

## **2018 PUBLIC INTERNET WILD TURKEY SUMMER BROOD SURVEY SUMMARY REPORT**

Many thanks to all the people throughout New Hampshire who submitted sightings of wild turkey broods in 2018. The results of the survey summarized here will help 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” 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 eighth year of our internet-based turkey brood survey, which covers observations made between June 1 and August 31, 2018. For the past eight years there has been a similar internet-based wild turkey flock survey during the winter months.

### Weather/Hatching Conditions Summer 2018

Semi-drought conditions for early summer 2018 have been a major factor for good numbers and survival of poults. A random sample of 28 broods from June 2018, mostly from southwestern New Hampshire, had a total of 237 poults for an average of 8.46 poults per hen. The majority of hatches appear to have been during the 4<sup>th</sup> week of May or May 24-31. This average of 8.46 poults per hen was significantly greater than a similar sample of broods from year 2017, which yielded 5.1 poults per hen.

### Number of Broods Reported

There were 577 brood observation reports from this year’s 2018 Summer Brood Survey (Table 1). As expected, the most brood sighting reports, 320 or 55.46% of the total were from the Southeast Region, primarily because this region has the highest human density to report turkey broods. The North Region and the White Mountain Region had a combined total of only 4.16% of the statewide total of brood observation reports. This is understandable because these two regions have the least amount of people, and the least amount of turkeys and turkey habitat. Of the states 18 wildlife management units, those with the most brood sighting reports were from: unit M at 28.60%, unit K at 18.20% and unit J2 at 12.82% (Table 2).

### Number of Poults Per Hen

The six regions of the state were compared for the month of August because at this time the poults are larger and more readily seen and counted, and most attrition of young turkeys has already occurred. The North Region had the highest poults per hen average of 6.33, although the sample size was quite small (Table 4). The next highest was the East Central Region with 5.12 poults per hen. For the state as a whole, the average was 4.15 poults per hen, as compared to 3.32 poults per hen the previous year. The highest average was in 2011 with 4.38 poults per hen.

### Estimated Hatching Periods

The most hatching (back calculating from the size of the young) occurred during the following 2-week periods (Table 6): May 26 - June 8 (27.35%), June 9 - 22 (21.50%) and July 1 - 20 (20.40%). A significant number of these July reports may have been of poults from second nest attempts, but this would be difficult to determine from the reporting data. The public are reporting the size of the poults, and would probably not realize that what they see in late July and August may be poults from re-nesting. The average hatching dates (Table 7) varied among the 6 Regions, from June 15<sup>th</sup> in the East Central Region, to July 5<sup>th</sup> in the Connecticut River Region. The average hatching date statewide was June 20<sup>th</sup>. The previous year the statewide average was June 21<sup>st</sup> which was also similar to past years (Table 1b). Table 5 illustrates the general increase in the size and age of poults observed during the course of the summer and the increased number observed as they get bigger and easier to see.

### Towns with the Most Brood Observations

The most brood reports were from ten towns (Table 8), which had 10 to 21 reports. Each of these towns was a city or close to being a city; the town of Weare is not a city, but is the largest town in Hillsboro County. There were seventeen towns which recorded 100 or more total turkeys (hens and poults combined). The following recorded the highest number of turkeys observed (Table 9): Auburn (260), Concord (191), Brookline (175) and Lee (153).

### Symptoms of Avian Pox and LPDV Virus

No symptomatic turkeys (0) were reported for summer 2018. The pox reports from past years have been: 2014 (5), 2015 (11), 2016 (6) and 2017 (4).

### Public Feelings About Turkeys

Only 1 of 492 respondents strongly disliked turkeys. Thirteen (2.6%) persons neither liked nor disliked turkeys, 113 persons (23.0%) liked turkeys, and 365 persons (74.2%) strongly liked turkeys.

### Conclusions

There were 577 brood observation reports in summer 2018. As expected, most of the reports or 320 (55.46%) were from the Southeast Region. For the state as a whole, the average was 4.15 poults per hen during August, as compared to 3.32 poults per hen during 2017. The average hatching date statewide was June 20<sup>th</sup>, compared to June 21<sup>st</sup> in 2017. Because of the variation in latitude of the state, and the longer winter conditions in the North Region, the hatching sequence is roughly: earliest in southern New Hampshire, 4 days later in the Lakes Region, and a week later in Northern New Hampshire. The average hatching date "statewide" of June 20<sup>th</sup> is probably earlier than June 20<sup>th</sup> because many of the late summer brood reports are likely of poults from a 2<sup>nd</sup> nesting.

The most brood reports were from the eight towns of: Auburn (21), Concord (19), Brookline (18), Bedford (16), Merrimack (16) and Derry (13). Each of these is a city or highly developed town. There were no avian pox reports during this summer 2018 survey. An overwhelming 97.2% of respondents like or strongly like wild turkeys.

Table 1. Number and Percent of Brood Observations by Region (Summer 2018)

Region	# of Brood Reports	% of Total	WMU's Covered
North	8	1.39%	A,B,C1,C2
White Mtn.	16	2.77%	E,F
Conn. River	49	8.49%	D1,D2,G
E. Central	95	16.46%	J1,J2
Southwest	89	15.42%	H1,H2,I1,I2
Southeast	320	55.46%	K,L,M
Statewide	577	100%	

Table 1a. Number and % Brood Observations by (6) Regions over 8 years, 2011-2018

Year	North	White Mtns.	Conn. River	E. Central	Southwest	Southeast
2011	27	10	75	126	140	428
2012	36	48	105	168	214	514
2013	37	40	97	282	249	970
2014	22	13	67	142	125	355
2015	52	79	151	472	350	1,099
2016	24	59	135	439	530	1,739
2017	22	34	81	261	222	1,164
2018	8	16	49	95	89	320
Total	228	299	760	1,985	1,919	6,589
	1.94%	2.54%	6.45%	16.85%	16.29%	55.93%
<b>Total = 11,780 brood observations for 8 years</b>						

Table 1b. Average Hatching Dates by (6) Regions, for 8 Year Period

Region	2011	2012	2013	2014	2015	2016	2017	2018
North	June 13	June 11	July 7	June 23	June 19	June 29	June 30	June 16
White Mtn.	June 17	June 14	June 28	June 20	June 16	June 19	June 25	June 19
Conn. River	June 15	June 23	June 27	June 22	June 17	June 19	June 26	July 5
E. Central	June 10	June 12	June 23	June 18	June 19	June 19	June 25	June 15
Southwest	June 7	June 12	June 30	June 15	June 20	June 18	June 25	June 23
Southeast	June 7	June 15	June 24	June 20	June 19	June 19	June 19	June 18
Statewide	June 8	June 15	June 25	June 19	June 19	June 19	June 21	June 20

Table 2. Number and Percent of Brood Observations by WMU's (Summer 2018)

Wildlife Mgt. Unit	Number of Brood Observations	% of Total		Wildlife Mgt. Unit	Number of Brood Observations	% of Total
A	4	0.69%		H1	20	3.47%
B	1	0.17%		H2	21	3.64%
C1	1	0.17%		I1	32	5.55%
C2	2	0.35%		I2	16	2.77%
D1	6	1.04%		J1	21	3.64%
D2	6	1.04%		J2	74	12.82%
E	3	0.52%		K	105	18.20%
F	13	2.25%		L	50	8.67%
G	37	6.41%		M	165	28.60%
					577	100%

Table 3. Number and Percentage of Brood Reports by 2-Week Periods and Poults per Hen Averages (Summer 2018)

Time Period	Number of Observations	% of Total	Total Hens	Total Poults	Poults per Hen Average
May 1 – May 11	0	0.00%	0	0	-
May 12 – May 25	0	0.00%	0	0	-
May 26 – June 8	21	3.64%	35	150	4.29
June 9 – June 22	57	9.88%	90	468	5.20
June 23 – July 6	76	13.17%	165	668	4.05
July 7 – July 20	96	16.64%	244	1,055	4.32
July 21 – August 3	85	14.73%	198	861	4.35
August 3 – August 17	91	15.77%	236	981	4.16
August 18 – August 31	151	26.17%	364	1,491	4.10
	<b>Total = 577</b>	<b>100%</b>			

Table 4. Regional and Statewide Poults per Hen Average (August 2018)

Region	Number of Hens	Number of Poults	Poults per Hen Average	Number of reports
North	6	38	6.33	3
White Mtn.	15	70	4.67	6
Conn. River	122	406	3.33	43
E. Central	67	343	5.12	33
Southwest	127	550	4.33	47
Southeast	289	1,192	4.12	125
(Statewide)	626	2,599	4.15	257

**Table 5. Percent of Poults by Size Category by 2-Week Periods (Summer 2018)**

<b>Time Period</b>	<b>Number of Poults</b>	<b>Sparrow Size</b>	<b>Robin Size</b>	<b>Quail Size</b>	<b>Pigeon Size</b>	<b>Grouse Size</b>	<b>Pheasant Size</b>
May 12 – May 25	0	-	-	-	-	-	-
May 26 – June 8	150	52%	42%	6%	0%	0%	0%
June 9 – June 22	468	25%	32%	25%	11%	4%	2%
June 23 – July 6	668	14%	18%	34%	13%	21%	1%
July 7 – July 20	1,055	1%	5%	13%	17%	54%	9%
July 21 – August 3	861	3%	8%	17%	15%	38%	19%
August 4 – August 17	981	4%	2%	6%	24%	34%	30%
August 18 – August 31	1,491	0%	1%	2%	6%	30%	62%

**Table 6. Estimated Percentage of Poults Hatched by 2-Week Periods (Summer 2018)**

<b>Time period</b>	<b>Total Number of Poults</b>	<b>% of Total</b>
May 1 – May 11	20	0.48%
May 12 – May 25	347	8.29%
May 26 – June 8	1,145	27.35%
June 9 – June 22	900	21.50%
June 23 – July 6	685	16.36%
July 7 - July 20	854	20.40%
July 21 – August 3	192	4.59%
August 4 – August 17	44	1.05%
August 18 – August 31	0	0.00%

**Table 7. Regional and Statewide Average Hatching Dates (Summer 2018)**

<b>Region</b>	<b>Number of Brood Observations</b>	<b>Average Hatching Date</b>
North	6	June 16
White Mtn.	13	June 19
Conn. River	35	July 5
East Central	84	June 15
Southwest	67	June 23
Southeast	282	June 18
(Statewide)	487	June 20 (average)

**Table 8. Towns with 10 or More Brood Observations per Town (Summer 2018)**

<b>Town</b>	<b># of Observations</b>		<b>Town</b>	<b># of Observations</b>
Auburn	21		Lebanon	10
Bedford	16		Londonderry	11
Brookline	18		Merrimack	16
Concord	19		Milford	11
Derry	13		Weare	10

**Table 9. Towns with 100 or More Total Turkeys (Hens and Poults) Observed per Town (Summer 2018)**

<b>Town</b>	<b>Total Turkeys</b>		<b>Town</b>	<b>Total Turkeys</b>
Auburn	260		Lyme	125
Bedford	152		Middleton	146
Brookline	175		Milford	130
Concord	191		Newmarket	126
Derry	107		Newport	107
Goffstown	117		Stratham	142
Lebanon	104		Weare	125
Lee	153		Wolfeboro	102
Londonderry	111			