

2015 PUBLIC INTERNET WILD TURKEY SUMMER BROOD SURVEY SUMMARY REPORT

Many thanks to all the people throughout New Hampshire who submitted sightings of broods of young wild turkeys. The results of the survey summarized here will help the Fish & 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” of the yearly degree of hatching success. 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 in those gaps, and provide many more brood sightings. This was the fifth year of our internet-based turkey brood survey, which covers May 15 – August 31, 2014. For the past six years there has been a similar internet-based wild turkey flock survey during the winter months.

Weather/Hatching Conditions Summer 2015

Summer 2015 has been a good year for turkey productivity. Many people have related good numbers. Statements such as “turkeys everywhere” and tons of turkeys” have been common. The semi-drought during April and May 2015 were a factor in earlier breeding/nesting and good poult survival. A random sample of N=59 multiple hen broods from August 2015 yielded an average of 4.86 poults per hen. Approximately 24% of broods, from the smaller size of poults during late summer were from second nesting attempts.

Number of Broods Reported

A record number of 2,202 brood observation reports came from this year’s 2015 public internet survey, compared to 724 reports during 2014 and 1,676 reports in 2013.

The state is divided into six regions in order to detect any differences in habitat carrying capacity and turkey populations. As expected, the most brood sighting reports or 1,099 (49.91%) of the state total, were from the southeast region, primarily because this region has the highest human density to see and report turkey broods. The next highest was the east central region with 472 (21.44%) reports. Wildlife management unit M (23.34%) had the most brood observation reports, followed by unit J2 (15.62%).

Number of Poults per Hen

The six regions of the state were compared for the month of August because the poults are larger and more readily counted and most attrition of young turkeys has already occurred. The east central region had the highest poults per hen average (4.18). For the whole state the average was 3.91 poults per hen, the highest from the past five years, or the 4.38 average from year 2011.

During the previous summer of 2014 the August average was 3.40 poults per hen. Therefore the 3.91 poults per hen average of August 2015 had shown a significant increase. The warm temperatures of April and May 2015 without rain were a contributing factor.

Broods Reported per Time Period

The period of the most brood sightings reported was August 4 – August 17 (32.33%), followed by July 21 – August 3 (15.94%). This is logical because the poults are large in size and less secretive. On the other end of the scale, only 1.32% of the total summer observations were reported during the month of May and the first week of June.

Estimated Hatching Dates

The estimated hatching dates were broken down into 2-week periods. Only 0.65% of the total hatch occurred during the first half of May, but approximately 15 to 20% of the hatch was during the second half of May. The last week of May and first week of June had 21.96% of the hatch, followed by the middle of June with 26.06%, and the last week of June and first week of July with 27.93%.

The mean hatching dates by the six regions of the state varied from June 16th to June 20th, with the statewide average being June 19th. Statewide over the past five years varied from June 8th during year 2011 to June 25th during year 2013.

Note: Typically the southern third of the state has the earliest turkey hatching and the northern third the latest because of longer-lasting winter conditions. The smaller size poults seen later in June from the north region push the median “statewide” hatching average to a later date. Also, the broods reported from the internet survey do not differentiate between first nesting hatches and re-nesting attempts that hatch later in the summer. For summer 2015 it is estimated that approximately 24% of broods were from re-nests.

Public Attitude Questionnaire on Turkeys

A total of 1,970 respondents gave their opinion on feelings about wild turkeys. The results were: strongly dislike (<1.0%), dislike (<1.0%), neither like or dislike (4.92%), like (26.2%), strongly like (67.4%).

Symptoms of Avian Pox and LPDV Virus

There were only 11 towns or sites reported having a turkey group showing symptoms, compared to 5 towns from the summer 2014 survey. Of the 2,202 respondents, 474 (21.53%) didn't know if there were virus lesions and 1,717 respondents (78.0%) said there were no lesions. The 11 cases reported were less than 1.0% of the total of 2,202 brood observations. The 11 cases were reported from 6 of the state's 10 counties.

Towns with the Most Brood Observations

There were 12 towns which had significantly more brood observation reports than the majority of the state's towns, or 10 to 18 reports per town. As expected the majority of these (8 of 12 towns) were from Rockingham and Stafford Counties in the southeast region, which has the highest human density, and therefore tend to make more responses.

Conclusions:

During summer 2015 the public reported 2,202 brood observations, compared to 724 reports during summer 2014, or approximately a tripling of the internet responses. A significant contributing factor was probably an above average hatch of turkey broods resulting in more turkeys to see and report. As expected, 50% of the brood sighting reports came from the southeast region because of the higher human numbers there to report.

Statewide the average during August 2015 was 3.91 poults per hen, a significant increase from the 3.40 average of August 2014, and the highest from the 2011 average of 4.38 poults per hen. The primary reason for the good average for summer 2015 was probably the warm and rainless nesting/hatching weather during April and May 2015, resulting in good poult survival.

The period of most brood sightings reported was August 4 – August 17 (32.33%), followed by July 21 – August 3 (15.94%). This is probably because poults are larger in size and less secretive toward late summer.

Approximately 15 to 20% of the hatch was during the second half of May. The last week of May and first week of June had 21.96% of the hatch, followed by the middle of June with 26.06%, and the last week of June and first week of July with 27.93%. The mean hatching date statewide was June 19th.

There were only 11 towns or sites from 2,202 brood reports or less than 1.0% that indicated a turkey(s) with head lesions from the fowl pox virus or LPDV (Lymphoproliferative Disease Virus). This is another indication that the virus impact on the state's wild turkey population appears to have been minimal during the past four years.

A total of 1,970 respondents on the public internet survey expressed an over-whelming regard for wild turkeys: less than 1.0% disliked turkeys, 4.92% were neutral, 26.2% liked turkeys and 67.4% strongly liked turkeys.

Summer 2015 has been an above average year for wild turkey productivity. Many people have related good numbers. Statements such as “turkeys everywhere” and “tons of turkeys” have been common. Thank you for your interest and participation in New Hampshire's fifth internet-based turkey brood survey. We look forward to your continued support next year.

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Table 1. Number of Broods Reported by Region (Summer 2015)

Region of New Hampshire	Number of Broods	% of the Total	WMU's Covered	Counties
North	52	2.36%	E,F	Carroll, Grafton
White Mountains	79	3.59%	A,B,C1,C2	Coos
West Central	151	6.86%	D1,D2,G1	Grafton
East Central	472	21.44%	J1,J2	Carroll, Belknap, Merrimack
Southwest	349	15.85%	H1,H2,I1,I2	Sullivan, Cheshire
Southeast	1,099	49.91%	K,L,M	Hillsboro, Rockingham, Strafford
Statewide	2,202	100%	All	All

Table 2. Number and percent of brood observations by WMUs (Summer 2015)

Wildlife Mgt Unit	# of Brood Observations	% of State Total		Wildlife Mgt Unit	# of Brood Observations	% of State Total
A	19	0.86%		H1	80	3.63%
B	9	0.41%		H2	112	5.09%
C1	9	0.41%		I1	105	4.77%
C2	15	0.68%		I2	52	2.36%
D1	14	0.64%		J1	128	5.81%
D2	29	1.32%		J2	344	15.62%
E	44	2.00%		K	287	13.03%
F	35	1.59%		L	298	13.53%
G	108	4.90%		M	514	23.34%
				Total	2,202	100.0%

Table 3. Number & percentage of brood observation reports per 2-week periods (Summer 2015)

Sample Period	Number of Broods Observations	% of Total For Summer
May 1 – May 11	3	0.14%
May 12 – May 25	4	0.18%
May 26 – June 8	22	1.00%
June 9 – June 22	258	11.72%
June 23 – July 6	297	13.49%
July 7 – July 20	291	13.22%
July 21 – August 3	351	15.94%
August 4 – August 17	712	32.33%
August 18 – August 31	264	11.99%
	2,202	100.00%

Table 4. Estimated statewide hatching dates by 2-week Periods (Summer 2015)

Hatching Period	Number of Broods	% of Total Broods
May 1 – May 11	102	0.65%
May 12 – May 25	1,088	6.95%
May 26 – June 8	3,437	21.96%
June 9 – June 22	4,079	26.06%
June 23 – July 6	4,372	27.93%
July 7 – July 20	1,955	12.49%
July 21 – August 3	519	3.32%
August 4 – August 17	101	0.65%
August 18 – August 31	0	0.00%
Total	15,653	100.00%

Table 5. Mean hatching dates by five regions of state (Summer 2015)

Region	# of Brood Observations	Mean Hatch Date
North	39	June 19 th
White Mountains	65	June 16 th
Connecticut River	134	June 17
East Central	380	June 19 th
Southwest	291	June 20 th
Southeast	846	June 19 th
Statewide	1,755 total	June 19th average

Table 6. Mean hatching dates statewide over past 5 years

Year	# of Brood Observations	Mean Hatching Date
2011	N= 717	June 8
2012	N= 746	June 15
2013	N= 1,146	June 25
2014	N= 568	June 19
2015	N= 1,755	June 19

Table 7. Mean poults per hen by 5 regions (August 2015)

Region	# of Brood Observations	Mean Poults Per Hen
North	22	3.53
White Mountains	43	3.21
West Central	77	3.73
East Central	228	4.18
Southwest	164	3.87
Southeast	551	3.88
Statewide	1,085 total	3.91 = average

Table 8. Mean poults per hen statewide, month of August for past 5 years

Year	Total # of Brood Observations	Poults per Hen Average
2011	137	4.38
2012	533	3.84
2013	1,097	3.33
2014	236	3.40
2015	1,085	3.91

Table 9. Towns/sites (N = 11) showing symptoms of pox viruses from 2,202 brood observations (Summer 2015)

# of Pox Sites	County	Name of Towns
2	Belknap	Belmont, Gilford
1	Carroll	Ossipee
1	Grafton	Hebron
3	Merrimack	New London, Loudon, Allenstown
3	Rockingham	Hampstead, Auburn, No. Hampton
1	Sullivan	Acworth

Table 10. **Towns with the most brood observations (Summer 2015)**

Town	# of Brood Observations	Total # of Turkeys
Amherst	14	217
Barrington	13	281
Concord	18	441
Deerfield	17	351
Derry	12	162
Dover	15	289
Durham	10	294
Gilford	15	421
Londonderry	16	271
Merrimack	14	551
Nottingham	14	245
Raymond	12	191