

2014 PUBLIC INTERNET WILD TURKEY SUMMER 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 & 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 fourth year of our internet-based turkey brood survey, which covers May 15 – August 31, 2013. For the past five years there has been a similar internet-based wild turkey flock survey during the winter months.

Weather/Hatching Conditions Summer 2014

Hatching weather for spring/summer 2014 seemed favorable for turkey nesting and hatching success. There were numerous warm, sunny days during late May/early June, when the majority of turkey hatching usually occurs in the southern two thirds of New Hampshire. While regional showers were common, there were no extended cold/rainy periods.

A preliminary early summer random sample of 29 turkey brood observations from June/July 2014 seemed to show reasonably good hatching success. While three of these broods had only 2 or 3 poults, the majority had good numbers of poults. The total of 24 hens and 194 poults yielded an average of 6.69 poults per hen. The size of the young indicated the typical hatching period – some from the third and fourth weeks of May, with the majority from the first week of June. A sample of 20 multiple hen broods from later July/August/September yielded 54 hens with 248 poults, for an average of 4.59 poults per hen.

Number of Broods Reported

The public reported 724 broods, compared to 1,676 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 sightings reported 355, or 49.03% of the state total, were from the Southeast region. A primary reason for this high number is because of the high density of human populations where many people see and report the same broods. The next highest was the East Central region with 142 brood observations or 19.61%.

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 chicks has already occurred. Of the six regions, the Southwest (3.73) and the Upper Connecticut River Valley (3.71) had the highest poult per hen averages, and the North (2.49) and White Mountains (2.73) had the lowest averages.

For August 2013 the statewide average was 3.33 poult per hen, compared to 3.40 poult per hen for August 2014, or very similar. However, for all four months of the summer the average for summer 2014 (3.81), was significantly greater than for summer 2013 (3.32).

Broods Reported per Time Period

The summer hatching period was divided into nine 2-week hatching periods, starting on May 1st and ending on August 31st. Which time period to place the brood sighting was done by back-calculating from the day of the sighting by size of poults. Number of days of age were assigned as follows: sparrow = 1 week, robin = 2 weeks, quail = 3 weeks, pigeon = 4 weeks, grouse = 6 weeks and hen, pheasant or chicken = 8 weeks.

The time periods with the greatest number of broods reported were July 21 – August 3 (230 broods), August 8 – August 17 (122 broods), and July 7 – July 20 (117 broods). Significantly fewer broods were seen during May and June, primarily because the hens are more secretive then and the chicks are smaller.

Estimated Hatching Periods

The estimated hatching dates were broken down into 2-inch hatching periods. Only 1.38% of the hatch was from May 1-11, and 5.96% from May 12-25. The end of May and early June or May 26-June 8 was 20.56% of the hatch. The largest percent of the summer hatch was June 9 – June 22 with 30.74%, followed by June 23 – July 6 with 24.75%. These percentages are the statewide averages from the six regions of the state. Southern NH towns have the earliest hatch dates and northern NH the latest.

The mean hatching dates by region were: Southeast (June 20), Southwest (June 15), East Central (June 18), Upper Connecticut River Valley (June 22), White Mountains (June 20), and North (June 23). The average statewide was June 19th. This might appear rather late, but observations of numerous re-nesting hens make this date later, as well as the northern broods.

Public Attitude Questionnaire on Turkeys

The survey asked people to check off one of the following five categories of their opinion about the wild turkey population. A total of 629 persons replied, of which 317 came from the southeast region of the state. The results were: strongly dislike (0.002%), dislike (0.003%), neutral (8.45%), like (23.37%), and strongly like (71.70%).

Symptoms of Avian Pox/LPDV Virus

The great majority (approx.75%) of the 724 respondents from the six regions of the state reported no pox lesions on turkeys. Another 25% said “Don’t know”. Most of the respondents were from the Southeast (355), followed by East Central (142).

Only 5 of 724 respondents 0.007% or less than 1% reported virus lesions in the head/neck area. The five towns were Barrington, Deerfield, South Hampton, Lyndeboro and Gilsum.

Conclusions:

During summer 2014 the public reported 724 brood observations, compared to 1,676 during summer 2013, or 57% less reported this year. It is not known if this significant reduction was due primarily to less persons reporting on the survey, or less turkey broods to see, or a combination of the two. Nearly half of the brood observations were from the Southeast Region (355 or 49.03% of the total).

For August 2014 statewide, the average was 3.40 poults per hen, compared to 3.33 poults per hen for August 2013. For all four months of summer 2014, the average statewide was 3.81 poults per hen, which was significantly greater than the 3.32 poults per hen for summer 2013.

The primary reason for the higher average was the difference in hatching weather. The “monsoon” weather of summer 2013 caused reduction in hatching success, whereas summer 2014 had favorable hatching weather.

Statewide, the end of May and early June or May 26 – June 8 was 20.56% of the hatch, June 9 - June 22 had 30.74%, and June 23 – July 6 had 24.75%. The overall average hatching date for the entire state was June 19th. The survey indicated that people had a very high regard for wild turkeys: 23.37% liked turkeys and 71.70% strongly liked turkeys.

Approximately 75% of respondents reported no avian pox/LPDV virus lesions on turkeys, 25% didn't know. Lesions on the head/neck area of turkeys were reported by only 5 respondents, or less than 1%. This is an encouraging sign of low prevalence of the turkey viruses in the state.

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

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Table 1. Number of Broods Reported by Region (summer 2014)

| Region of New Hampshire | (2013) Number of Broods | (2014) Number of Broods | % of the Total | WMU's Covered | Counties |
|--------------------------------|--------------------------------|--------------------------------|-----------------------|----------------------|----------------------------------|
| White Mountains | 40 | 13 | 1.80% | E,F | Carroll Grafton |
| North | 37 | 22 | 3.04% | A,B,C1,C2 | Coos |
| West Central (CT River) | 97 | 67 | 9.25% | D1,D2,G | Grafton |
| East Central | 283 | 142 | 19.61% | J1,J2 | Carroll, Belknap, Merrimack |
| Southwest | 249 | 125 | 17.27% | H1,H2,I1,I2 | Sullivan, Cheshire |
| Southeast | 970 | 355 | 49.03% | K,L,M | Hillsboro, Rockingham, Strafford |
| Statewide | 1,676 | 724 | 100% | All | All |

Table 2. Number of Broods and Poults per Hen per Time Period (summer 2014) Statewide

| Sample Period | Number of Poults Per Hen 2013 | Number of Poults Per Hen 2014 | Number of Broods Per time period | Total Number of Poults | Total Number of Hens |
|-----------------------|--------------------------------------|--------------------------------------|---|-------------------------------|-----------------------------|
| May 1 – May 11 | 6.67 | 1.15 | 5 | 47 | 41 |
| May 12 – May 25 | 0.88 | 0.97 | 13 | 32 | 33 |
| May 26 – June 8 | 4.07 | 3.75 | 30 | 210 | 56 |
| June 9 – June 22 | 5.83 | 6.00 | 44 | 348 | 58 |
| June 23 – July 6 | 4.08 | 4.61 | 82 | 729 | 158 |
| July 7 – July 20 | 4.14 | 3.92 | 117 | 1028 | 262 |
| July 21 – August 3 | 3.25 | 4.06 | 230 | 2130 | 524 |
| August 4 – August 17 | 3.46 | 3.52 | 122 | 1001 | 284 |
| August 18 – August 31 | 3.05 | 3.30 | 81 | 811 | 246 |
| Avg. | 3.32 | 3.81 | 724 | 6336 | 1662 |

Table 3. Regional Number of Poults per Hen During August (Past Four Years) Statewide

| Region | August 2011 | August 2012 | August 2013 | August 2014 |
|-------------------------|--------------------|--------------------|--------------------|--------------------|
| North | 5.38 | 4.81 | 2.66 | 2.49 |
| White Mountains | 3.25 | 4.33 | 2.27 | 2.73 |
| West Central (CT River) | 5.43 | 5.20 | 4.21 | 3.71 |
| East Central | 4.40 | 4.04 | 3.66 | 3.47 |
| Southwest | 4.24 | 4.13 | 3.64 | 3.73 |
| Southeast | 4.04 | 3.34 | 3.13 | 3.37 |
| Statewide | 4.38 | 3.84 | 3.33 | 3.40 |

Table 4. **Estimated Hatching Dates by 2-week Periods (Summer 2014) statewide**

| Hatching period | Number of poults | % of total poults |
|-----------------------|------------------|-------------------|
| May 1 – May 11 | 47 | 0.74% |
| May 12 – May 25 | 32 | 0.51% |
| May 26 – June 8 | 210 | 3.31% |
| June 9 – June 22 | 348 | 5.49% |
| June 23 – July 6 | 729 | 11.51% |
| July 7 – July 20 | 1028 | 16.22% |
| July 21 – August 3 | 2130 | 33.62% |
| August 4 – August 17 | 1001 | 15.80% |
| August 18 – August 31 | 811 | 12.80% |
| Total | 6336 | 100.0% |

Table 5. **Towns with Most Observations Reported and Most Total Turkeys (Summer 2014)**

| Town | # Observations | Total Turkeys | County |
|-------------|----------------|---------------|------------|
| Amherst | 14 | 166 | Hillsboro |
| Barrington | 13 | 89 | Strafford |
| Concord | 18 | 173 | Merrimack |
| Deerfield | 17 | 203 | Rockingham |
| Derry | 12 | 111 | Rockingham |
| Dover | 15 | 151 | Strafford |
| E. Kingston | 10 | 104 | Rockingham |
| Gilford | 15 | 164 | Belknap |
| Londonderry | 16+ | 157 | Rockingham |
| Loudon | 10 | 157 | Merrimack |
| Merrimack | 14 | 182 | Hillsboro |
| Nottingham | 14 | 207 | Rockingham |
| Raymond | 12 | 123 | Rockingham |

**Table 6. Survey for feelings about turkeys by regions of state, 2014
(number & percent of total)**

| | North | White Mts | Conn. River | E Central | Southwest | Southeast | Totals |
|------------------|--------------|-------------|--------------|--------------|--------------|---------------|------------|
| Strongly Dislike | 0 | 0 | 0 | 0 | 1 0.90% | 0 | 1 .002% |
| Dislike | 0 | 0 | 0 | 0 | 0 | 2 0.63% | 2 .003% |
| Neutral | 1 6.25% | 0 | 1 2.13% | 1 0.78% | 1 0.90% | 24 7.57% | 28 8.45% |
| Like | 2 12.50% | 3 33.33% | 14 29.79% | 30 23.26% | 21 18.92% | 77 24.29% | 147 23.37% |
| Strongly Like | 13 81.25% | 6 66.67% | 32 68.09% | 98 75.97% | 88 79.28% | 204 67.51% | 451 71.70% |
| Total | 16 | 9 | 47 | 129 | 111 | 317 | 629 |

Survey for turkeys showing symptoms of avian pox and/or LPDV virus.

1. Majority of respondents from six regions of state said “No”
 - a. Varied from 71.64% to 84.62%
2. Total of 724 persons who gave a response
3. Approximately a fourth said “Don’t know”
4. Most respondents were from southeast (355), east central (142) and southwest (125)
5. Only 5 of 724 respondents (0.007% - less than 1%) reported virus lesions

Table 7. Turkey broods (N=5) from summer 2014 public internet survey reported with avian pox and/or LPDV virus lesions (from 724 respondents)

| Town | County | WMU | Flock size |
|---------------|------------|-----|--------------------|
| Barrington | Stratford | L | 2 hens |
| Deerfield | Rockingham | L | 3 hens + 18 poults |
| South Hampton | Rockingham | M | 3 hens + 14 poults |
| Lyndeboro | Hillsboro | K | 2 hens + 10 poults |
| Gilsum | Cheshire | H2 | 2 hens + 9 poults |