

Wild Turkey Production and Population Survey Results for 2016

The 2016 hunting season was the 37th year of our annual turkey population survey. The continuing cooperation between turkey hunters and staff has made the survey possible. Your assistance is vital to managing wild turkeys in Georgia. We appreciate this partnership.

Turkey Production Index Survey

Historically, this survey was conducted from May-August from 1978-1990. Beginning in 1991, the annual survey period was shortened to June-August. Field personnel of the Game Management and Fisheries management sections along with personnel from the Law Enforcement division participate in the survey. All observations of turkey broods, gobblers, and hens with and without poults are reported.

During the summer of 2016, 607 broods were observed, which represents a 23% increase from 2015 (494). The average brood size of 5.36 poults observed in 2016 was 12.8% greater than 2015 (4.75) and 7.6% less than the 5 year average (5.8). The statewide production index poults/observer was 18.08, which was an 18.2% increase from 2015 (15.29) and 29% above the 5 year average (14.04). The production index ‘poults + hens’ was 5223 in 2016, which was 28% greater than 2015 (4068) and 24% greater than the 5 year average (4229). Statewide, the average number of poults per hen was 1.7 in 2016, up 21% from 2015 (1.4), and 24% greater than the 5-year average of 1.35. Recent years suggest that 2.0 poults per hen or slightly less have been able to maintain our current populations. A production index of 1.7 poults per hen is the best statewide production index we have had since 2011.

Reproduction data does suggest that a couple areas in Georgia had better reproduction in 2016 than 2015, however, some did not. The Lower Coastal Plain had the highest poults/hen index (pph) of 2.34, which was a 15% increase from 2015. This areas of the state also saw 34% more broods, and 27% greater number of total poults+ hens. The Ridge and Valley area of the state also did ok with 1.70 pph which is about the same as 2015 and 3 years in a row of good reproduction. This region also saw a 51% increase in ‘total poults+hens’ and the number of broods observed increased 29%. The Upper Coastal Plain improved with a 1.7 pph index. This was up 34% from 2015. This area also had a 30% increase in the total poults+ hens observed, but saw a 57% increase in the total broods observed. The Piedmont struggled, but did have a 1.45 pph index in 2016, which is 22% greater than 2015 (1.18). This area also experienced a 36% increase in the total poults+ hens observed and a 18% increase in the number of broods observed. Finally, the Blue Ridge improved slightly in 2016 with a poults//hen index of 1.01, which was a 24% increase from 2015 (.81).

Hunting Population Index Survey

For the 2016 hunting season, usable hunt data was supplied by 484 cooperators (which is only 2% less the 5-year average of 492 [2011-15]). Of these, 462 came from the permanent cooperator list and 22 from the DNR quota list which resulted in a reporting rate (after deleting wrong addresses, deceased, quit hunting, incorrect data collection, etc.) of 33.8% from the permanent, 4.1% from the DNR quota list and 25.4% total. These cooperators reported spending a total of 17,828.9 hours hunting (which is 10% below last year [19,891.8 = 2015] and only 2% above the 5-year average of 17,471.5; Table 1). The average season hunter effort was 10.7 trips (which is nearly equal to last year [10.8] and 5% more than the 5-year average of 10.2) totaling 36.8 hours (which is 3% less than last year [38.0 = 2015] and 4% more than the 5-year average of 35.5). They reported observing 8,535 turkeys (which is 14% less than last year [9,926 = 2015] and 16% less than the 5-year average of 10,160) and hearing 6,320 gobblers (which is 17% less than last year [7,619 = 2015] and 23% less than the 5-year average of 8,186). This represents the worst year since 2008 for turkeys seen (but that year there were only 434 cooperators) and 2005 for gobblers heard (but that year there were only 335 cooperators). The statewide population index (hours/turkey seen) of 2.1 was 5% worse than last year (2.0 = 2015), the worst since 2002, and was 19% worse than the 5-year average (1.7, a greater number means a worse year in that it took longer to see a turkey). The hours per gobbler heard of 2.8 was 7% worse than last year (2.6 = 2014), the worst since 2002 and it was also 21% worse than the 5-year average of 2.2. The effort per gobbler harvested was 34.0 which was 20% worse than last year (27.1), the worst since 2002 and it was also 31% worse than the 5-year average of 23.4. The least hunting effort per turkey seen occurred in the Ridge and Valley along with the Lower Coastal Plain and Blue Ridge Mountains, and was the greatest in the Upper Coastal Plain and Piedmont. The effort per gobbler heard was least in the Ridge and Valley followed by the Upper and Lower Coastal Plains and was greatest in the Blue Ridge Mountains and the Piedmont.

This was the fourth season we asked cooperators to report gobblers and hens seen separately. From this, we observed that statewide the hen:gobbler ratio was 1.3 equal to last year and nearly equal to the last 3-year average (1.4), whereas during the reproductive season 2015 it was 1.8. This ratio varied from 1.0 (Upper Coastal Plain) – 1.9 (Blue Ridge Mountains) hens:gobbler across the 5 physiographic regions. You would expect fewer hens to be seen during the harvest season because as the season progresses hens leave the gobblers to nest. Statewide hours hunted per gobbler seen was 4.8 (4.7 in 2015), while it took 3.8 hours (3.5 in 2015) to see a hen. Hours per gobbler seen varied from 2.4 (Ridge and Valley) – 7.3 (Piedmont – fourth year being the highest) across the regions. Hours per hen seen varied from 1.9 (Ridge and Valley) – 5.2 (Piedmont – fourth year being the highest) across the regions. The Piedmont is the only region for both hours/gobbler seen (2013 = 4.2, 2014 = 5.1, 2015 = 6.4 and 2016 = 7.3) and hours/hen seen (2013 = 3.4, 2014 = 3.7, 2015 = 4.6 and 2016 = 5.2) to have gotten progressively worse each of the last 4 years.

Statewide peak gobbling activity (excluding the youth weekend) was 1.7 (first weekend = March 26-27) and 1.5 (third weekend = April 9-10) gobblers heard per trip. This season statewide there were no periods with greater than or equal to 2.0 gobblers heard per trip which was slightly worse than last year (this year averaged 2 periods with 1.5 or greater and last year was 4) and the worst since 1999 (from 2000-2014 there were anywhere between 1-6 periods with 2.0 or better). This year as in most years, the greatest gobbling activity statewide was the first 7 days of the season. Regionally, for 2.0 gobblers heard per trip or greater we observed the following for each region: Ridge and Valley – first, fourth and last weekends; Blue Ridge Mountains, Piedmont, Upper and Lower Coastal Plains experienced no periods with 2.0 or better. Gobblers heard per trip compared to last year was up for the Ridge and Valley, down for the Blue Ridge Mountains, down for the Piedmont, same for the Upper Coastal Plain and down for the Lower Coastal Plains.

The statewide gobbler harvest during the first seven days (excluding the youth weekend) of the season amounted to 31% of the total season harvest (which is nearly equal to the 5-year average of 30%). Peak seven-day harvest by region was: Ridge and Valley, Piedmont, Upper and Lower Coastal Plain was March 26-April 1, whereas Blue Ridge Mountains was April 2-8.

Similar to previous seasons and coinciding with the harvest data, the greatest number of trips made was during the first seven days (excluding the youth weekend) of the season, except for the Ridge and Valley (April 4-10) and Blue Ridge Mountains (April 2-8).

Statewide (excluding the youth weekend) the best 2 periods were the first (March 26-27) and second (April 2-3) weekends for gobbler harvest per trip (or efficiency). The best two periods for Ridge and Valley was the first weekend (March 26-27) and third week (April 1-15), Blue Ridge Mountains was the second (April 2-3) and third (April 9-10) weekends, Piedmont was the first weekend and week (March 26-April 1), Upper Coastal Plain was the first (March 26-27) and sixth (April 30-May 1) weekends and the Lower Coastal Plain was the second (April 2-3) and fourth (April 16-17) weekends.

Hunter success (54.5 %) was the worst since 2001 and second worst documented since the survey began in 1979. Of the successful hunters, 127 (26.2 %, 5 year average was 24.7 %) took or assisted in taking one bird, 74 (15.3 %, 5 year average was 16.4 %) took or assisted in taking two birds, and 63 (13.0%, 5 year average was 23.8 %; Graph 10) took or assisted in taking three

birds. Cooperators reported 170 gobblers harvested by companions, which was 25% lower than last year (227) and 23% lower than the 5-year average of 221.

The new 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 (1978-2015) is:

$$\frac{1}{(\text{Constant} + (\text{Slope X 2015 Poults/Observe}) + (\text{Slope X 2015 Turkeys Seen/Hour}))}$$

= **2016 Hours Hunted/Turkey Seen**

Therefore:

$$\frac{1}{(0.1066 + (0.0107*15.29) + (0.51757*0.5000))}$$

= **1.89 Hours Hunted/Turkey Seen in 2016.**

After the reproduction+population data from 2015 was entered in the model, the prediction for the 2016 harvest season was 1.89 hours hunted per turkey seen. However, hunters observed 2.1 hours hunted per turkey seen which is 10% worse than what was predicted. A relatively high inverse correlation $r = -0.68$ was obtained from this analysis.

2017 Season Forecast

Georgia, along with most of the southeastern states, has seen a declining trend in wild turkey reproduction and population. In Georgia, we have had poor reproduction 2012-2015. We also maintained a high total harvest during that same period. We had to pay for spending our surplus and 2016 saw the lowest total harvest we have experienced in a long time (16,108). The summer of 2016 was the best statewide reproduction we have seen since 2011. So what should hunters expect this spring? The Lower Coastal Plain and Ridge and Valley will have above average seasons this year as they have maintained stable to increasing reproduction the last 4 years. The other regions of the state did see some improvement in reproduction in 2015 and 2016. The Piedmont and Upper Coastal Plain I expect to be better than last year, but still need a few good hatched to get back to where we were in 2012. The Blue Ridge region will be fair. I am optimistic that the mild winter and large mast crop will have these turkeys energized and gobbling. Turkey populations are cyclic and their populations can rebound quickly. We need to have a couple of good reproductive seasons in succession to really get the population on the upswing.