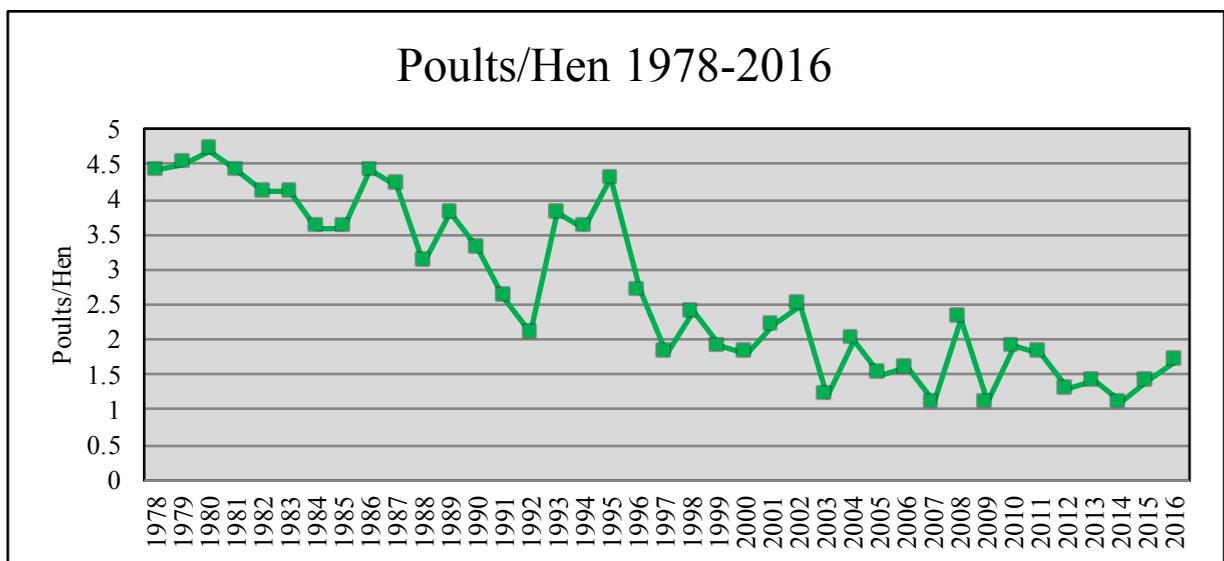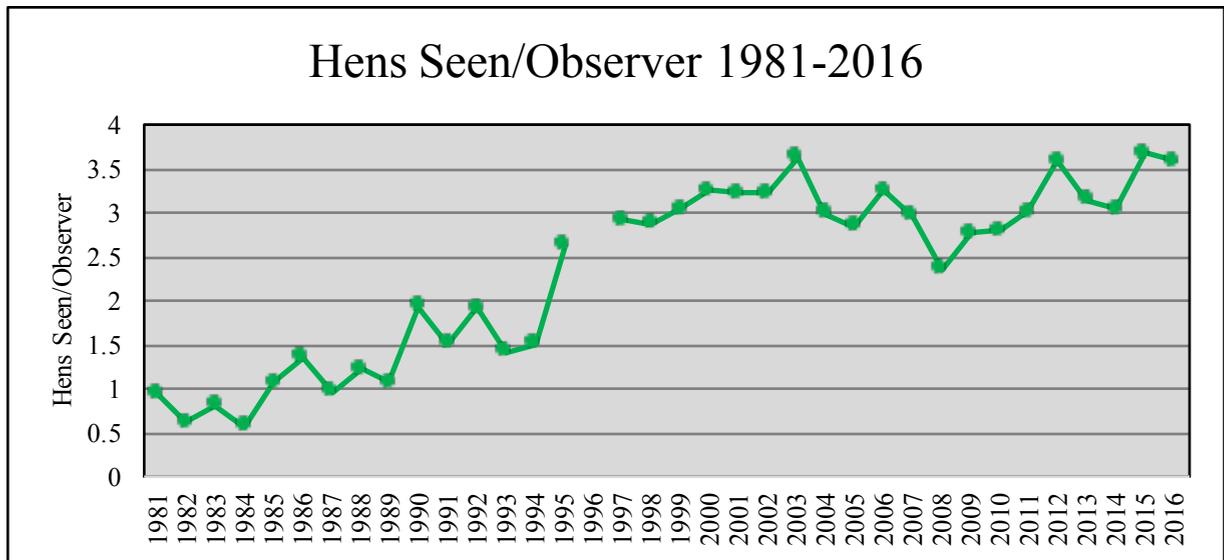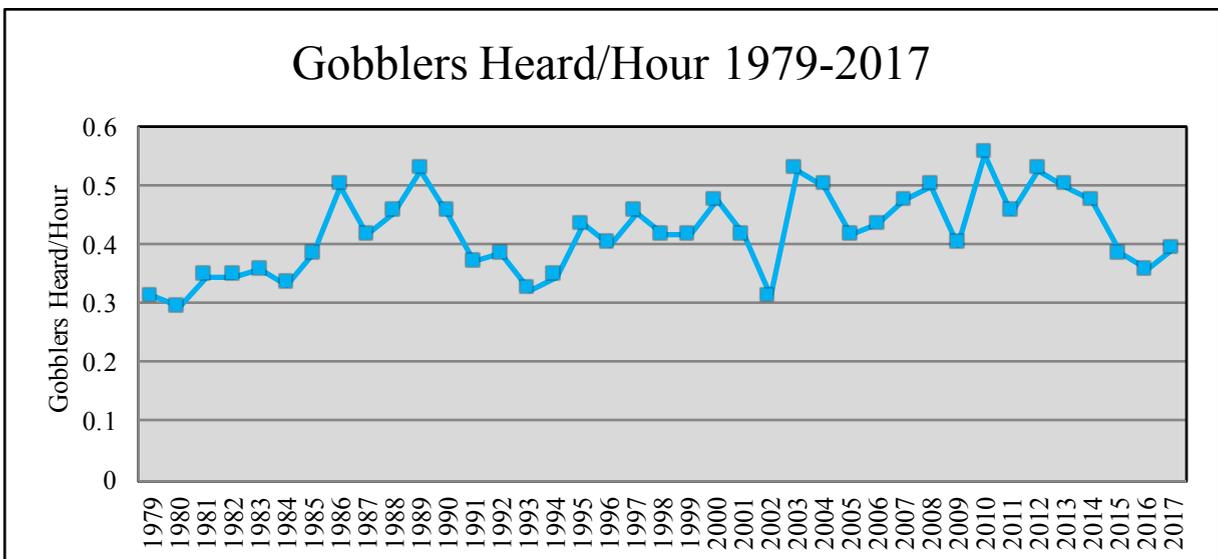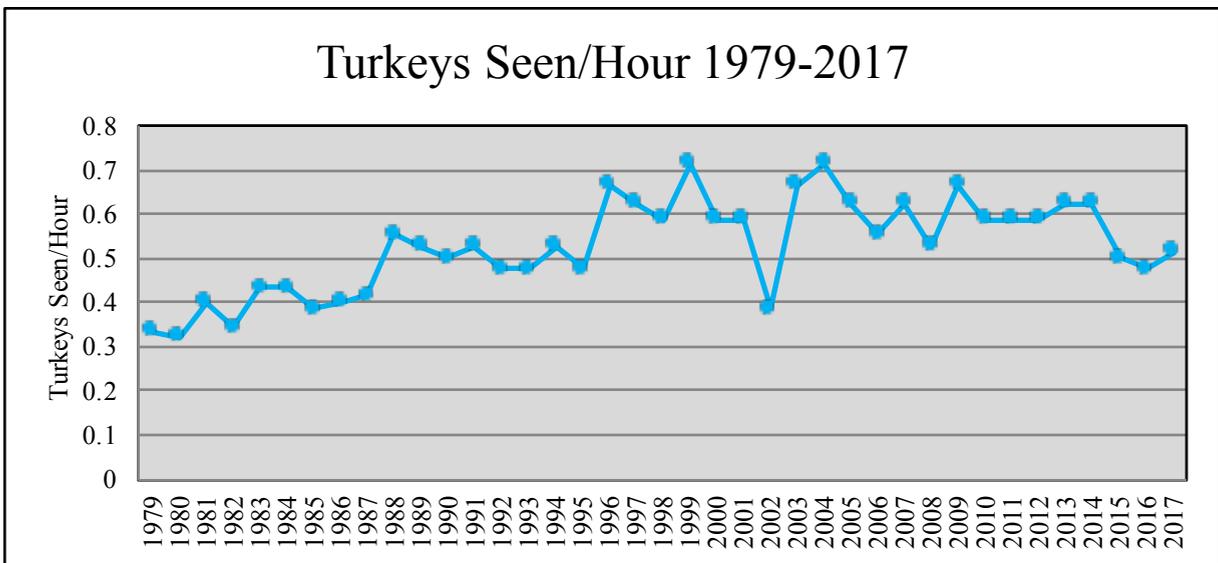# Turkey Production Index Survey

- 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 poults/hen is used as a measure of relative quality of the reproductive season and are tracked long-term.

- Hens/observer values have fluctuated around 3.1 since 1999. The hens/observer value for 2016 was 3.6, which was 6% greater than the previous 4-year average (3.4 = 2012-15) and 3% less than last year (3.7 = 2015). While hens/observer values have increased over time, poults/per hen values have decreased. Poults/hen values have fluctuated around 1.5 since 2003. In 2016, 1.7 poults/hen were recorded which was the greatest value since 2011 (1.8), 24% greater than the previous 4-year average (1.3 = 2012-15, which was the lowest 4-year period recorded), and 18% greater than last year (1.4 = 2015).

Hens Seen/Observer 1981-2016

Poults/Hen 1978-2016

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Georgia Turkey Hunting Population Index Survey

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 2017 was 0.52, which was 7% less than the previous 4-year average (0.56 = 2012-2016) and 8% greater than last year (0.48 = 2016). The gobblers heard/hour value for 2017 was 0.39, which was 9% less than the previous 4-year average (0.43 = 2012-2016) and 8% greater than last year (0.36 = 2016).

- It appears as if the increase in poults/hen observed for 2016 carried over into 2017 with both more turkeys seen/hour and more gobblers heard/hour than the previous year.

Turkeys Seen/Hour 1979-2017

Gobblers Heard/Hour 1979-2017

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Turkey Hunting Population Index Prediction Model FY-2017

Turkey Hunting Population Index Prediction Model

- The data to analyze this model was utilized from both the Turkey Production Index Survey (poults/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 (1980-2016) is:

$$1/(\text{Constant} + (\text{Slope X 2016 Poults/Observer}) + (\text{Slope X 2016 Turkeys Seen/Hour}))$$

$$= 2017 \text{ Turkey Seen/Hour}$$

Therefore:

$$1/(0.10345 + (0.01063*18.1) + (0.52149*0.4762))$$

$$= 0.54 \text{ Hours Hunted/Turkey Seen in 2017}$$

After the reproduction+population data from 2016 was entered in the model, the prediction for the 2017 harvest season was 0.54 turkey seen/hour hunted. However, hunters observed 0.52 turkey seen/hour which was only 5% worse than what was predicted. A relatively high correlation $r = 0.68$ was obtained from this analysis.

Turkey Hunting Population Index Predictive Model 1980-2017