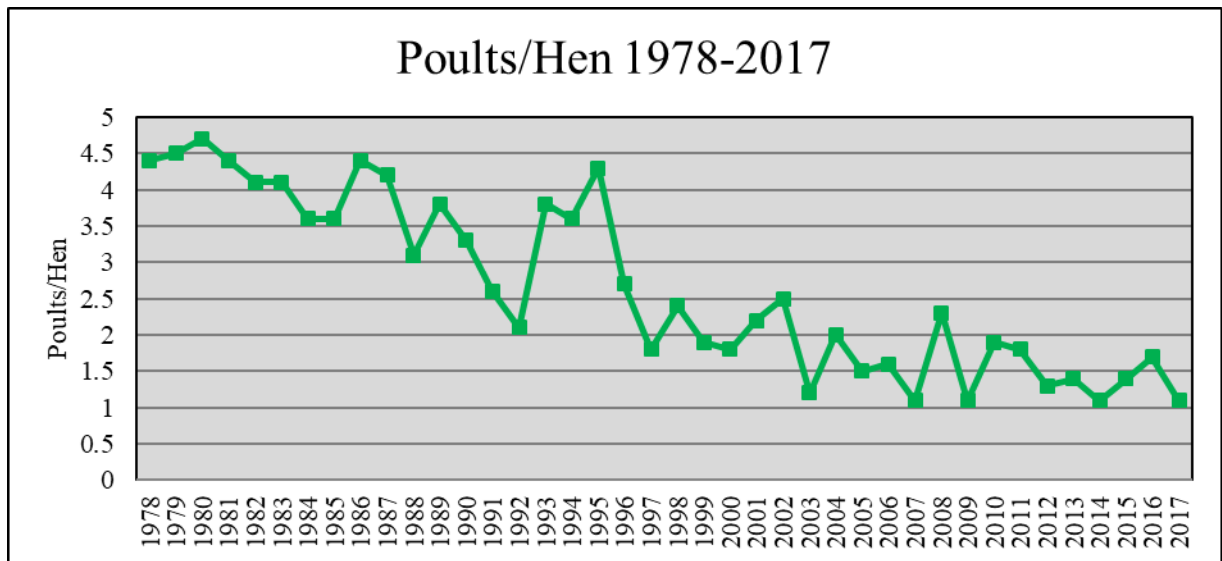
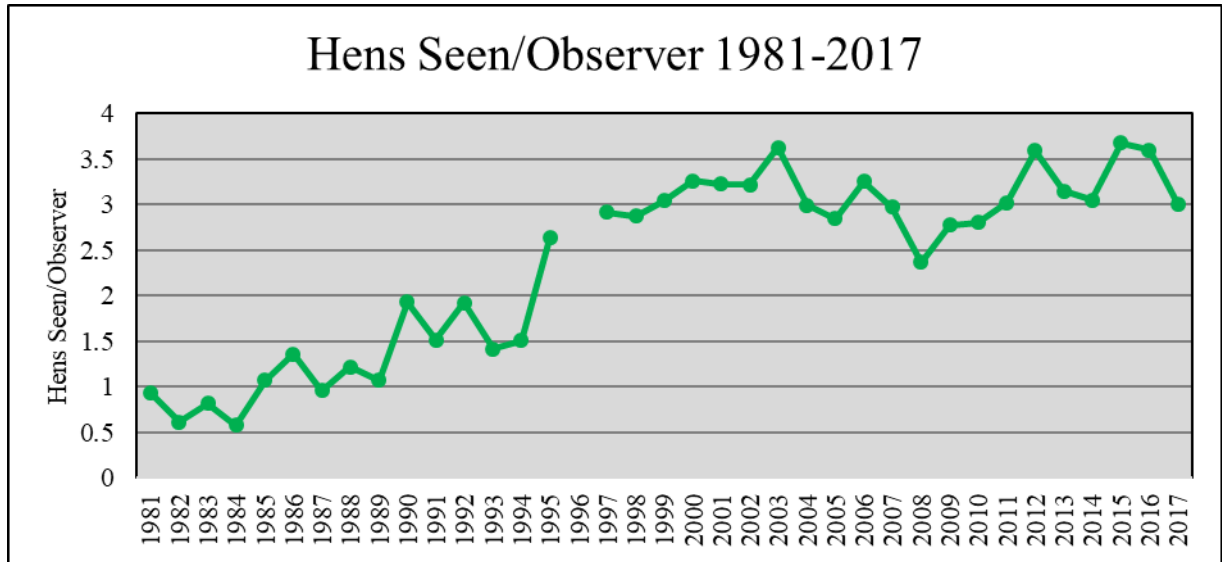


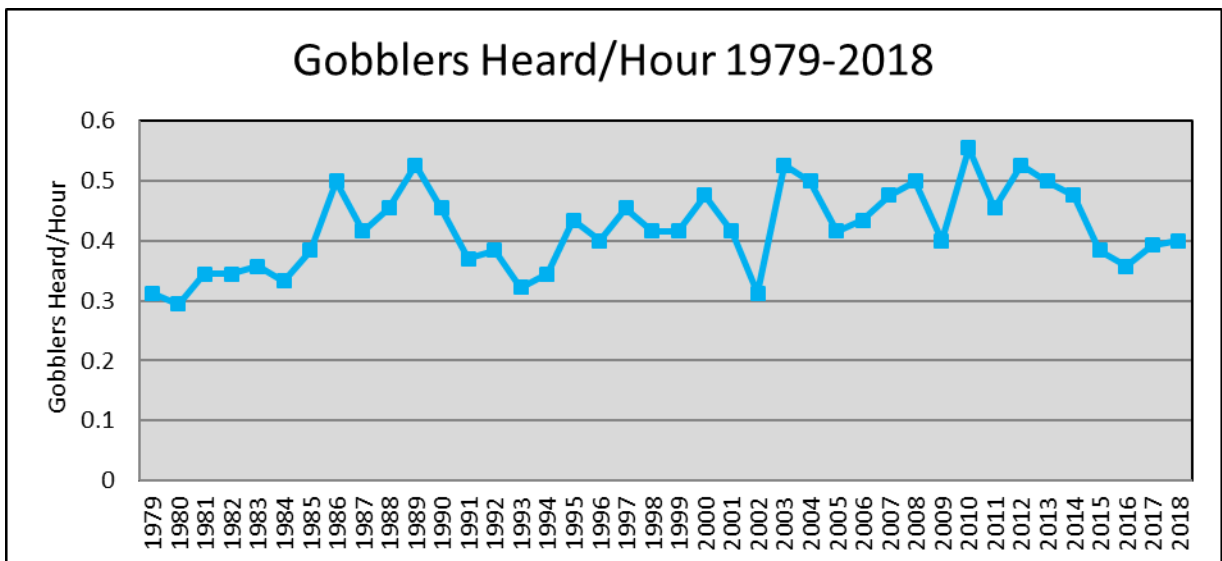
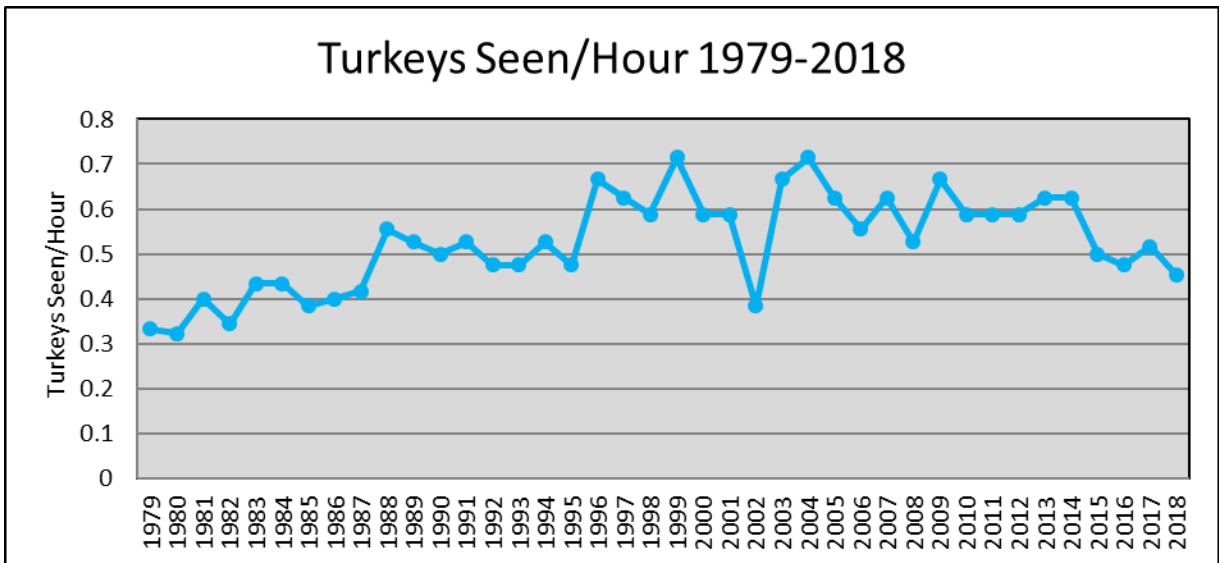
Turkey Production Index Survey

- DNR personnel recorded observations while performing field duties during June, July and August. Hens/observer is an index that tracks the female segment of the population, while poult/hen is used as a measure of relative quality of the reproductive season and is tracked long-term.
- Hens/observer values have fluctuated around 3.1 since 1999. The hens/observer value for 2017 was 3.0 which was 12% less than the previous 4-year average (3.4 = 2013-16) and 17% less than last year (3.6 = 2016). While hens/observer values have increased over time poult/per hen values have decreased. Poults/hen values have fluctuated around 1.5 since 2003. In 2017, 1.1 poults/hen were recorded which equaled the worst documented (2007, 2009 and 2014 = 1.1), 21% less than the previous 4-year average (1.4 = 2013-16) and 35% less than last year (1.7 = 2016). Also, only 30% of hens were observed with poults in 2017 (worst ever). Therefore, 2017 was the worst single year of reproduction documented.



Turkey Hunting Population Index Survey

- The turkey hunting population is indexed through cooperators reporting their daily hunting statistics throughout the turkey hunting season. Turkeys seen/hour is a statewide hunting population index and gobblers heard/hour is an index that tracks the male segment of the population.
- The turkeys seen/hour value for 2018 was 0.45, which was 15% less than the previous 4-year average (0.53 = 2014-2017) and 13% less than last year (0.52 = 2017). The gobblers heard/hour value for 2018 was 0.4, which equals the previous 4-year average (0.4 = 2014-2017) and nearly equal to last year (0.39 = 2017).
- The past 4 year period (2015-18) turkeys seen/hour (0.487) and gobblers heard/hour (0.384) was the worst 4-year period since 1986-89 and 1993-96, respectively.





Turkey Hunting Population Index Prediction Model

- The data to analyze this model was utilized from both the Turkey Production Index Survey (poult/observer) and Turkey Hunting Population Index Survey (Turkeys Seen/Hour).
- The predictive model analysis uses Poults/Observer of the previous reproductive season + Turkeys seen/Hour from the previous harvest season to predict the current year's harvest season population index of Hours Hunted/Turkey Seen, where the predictor model (1980-2017) is:

$$1/(\text{Constant} + (\text{Slope X 2017 Poults/Observer}) + (\text{Slope X 2017 Turkeys Seen/Hour}))$$

$$= 2018 \text{ Turkey Seen/Hour}$$

Therefore:

$$1/(0.10208 + (0.01053 * 10.2) + (0.5257 * 0.5169))$$

$$= 0.48 \text{ Hours Hunted/Turkey Seen in 2018}$$

After the reproduction+population data from 2017 was entered in the model, the prediction for the 2018 harvest season was 0.48 turkey seen/hour hunted. However, hunters observed 0.45 turkey seen/hour which was 6% worse than what was predicted. A relatively high correlation $r = 0.68$ was obtained from this analysis indicating this model was a good predictor of the following years turkey season based on data obtained from the surveys.

