Introduction

Chronic wasting disease (CWD) is a fatal neurodegenerative disease that affects members of the Cervidae family (e.g., deer, elk, reindeer, sika deer, and moose). Because of its catastrophic effects on cervids, and the potential for negative socio-economic impacts, CWD has been recognized as a disease of national priority in both the United States and Canada.

The Pennsylvania Game Commission (Game Commission) began collecting CWD data on deer and elk in 1998, with the first case of CWD identified in 2012 in Pennsylvania’s white-tailed deer population. The Game Commission and the Wildlife Futures Program (WFP), along with the expertise of the Timmons Group, have created a visualization dashboard that tracks CWD sampling and test results. This tool provides current CWD surveillance information to hunters, wildlife managers, and other stakeholders.

- Try out the dashboard... (https://pgcdatacollection.pa.gov/CWDResultsLookup)

Data Visualization Dashboard as a State-Level Solution

The Game Commission launched the dashboard in December 2020 for wild cervids. In early 2021, the Pennsylvania Department of Agriculture (PDA) began contributing their CWD surveillance data for captive cervids, thereby expanding Pennsylvania’s view of CWD’s prevalence. Incorporating data from wildlife health partners outside of Pennsylvania, and offering access to this tool, will accelerate monitoring of CWD surveillance efforts and encourage management of the disease at a state and regional level.

### Sample Distribution by Source

<table>
<thead>
<tr>
<th>Sample Distribution by Source</th>
<th>Hunter Collected Samples Tested</th>
<th>Hunter Collected CWD+ Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8,845</td>
<td>165</td>
</tr>
</tbody>
</table>

### Sample Distribution by Sex

<table>
<thead>
<tr>
<th>Sample Distribution by Sex</th>
<th>Road Kif Samples Tested</th>
<th>Road Kif CWD+ Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3,349</td>
<td>54</td>
</tr>
</tbody>
</table>

### Sample Distribution by Region

<table>
<thead>
<tr>
<th>Sample Distribution by Region</th>
<th>Other Samples Tested</th>
<th>Other CWD+ Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>227</td>
<td>13</td>
</tr>
</tbody>
</table>
Dashboard Data

The dashboard confirms Pennsylvania’s commitment to proactively managing CWD. It is transparently benchmarking the Game Commission’s progress against its planned goals and objectives.

The dashboard displays data across three tabs:

Samples Over Time
- A single filter to select either white-tailed deer or elk samples
- Two visualizations:
  ▶ A bar chart illustrating the number of samples collected for each hunting season
  ▶ A line graph illustrating the number of positive samples found for each hunting season

Sample Prevalence
- Bar charts illustrate overall sample size positive samples, and sample prevalence
- The initial map reflects the density of positive cases that have coordinate data
- All visualizations are interactive via filters:
  ▶ An interactive map shows geographic context at different aggregation scales
  ▶ Other maps demonstrate sample collection efforts, or sample prevalence for a given geographic area
  ▶ Municipal boundaries, such as townships, & other boundaries, such as Wildlife Management Units, can be displayed

Sample Statistics
- Provides descriptive statistics of the sample population based on categorical data
- Pie charts reflecting total numbers of samples collected and positive samples are calculated
- “Other Tested” and “Other Positive” categories are included by hovering over these areas
- Users can further filter visualizations by hunting season or species

For more information, please visit www.vet.upenn.edu/wildlife-futures