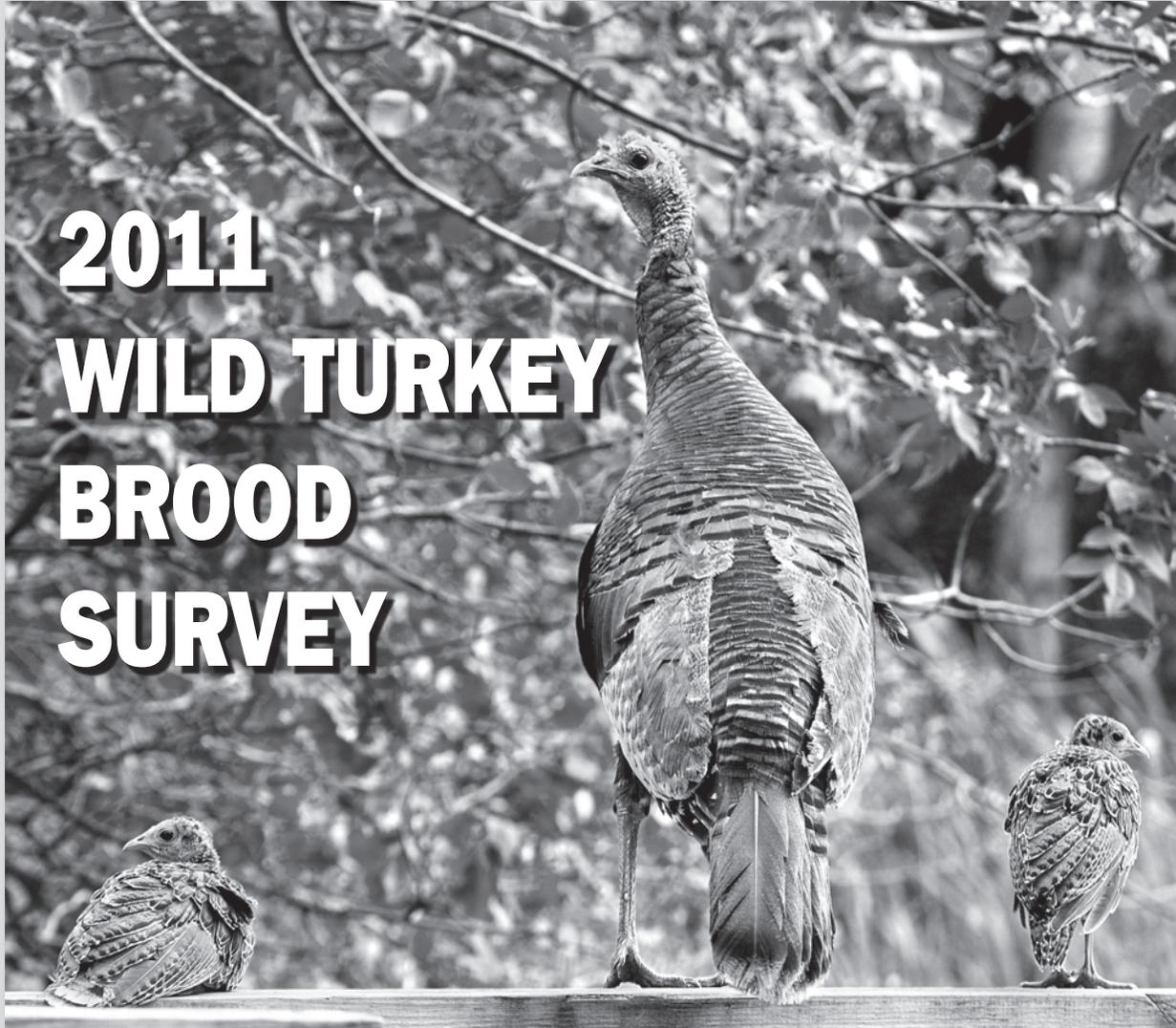




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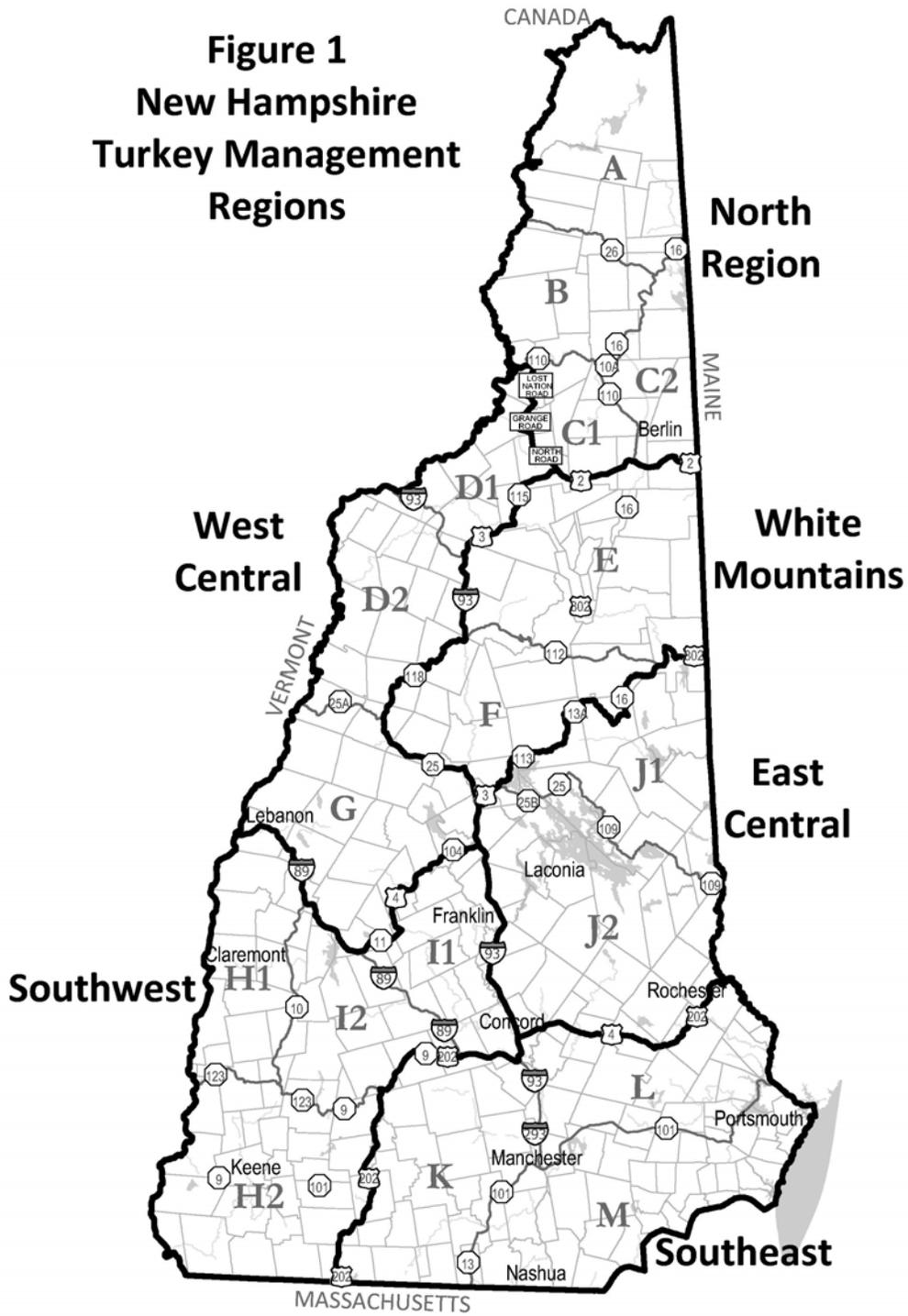
# 2011 WILD TURKEY BROOD SURVEY

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## SUMMARY REPORT

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**Figure 1**  
**New Hampshire**  
**Turkey Management**  
**Regions**



# 2011 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 first year of our Internet-based turkey brood survey, which covers May 15-August 31, 2011. For the past three years there has been a similar wild turkey flock survey conducted during the winter months.

*The results of the survey will help the Fish and Game Department keep track of the status and reproductive success of the wild turkey population around the state.*

### Number of Broods Reported

The public reported 808 turkey broods, which were comprised of a total of 1,476 adult hens and 7,076 young turkey chicks and poults through the 3½ months of the summer. The overall average brood count throughout the different summertime periods and regions of the state was 4.8 poults per hen.

The state is divided into 18 wildlife management units for deer and 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, 429 (53.1%) of the 808 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 to the eastern section of the state compared to the western section. The White Mountains and the North

TABLE 1. Number of broods reported by region.

Region of N.H.	Number of Broods	% of the Total	WMUs Covered	Counties
White Mountains	10	1.2	E,F	Carroll, Grafton
North	27	3.3	A,B,C1,C2	Coos
West Central	75	9.3	D1,D2,G	Grafton
East Central	127	15.7	J1,J2	Carroll, Belknap, Merrimack
Southwest	140	17.3	H1,H2,I2,I1	Sullivan, Cheshire
Southeast	429	53.1	K,L,M	Hillsboro, Rockingham, Stafford
Statewide	808	100%	ALL	ALL

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had relatively few reports because the turkey population and turkey habitat is significantly less, and the fewest people live there. The four eastern wildlife management units M, L, K and J2 had 532 (67%) of the total 808 statewide brood reports.

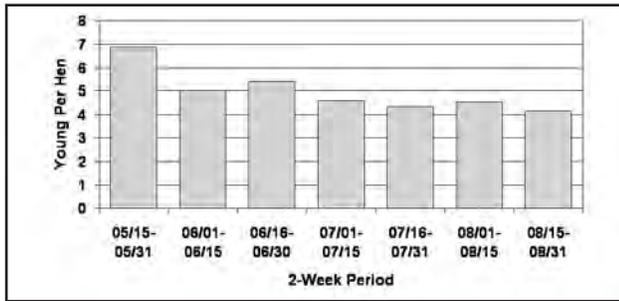
TABLE 2. Number of broods and young per hen per time period.

Sample Period	Number of Young Per Hen	Number of Broods Per Time Period
May 15-31	6.9	17
June 1-15	5.0	165
June 16-30	5.4	199
July 1 -15	4.6	158
July 16-31	4.4	132
August 1-15	4.5	81
August 16-31	4.2	56
August 1-31	4.4	137

### Broods Reported Per Time Period

The summer reporting period was divided into seven two-week periods, starting on May 15, and ending on 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 great majority of the broods (N=654, 80.9%) were observed during June and July (*Table 2*).

FIGURE 2. Statewide Number of Young (1-Week to 8+ Weeks Old) Per Hen by 2-Week Period



The number of young per hen started off with 6.9 poults per hen during the second half of May, and ended with 4.2 poults per hen during the second half of August (*see Figure 2*). This gradual decline is expected, due to losses as the summer progresses from various causes such as predation and inclement weather. Turkey chicks are vulnerable to exposure and pneumonia during successive days of rainy cold weather, and broods can be decimated in some years as a result.

### Broods Reported Regionally

The number of young per hen over the six sections of the state varied somewhat. The number of young per hen was generally high in early summer and decreased by late summer. Of the six sections of the state during

TABLE 3. Regional number of young per hen per time period.\*

Region	June 1-15	June 16-30	July 1-15	July 16-31	Aug. 1-15	Aug. 16-31	Aug. 1-31
North	0.7	4.3	7.4	3.9	4.8	6.2	5.4
White Mountains	1.8	5.5	4.0	9.5	2.0	4.5	3.3
West Central	8.7	6.3	5.2	4.6	5.7	5.0	5.4
Southwest	6.5	5.9	3.9	4.5	4.2	4.3	4.2
East Central	4.8	4.8	6.1	4.4	4.3	4.5	4.4
Southeast	5.3	5.4	4.2	4.3	4.4	3.5	4.0
Statewide	5.0	5.4	4.6	4.4	4.6	4.2	4.4

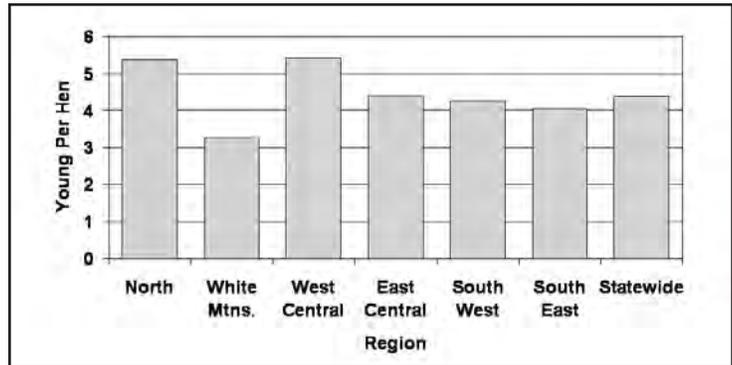
\*May data excluded due to small regional sample sizes.

August, the North had the greatest number of young per hen (5.4) and the White Mountains (3.3) and the Southeast had the lowest (4.0). Hatching occurs latest in the north because of latitude, and hatching

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weather may have been more favorable in the North, resulting in somewhat greater survival of young. Differences in sample size may also account for some differences. The overall statewide average for all six sections of the state in August was 4.4 poult per hen (see Table 3 and Figure 3).

**FIGURE 3. Regional And Statewide Number of Young (1-Week to 8+ Weeks Old) Per Hen In August (08/01-08/31)**



### Estimated Hatching Dates By Region

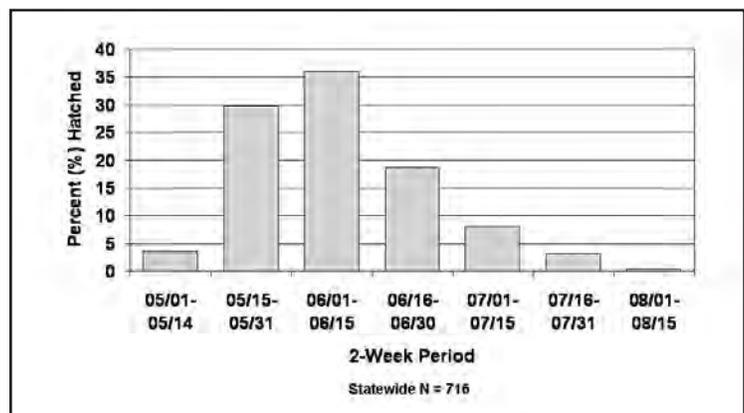
The size of turkey poult is important in estimating when hatching occurred during a given spring/summer. For this analysis, the summer was divided into seven two-week periods. There

were six size/age class categories that were used to categorize poult sightings. These included: sparrow-sized = 1 week, robin-sized = 2 weeks, quail-sized = 3 weeks, pigeon-sized = 4 weeks, grouse-sized = 6 weeks, and hen pheasant-sized = 8+ weeks. By subtracting the age of poults (based on size categorization) from the date of observation, we are able to derive average hatching dates (Table 4). As an example, if a 3 week-old brood is observed on June 21, then it can be concluded that said brood hatched on or about June 1. Based on this analysis, approximately 33.5% of the 2011 hatch occurred in May; 36.0% during the first half of June; 18.7% during the second half of June, and 11.3% during July (see Figure 4). The average hatching date for all 808 broods combined was approximately June 9.

**TABLE 4. Hatching dates per time period and region of the state.**

Region	% May 1-14	% May 15-31	% June 1-15	% June 16-30	% July 1-15	% July 16-31	% Aug. 1-15
North Avg.=June 17	--	21.7	39.1	8.7	21.7	8.7	--
White Mtns. Avg.=June 11	--	42.9	4.3	28.6	14.3	--	--
West Central Avg.=June 14	--	23.4	34.4	31.3	3.1	4.7	3.1
Southwest Avg.=June 8	4.62	30.8	34.6	19.2	7.7	3.1	--
East Central Avg.=June 10	4.10	31.2	30.3	18.0	9.0	6.6	0.8
Southeast Avg.=June 7	4.05	30.5	38.9	17.0	7.8	1.6	--

**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**



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Hatching dates vary somewhat as one progresses from south to north in the state. Breeding and nesting dates are influenced by temperature, weather and snowfall. The Lakes Region hatch is typically three or four days behind the southern hatch, and the northern hatch is thought to be several days behind the Lakes Region hatch.

### **Conclusion:**

Hatching success and survival of turkey poults was moderately good during 2011; it was not one of the best years. There was an abundance of rainfall from April through September. Most of the rainfall occurred before May 24 or after June 7. Fortunately, much of the hatching occurred from May 25 through June 7 during a period of hot, muggy days. Considering the significant rainfall throughout spring and summer 2011, we should be thankful for this decent turkey hatch.

Thank you again for your interest and participation in New Hampshire's first-ever Internet-based turkey brood survey. We look forward to your continued participation in future years.

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