PERFORMANCE REPORT

State: New Hampshire **Grant**: F20AF11939

Grant Type: Survey and Inventory

Grant Title: NH – WILDLIFE RESEARCH AND MANAGEMENT (W-89-R-21)

Period Covered: July 1, 2023 – June 30, 2024

Purpose/Target Name: PROJECT 4 – WILD TURKEY RESEARCH AND MANAGEMENT

Objective Name: JOB 1 – HARVEST MORTALITY DATA COLLECTION, ENTRY AND ANAYSIS

Objective Statement: To annually collect and analyze spring and fall turkey season harvest data and to assess population status in relationship to population objectives.

Summary:

2023 Fall Turkey Season

The combined fall archery (89) and fall shotgun (112) season total of 201 turkeys was a significant decrease compared to the fall 2022 harvest when 805 turkeys were reported. Spring 2023 was the fifth year that hunters were allowed to harvest a second bird in the spring in designated Wildlife Management Units (WMU). Hunters that did not harvest a second bird during the spring were able to use their second tag and harvest a bird during the fall. The fall 2023 harvest resulted in 95 females (47.3%) and 106 males (52.7%) being harvested.

2024 Spring Turkey Season

The May 2024 spring season total of 4,562 turkeys was comprised of 12 (0.3%) bearded hens, 661 jakes (14.5%), and 3,889 toms (85.2%; Fig.1). This included youth weekend which registered 422 turkeys or 9.3% of the season total. The May 2024 harvest was down (-18.2%) compared to the May 2023 spring harvest of 5,580. The 2024 spring harvest of 4,562 birds was also a slight decrease (-6.2%) when compared the 10-year average (4,865). This appeared primarily due to lower reproductive success in 2023. The May 2024 harvest was similar to harvests achieved during 2017 and 2018, prior to the ability to take a second spring turkey which increased total harvest.

The spring 2024 season was the sixth year that hunters could harvest a second bird in designated WMUs. A total of 820 successful hunters (22%) registered two birds in spring 2024 which was down compared to the preceding year when 1,054 hunters (23.3%) harvested two birds during spring. The spring 2024 season was the first year the spring harvest did not exceed 5,000 birds since the two bird bag limit took effect in 2019. The lower harvest in 2024 was attributed to the poor nesting season experienced in 2023 and lower recruitment into the population which is also reflected in the lower number of jakes and higher proportion of mature toms in the 2024 spring harvest.

Target Date: June 30th annually 2021 – 2025.

Status of Progress: On schedule.

Significant Deviations: None.

Objective Approach: Approximately 60 turkey registration stations will be established throughout the state. Required registration report forms, related supplies, turkey seals and instruction will be organized and provided to stations prior to the onset of spring and fall seasons. Registration stations will be visited periodically throughout established seasons, to ensure registration procedures are followed and to gather completed data for submission to data-entry staff. Data will be verified and entered on an on-going basis throughout each season.

Turkeys will be aged and sexed by plumage, beard, spur and weight characteristics. Registration station personnel will be provided with guidelines for distinguishing age and sex classes. Algorithms will be run during analysis to

verify that accurate sexing and aging has occurred. Questionable data will be reviewed and adjusted as necessary by the project leader. Computerized harvest data will be analyzed to provide summaries of kill by WMU, age and sex. Spring gobbler kill per square mile of identified turkey habitat in each WMU will serve as the principal population index. The spring gobbler kill per permit issued will be monitored to assess possible changes in hunter efficiency, which could result from changes in turkey abundance or hunting pressure. The population index will be contrasted against established objectives to assess whether season adjustments are warranted. Harvest data will also be used to monitor long-term population trends. Each year's data will be entered into a comprehensive historic turkey data set.

Results:

2023 Fall Turkey Season

The combined archery and shotgun harvest for fall 2023 was 201 turkeys which was a decrease from 805 the year before. Hunters that did not harvest a second bird during spring were able to use their second tag to harvest a bird during fall. While the total harvest was much lower, the 2023 fall harvest sex ratio was nearly equal again this year with 95 females (47.3%) to 106 males (52.7%; Table 1).

2023 Fall Archery Season

Of the 201 turkeys taken during fall 2023, 89 (44.3%) were taken by archery including 33 adult females (37.1%), 10 immature females (11.2%), 40 adult males (44.9%), and 6 immature males (6.7%). The WMUs with the highest take for fall archery were M (14), J2 (13), and L (11). WMU J2 and M were among the highest for the fall archery season the previous year as well (Table 2).

2023 Fall Shotgun Season

Of the 201 turkeys taken during fall 2023, 112 (55.7%) were taken by shotgun including 46 adult females (41.1%), 6 immature females (5.4%), 47 adult males (42%), and 13 immature males (11.6%). The WMUs with the highest take for fall shotgun were J2 (23), H1 (17), and M (12). Wildlife management unit J2 was among the highest the previous two years as well (Table 3).

The fall shotgun season runs for 7 days during mid-October starting on a Monday and ending the following Sunday. In previous years, most turkeys were taken on opening day. In 2023 most turkeys were harvested on Friday (19) and Saturday (21) that year (Table 4).

2024 Spring Turkey Season

Youth Weekend

The special youth weekend hunt took place the last weekend in April (prior to the start of the regular season May 1) and resulted in 422 turkeys harvested, representing 9.3% of the spring season total. This was very similar to last year's youth hunt that included 483 turkeys (8.7%) and almost identical to 2022 when 428 turkeys (7.5%) were harvested during youth weekend.

This was the 21st year of the special youth weekend. Harvests during youth weekend have ranged from a modest start with 321 birds taken the first year in 2004 to a high of 590 birds taken during 2013.

Since the two bird in the spring bag limit was implemented in designated WMUs beginning in 2019, the number of youth under the age of 16 harvesting two birds remains somewhat consistent. The first year, in 2019, a total of 65 youth hunters harvested two birds. The following year in 2020, during the COVID pandemic, a high of 90 youths harvested two birds that spring. This year, 70 minors harvested two birds during the spring season.

Turkey Harvest by Day of Spring Season

Opening day occurred on a Wednesday and resulted in 611 male turkeys harvested, or 13.4% of the season total. This was up slightly compared to last year's opening day when 588 (10.6%) birds were harvested.

As in previous years, harvest rates were highest early in the month and lessened towards the end of the month. This year, the first week (May 1-5) resulted in 2,029 (44.5%) of the total harvest being taken. The second week (May 6-12) resulted in 1,035 (22.7%), week three (May 13-19) resulted in 615 (13.5%), and week four (May 20-26) resulted in 310 (6.8%) of the total spring harvest. The last five days of the season, which included the Memorial Day Holiday (May 27-31) resulted in 140 (3.1%) of the total spring harvest including 35 birds taken on the last day (Table 5).

Harvest by Age

Statewide, the male harvest was comprised of 661 jakes (14.5%) and 3,889 toms (85.5%) for a juvenile to adult gobbler harvest ratio of 0.17 jakes to 1.00 toms for the spring 2024 season (Table 6). This was below last year's average of 0.34 jakes to 1.00 toms and below the 10-year average of 0.38 jakes to 1.00 toms (Table 7). The 2024 juvenile to adult harvest ratio was the lowest recorded since 1980 when regulated hunting seasons were first established. The lower number of jakes represented in the 2024 spring harvest was the result of lower reproductive success in 2023 and lower recruitment into the fall population. In terms of adult gobblers (older than 1.5 years of age), the annual spring harvest is comprised primarily of 2 and 3 year old birds. Older aged toms (5+ years) make up a small proportion of the New Hampshire turkey population and typically constitute approximately 1.5% - 2.0% of the spring season harvest.

Male Harvest by WMU during Spring Season

The statewide spring harvest was down (-18%) in 2024 compared to 2023. Fourteen of the 18 Wildlife Management Units experienced decreased harvests last spring. Three WMUs had slight increases including WMU A (+9 birds), WMU C2 (+11), and WMU E (+12 birds). Wildlife Management Unit D1 remained consistent with the previous year (Table 8).

A total of 3,742 hunters were successful at harvesting a turkey this spring which is down from 4,526 in 2023 and 4,606 in 2022. Among this year's successful hunters, 2,922 (78.1%) registered one bird and 820 (21.9%) registered two birds. Out of the 820 hunters who harvested two birds in 2024, 751 were adults and 69 were minors under the age of 16. Since 2019, when the 2-bird limit was implemented in designated WMUs, 21-24% % of hunters harvest two birds during the spring season each year.

Harvest Comparison by KPSM by WMU

The average spring harvest density for all 18 WMUs in 2024 was 0.63 gobblers killed per square mile (KPSM; Table 9; Fig. 2) and was down compared to last year (0.77 gobblers KPSM). Additionally, designated WMUs with a 2 bird limit (i.e., H1, H2, I1, J2, K, L, and M) also had decreased harvest (Table 9). Despite lower harvests, each WMU still meets the threshold (spring KPSM $\geq$ 0.75) to allow for the most liberal hunting season strategies in place with the option to harvest two birds during the spring season. The number of towns (36) that had a harvest of 1.0 or more KPSM was down again last spring as compared to 73 and 84 towns, respectively, during the past two years (Table 10).

Towns with Greatest Turkey Harvest

In 2024, 8 towns reported harvests of 50 birds or more. This is down from 17 towns in 2023.

Towns with the highest harvest included Claremont (71), Gilmanton (69), Cornish (65), Londonderry (57), Alton (56), New Boston (50), Plainfield (50), and Goffstown (50). These same towns, with the exception of Goffstown, were among the same towns of highest harvest in 2023 (Table 11).

Gilmanton was one of the transplant towns during the period of turkey translocation during the 1970s through1990s. The towns of Walpole and Weare, which were also among the original transplant towns, did not make this list in 2024.

Online vs. In-person Registration Stations

Online registration was implemented in spring 2020 in response to the COVID-19 pandemic and the uncertainty whether or not traditional registration stations would remain open and able to register turkeys. This past spring represented the fifth year that that an online registration option was available to hunters. Hunter feedback has been positive therefore online registration continues to remain an option

Suring spring 2024, 3,149 (69%) hunters opted for the online registration while 1,413 (31%) registered turkeys in person at a physical check station. This was the highest number of online users over the past 5 years since the online registration system began. In comparison, during spring 2023, 3,019 (54.1%) hunters opted for the online registration while 2,561 (45.9%) registered turkeys in person at a physical check station (Table 12).

There were 43 active registration stations throughout the state during spring 2024 and the annual number of these stations declines each year. Of the 43 active registration stations in 2024, only 3 stores registered 100 or more turkeys compared to 9 stores last year. The three busiest stations included Pawtuckaway Trading Post in Raymond (161), Morse Sporting Goods in Hillsborough (144), and Drewsville General Store in Walpole (129;). Table 13).

Despite the downward trend of physical registration stations, the turkey project leader and the wildlife program specialist spend considerable time coordinating registration stations, ordering, assembling, and distributing supplies.

Turkey Measurements

Heavy gobblers were numerous during the May 2024 season. A total of 28 birds were registered weighing in at 25lbs or more. This is up from 20 birds last year. This may be due to the higher number of mature toms represented in the harvest this year due to the lack of jakes on the landscape from the poor reproductive year last summer. The heaviest bird in 2024 was recorded at 30.25lbs, slightly more than the 28.25lb record bird last year (Table 14).

Conclusions:

1. The fall 2023 harvest of 201 turkeys was 3.6% of the spring 2023 harvest of 5,580. It is generally desired that the fall harvest not be greater than 20% of the spring harvest.

2. The fall 2023 harvest of 201 turkeys was a decrease of -75% compared to the fall 2022 harvest of 805 turkeys.

3. The spring 2024 harvest of 4,562 turkeys was a decrease of -18.2% compared to the spring 2023 harvest of 5,580 birds and a decrease of -6.6% of the 10-year average (4,865).

4. Spring 2024 was the first year the May harvest did not exceed 5,000 birds since the 2-bird limit in designated WMUs took effect in 2019.

5. The decreased fall 2023 and spring 2024 harvests were attributed to an especially poor nesting season due to weather conditions during spring and summer 2023 and lower recruitment into the population.

6. The jake to tom ratio for the spring 2024 season was 0.17 juveniles to 1.00 adults. This was below last year's average of 0.34 jakes to 1.00 toms and below the 10-year average of 0.38 jakes to 1.00 toms. The 2024 juvenile to adult harvest ratio was the lowest recorded since 1980 when regulated hunting seasons were first established. The lower number of jakes represented in the 2024 spring harvest is the result of lower reproductive success in 2023 and lower recruitment into the population last fall.

7. Participation in the online registration system continues to grow. In spring 2024, 69% of successful hunters registered their harvests online.

8. Spring 2024 was the sixth year that hunters had the option to harvest two birds in designated wildlife management units during the spring season. A total of 820 22% of successful hunters (820) harvested a second bird last spring.

9. A total of 3,742 hunters were successful at harvesting a turkey during spring 2024 which was down from 4,526 in 2023.

Custom Qualitative Indicator/Output: Spring and fall harvest data have been collected, entered and analyzed. Population status in relationship to population objectives has been assessed.

Recommendations: Continue this job as planned.

Submitted by: _____

Allison Keating
Turkey Project Leader
July 2024

Table 1. Fall 2023 combined turkey harvest for archery and shotgun seasons by Wildlife Management Unit.

WMU	HEN	MALE	TOTAL
A	3	0	3
B	2	2	4
C1	0	0	0
C2	2	2	4
D1	3	3	6
D2	8	8	16
E	1	0	1
F	0	1	1
G	6	7	13
H1	8	11	19
H2	5	9	14
I1	2	1	3
I2	3	4	7
J1	1	4	5
J2	22	14	36
K	9	12	21
L	8	14	22
M	12	14	26
TOTALS	**95**	**106**	**201**
PERCENTS	**47.3%**	**52.7%**	

Table 2. Fall 2023 turkey archery harvest by Wildlife Management Unit.

WMU	ADULT HEN	IMMATURE HEN	JAKE	TOM	TOTAL
A	1	2	0	0	3
B	1	1	2	0	4
C1	0	0	0	0	0
C2	1	1	0	2	4
D1	3	0	0	3	6
D2	2	1	0	2	5
E	1	0	0	0	1
F	0	0	0	1	1
G	1	1	0	3	5
H1	1	0	0	1	2
H2	1	0	1	3	5
I1	0	0	0	0	0
I2	2	0	0	1	3
J1	0	0	0	2	2
J2	7	2	0	4	13
K	4	1	1	4	10
L	2	1	0	8	11
M	6	0	2	6	14
TOTALS	**33**	**10**	**6**	**40**	**89**
PERCENTS	**37.1%**	**11.2%**	**6.7%**	**44.9%**	

Table 3. Fall 2023 turkey shotgun harvest by Wildlife Management Unit.

WMU	ADULT HEN	IMMATURE HEN	JAKE	TOM	TOTALS
A	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
B	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
C1	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
C2	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
D1	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
D2	5	0	1	5	11
E	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
F	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
G	3	1	1	3	8
H1	7	0	2	8	17
H2	4	0	0	5	9
I1	2	0	0	1	3
I2	1	0	0	3	4
J1*	**1**	**0**	**0**	**2**	3
J2	9	4	2	8	23
K	4	0	3	4	11
L	5	0	2	4	11
M	5	1	2	4	12
TOTALS	**46**	**6**	**13**	**47**	**112**
PERCENTS	**41.1%**	**5.4%**	**11.6%**	**42.0%**	

Table 4. Fall 2023 fall shotgun harvest by day.

DATE	DAY OF WEEK	# OF BIRDS
October 16	Monday	18
October 17	Tuesday	15
October 18	Wednesday	16
October 19	Thursday	9
October 20	Friday	19
October 21	Saturday	21
October 22	Sunday	14
TOTAL		**112**

Table 5. Male turkey harvest by day of season during May 2024.

DATE	DAY OF WEEK	GOBBLER HARVEST	DATE	DAY OF WEEK	GOBBLER HARVEST
April 27	Saturday	239	May 16	Thursday	60
April 28	Sunday	182	May 17	Friday	91
May 1	Wednesday	611	May 18	Saturday	142
May 2	Thursday	344	May 19	Sunday	119
May 3	Friday	326	May 20	Monday	38
May 4	Saturday	447	May 21	Tuesday	38
May 5	Sunday	301	May 22	Wednesday	26
May 6	Monday	107	May 23	Thursday	27
May 7	Tuesday	137	May 24	Friday	50
May 8	Wednesday	92	May 25	Saturday	67
May 9	Thursday	89	May 26	Sunday	64
May 10	Friday	125	May 27	Monday	41
May 11	Saturday	288	May 28	Tuesday	25
May 12	Sunday	197	May 29	Wednesday	23
May 13	Monday	71	May 30	Thursday	16
May 14	Tuesday	62	May 31	Friday	35
May 15	Wednesday	70			

Table 6. Harvest ratios (jakes to toms) by WMU during May 2024.

WMU	# JAKES	# TOMS	JAKE TO TOM HARVEST RATIO
A	15	70	.21 to 1.00
B	7	34	.21 to 1.00
C1	1	15	.07 to 1.00
C2	4	34	.12 to 1.00
D1	21	69	.30 to 1.00
D2	40	167	.24 to 1.00
E	4	42	.10 to 1.00
F	10	79	.13 to 1.00
G	27	233	.12 to 1.00
H1	64	352	.18 to 1.00
H2	63	424	.15 to 1.00
I1	40	191	.21 to 1.00
I2	24	123	.20 to 1.00
J1	11	164	.07 to 1.00
J2	126	599	.21 to 1.00
K	69	452	.15 to 1.00
L	53	380	.14 to 1.00
M	82	461	.18 to 1.00
TOTALS	**661**	**3889**	**.17 to 1.00**
PERCENTS	**14.5%**	**85.5%**	

Table 7. Statewide harvest ratios by year and 10-year average

Year	Jake	Tom	Jake to Tom Ratio
2015	1358	2635	0.52 to 1.00
2016	1387	2473	0.56 to 1.00
2017	1155	3311	0.35 to 1.00
2018	986	3212	0.31 to 1.00
2019	1534	3532	0.43 to 1.00
2020	1216	4477	0.27 to 1.00
2021	2002	3369	0.59 to 1.00
2022	1172	4531	0.26 to 1.00
2023	1410	4161	0.34 to 1.00
2024	661	3889	0.17 to 1.00
10-Year Average	**1288**	**3559**	**0.38 to 1.00**

Table 8. Male harvest by WMU during May 2023 and 2024.

WMU	2023	2024	# CHANGE
A	76	85	9
B	71	41	-30
C1	24	16	-8
C2	27	38	11
D1	90	90	0
D2	268	207	-61
E	34	46	12
F	99	89	-10
G	334	260	-74
H1	537	416	-121
H2	654	487	-167
I1	263	231	-32
I2	214	147	-67
J1	212	175	-37
J2	938	725	-213
K	653	521	-132
L	491	433	-58
M	585	543	-42
TOTALS	**5570**	**4550**	**-1020**

Table 9. Male KPSM by WMU during May 2023 and 2024.

WMU	2024 MALE HARVEST	HABITAT (Mi^2)	2024 KPSM	2023 KPSM
A	85	424.44	0.20	0.18
B	41	251.65	0.17	0.28
C1	16	144.62	0.11	0.17
C2	38	177.69	0.21	0.15
D1	90	193.11	0.47	0.47
D2	207	402.46	0.52	0.67
E	46	451.29	0.10	0.08
F	89	372.65	0.24	0.27
G	260	555.15	0.47	0.6
H1	416	353.86	1.18	1.52
H2	487	626.12	0.78	1.04
I1	231	317.97	0.73	0.83
I2	147	327.64	0.45	0.65
J1	175	426.81	0.41	0.5
J2	725	733.4	0.99	1.28
K	521	569.91	0.92	1.14
L	433	412.97	1.05	1.19
M	543	532.39	1.02	1.1
ALL	**4550**	**7274.13**	**0.63**	**0.77**

Table 10. Towns with 1.00 or more turkeys KPSM during May 2024.

TOWN	KPSM	TOWN	KPSM
SOUTH HAMPTON	2.03	AUBURN	1.22
KENSINGTON	1.93	TEMPLE	1.22
CLAREMONT	1.66	LEE	1.21
MADBURY	1.56	GILMANTON	1.20
CORNISH	1.55	HINSDALE	1.17
ROLLINSFORD	1.50	EPSOM	1.17
PEMBROKE	1.47	NEW BOSTON	1.17
NEWINGTON	1.47	CHARLESTOWN	1.15
DOVER	1.42	PITTSFIELD	1.14
EPPING	1.40	CHESTER	1.12
LONDONDERRY	1.36	MILTON	1.09
GOFFSTOWN	1.35	DERRY	1.08
BELMONT	1.33	MONT VERNON	1.07
WESTMORELAND	1.31	NEWPORT	1.07
WALPOLE	1.28	FREMONT	1.04
NEWMARKET	1.27	LOUDON	1.04
BRENTWOOD	1.25	GREENVILLE	1.02
ASHLAND	1.25	CANTERBURY	1.01

Table 11. Towns with 50 more turkeys harvested during May 2024.

TOWN	TOTAL
CLAREMONT	71
GILMANTON	69
CORNISH	65
LONDONDERRY	57
ALTON	56
GOFFSTOWN	50
NEW BOSTON	50
PLAINFIELD	50

Table 12. Method of registration used by hunters during Spring Seasons 2020 -2024.

	Online		In-Person	
	Number	%	Number	%
2024	3,149	69%	1,413	31%
2023	3,019	54.1%	2,561	45.9%
2022	2,739	48%	2,962	52%
2021	2,394	44.6%	2,977	55.4%
2020	3,041	53.4%	2,652	46.6%

Table 13. Registration stations with the most turkeys registered during May 2024.

STATION NAME	TOWN	# OF TURKEYS
PAWTUCKAWAY TRADING POST	RAYMOND	161
MORSE SPORTING GOODS	HILLSBOROUGH	144
DREWSVILLE GENERAL STORE	WALPOLE	129
SWIFTWATER WAY STATION	BATH	92
BERRY'S BAIT	ALTON	88
SMITH RIVER TRADING POST	DANBURY	80
BARN STORE OF NEW ENGLAND LLC	SALISBURY	75

Table 14. Heaviest gobblers (25+ pounds) taken during May 2024.

HUNTER NAME - RESIDENCE	WEIGHT	BEARD LENGTH	SPUR LENGTH	WMU	TOWN OF KILL
WILLIAM NOON - NORTH HAMPTON	30.25	10.25	1.250	M	NORTH HAMPTON
GREGORY DRUGAN SR - DERRY	28	8	0.750	A	PITTSBURG
BRANDON BERGSTROM - WINCHESTER (MA)	27.25	8.25	1.125	E	BARTLETT
JAMES FLANDERS - NORTH STRATFORD	27	9	0.875	B	STRATFORD
ALEXANDER HARRIS - DURHAM	26.5	7.25	1.063	L	DURHAM
JOHN LHEUREUX - WEBSTER	26	10	1.000	I1	WEBSTER
JERRY EASTMAN - CLAREMONT	26	9.5	1.000	H1	CORNISH
MINOR UNDER 18 - OGDENSBURG (NY)	25.5	11	1.000	M	AMHERST
JACK MONTGOMERY - FRYEBURG (ME)	25.5	9.5	1.250	E	JACKSON
ZACHARY BOGACZ - BROOKLINE	25.5	8.25	1.125	K	BROOKLINE
LUKE RICCI - DURHAM	25.5	8	1.000	L	DURHAM
JONATHAN MCADOO - PLANTSVILLE (CT)	25.5	5.5	1.000	E	CONWAY
JEFFREY LAFLEUR - HOOKSETT	25.25	11.5	1.000	L	HOOKSETT
THOMAS LAI - PEMBROKE	25.25	10	1.000	L	PEMBROKE
LAWRENCE FORTIER JR - BOW	25.25	9.5	1.250	I1	CONCORD
RICHARD CRAWFORD - LOTHIAN (MD)	25.25	9.5	0.813	I1	CONCORD
MINOR UNDER 18 - CHARLESTOWN	25.1	10.5	1.500	H1	LANGDON
ISABEL ROY - LOUDON	25	10.5	1.125	J2	GILMANTON
ALEX FOX - GRANT (AL)	25	10	1.250	D2	HAVERHILL
HEIDI JOHNSTON - WEST BALDWIN (ME)	25	10	1.000	E	CHATHAM
SEAN DONAHUE - WINDHAM	25	10	0.750	M	PELHAM
ROY BROOKS - LITCHFIELD	25	9.75	0.563	F	CAMPTON
GABRIEL EDGAR - SOMERSWORTH	25	9.25	1.000	L	SOMERSWORTH
ADAM CLARK - MERIDEN	25	9	1.000	H1	PLAINFIELD
MATTHEW FITZGERALD - HOLDERNESS	25	9	1.000	F	HOLDERNESS
JAMES TILTON - NORTH HAMPTON	25	9	1.000	M	GREENLAND
TUCKER MOORE - MEREDITH	25	7	1.500	J2	GILFORD
JOSEPH BUBAR - WEST BALDWIN (ME)	25	5.75	1.000	E	CHATHAM

Figure 1. Spring harvest by town during May 2024.

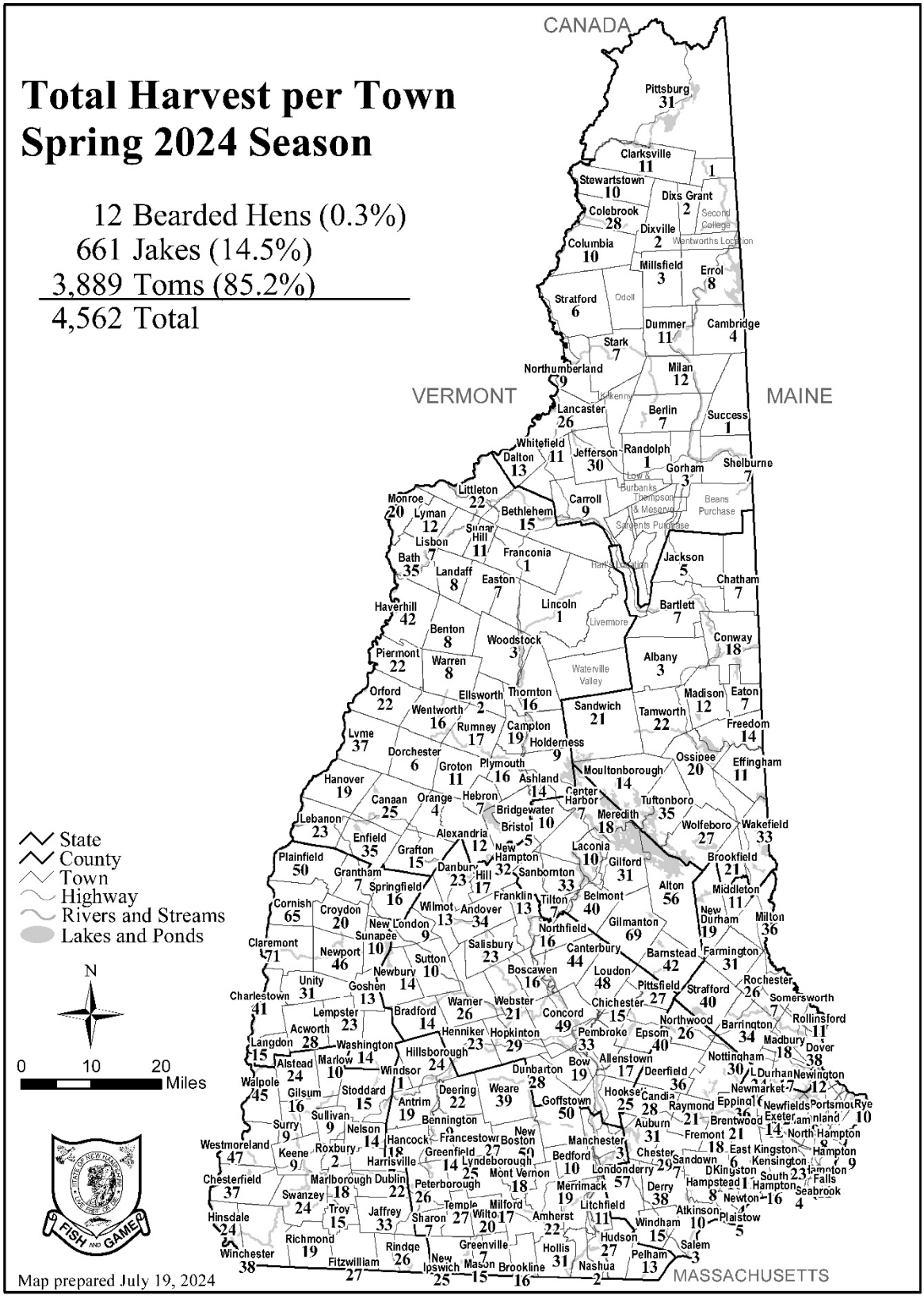
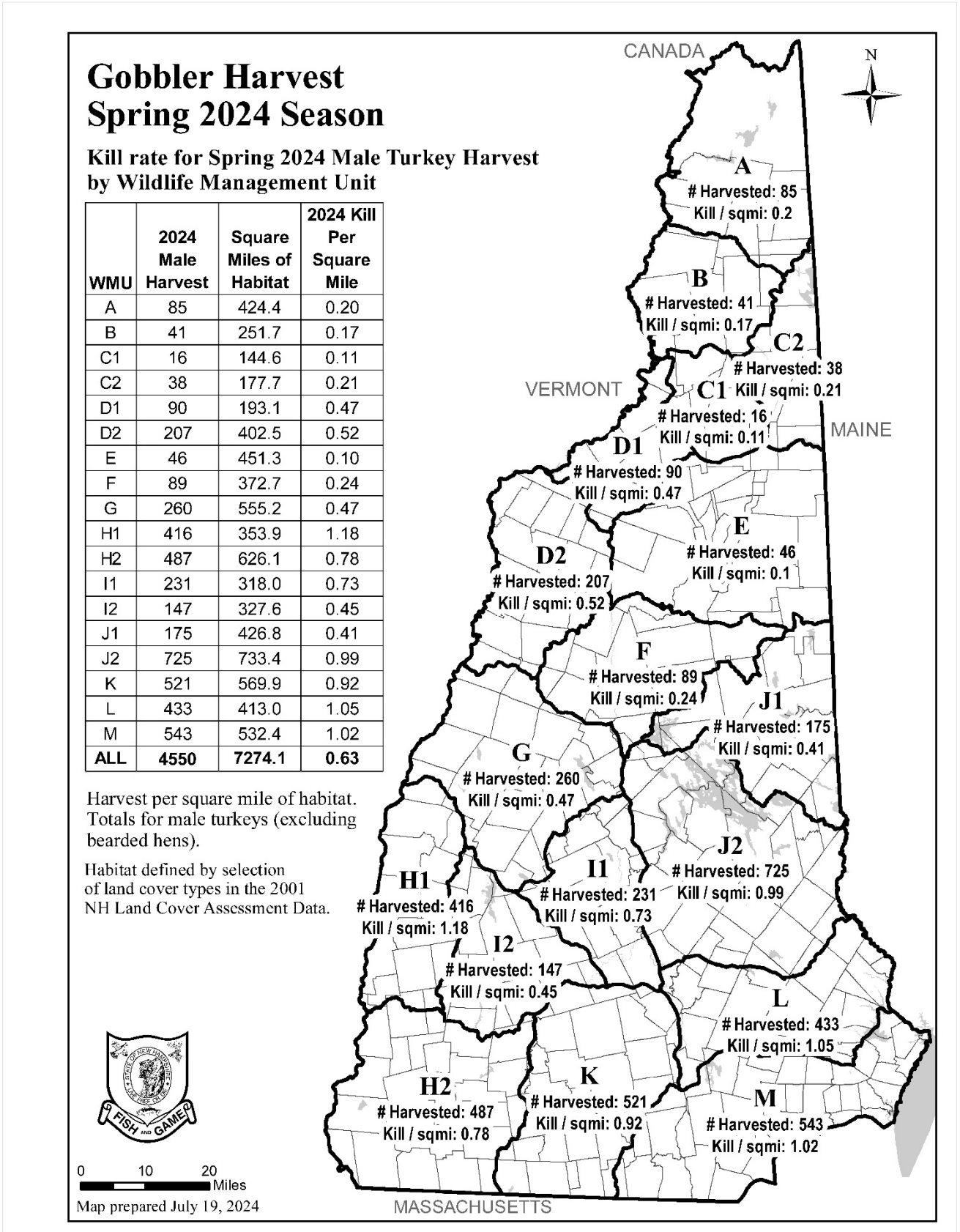


Figure 2. Spring harvest by Wildlife Management Unit during May 2024.



WMU	2024 Male Harvest	Square Miles of Habitat	2024 Kill Per Square Mile
A	85	424.4	0.20
B	41	251.7	0.17
C1	16	144.6	0.11
C2	38	177.7	0.21
D1	90	193.1	0.47
D2	207	402.5	0.52
E	46	451.3	0.10
F	89	372.7	0.24
G	260	555.2	0.47
H1	416	353.9	1.18
H2	487	626.1	0.78
I1	231	318.0	0.73
I2	147	327.6	0.45
J1	175	426.8	0.41
J2	725	733.4	0.99
K	521	569.9	0.92
L	433	413.0	1.05
M	543	532.4	1.02
ALL	**4550**	**7274.1**	**0.63**

PERFORMANCE REPORT

State: New Hampshire **Grant**: F20AF11939

Grant Type: Survey and Inventory

Grant Title: NH – WILDLIFE RESEARCH AND MANAGEMENT (W-89-R-21)

Period Covered: July 1, 2023 – June 30, 2024

Purpose/Target Name: PROJECT 4 – WILD TURKEY RESEARCH AND MANAGEMENT

Objective Name: JOB 2 – NON-HARVEST DATA COLLECTION, ENTRY AND ANALYSIS

Objective Statement: To annually coordinate, collect and analyze non-harvest data including mortality data, summer brood survey and winter flock survey data, research project information and turkey complaints. The potential impacts of parasites, diseases and other non-harvest mortality on the turkey population will be monitored and evaluated.

Summary: During the 2023 Summer Online Brood Survey there were 1,665 brood observations reported compared to 1,094 in 2022. Statewide the average productivity was 2.66 poults per hen representing a decrease compared to 3.22 in 2022.

The 2024 Online Winter Flock Survey received 323 flock reports totaling 5,846 turkeys for an average of 18.1 turkeys per flock. Over half (51%) of reported food use was at backyard birdfeeders.

The spring turkey hunter survey was conducted during the 2024 turkey season for the sixth consecutive year. Hunters were asked to record information on their hunting activity and turkey observations in order to provide the Department with additional information on hunter distribution and effort as well as turkey population status.

Turkey related call volume continued to be high but complaints continued to be low. From January 1 through May 31, 2024 the turkey project leader/region 4 wildlife biologist fielded 63 wildlife related calls/inquiries from the public. Of those, 43 (68%) were turkey related. Call inquiries consisted of turkey population status and health questions, where to hunt questions, concerns regarding existing hunting season structures and bag limits, leucistic or free ranging domestic turkey observations, and a few nuisance complaints of turkeys damaging lawns, hanging around residences and turkey droppings in yards.

Target Date: June 30th annually 2021-2025.

Status of progress: On schedule.

Significant Deviations: None.

Objective Approach: Web-based winter flock and summer brood surveys will be implemented annually. Supplemental standardized survey cards will be distributed to participating staff and volunteers (approximately 35 participants are anticipated). Web data will be downloaded and analyzed electronically while data from survey cards will be summarized by the project leader. Results will be used to assess winter flock distribution and abundance, to monitor annual turkey productivity, to forecast season expectations, to interpret harvest data and to monitor population status. Turkey permit sales data will be used to assess overall hunter participation. Hunter surveys may be employed to quantify hunter activities and to assess management option preferences.

The potential impacts of parasites, diseases and other health issues on turkey will be monitored and evaluated. Presently the potential impacts of lymphoproliferative disease virus (LPDV) and avian pox are being monitored. The Department will work through the New Hampshire Veterinary Diagnostic Lab (NHVDL) to gain access to wildlife disease and parasite diagnostics and testing, technical support with wildlife health issues and educational resources.

When necessary, turkeys will be trapped on a regional basis and banded. Band return rates from registered birds will be monitored. Results will be used to assess harvest and survival rates and to help monitor regional population status.

USDA Wildlife Services data on turkey complaints will be summarized annually, in order to identify possible conflicts with management objectives and in order to track trends in turkey complaints over time. Research initiatives will be formulated as necessary to address management needs.

Results:

Winter Flock Surveys

2023 Fall Mast Crop

It was an average to above average mast year for most species. In comparison to the 10-year averages: oak was down slightly, apple was nearly the same and beech was slightly above average. Blackberry and raspberry were down slightly and blueberry production was on par with the 10-year average.

Winter Conditions 2024

Monadnock Region
According to the National Weather Service, between January 1 and March 31, the city of Keene received a total of 26.6" of snow which was below the normal of 40.6" and also below last year's total of 51.9" of snow during the same time period. There were zero days during the three month period with >6" of snow depth on the ground compared to 29 days last winter. Snow depths ranged from 0" to 5".

Concord Area
According to the National Weather Service between January 1 and March 31, the city of Concord received a total of 38.9" of snow which was below the normal of 47.6" and below last year's total of 58.7" for that time frame. There was a total of only 11 days during the three month period with >6" snow depths on the ground compared to 58 days the previous winter. Snow depths ranged from 0"-9" compared to 0" to 17" the year before.

North Country
According to the National Weather Service, between January 1 and March 31, the town of Pittsburg received a total of 83.3" of snow which was exactly the same as the normal of 83.3" for that time frame. January was almost identical with 30" (norm 30.3"), February was below normal with only 14.8" and March was above normal with 38.5" (norm 24.6"). There were a total of 80 days during the three month period with >6" snow depths on the ground which is an increase from the 71 days of snowcover during winter 2023. Snow depths ranged from 1" – 29". The months of February and March had snow depths of 10"-29" every day of each month limiting turkey mobility for extended period of time.

2024 Online Winter Flock Survey

For the 16th consecutive year, the Department conducted an online turkey flock survey in which the public reported their flock sightings between January 1 and March 31.

A total of 323 flocks were reported totaling 5,846 turkeys statewide. This was down compared to the previous year when 835 flocks and a total of 15,098 turkeys were reported. The decrease in 2024 is primarily due to a good fall mast crop and mild winter. The natural food availability and low snow cover allowed turkeys to travel and forage and not need to congregate at human related food sources such as back yard bird feeders.

By far the greatest percentage of reported food use was 61 flocks (51%) feeding at backyard birdfeeders. The next highest category of food usage was 27 reports (23%) feeding on corn or grain followed closely by another 26 flocks (22%) of turkeys feeding on acorns and beechnuts. Reported use of apples/crab apples was only 4% (5 flocks). The average number of turkeys in a flock statewide was 18.1, which is identical to last year and up from the previous two years when the average was 17.1 in 2022 and 17.5 in 2021. Although the number of flocks reported were down this year, WMU M (73) continued to have the highest number of flocks, followed by WMU J2 (63) and L (36).

During winter, 2024 turkeys with visible lesions which may be indicative of avian pox or lymphoproliferative disease virus (LPDV) were reported from 3 towns from 3 different Wildlife Management Units. Overall, reports of symptomatic turkeys remains low.

Respondent's attitudes towards wild turkeys remains high with 93.5% of participants indicating they like or strongly like seeing wild turkeys on the landscape. A total of 5.6% of participants were neutral and a combined 0.9% dislike or strongly dislike wild turkeys.

Summer Brood Surveys:

2023 Online Summer Brood Survey

For the 13th consecutive year, the Department conducted an online Summer Brood Survey in which the public reported sightings of hens and poults between June 1 and August 31. A total of 1,665 brood reports were received, which was an increase from 1,094 and 1,264 reported the previous two years.

Productivity is measured during the month of August because at that time the poults are large and more readily seen and counted, and most attrition of young turkeys has already occurred. Statewide, the average productivity was 2.66 poults per hen (pph). This is a decrease from recent years when 3.22 and 2.95 pph were reported in 2022 and 2021, respectively. The highest average on record was 4.38 poults per hen reported during 2011 which was the first year of the survey.

Reports were received from a total of 215 (89%) towns in 2023 which is up compared to last year when 203 towns reported observations. A total of 10 towns reported 25 or more broods during summer 2023. The top towns included Derry (40), Manchester (38), Concord (35), Hooksett (29), Moultonboro (28), Bedford (27), Milford (27), Merrimack (26), and Windham (26).

There were only 9 avian pox/LPDV reports from summer 2023. The majority (87%) of respondents indicated they like or strongly like wild turkeys.

Statewide, over half (51.8%) of all hatching occurred within one month period from July 7 – through August 3 During 2023, most hatching occurred during the 2-week periods of July 7-20 (30.6%) and July 21-August 3 (21.2%). This is more than a month later than last year when 60% of hatching occurred between May 26tand June 22.

Statewide, the average hatch date was July 7– the latest recorded in the past 13 years of the summer brood survey. More hatching occurred during the month of August last year compared to the previous year. August 4-31 saw 8.4% of the total hatch in 2023 compared to only 1.4% of the total hatch in 2022.

Hatching Weather Spring/Summer 2023

As the majority of hatching took place in July 2023, the state also experienced exceptionally high rainfall. August also had higher than normal hatching and higher than normal rainfall. The later hatching combined with above average rainfall took a toll on the productivity in 2023.

Monadnock Region
According to the National Weather Service, the spring and summer months for Keene were all at or above average for rainfall with the month of July being exceptionally high. Total rainfall compared to normal rainfall for each month were as follows: May 3.76" total (3.77" normal); June 5.96" total (4.41" normal); July 12.10 (4.49" normal) and August 4.5" total (4.28" normal). Temperatures ranged from a low of 24 in May, 44 in June, 50 in July and 44 again in August to a high of 88 in May, 92 in June, 90 in July and 83 in August.

Concord Area
According to the National Weather Service, the summer months for Concord were all above average for rainfall with the month of July also much higher than normal. Total rainfall compared to normal rainfall for each month were as follows: May 2.68" total (normal 3.47"); June 4.62" total (3.77" normal); July 6.41" total (3.62 normal) and August

4.49” total (3.63” normal). Temperatures ranged from a low of 24 in May, 44 in June, 50 in July and 44 again in August to highs of 88 in May, 92 in June, 90 in July and 83 in August.

North Country
According to the National Weather Service, the town of Pittsburg in the North Country also recorded above average rainfall for the months of July and August with July also being exceptionally high. Total rainfall compared to normal rainfall for each month were as follows: May 2.5” total (4.47 normal); June 4.38” total (5.14” normal); July 12.04” total (4.91” normal) and August 7.53” (4.76 normal). Temperatures ranged from a low of 22 during the month of May, 40 in June, 50 in July and 41 in August to a high of 82 in May, 88 in June, 87 in July and 79 in August.

Turkey Hunter Survey:

Prior to the start of the spring 2024 turkey season, a turkey hunter survey was direct mailed to 11,000 previously successful turkey hunters who were asked to document their daily turkey hunting activity. Previously successful hunters were selected because experience with other Department game management surveys has indicated that previously successful hunters are more likely to participate in the survey,return a card, and exhibit higher observation rates than hunters randomly selected from a pool of license holders. For each day hunted, hunters were asked to record the date, town and wildlife management unit hunted, hours hunted, and number of gobblers heard.

A total of 609 usable surveys were received yielding a response rate of 5.5%. This is nearly identical to last year’s response rate of 5.1%. The highest response rate recorded was 7.3%, which was the first year of the survey in 2019.

Statewide, the total number of days hunted in 2024 was 3,686 which was similar to the 3,384 days reported hunted in 2023. The total number of hours reported hunted in 2024 was 13,434 which was an increase from 11,932 last year and similar to 14,086 in 2022 and 13,949 hours in 2021.

The total number of gobblers heard in 2024 was 7,799 which was similar to the 7,462 reported last year and down compared to 10,252 reported in 2022.

The mean number of gobblers heard per 100 hunter hours was 57.0 which was down from 62.4 last year and also down compared to 2022 (71.5). This year was the sixth year this survey has been conducted (Table 1).

The New Hampshire Chapter of the National Wild Turkey Federation supported this turkey hunter survey effort again this year by donating a raffle prize. All hunters who completed and returned the survey by the specified deadline were entered into a drawing for the raffle prize. In addition, the National Wild Turkey Federation name and logo was included on the printed survey materials direct mailed to participants.

Banded Birds

No banded birds were harvested during the fall 2023 or spring 2024 seasons.

Turkey Conflicts:

Turkey related call volume continued to be higher compared to previous years but complaints continued to be low. From January 1 through May 31, 2024 the turkey project leader/region 4 wildlife biologist fielded 63 wildlife related calls/inquiries from the public. Of these, 43 (68%) were turkey related. USDA Wildlife Services continued to receive limited calls, mostly related to agricultural crop damage concerns.

Turkey related calls ~~includedinquiries~~included inquiries about the number of turkeys in certain parts of the state and the statewide population overall, hunters wanting to know where to hunt, concerns about the health of turkeys, concerns about damage to personal property, lawns, and turkey feces, concerns about different aspects of turkey hunting season structure and bag limits, and reports of possible albino, leucistic, or loose/free ranging domestic turkeys.

Conclusions:

1. The 2023 Online Summer Brood Survey received 1,665 reports from 215 towns.

2. The 2023 Online Summer Brood Survey for the month of August indicated an average productivity of 2.66 poults per hen, which was down from 3.22 pph the previous year.

3. Statewide, the average hatch date was July 7. Over half (51.8%) of all hatching occurred within one month period from July 7– through August 3.

4. July 2023 experienced exceptionally high rainfall. Both the Monadnock Region and the North Country received over 12” of rain which was above the normal of about 4” during the month of July for both regions.

5. The incidence of avian pox/LPDV virus in turkeys remains relatively low throughout the state.

6. Respondents likeability towards wild turkeys remains high. The 2023 summer brood survey results indicated that 87% of survey participants either like, or strongly like, wild turkeys in New Hampshire.

7. Turkey related call volume has increased but conflicts remain low.

8. The Online Winter Flock Survey resulted in a total of 323 flocks and 5,846 turkeys being reported.

Custom Qualitative Indicator/Output: Non-harvest data have been collected and analyzed including mortality data, the summer brood survey, winter flock survey research projects and turkey complaints. Potential impacts of parasites, diseases and other non-harvest mortality on the turkey population has been monitored and evaluated.

Recommendations: Continue this job as planned.

Submitted by: _____

Allison Keating
Turkey Project Leader
July 2024

Table 1. Spring turkey hunter survey results by turkey management region, 2021-2024.

Region	# of Hunter days (N)	Total hours of effort	Total # of gobblers heard	Mean # of gobblers heard per 100 hunter hours	Units Included
2024					
North	140	523	251	44.96	A, B, C1 & C2
White Mtn.	154	580	320	55	E&F
W. Central	405	1,426	858	63.29	D1, D2 & G
E. Central	731	2,731	1,422	52.13	J1 & J2
South West	876	3,233	1,847	54.36	H1, H2, I1 & I2
South East	1,380	4,941	3,101	61.08	K, L & M
2024 ALL	**3,686**	**13,434**	**7,799**	**57.0**	**All**
2023					
North	152	562	283	52.76	A, B, C1 & C2
White Mtn.	103	405	203	44.87	E&F
W. Central	411	1390	833	62.3	D1, D2 & G
E. Central	583	1985	1174	55.68	J1 & J2
South West	828	2964	1696	56.95	H1, H2, I1 & I2
South East	1307	4626	3273	71.75	K, L & M
2023 ALL	**3,384**	**11,932**	**7,462**	**62.4**	**All**
2022					
North	109	373	142	46	A, B, C1 & C2
White Mtn.	164	613	429	67.89	E&F
W. Central	415	1351	1144	84.55	D1, D2 & G
E. Central	929	3088	2199	67.29	J1 & J2
South West	913	3318	2398	73.47	H1, H2, I1 & I2
South East	1553	5344	3940	71.84	K, L & M
2022 ALL	**4,083**	**14,086**	**10,252**	**71.5**	**All**
2021					
North	124	414	153	38.64	A, B, C1 & C2
White Mtn.	152	479	257	53.67	E&F
W. Central	462	1,527	912	59.09	D1, D2 & G
E. Central	893	3,355	2,104	62.33	J1 & J2
South West	838	3,114	1,811	57.2	H1, H2, I1 & I2
South East	1,422	5,061	3,664	69.08	K, L & M
2021 ALL	**3,891**	**13,949**	**8,901**	**62.1**	**All**

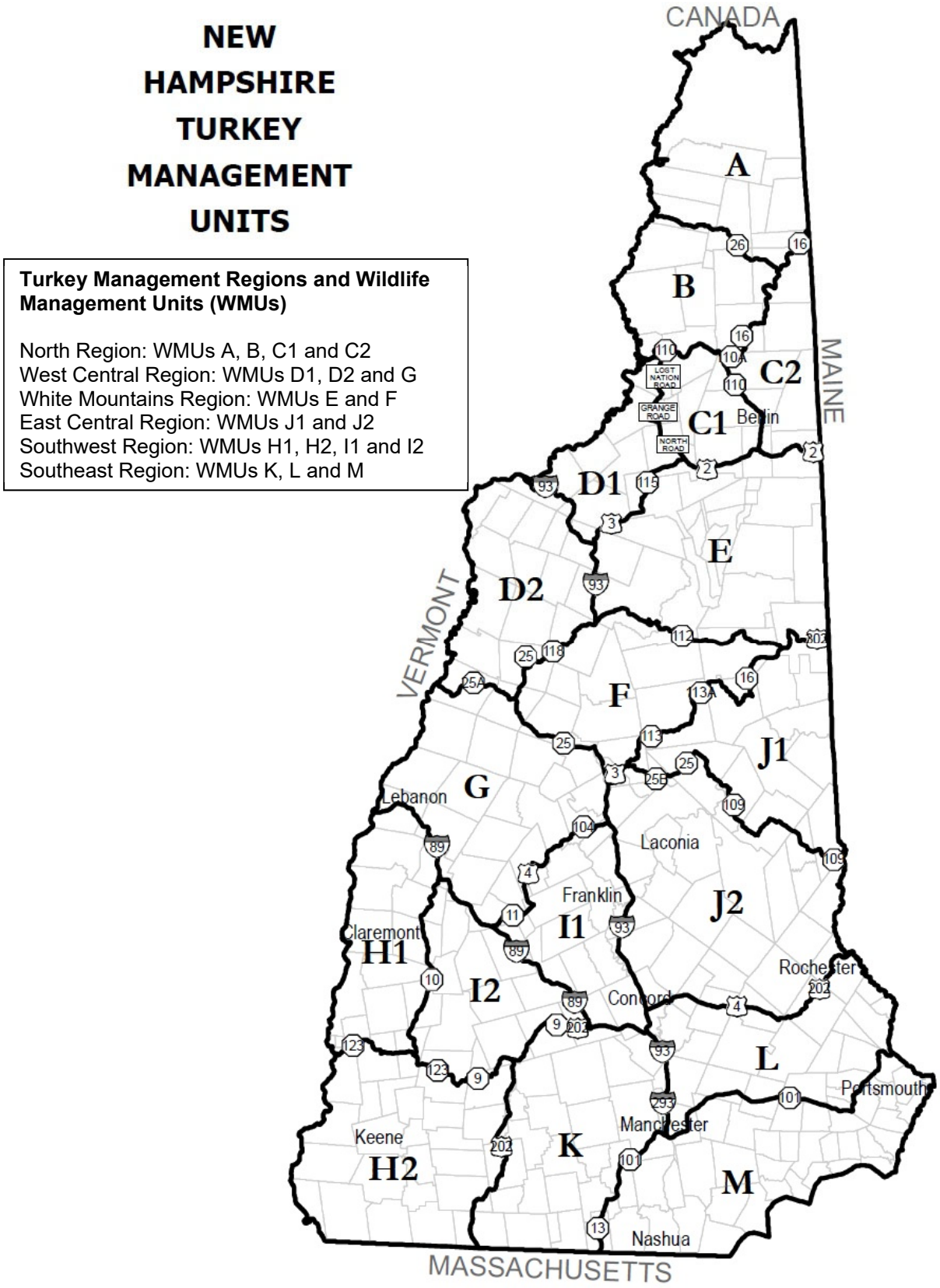


Figure 1. Turkey management units and regions.

PERFORMANCE REPORT

State: New Hampshire **Grant**: F20AF11939

Grant Type: Survey and Inventory

Grant Title: NH – WILDLIFE RESEARCH AND MANAGEMENT (W-89-R-21)

Period Covered: July 1, 2023 – June 30, 2024

Purpose/Target Name: PROJECT 4 – WILD TURKEY RESEARCH AND MANAGEMENT

Objective Name: JOB 3 – FORMULATION OF TURKEY POPULATION MANAGEMENT RECOMMENDATIONS

Objective Statement: To formulate science-based recommendations on an annual or biennial basis for the continued management of New Hampshire's wild turkey population, consistent with achievement of existing turkey management goals and population objectives.

Summary: Turkey hunting data from the fall and spring seasons, as well as non-harvest data from the online winter flock and summer brood surveys and the direct mail turkey hunter survey continued to be collected, analyzed and reviewed and will be used as needed for the rule making process next year.

Target Date: June 30th annually 2021 – 2025.

Status Progress: On schedule.

Significant Deviations: None.

Objective Approach: Turkey registration data from the spring and fall hunting seasons will be used as the basis for the formulation of management recommendations. Data from the summer brood survey and winter flock census will also be used. Management recommendations will be formulated based on objectives identified in our existing 10-year big game management plan. Recreational value including hunting recreation and public viewing will be taken into account as will the frequency of turkey/human conflicts.

Hunting season recommendations will be formulated biennially. Information from preceding hunting seasons will be evaluated in the context of short and long-term trends and turkey population objectives on a Wildlife Management Unit (WMU) basis. Initial season recommendations will be developed by the Turkey Project Leader and reviewed, evaluated and modified as necessary by the Game Management Team. Input from regional biologists and law enforcement staff will be considered and draft recommendations will be subsequently developed at a Wildlife Programs Committee meeting for evaluation by the Executive Director. These preliminary recommendations will be presented at public hearings around the state and public comment will be incorporated by the Game Management Team and a final recommendation developed for review and adoption by the Executive Director and Commission. Only those costs up to, and including, development of final season recommendations will be charged to the grant. Unpredictable factors such as unusually severe winters could adversely impact turkey populations and result in a re-evaluation of existing season frameworks during non-season setting years.

Results:

Rule Making

The NHFG Big Game Management Team met to review and discuss the upcoming revision process for the big game species assessments and the big game species management plans. These assessments and management plans are reviewed and revised every 10 years. Actions were identified and a timeline was developed to have the species assessments (including the wild turkey assessment) and the management plans (including the turkey management plan) updated prior to June 2025.

The turkey project leader spent significant time reviewing and updating the wild turkey species assessment during this reporting period.

The turkey project leader also received multiple calls and emails from constituents with questions, comments and concerns regarding the existing turkey season hunting structure and bag limits. Each inquiry was responded to and some were resolved while others were saved for further consideration and discussion when the next rule making process begins. Comments included, but were not limited to, allowing air rifles as a legal method of take for turkey hunting, removing the two-bird limit in the spring in designated WMUs, reducing the bag limit to 1 bird for youth during youth weekend, and adding fall shotgun seasons in northern WMUs.

Conclusions:

1. The Big Game Management team met to discuss the revision process for the big game species assessments and the 10-year Big Game Species Management Plan. Actions and a timeline were developed to coordinate production with the upcoming rule making process next year.

2. Calls and emails were received from constituents regarding existing hunting season structures and bag limits. Each issue was responded to. Some were saved for further consideration and discussion as warranted when the next rule making cycle begins.

Custom Qualitative Indicator/Output: Science-based management recommendations consistent with achievement of existing turkey management goals and population objectives have been formulated on an annual or biennial basis.

Recommendations: Continue this job as planned.

Submitted by: _____

Allison Keating
Turkey Project Leader
July 2024

PERFORMANCE REPORT

State: New Hampshire **Grant**: F20AF11939

Grant Type: Survey and Inventory

Grant Title: NH – WILDLIFE RESEARCH AND MANAGEMENT (W-89-R-21)

Period Covered: July 1, 2023 – June 30, 2024

Purpose/Target Name: PROJECT 4 – WILD TURKEY RESEARCH AND MANAGEMENT

Objective Name: JOB 4 – PROFESSIONAL EXCHANGE AND DISSEMINATION OF PROJECT INFORMATION

Objective Statement: To effectively communicate with diverse turkey management stakeholders and the general public interested in turkeys; to facilitate peer, legislative and public review of our turkey management program; to maintain working relationships and information exchange with turkey biologist an ensure that the turkey project leader is familiar with the latest scientific knowledge and management techniques; and to prepare and disseminate turkey project information and findings to the public, the Fish and Wildlife Service, and other interests stakeholders.

Summary: The yearly federal aid progress report, status reports for the Northeast Upland Game Bird Committee, and the turkey section of the Department Wildlife Harvest Summary were prepared. Turkey management-related press releases were written and issued. The project leader participated in regular technical committee meetings and provided data for a regional brood monitoring effort.

Target Date: June 30th annually 2021 – 2025.

Status of Progress: On schedule.

Significant Deviations: None

Objective Approach: Turkey management accomplishments, findings, management goals and population objectives will be communicated through the project leader and through print and electronic media. Turkey technical meetings, workshops and conferences will be attended and communications with the National Wild Turkey Federation, its staff and its chapters will be conducted. Research proposals, management techniques and project information needs will be considered and evaluated. Federal aid reports, turkey harvest summary reports and other turkey related information associated with New Hampshire turkey management will be prepared and disseminated to stakeholders. The turkey project leader will receive and/or provide training necessary for the successful implementation of this project.

Results:

The project leader participated in regular meetings with the Northeast Upland Game Bird Technical Committee, the National Wild Turkey Federation Technical Committee and the New Hampshire Chapter of NWTF Board of Director meetings.

The project leader participated virtually in the annual multi-day Upland Game Bird Technical Committee meeting that was held in West Virginia in September 2023.

Summer brood survey data was provided to the National Wild Turkey Federation Technical Committee for incorporation into a standardized, regional monitoring effort.

The project leader coordinated with Public Affairs staff to write and issue press releases for the fall 2023 turkey hunting season, the 2024 online winter flock survey, the 2024 spring hunting season, and the 2024 online summer brood survey as well as updating relevant information on the Department website for each of these.

The project leader participated in two efforts with the University of New Hampshire. One with the UNH Wildlife Inventory and Monitoring proposed research seminar working with UNH faculty, undergraduate and graduate students to review and provide input on proposed research projects. The other was a Citizen and Community Science Roundtable with UNH to provide input on advancing participatory sciences and how UNH and NHFG may work together on efforts such as brood surveys, winter flock surveys and more.

The project leader participated in coordinating and implementing two annual Learn to Turkey Hunt Mentoring courses that are conducted in partnership between the Department and local chapters of the National Wild Turkey Federation. The project leader also participated in one NWTF youth program – Juniors Acquiring Knowledge Ethics and Skills (JAKES) that was attended by nearly 100 youth under age 16.

A summary of the spring and fall turkey seasons was written and included in the "2023 New Hampshire Wildlife Harvest Summary" for publication in print and on the Department website.

The yearly progress reports (Wild Turkey Research & Management) W-89-R, Project 4 were written.

Annual reports were written and submitted to the Northeast Upland Game Bird Technical Committee Meeting.

Conclusions: This job was implemented as planned, and diverse stakeholders and constituents were kept informed of project activities.

Custom Qualitative Indicator/Output: Effective communication with turkey management stakeholders and the public has taken place. Peer, legislative and public review of the turkey management program has been facilitated. Working relationships and information exchange with turkey biologists has been maintained. Turkey project information has been prepared and disseminated to the public, the USFWS and other stakeholders.

Recommendations: Continue this job as planned.

Submitted by: _____

Allison Keating
Turkey Project Leader
July 2024