>
<td>57.2%</td>
</tr>
<tr>
<td>Migratory Game Birds (excluding waterfowl)</td>
<td>162</td>
<td>18.3%</td>
</tr>
<tr>
<td>Small Game Mammals</td>
<td>123</td>
<td>13.9%</td>
</tr>
<tr>
<td>Furbearing Animals</td>
<td>72</td>
<td>8.1%</td>
</tr>
<tr>
<td>Unprotected</td>
<td>17</td>
<td>1.9%</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

Question 4. What breed(s) and number of dogs did you use?

<table>
<thead>
<tr>
<th>Breed</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Water Spaniel</td>
<td>5</td>
<td>0.5%</td>
</tr>
<tr>
<td>Beagle</td>
<td>60</td>
<td>5.9%</td>
</tr>
<tr>
<td>Black &amp; Tan</td>
<td>5</td>
<td>0.5%</td>
</tr>
<tr>
<td>Blue Tick</td>
<td>17</td>
<td>1.7%</td>
</tr>
<tr>
<td>Border Collie</td>
<td>1</td>
<td>0.1%</td>
</tr>
<tr>
<td>Boykin Spaniel</td>
<td>2</td>
<td>0.2%</td>
</tr>
<tr>
<td>Brittanys</td>
<td>40</td>
<td>3.9%</td>
</tr>
<tr>
<td>Chesapeake Bay Retriever</td>
<td>12</td>
<td>1.2%</td>
</tr>
<tr>
<td>Cocker Spaniel</td>
<td>3</td>
<td>0.3%</td>
</tr>
<tr>
<td>English Cocker</td>
<td>9</td>
<td>0.9%</td>
</tr>
<tr>
<td>English Pointer</td>
<td>14</td>
<td>1.4%</td>
</tr>
<tr>
<td>English Setter</td>
<td>58</td>
<td>5.7%</td>
</tr>
<tr>
<td>English Springer Spaniel</td>
<td>4</td>
<td>0.4%</td>
</tr>
<tr>
<td>German Shorthaired Pointer</td>
<td>100</td>
<td>9.8%</td>
</tr>
<tr>
<td>German Wirehaired Pointer</td>
<td>39</td>
<td>3.8%</td>
</tr>
<tr>
<td>Golden Retriever</td>
<td>52</td>
<td>5.1%</td>
</tr>
<tr>
<td>Gordon Setter</td>
<td>3</td>
<td>0.3%</td>
</tr>
<tr>
<td>Griffon</td>
<td>17</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

Mean # of dogs owned = 1.4 Dogs per owner
Question 5. Approximately how many hours did you (or others), spend training each dog used?

**Mean = 123 Hours**

Question 6. Approximately how many days per year do you use your dog(s) in the field (training and hunting)?

**Mean = 44.5 Days**

Question 7. Approximately how much money do you spend annually on maintenance per dog?

**Mean = $777.12**

Question 8a. On what type of land did you hunt pheasants?

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private land</td>
<td>169</td>
<td>27.8%</td>
</tr>
<tr>
<td>Public land</td>
<td>282</td>
<td>46.5%</td>
</tr>
<tr>
<td>Both private and public land</td>
<td>156</td>
<td>25.7%</td>
</tr>
<tr>
<td>No Response</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Question 8b. Was the land you hunted on stocked with pen-reared pheasants (either by the DNR or privately)?

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>459</td>
<td>78.1%</td>
</tr>
<tr>
<td>No</td>
<td>78</td>
<td>13.3%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>51</td>
<td>8.7%</td>
</tr>
<tr>
<td>No Response</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>
Figure 1. Small Game License sales 1983-2016.
Table 2. The number of small game hunters, percent of total hunters, days hunted, harvest, harvest/day, and top three counties of harvest for all small game species during the 2016-17 season.

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of Hunters</th>
<th>Percent Hunting</th>
<th>Days Hunted</th>
<th>Harvest</th>
<th>Harvest/Day</th>
<th>Top Three Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bobwhite Quail</td>
<td>212</td>
<td>0.1%</td>
<td>213</td>
<td>71</td>
<td>±139</td>
<td>0.33 Columbia, Green</td>
</tr>
<tr>
<td>Cottontail</td>
<td>21,925</td>
<td>9.3%</td>
<td>106,199</td>
<td>92,266</td>
<td>±16,994</td>
<td>0.87 Grant, Fond du Lac, Brown</td>
</tr>
<tr>
<td>Coyote</td>
<td>21,147</td>
<td>9.0%</td>
<td>158,660</td>
<td>52,390</td>
<td>±18,526</td>
<td>0.33 Portage, Dane, Grant</td>
</tr>
<tr>
<td>Crow</td>
<td>4,833</td>
<td>2.1%</td>
<td>24,704</td>
<td>37,269</td>
<td>±27,501</td>
<td>1.51 Sheboygan, Manitowoc, Marinette</td>
</tr>
<tr>
<td>Gray Fox</td>
<td>2,546</td>
<td>1.1%</td>
<td>12,494</td>
<td>2,272</td>
<td>±2,154</td>
<td>0.18 Pierce, Waupaca, Vernon</td>
</tr>
<tr>
<td>Gray Partridge</td>
<td>212</td>
<td>0.1%</td>
<td>1,278</td>
<td>923</td>
<td>±1,205</td>
<td>0.72 Chippewa, Barron, Polk</td>
</tr>
<tr>
<td>Mourning Dove</td>
<td>7,945</td>
<td>3.4%</td>
<td>38,618</td>
<td>61,902</td>
<td>±21,793</td>
<td>1.60 Fond du Lac, Manitowoc, Dodge</td>
</tr>
<tr>
<td>Pheasant</td>
<td>43,520</td>
<td>18.5%</td>
<td>403,927</td>
<td>307,240</td>
<td>±47,418</td>
<td>0.76 Waukesha, Fond du Lac, Kenoshia</td>
</tr>
<tr>
<td>Raccoon</td>
<td>6,389</td>
<td>2.7%</td>
<td>96,829</td>
<td>98,391</td>
<td>±37,924</td>
<td>1.05 Dodge, Grant, Sauk</td>
</tr>
<tr>
<td>Red Fox</td>
<td>4,338</td>
<td>1.8%</td>
<td>31,022</td>
<td>2,911</td>
<td>±1,990</td>
<td>0.09 Dodge, Marathon, Brown</td>
</tr>
<tr>
<td>Ruffed Grouse</td>
<td>66,648</td>
<td>28.3%</td>
<td>547,182</td>
<td>262,943</td>
<td>±31,011</td>
<td>0.48 Price, Douglas, Sawyer</td>
</tr>
<tr>
<td>Snowshoe Hare</td>
<td>3,041</td>
<td>1.3%</td>
<td>12,636</td>
<td>8,306</td>
<td>±4,782</td>
<td>0.66 Oneida, Langlade, Taylor</td>
</tr>
<tr>
<td>Squirrel</td>
<td>40,668</td>
<td>17.3%</td>
<td>243,634</td>
<td>266,421</td>
<td>±38,782</td>
<td>1.09 Monroe, Oconto, Grant,</td>
</tr>
<tr>
<td>Woodcock</td>
<td>16,904</td>
<td>7.2%</td>
<td>137,860</td>
<td>75,603</td>
<td>±19,930</td>
<td>0.55 Price, Douglas, Marinette</td>
</tr>
</tbody>
</table>

* Confidence interval is 95%.
Figure 2. Small game harvest trends for all species 1983-2016.
Figure 2. Small game harvest trends for all species 1983-2016 (continued).