

## 2019 Pennsylvania Wild Turkey Sighting Survey Results

The survey allows us to estimate the number of turkey poults (young of the year) per hen throughout the state, which provides an index of reproductive success each year. We use this information in our turkey population model and to establish fall turkey seasons. In 2019 we adopted the new national standardized survey method and data analysis developed by the National Wild Turkey Technical Committee. This standard survey allows direct comparison of reproductive success across states and regions.

Thanks to all volunteers and PGC staff for contributing to this survey!

### 2019 RESULTS:

We received 3,172 reports totaling 16,345 turkey sightings (5,273 sightings by staff + 11,072 by public), up from 12,014 total turkey sightings in 2018 (2,040 sightings by staff + 9,974 by public). Reasons for the increase: survey was expanded to include July + August (previously only August), PGC staff survey was expanded to all PGC field staff (previously only State Game Wardens).

Poult Reproductive Index = 2.4 poults per hen. This was the same as the 2018 public survey index, which is the survey that most closely resembles the new methodology.

- Reproductive index for the 23 Wildlife Management Units (WMU) compared to 2018 (Table 1):
  - 10 increased
  - 10 decreased
  - 3 similar.

Spring and summer rainfall & cold temperatures affect turkey reproductive success:

- Conditions were variable across PA in 2019, and, therefore, affected turkey reproductive success differently.
- Persistent cool, wet spring and summer weather is known to negatively impact reproduction due to the need for hens to brood poults more, lack of insects which poults and hens rely on for growth and nutrition, increased predation, and direct mortality due to exposure.

Reproductive success varied considerably among the Mid-Atlantic States (Table 2).

- Lowest in West Virginia (1.6 poults/hen),
- Highest in both Maryland and New Jersey (2.7).
- Due to variability in sample sizes by state the range in the reproductive index was included (lower and upper confidence intervals).
- Large sample sizes in New York, Pennsylvania and Virginia provided tighter confidence intervals for these estimates compared to the other states.

Thanks to the popularity of this survey in Pennsylvania we have high confidence in our estimates. Let's maintain these results in 2020 and even increase participation!

Table 1. Pennsylvania turkey poults seen per all hens seen by Wildlife Management Unit (WMU) and year. Data from 2016-2018 were from the August public survey. In 2019 the survey was changed to include July & August, and public & PGC staff sightings.

WMU	2016	2017	2018	2019 <sup>a</sup>
1A	1.9	1.9	2.0	2.5
1B	1.9	2.1	2.8	2.0
2A	3.1	1.2	2.2	2.8
2B	2.6	1.6	1.7	2.4
2C	2.5	2.5	2.3	2.5
2D	2.0	2.2	1.7	3.5
2E	2.7	2.9	2.3	2.7
2F	2.9	2.6	2.9	1.9
2G	2.7	3.4	3.0	2.2
2H	2.1	3.0	3.0	2.6
3A	3.4	3.8	4.6	1.8
3B	2.4	3.3	2.1	2.2
3C	2.5	2.7	2.3	2.1
3D	2.1	1.6	2.4	2.5
4A	2.3	4.6	4.4	2.4
4B	2.5	2.8	4.2	2.4
4C	2.0	2.1	2.7	2.7
4D	2.4	2.5	2.4	2.6
4E	2.8	2.6	1.6	2.3
5A	1.7	2.9	2.6	2.8
5B	2.2	2.1	2.1	2.3
5C	2.1	1.7	2.4	1.2
5D	1.4	3.1	3.6	1.6
<b>State</b>	<b>2.4</b>	<b>2.3</b>	<b>2.4</b>	<b>2.4</b>

Table 2. Turkey poults seen per all hens seen, summer 2019, by State, in the Mid-Atlantic Region, and the total number of broods reported by state.

State	Sample Size	Poults per Hen (lower, upper confidence intervals)
West Virginia	137	1.6 (1.2-2.0)
Delaware	105	2.2 (1.6-2.8)
Ohio	381	2.3 (2.1-2.6)
New York (Agency + Public)	1,023	2.3 (2.1-2.6)
<b>Pennsylvania (Agency + Public)</b>	<b>2,029</b>	<b>2.4 (2.3-2.6)</b>
Virginia (Agency + Public)	692	2.6 (2.4-2.8)
Maryland	413	2.7 (2.4-2.9)
New Jersey	26	2.7 (1.9-3.6)
<i>Average, Mid-Atlantic Region</i>		<i>2.3</i>

