

2012 WILD TURKEY BROOD SURVEY: Summary Report

Many thanks to all the people from throughout New Hampshire who submitted sightings of broods of young wild turkeys. The results of the survey summarized here will help the Fish and Game Department keep track of the status and reproductive success of the wild turkey population around the state. The turkey project biologist in the southwestern section of the state, with some help from several biologists in other regions of the state, gathers a sample of brood observations throughout the summer in order to get an “index” to yearly productivity. However, the number of sightings is not that large, and misses many towns and sections of the 9,000 square miles of the state. Participants in this survey help fill those gaps. This was the second year of our Internet-based turkey brood survey, which covers May 15-August 31, 2012. For the past four years there has been a similar wild turkey flock survey conducted during the winter months.

Number of Broods Reported

The public reported 1,119 turkey broods, compared to 811 in 2011. During 2011 there were 7,076 poult reported and 1,476 hens throughout the 3½ months of the summer. The overall average brood count throughout the different summertime periods and regions of the state was 4.8 poult per hen. During 2012 there were 9,874 poult reported and 2,430 hens, for an overall average of 4.06 poult per hen.

The state is divided into 18 wildlife management units for turkey management. For this turkey brood internet survey the state was divided into six regions (see Figure 1 on previous page) to compare regional turkey productivity. The Southeast Region had the most brood reports, 534 (47.72%) of the 1,119 total brood reports (Table 1.). Two contributing factors are because this region has the greatest human population to report more sightings, and because turkeys are newer here and hence people are somewhat more interested.

Broods Reported Per Time Period of Summer 2012

The summer reporting period was divided into seven 2-week periods, starting May 16, and ending August 31. Broods are not typically recorded after the end of August because young turkeys grow quite rapidly and it becomes difficult to distinguish adult hens from some of the young in September. The largest percent of the brood reports were from August (49.4%), followed by July (26.0%), June (19.7%), and May (5.0%) (see Table 2). This is understandable since in early summer the small young are hard to see, and the hens with young are more secretive.

The statewide number of young per hen started off with 4.44 poult per hen during the first half of June and ended with 3.73 poult per hen during the second half of August (see Figure 2). Some states place emphasis on the month of August because three prior months have experienced attrition of young and if a one month survey is going to be used to gauge summer brood productivity, August is good. The statewide average during August 2011 was 4.38 poult per hen, and 3.84 poult per hen during August 2012.

Estimated Hatching Periods by Regions - Summer 2012

The size of turkey poult is important in estimating when hatching occurred during a given spring/summer. For this analysis, the summer was divided into seven 2-week periods. There were six size/age class categories that were used for poult sightings. These included: sparrow size = 1 week, robin-size = 2 weeks, quail-size = 3 weeks, pigeon-size = 4 weeks, grouse-size = 6 weeks and hen pheasant size = 8+ weeks. By subtracting the age of poult from the date of observation, we are able to derive average hatch

dates (see Table 4). Based on this analysis, approximately 35% of the average statewide hatch was in May, 44% of the hatch in June and 20% in July. There was variation in hatching periods among the regions of the state. The easiest winter in 40+ years stimulated early breeding/nesting, and earlier hatching was expected compared to the long term hatching dates. Several regions had relatively high hatching percentages during May 2012 of 50.16%, 42.86% and 40.00%. Figure 4 compares the statewide hatching periods between summer 2011 and summer 2012. There was slightly more of the hatch in May 2012 (35.30%) than May 2011 (33.52). June 2011 had more of the hatch (54.75%) than June 2012 (44.05%). July 2012 had somewhat more of the hatch (20.43%) than July 2011 (11.31%).

Because of such a mild winter and early spring, it is thought that the great majority of hens initiated nesting activity during May and early June, 2012. The spikes on the graph in Figure 4 of 23.48% of the hatch during the period June 16-30, and the 15.91% of the hatch during the period July 1-15, are believed to be largely hatches from re-nesting. Observations of the turkey project biologist in southwestern New Hampshire indicated that approximately 26% of the broods seen in late summer, because of the small size of poults, were from re-nests.

The “average” hatching dates for the size regions of the state were: North (June 7), White Mountains (June 8), West Central (June 21), Southwest (June 10), East Central (June 9), and Southeast (June 12). The average hatching date statewide or for the size regions combined was June 11th.

Conclusions:

Winter 2012 was one of the mildest winters in 40+ years, with very little snowfall. That, and one of the earliest spring green-ups in years, stimulated early turkey breeding/nesting and hatching. Statewide, approximately 35% of the hatch for summer 2012 occurred during May. The largest percentage of the hatch was during June (44%). The “average” hatching date for all the broods from the six regions of the state was June 11th.

During summer 2012 the public reported 1,119 turkey broods totaling 9,874 poults with 2,430 hens, for an overall average of 4.06 poults per hen. This was somewhat more than 811 broods totaling the 7,076 poults with 1,476 hens, for an overall average of 4.8 poults per hen during summer 2011. The number of young per hen over the six regions of the state varied somewhat. During August 2011 the statewide average was 4.38 poults per hen and 3.84 poults per hen in August 2012, for 0.54 poults less in 2012.

The semi-drought conditions during early summer 2012 resulted in favorable hatching weather and subsequently good numbers of poults in many brood observations. Because of considerable early hatching during spring 2012 it was somewhat difficult to tell young from hens in August. The sightings of numerous flocks during fall 2012 confirm that the degree of reproductive success of the state’s wild turkey population was fairly good for 2012.

Thank you again for your interest and participation in New Hampshire’s second internet-based turkey brood survey. We look forward to your continued participation in future years.

Ted Walski
Turkey Project Biologist
December 6, 2012

Figure 1 is map of turkey WMUs and regions from last year's summary.

On the following are the rest of the tables and figures.

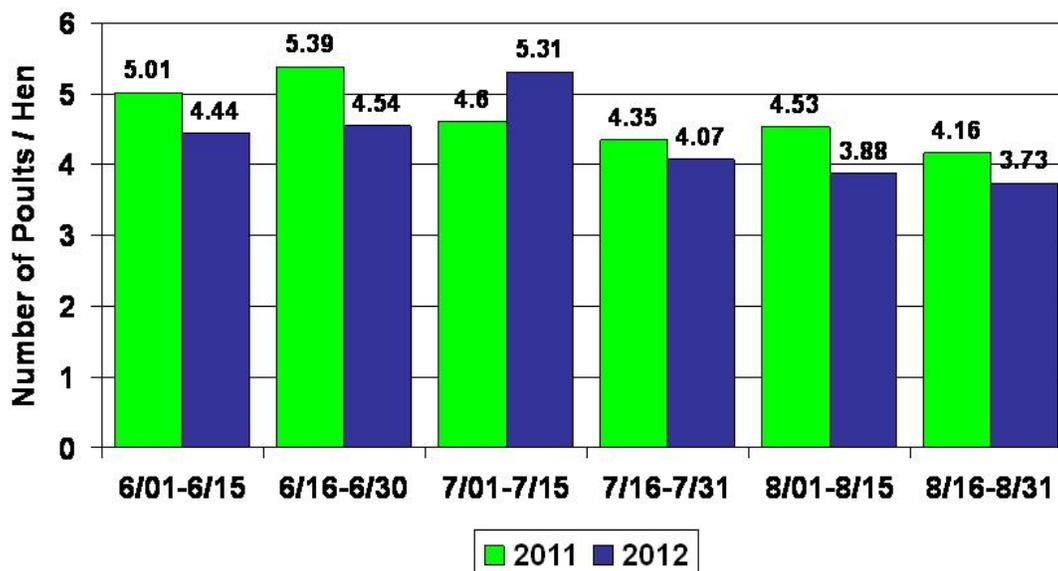
TABLE 1. Number of broods reported by region (2012).

Region of NH	Number of Broods	% of the Total	WMUs Covered	Counties
White Mountains	48	4.29	E, F	Carroll, Grafton
North	37	3.31	A, B, C1, C2	Coos
West Central	107	9.56	D1, D2, G	Grafton
East Central	172	15.37	J1, J2	Carroll, Belknap, Merrimack
Southwest	221	19.75	H1, H2, I1, I2	Sullivan, Cheshire
Southeast	534	47.72	K, L, M	Hillsborough, Rockingham, Strafford
Statewide	1,119	100%	All	All

TABLE 2. Number of broods and poultts per hen per time period (2012).

Sample Period	Number of Poultts Per Hen	Number of Broods Per Time Period
May 16-31	3.24	54
June 1-15	4.44	105
June 16-30	4.54	109
July 1-15	5.31	110
July 16-31	4.07	173
August 1-15	3.88	386
August 16-31	3.73	151
August 1-31	3.84	537

FIGURE 2. Statewide number of poults (1-week to 8+ weeks old) per hen by 2-week time period*.



* - May data excluded due to small sample sizes.

TABLE 3. Regional number of poults per hen per time period* (2012).

Region	% June 1-15	% June 16-31	% July 1-15	% July 16-31	% Aug. 1-15	% Aug. 16-31	% Aug. 1-31
North	3.50	5.20	8.50	5.93	4.50	5.13	4.81
White Mtns.	7.00	5.90	9.25	3.67	4.38	4.20	4.33
West Central	1.09	5.56	5.57	3.25	5.28	5.05	5.20
Southwest	5.36	4.21	5.28	4.67	4.29	3.90	4.13
East Central	4.15	3.71	4.87	4.72	4.35	3.38	3.84
Southeast	5.27	4.58	5.21	3.80	3.36	3.27	3.34
Statewide	4.44	4.54	5.31	4.07	3.88	3.73	3.84

* - May data excluded due to small sample sizes.

FIGURE 3. Regional and statewide number of poults (1-week to 8+ weeks old) per hen in August (8/01-8/31).

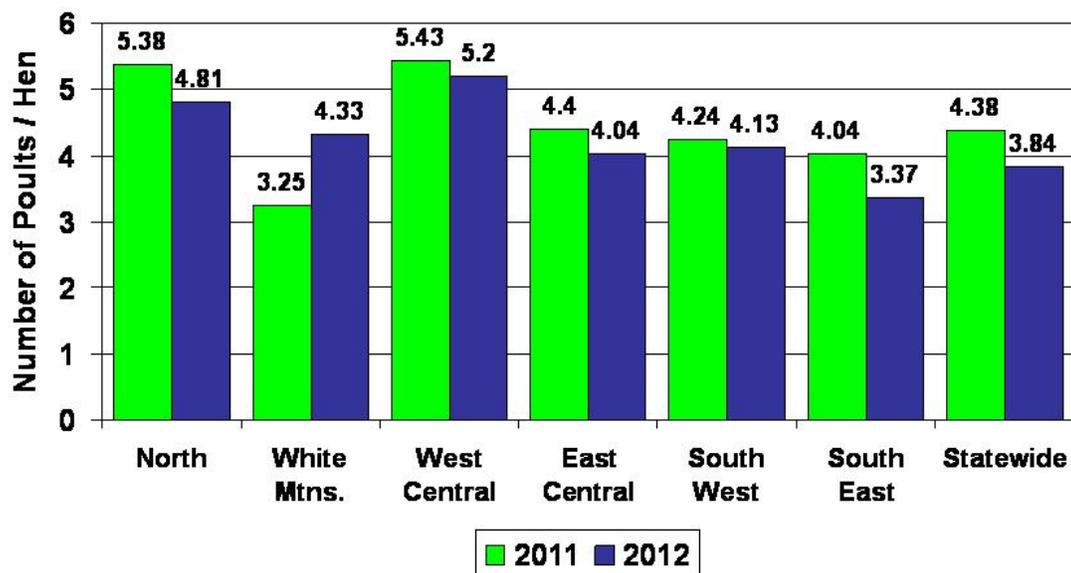


TABLE 4. Hatching dates per time period and region of the state (2012).

Region	% May 1-15	% May 16-31	% June 1-15	% June 16-31	% July 1-15	% July 16-31	% Aug. 1-15
North Avg. = June 7	14.29	28.57	34.29	5.33	13.33	4.19	0.00
White Mtns. Avg. = June 8	24.82	25.34	12.93	10.24	23.58	3.10	0.00
West Central Avg. = June 21	7.23	8.73	22.69	29.43	17.66	14.26	0.00
Southwest Avg. = June 10	8.62	31.38	17.36	24.02	15.15	3.47	0.00
East Central Avg. = June 9	11.16	25.64	27.45	15.35	16.14	4.25	0.00
Southeast Avg. = June 12	7.85	27.05	19.52	26.33	15.34	3.49	0.45

FIGURE 4. Statewide percent (%) of turkeys hatched by 2-week period back-calculated from date of observation and reported size/age for 1-week to 6-week old turkeys.

