Connecticut Wild Turkey Program Report

2016 Spring and Fall Seasons

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Introduction

The goal of the Connecticut Wild Turkey Management Program is to manage wild turkey populations at levels compatible with available habitat and various land uses and to allow for a sustained yield of turkeys for use by the people of Connecticut. Wild turkeys continue to be abundant throughout the state, providing the public with hunting and wildlife viewing opportunities.

During 2016, a significant change occurred to the wild turkey permit process. As of July 1, 2016, new legislation created a Resident Game Bird Conservation Stamp, which is required for hunting of wild turkeys, ring-necked pheasants, ruffed grouse, Northern bobwhite quail, chukar partridge, and Hungarian partridge. This new stamp has several notable, positive attributes. Previously, if hunters wanted to pursue pheasants and turkeys, they had to purchase a pheasant stamp and permits for each turkey season (spring private land, spring state land, fall private land, fall state land, fall archery). Hunters had to pay for all permits and stamps, totaling \$123. With the new stamp, hunters can now participate in all of the turkey seasons and legally harvest the aforementioned game birds for a fee of \$28. All revenue from the sale of Resident Game Bird Conservation Stamps is deposited into a non-lapsing, dedicated fund to provide a stable funding source for maintaining existing turkey brood habitat, establishing new game bird habitat improvement projects, and administering the Pheasant Program.

This report presents a summary of the 2016 spring and fall wild turkey hunting seasons in Connecticut. For most Connecticut sportsmen and sportswomen, "turkey hunting" means spring gobbler hunting. Because of its popularity, the 2016 spring season is presented first, followed by highlights from the fall firearms and archery seasons.

2016 Spring Gobbler Season

Overall Results

The 35th annual statewide spring turkey season was open from April 27 – May 28, 2016. A total of 8,655 spring turkey permits (state and private land) were issued and 1,335 birds were harvested. In 2016, permit issuance decreased by 4.5% and harvest increased by 8.4%. (Table 1).

In an effort to provide a quality turkey hunting experience for Connecticut's junior hunters (ages 12 to 15), the 12th youth wild turkey hunting days took place from Saturday, April 15 to Saturday, April 22 (excluding Sunday). Participants harvested 61 wild turkeys, 12 birds more than the previous year. Youth wild turkey hunting days have been well received by all participants, both youths and mentors.

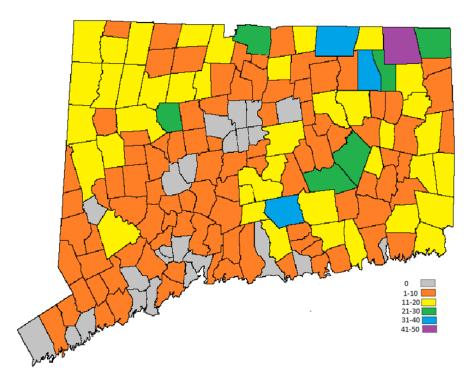
Harvest by Town

At least one bird was taken from 144 of Connecticut's 169 towns (Figure 1, Appendix A). Twenty-one or more birds were taken from 9 towns, and 30 or more birds were taken from 4 towns. The towns of Woodstock (49), Stafford (33), Ashford (31), and Haddam (31) had the highest reported turkey harvest.

Permit Type	Total Number of Permits	Total Harvest
Private Land		
2015	7,126	1,011
2016	6,850	1,071
% Change 15-16	-3.9	5.9
State Land		
2015	1,936	221
2016	1,805	264
% Change 15-16	-6.8	19.5
Overall Total		
2015	9,062	1,232
2016	8,655	1,335
% Change 15-16	-4.5	8.4

Table 1. Connecticut's spring turkey harvest and hunter numbers on private and statelands, 2015 and 2016.

Figure 1. Distribution of the 2016 spring turkey harvest in Connecticut.



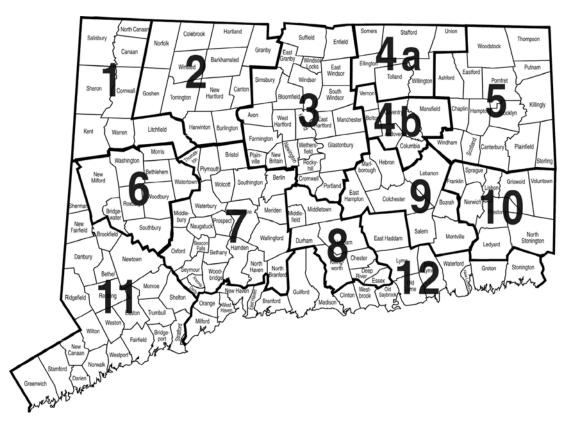
Zonal Harvest

Similar to 2015, the northeastern corner of the state (Turkey Management Zone 5) reported the highest harvest among Connecticut's 13 Turkey Management Zones (TMZs) during 2016 (Table 2, Figure 2). Prior to 2004, northwest Connecticut (Zone 1) had typically held this distinction. Zones 4B and Zone 6 recorded the lowest harvest. Zones 11 and 3 showed the largest increase in harvest from 2015 to 2016. Although harvest was variable among zones, locally abundant turkey populations existed in all zones and it was a function of hunter access and turkey numbers, which influenced zonal harvest.

Zone	Harvest 2015	Harvest 2016	Percent Change	Zone	Harvest 2015	Harvest 2016	Percent Change
1	87	94	8.0%	7	91	82	-9.9%
2	128	146	14.1%	8	84	97	15.5%
3	77	100	29.9%	9	78	93	19.2%
4 A	73	81	11.0.%	10	86	107	24.4%
4B	57	49	-14.0%	11	52	69	32.7%
5	203	241	18.7%	12	123	110	-10.6%
6	93	66	-29.0%	Total	1,232	1,335	8.4%

Table 2.	Gobblers harvested during the spring 2015 and 2016 seasons by Turkey
	Management Zone.

Figure 2. Connecticut's 13 Turkey Management Zones.



Private Land Hunting

Private land accounted for the majority of the harvest (80%). Private land encompasses the largest amount of land, includes the best turkey habitat, and may have more experienced hunters with lower hunter densities than state land. Private land permits were issued to 6,850 individuals who were eligible to hunt on any lands for which they obtained written landowner permission (Table 1).

State Land Hunting

Permit issuance for state land was 1,805 (Table 1). Of the state-managed properties, Pachaug State Forest (29), Natchaug State Forest (23), and Cockaponset State Forest (23) yielded the most turkeys in 2016. The most productive state land turkey hunting areas (\geq 5 birds harvested/mi² and a minimum harvest of 4 birds) were Eight Mile River Wildlife Management Area (WMA), Enders State Forest, and Tankerhoosen WMA (Appendix B).

Population Dynamics

The 2016 spring harvest consisted of 883 juvenile and 450 adult male birds and 2 bearded hens. During the last 10 years, juvenile to adult ratios, turkey population growth index, and spring season harvest indicated that Connecticut's wild turkey population has been relatively stable with possible exception of 2009 (lower productivity) and 2010 (higher productivity) (Figures 3, 4, and 5). This also correlates well with brood survey indices. In 2009, the brood index was the lowest reported value (1.7), which was reflected in the 2010 spring harvest as a reduction in juvenile take. Whereas the 2010 brood index (3.6) was the highest reported brood index and the 2011 spring harvest had a high proportion of juvenile birds. In the population growth index graph (Figure 4), the value for 2014 is very low compared to other years. The 2014 spring turkey season opening day had heavy rain (2 to 3 inches), which likely reduced hunter participation. Therefore, the index may reflect a lower harvest rate due to limited hunter participation rather than a significant decline in the turkey population. All the turkey population indices indicate the growth rate of Connecticut's wild turkey population varies annually, depending on many variables such as weather and predation. Harvest, population growth indices, and annual productivity must be monitored on an annual basis to continue to assess population trends.

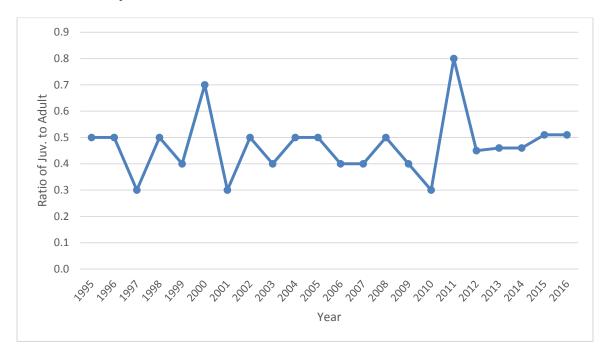
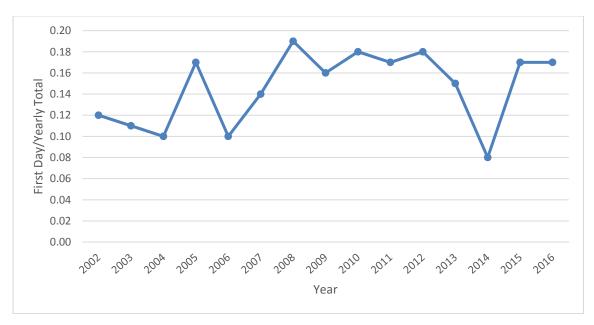


Figure 3. Ratio of juvenile to adult gobblers taken during Connecticut's spring wild turkey seasons, 1995 – 2016.

Figure 4. Growth index (First day harvest/Permits issued) for the wild turkey population in Connecticut, 2002 – 2016.



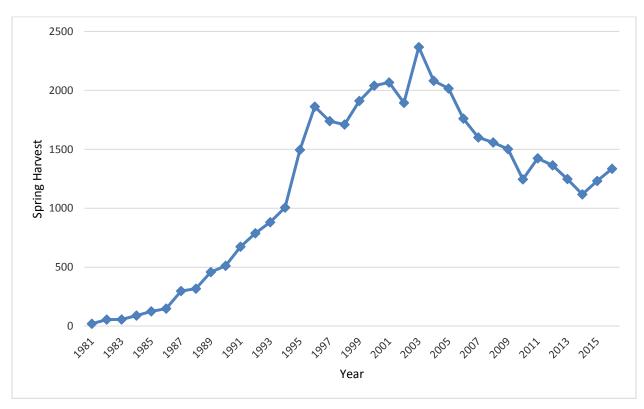


Figure 5. Connecticut's spring season wild turkey harvest, 1981 – 2016.

Spring Turkey Hunter Survey Results

The spring wild turkey hunter survey is used to obtain a variety of information to better manage Connecticut's wild turkey resource. The turkey hunter survey provides valuable insight into population growth trends, economic expenditures, and recreational benefits. In 2010, the spring turkey hunter survey changed from a mail-in survey attached to the spring turkey permit to an online survey distributed to hunters with email addresses. In 2016, a total of 4,023 surveys were emailed to spring turkey hunters and 31% of those hunters responded to the survey. Thirty-one percent of the respondents had obtained a permit, but did not hunt. Of those that did hunt (5,967), most of their hunting activity occurred in Turkey Management Zones 5 and 2 (Figure 2; Table 3).

Information obtained from surveys was used to determine the economic benefits provided by spring turkey hunting. Overall, spring turkey hunters spent \$1,042,165 on hunting-related items, and permit sales generated an additional \$151,107 (Table 4).

Forty-two percent of spring turkey hunters responding to the survey believed the turkey population was stable. Of the remainder, 22% believed it was increasing, and 34% believed it was decreasing. The mean statewide rank of Connecticut's turkey population for 2016 was 2.7, on a scale of 0-6 (a rank of 3.0 suggests the population is stable). Based on spring turkey hunter survey results, hunters indicated that in most zones, populations were declining. Since 2007, the wild turkey population growth index has indicated gradual decline in the overall statewide turkey population (Figure 6). As previously indicated, this downward population trend has also been observed in the statewide spring wild turkey harvest.

To collect data on ruffed grouse distribution in Connecticut, an additional question was added to the turkey hunter survey in 2005. Hunters are asked to report whether they observed ruffed grouse or heard

grouse drumming, and if so, provide the town in which the encounter occurred. During 2016, hunters reported 56 encounters with ruffed grouse in 37 towns. The town with the highest number of grouse encounters was Goshen (5) (Appendix C). A grouse population index was derived by dividing total grouse observations into the total number of surveys returned and then multiplying by 100. This represents the average number of grouse encountered by 100 spring turkey hunters. The 2016 index was 4.5, which was the lowest reported value since the survey was initiated in 2005 (Figure 7). This information and other ruffed grouse population indices indicate that the population in Connecticut continues to decline.

The spring wild turkey hunter survey is also used to obtain a variety of information from hunters to better manage Connecticut's wild turkey resource. Several questions were included in the 2016 survey regarding regulation changes, state land permits, hunter interference, hunting experiences, and turkey program satisfaction. Hunters were asked if they would support a change that encompassed all turkey permits into a single permit type. Seventy-eight percent of hunters indicated that they would support this change. A change of this nature would reduce hunter fees from \$19 for each individual turkey permit to \$28 for all turkey permits and pheasant hunting privileges. Hunters were queried about a proposed regulation change that would eliminate separate bag limits for state and private lands. Sixty-eight percent of the hunters indicated that they would support a single bag limit for the spring turkey season. Eighty-two percent of hunters supported a change that would allow hunters to hunt to sunset during the spring season. Currently, during the spring turkey season, hunting hours close at noon. Hunters also were asked, "During the 2016 spring turkey season, if you only purchased a private land permit, what was your primary reason for not also purchasing a state land permit?" Thirty-five percent of the hunters indicated that interference by other hunters or the public precluded them from purchasing a state land permit. Additional responses included lack of time (27%), unwillingness to pay more (20%), did not fill bag limit (9%), concerns for personal safety (8%), and too far to drive (1%). To further assess interference issues, hunters were asked "Did you experience interference from hunters, the public, or both which impacted your hunt during the 2016 spring turkey season?" On private land, 10% of spring turkey hunters encountered interference from other hunters, 8% from the public, and 1% from both. On state land, 26% of spring turkey hunters encountered interference from other hunters, 22% from the public, and 13% from both. Ninety-five percent of all hunters were satisfied with Connecticut's Wild Turkey Program. Hunters also were asked to rank their spring hunting experience. Eighty-seven percent were satisfied. Overall, turkey hunters indicated a high level of satisfaction with their spring turkey hunting experience and Connecticut's Wild Turkey Program.

Zone	Hunters	%
1	78	8
2	118	11
3	77	8
4*	72	7
5	125	12
6	59	6
7	98	10
8	54	5
9	89	9
10	65	6
11	98	9
12	94	9
Total	1,027	100

Table 3. Number of survey respondents hunting in each Turkey Management Zone in
Connecticut, 2016.

*Data for Zone 4 was not split into Zone 4A and 4B.

Table 4. Economic and recreational benefits provided by the 2016 Connecticut spring turkey hunting season.

Permit	Permit Total Permits Hunting Expens			Expenses*
Туре	No. Issued	Revenue	Average*	Total
Private	6,850	\$116,812**	\$125	\$856,250
State	1,805	\$34,295	\$103	\$185,915
Total	8,655	\$151,107		\$1,042,165

* Values derived from hunter surveys.

** Excludes landowner permits issued free of charge.

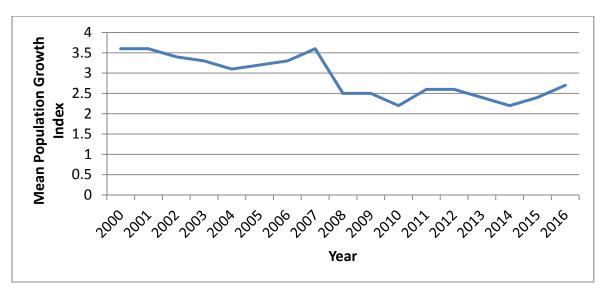
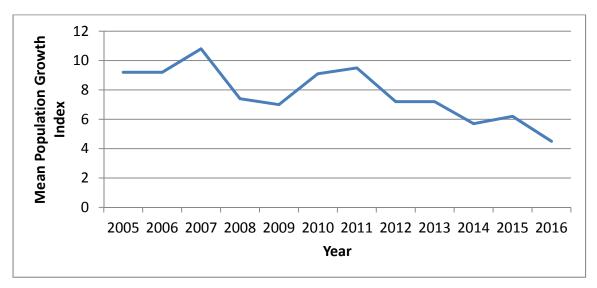


Figure 6. Perception of hunters regarding wild turkey population growth from 2000 – 2016.

Figure 7. Ruffed grouse population growth index reported on hunter surveys from 2005 - 2016.



2016 Fall Firearms Turkey Season

The fall firearms season was open statewide in 2016 for the 21st year in Connecticut. Hunters who purchased a state land fall firearms turkey permit, pheasant tags, or Resident Game Bird Conservation Stamp were able to hunt on any state-land open to turkey hunting. Hunter densities on private lands are controlled by the landowners through mandatory consent forms. Fall firearms turkey hunters may purchase both a private and state land permit, which allows for the potential season bag limit of 3 birds. During the 2016 fall firearms season, 60 birds were harvested during the 26-day period (October 1-30). Hunters harvested 54 birds on private land and 6 birds on state land. The harvest included 12 adult males, 19 adult females, 18 juvenile males, and 11 juvenile females. The harvest consisted of 52% adults, 48%

juveniles, 50% males, and 50% females. Overall from 2015 to 2016, the fall firearms harvest increased by 18%.

Fall firearms hunters reported taking at least 1 bird from 28 of 169 Connecticut towns. The 4 towns reporting the highest harvest were Woodstock (8), Stafford (7), Cornwall (4), and Middlefield (4) (Table 5). In addition, Turkey Management Zones 5 (20 birds) and 4 (11 birds) reported the highest zonal harvest (Table 6).

Town of Harvest			Town of Harvest	Number	r of Birds
	2015	2016		2015	2016
Barkhamsted	1	0	Middlefield	2	4
Bloomfield	1	1	Middletown	1	1
Bolton	1	0	New Fairfield	2	1
Canton	1	0	Oxford	2	0
Chaplin	0	2	Plainfield	0	1
Colchester	0	2	Pomfret	0	2
Cornwall	1	4	Preston	1	0
Cromwell	1	0	Ridgefield	1	0
Durham	2	0	Rocky Hill	1	1
East Granby	0	1	Scotland	0	1
Eastford	4	3	South Windsor	0	1
Farmington	1	3	Stafford	4	7
Franklin	1	0	Sterling	2	1
Glastonbury	1	0	Suffield	1	1
Griswold	4	0	Thompson	0	1
Guilford	0	2	Torrington	1	0
Haddam	0	1	Union	1	3
Harwinton	1	0	Voluntown	3	0
Killingly	0	1	Warren	1	0
Lebanon	0	2	Watertown	1	0
Litchfield	0	3	Willington	1	1
Lyme	0	1	Woodstock	6	8
			Total	51	60

Table 5. Wild turkey harvest by town during the 2015 and 2016 fall firearms seasons.

	Harves	t by Year		Harvest by Year		
Zone	2015	2016	Zone	2015	2016	
1	2	7	7	2	0	
2	4	0	8	5	6	
3	6	8	9	0	4	
4*	7	11	10	9	0	
5	12	20	11	3	1	
6	1	0	12	0	3	
			Total	51	60	

Table 6. Wild turkeys harvested during the 2015 and 2016 firearms seasons by TurkeyManagement Zone.

*Data for Zone 4 was not split into Zone 4A and 4B.

2016 Fall Archery Turkey Season

Connecticut's 34th fall archery turkey season was open statewide and ran concurrently with the 2016 archery deer season. The purchase of a fall archery turkey permit, Resident Game Bird Conservation Stamp, or pheasant tags allowed archers to participate in the 2016 season. These hunters could harvest turkeys on any state land open to fall archery turkey hunting or any private land where written landowner consent was obtained. Archers reported a harvest of 91 birds from 55 towns during the fall 2016 season. The towns reporting the highest harvests were Lyme (5) and Newtown (4) (Table 7). Turkey Management Zones 11 (20 birds) and 12 (21 birds) reported the highest zonal harvest (Table 8). The highest zone and town harvest may be attributed to longer season length which occurred in these areas. Because the fall archery wild turkey season runs concurrently with the archery deer season, Zones 11 and 12 have the additional month of January to harvest wild turkeys; all other zones close at the end of December. Sixtysix of 91 birds harvested by archers were males (40 adults, 26 juveniles) and 25 were females (16 adults, 9 juveniles). From 2015 to 2016, the fall archery turkey harvest increased by 34%.

Town of Harvest	Number	of Birds	Town of Harvest	Number of Birds	
	2015	2016		2015	2016
Andover	0	1	Naugatuck	0	1
Avon	1	0	New Canaan	2	0
Beacon Falls	1	1	New Fairfield	0	1
Bethany	3	1	New Milford	2	0
Branford	0	1	Newtown	3	4
Bristol	0	1	North Haven	0	1
Brookfield	0	1	North Stonington	0	1
Burlington	1	1	Old Saybrook	0	1
Canterbury	1	0	Orange	1	1
Cheshire	1	3	Oxford	0	1
Clinton	0	1	Plymouth	1	0
Cornwall	1	3	Portland	2	1
Coventry	1	2	Redding	1	1
Danbury	1	1	Ridgefield	2	3
Durham	1	1	Rocky Hill	1	0
East Haddam	0	1	Salem	2	2
East Hampton	1	0	Salisbury	1	2
East Lyme	0	2	Seymour	1	0
Eastford	1	2	Shelton	1	3
Easton	2	3	Simsbury	0	1
Fairfield	1	0	Somers	0	1
Farmington	1	0	South Windsor	2	0
Greenwich	1	0	Southbury	1	1
Groton	0	1	Southington	0	3
Guilford	2	0	Stafford	1	0
Haddam	0	1	Sterling	1	0
Hartland	0	2	Stonington	1	5
Harwinton	0	1	Stratford	0	2
Hebron	2	1	Thompson	1	0
Killingly	1	2	Tolland	0	2
Lebanon	1	2	Torrington	2	0
Litchfield	1	0	Union 0		2
Lyme	0	5	Voluntown 0		1
Madison	1	0	Warren 1		0
Mansfield	1	0	Waterford	3	2
Marlborough	0	1	Westbrook	1	1
Meriden	1	0	Winchester	2	0

 Table 7. Wild turkeys harvested by town during the 2015 and 2016 archery seasons.

Middletown	1	2	Windham	1	0
Monroe	0	1	Woodstock	0	1
Montville	1	1	Total	68	91

Table 8. Wild turkeys harvested during the 2015 and 2016 archery seasons by TurkeyManagement Zone.

	Harves	t by Year		Harvest	by Year
Zone	2015	2016	Zone	2015	2016
1	4	5	7	8	12
2	5	4	8	2	4
3	7	2	9	7	7
4*	3	8	10	0	2
5	6	5	11	14	20
6	3	1	12	9	21
			Total	68	91

*Data for Zone 4 was not split into Zone 4A and 4B.

Brood Survey Information

Since 2007, brood surveys have been conducted annually from June 1 through August 31 to assess annual fluctuations in statewide wild turkey populations. Volunteers and Departmental staff are requested to report turkey sightings, categorized by total hens, total poults, and total number of hens with poults. These observations are analyzed to obtain an annual productivity index and evaluate fall recruitment. The productivity index or ratio of young per adult hen is derived by dividing the total number of poults by the total number of hens. Lobdell et al. (1972) suggest that an index of 3 poults per hen indicates a stable population; a higher number of poults per hen denotes an increasing turkey population; and a lower number demonstrates a decreasing population. By evaluating recruitment over time, biologists can quantify changes and trends in Connecticut's statewide wild turkey populations.

The 2016 brood index was 2.8 young per adult for all hens observed and 4.0 young per adult for hens observed with at least one poult (Table 9). Fifty-seven cooperators reported 204 wild turkey observations, including 401 hens; 278 with broods and 123 without broods. The brood index was found to be variable throughout the summer months (Table 10). During 2015, the brood index was 2.9 young per adult for all hens observed and 4.1 young per adult for hens observed with at least one poult. Participants reported 266 observations, which included 530 hens and 1,560 poults. The brood survey information indicates that wild turkeys had fair productivity in Connecticut during 2016. The 2016 spring weather was warm and very dry throughout Connecticut, creating excellent conditions during both the nesting (May 1 – May 31) and brooding (June 1 – June 30) periods. For the past six years, the brood survey information indicates a stable to slightly declining turkey population.

Year	Total	Total	Total Hens	Hens without	Young	Young per Hen	No. of
	Hens	Young	and Young	Young	per Hen	with Young	Reports
2007	731	1,900	2,631	270	2.6	4.1	405
2008	448	988	1,436	330	2.2	4.3	224
2009	611	1,049	1,660	177	1.7	2.4	323
2010	472	1,686	2,158	105	3.6	4.6	278
2011	685	1,919	2,604	118	2.8	3.4	375
2012	435	1,089	1,524	293	2.5	3.7	244
2013	337	843	1,180	115	2.5	3.7	200
2014	579	1,561	2,140	194	2.7	4.1	313
2015	530	1,560	2,091	152	2.9	4.1	266
2016	401	1,120	1,521	123	2.8	4.0	202
Tot./Ave.	5,229	13,715	18,945	1,877	2.63	3.84	2,830

Table 9. Wild turkey brood survey data for Connecticut, 2007 – 2016.

Table 10. Wild turkey brood survey data by month for Connecticut, 2016.

Month	Total Adults	Total Young	Young per Adult	Number of Reports
June	118	304	2.6	65
July	161	523	3.2	85
August	122	293	2.4	52
Total	401	1,120	2.7 (Avg.)	202

Outlook

Connecticut's wild turkeys have proven to be highly adaptable, using and flourishing in habitats that were once thought unsuitable for this species. From 1975 through the 1990s, Connecticut's wild turkey population grew rapidly, resulting from trap and transport efforts and the species' ability to take full advantage of an unoccupied niche throughout our state's landscape. Once turkeys were established, the statewide population appeared to level off and then entered into a period of slight decline. Possible factors that have led to the decline in turkeys may be impacts of wet and cold spring weather, increases in avian and mammalian predators, and habitat changes. Between 2003 and 2010, long-term data sets, such as the annual spring turkey harvest, spring turkey hunter population perception, and population growth index (First day spring harvest/Total Permit issuance), indicated an overall downward trend in Connecticut's turkey population. After 2010, the population has been fairly stable, albeit at a lower level.

Despite population fluctuations, the wild turkey remains abundant throughout the entire state. To be able to take advantage of all new hunting opportunities, be sure to annually review the current Connecticut Hunting and Trapping Guide before going afield. Through continued cooperation between the Department of Energy and Environmental Protection, turkey hunters, conservation organizations, and private landowners, the future of the wild turkey in Connecticut looks positive.

Literature Cited

Lobdell, C.H., K. E. Case and H. S. Mosby. 1972. Evaluation of harvest strategies for a simulated wild turkey population. Journal of Wildlife Management. 36:493-497.

Appendices

Town	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Andover	3	4	4	10	14	7	10	7	7	4
Ansonia	1	0	0	3	3	1	1	0	1	0
Ashford	19	10	25	16	25	28	21	13	20	31
Avon	7	11	6	9	3	1	3	3	3	3
Barkhamsted	6	6	11	8	12	5	8	6	12	4
Beacon Falls	7	7	7	8	5	9	5	9	9	6
Berlin	2	9	9	5	10	9	4	10	7	6
Bethany	5	6	7	9	5	5	4	4	5	1
Bethel	10	5	3	2	5	1	3	3	0	5
Bethlehem	3	7	2	8	4	6	3	1	7	4
Bloomfield	3	3	4	6	1	5	5	3	1	3
Bolton	7	6	9	1	3	4	8	3	2	4
Bozrah	17	11	5	6	12	11	3	2	4	5
Branford	1	1	0	1	5	1	2	2	0	2
Bridgewater	4	8	6	4	5	4	4	4	6	8
Bristol	5	0	0	0	2	0	1	2	1	3
Brookfield	5	6	7	3	5	3	2	1	2	0
Brooklyn	12	13	15	16	8	10	10	2	3	12
Burlington	27	12	11	12	8	11	8	5	7	6
Canaan	16	28	16	18	14	20	11	14	8	11
Canterbury	9	7	18	10	18	12	13	7	9	5
Canton	6	4	4	6	9	8	8	7	7	14
Chaplin	7	7	8	12	25	8	10	9	8	8
Cheshire	10	10	9	9	4	10	6	4	4	1
Chester	6	10	6	5	4	4	5	5	4	3
Clinton	0	0	3	4	0	0	0	1	0	2
Colchester	18	14	21	16	12	11	15	9	13	26
Colebrook	21	14	11	8	8	15	10	12	9	4
Columbia	14	6	9	2	8	4	7	3	3	4
Cornwall	37	37	31	20	28	19	15	24	10	16
Coventry	10	14	15	16	21	24	19	18	20	18

Appendix A. Connecticut's spring turkey harvest by town, 2007 – 2016.

Town	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Cromwell	3	3	10	0	4	2	3	5	5	5
Danbury	5	1	6	3	4	1	2	3	3	2
Darien	0	0	0	1	1	0	0	2	0	0
Deep River	1	3	2	8	3	0	4	7	0	2
Derby	0	3	0	1	0	0	0	0	0	0
Durham	5	9	9	4	12	11	12	10	9	14
East Granby	6	2	2	4	6	8	5	3	2	8
East Haddam	24	14	27	25	17	15	26	15	22	16
East Hampton	8	6	12	9	5	7	5	9	4	7
East Hartford	1	0	1	0	1	0	0	1	1	1
East Haven	0	3	2	3	0	3	0	1	0	1
East Lyme	23	18	16	13	10	14	8	12	15	13
East Windsor	22	10	13	13	11	15	11	10	20	11
Eastford	13	15	14	13	11	5	10	11	13	22
Easton	13	18	8	2	8	6	3	0	3	3
Ellington	17	17	14	16	9	5	15	10	15	9
Enfield	6	9	16	7	6	9	5	4	5	6
Essex	7	7	4	4	6	3	3	6	2	4
Fairfield	4	8	4	0	3	0	0	2	1	4
Farmington	7	3	5	4	3	4	0	0	0	0
Franklin	17	18	10	13	15	11	10	14	10	16
Glastonbury	14	7	11	7	8	7	13	18	12	13
Goshen	18	17	20	10	12	18	9	13	14	13
Granby	7	12	7	15	8	21	5	13	13	15
Greenwich	0	4	2	2	2	0	0	0	1	0
Griswold	5	4	6	5	11	16	12	20	14	19
Groton	2	2	3	2	1	6	4	1	5	4
Guilford	20	15	11	17	13	13	6	7	8	10
Haddam	29	19	14	16	19	20	17	10	23	31
Hamden	7	9	7	8	7	7	7	5	5	4
Hampton	22	21	9	17	19	8	12	10	8	8
Hartford	0	0	0	0	0	1	0	0	0	0
Hartland	18	10	7	15	11	16	18	9	10	13
Harwinton	12	14	10	14	9	11	16	12	16	25
Hebron	15	16	15	12	14	4	8	12	5	8
Kent	18	9	23	18	15	15	15	9	14	12
Killingly	13	13	9	2	4	14	9	2	5	9
Killingworth	10	17	7	7	12	5	4	4	13	13
Lebanon	33	37	39	30	44	36	30	27	31	24
Ledyard	29	18	9	8	11	5	8	6	7	12

Town	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Lisbon	10	11	4	3	5	5	5	2	2	4
Litchfield	27	29	14	23	24	19	22	13	14	12
Lyme	19	28	24	16	23	13	18	19	11	20
Madison	3	0	6	1	3	1	0	0	3	0
Manchester	2	3	2	0	2	5	3	1	1	0
Mansfield	12	13	14	6	16	13	11	11	18	15
Marlborough	4	2	7	3	10	3	3	11	6	7
Meriden	0	3	6	3	1	2	0	2	0	3
Middlebury	1	2	2	2	2	1	3	3	1	3
Middlefield	8	8	12	10	7	13	10	6	12	12
Middletown	30	20	18	18	15	12	11	13	21	18
Milford	2	0	0	2	0	3	1	5	3	3
Monroe	0	2	5	1	3	2	4	0	2	5
Montville	20	20	8	8	9	15	10	8	12	9
Morris	18	12	15	3	4	6	6	8	7	3
Naugatuck	7	8	6	11	7	6	7	3	5	6
New Canaan	2	2	1	3	0	0	0	0	1	1
New Fairfield	8	7	1	6	7	6	2	4	3	5
New Hartford	18	14	22	14	11	16	22	20	14	15
New Haven	1	0	0	0	0	0	0	0	0	0
New London	0	1	0	1	0	0	0	0	0	0
New Milford	25	27	13	16	20	16	16	8	24	18
Newtown	21	22	14	12	22	13	16	10	9	17
Norfolk	13	15	13	9	14	14	11	19	12	13
North Branford	4	7	5	5	5	4	3	8	6	5
North Canaan	2	4	8	1	2	5	7	4	4	3
North Haven	2	4	11	3	12	8	5	4	5	5
N. Stonington	14	26	23	13	13	16	12	16	15	18
Norwalk	0	0	1	0	1	0	0	0	0	0
Norwich	3	5	7	8	0	5	0	0	5	3
Old Lyme	6	12	15	7	9	6	7	6	7	9
Old Saybrook	2	0	0	2	1	1	0	2	2	1
Orange	1	5	1	4	1	3	4	5	12	7
Oxford	9	8	10	17	14	17	10	5	7	10
Plainfield	14	25	15	9	12	9	18	14	12	20
Plainville	2	0	2	1	2	4	1	3	1	1
Plymouth	14	7	13	8	12	7	9	7	8	5
Pomfret	23	24	31	35	30	15	21	15	18	20
Portland	10	7	16	4	9	8	5	9	4	11
Preston	17	17	15	5	11	10	9	6	16	9

Town	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Prospect	5	1	5	1	4	3	2	3	2	4
Putnam	4	4	6	3	7	11	9	6	5	6
Redding	15	23	16	21	28	17	23	12	12	5
Ridgefield	3	2	2	3	2	1	2	2	2	6
Rocky Hill	3	3	6	7	4	9	7	2	1	3
Roxbury	6	3	4	4	4	10	6	4	10	3
Salem	8	6	7	14	13	15	12	7	8	7
Salisbury	25	20	19	16	8	18	22	11	11	14
Scotland	24	29	19	13	17	24	19	17	18	14
Seymour	2	2	1	1	0	3	8	4	4	6
Sharon	38	31	23	28	22	25	17	13	19	18
Shelton	5	6	8	4	3	3	0	2	0	5
Sherman	11	6	4	6	5	5	5	3	3	3
Simsbury	3	3	2	0	0	4	2	6	1	1
Somers	2	9	8	8	18	10	12	8	8	13
South Windsor	15	7	10	4	3	5	8	7	9	6
Southbury	12	13	13	11	9	9	5	11	10	10
Southington	0	9	7	3	8	3	4	3	3	6
Sprague	8	6	8	1	9	6	6	1	3	7
Stafford	8	15	17	8	18	20	20	21	16	33
Stamford	4	3	0	1	4	1	5	6	5	4
Sterling	12	14	19	7	10	15	8	9	15	10
Stonington	15	10	11	6	5	11	11	12	19	12
Stratford	4	2	3	0	1	2	0	0	2	0
Suffield	13	10	17	12	22	32	17	28	9	25
Thomaston	2	1	3	4	5	4	5	2	1	3
Thompson	11	22	16	15	12	17	25	12	15	22
Tolland	9	13	10	3	7	9	6	3	5	4
Torrington	10	17	11	13	12	15	15	13	7	16
Trumbull	0	1	0	0	0	0	0	0	3	0
Union	8	8	11	7	21	12	7	14	9	12
Vernon	1	1	0	0	0	0	2	1	2	4
Voluntown	18	7	10	5	11	14	10	9	14	19
Wallingford	8	4	9	6	9	8	6	8	8	5
Warren	20	17	18	12	16	14	10	7	7	8
Washington	15	18	19	11	10	7	10	9	18	13
Waterbury	0	1	0	0	0	0	0	0	1	0
Waterford	13	11	10	13	8	9	6	8	15	10
Watertown	13	9	5	10	4	14	2	2	4	2
West Hartford	0	0	0	0	0	0	0	0	1	0

Town	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
West Haven	0	1	0	1	0	0	0	0	0	0
Westbrook	1	1	1	1	2	2	2	3	1	0
Weston	0	0	1	1	0	0	0	1	0	1
Westport	1	2	2	0	0	0	0	0	0	1
Wethersfield	0	1	0	0	0	0	0	0	0	0
Willington	14	14	12	13	21	16	18	12	20	10
Wilton	6	1	4	2	2	0	0	1	0	2
Winchester	9	15	13	8	7	15	7	9	7	8
Windham	6	5	4	6	15	10	13	10	12	5
Windsor	4	5	2	0	4	1	1	0	1	2
Windsor Locks	0	0	0	0	0	0	0	0	0	1
Wolcott	4	4	2	2	3	3	3	4	4	0
Woodbridge	3	0	3	0	0	1	0	0	4	0
Woodbury	5	17	8	4	7	1	6	7	7	5
Woodstock	49	38	47	32	44	30	33	19	42	49
Total	1,601	1,558	1,502	1,245	1,424	1,364	1,248	1,118	1,232	1,335

	No. Birds Harvested		Sq. Miles	Harv./mi ²	
State Land	2015	2016		2015	2016
Aldo Leopold WMA	3	3	0.87	3.4	3.4
Algonquin SF	4	3	1.04	3.8	2.9
Assekonk Swamp WMA	0	1	1.07	0.0	0.9
Babcock Pond WMA	2	2	2.34	0.9	0.9
Barn Island WMA	2	1	1.58	1.3	0.6
Bartlett Brook WMA	1	1	1.10	0.9	0.9
Bear Hill WMA	0	2	0.56	0.0	3.6
Bishops Swamp WMA	1	2	1.18	0.8	1.7
Bloomfield FCA	1	1	0.51	2.0	2.0
Camp Columbia SF	3	0	0.94	3.2	0.0
Cedar Swamp WMA	0	1	0.43	0.0	2.3
Cent. Water. SF (Canaan Blk)	0	1	0.23	0.0	4.3
Cockaponset SF	15	23	26.85	0.6	0.9
Colebrook Reservoir-MDC	0	4	6.50	0.0	0.6
Cromwell Meadows WMA	1	1	0.79	1.3	1.3
Eightmile River WMA	2	4	0.48	4.2	8.3
Enders SF	3	4	0.55	5.5	7.3
Franklin Swamp WMA	2	4	1.07	1.9	3.7
Goshen WMA	6	4	1.51	4.0	2.6
Great Swamp FCA	0	2	0.53	0.0	3.8
Hancock Brook Lake	2	1	1.10	1.8	0.9
Housatonic River WMA	5	4	0.87	5.7	4.6
Housatonic SF	4	1	17.63	0.2	0.1
John Minetto SP	0	1	1.12	0.0	0.9
Kollar WMA	1	1	1.40	0.7	0.7
Lebanon Coop.	1	0	0.33	3.0	0.0
Larson Lot WMA	0	1	0.38	0.0	2.6
Mansfield Hollow Lake	5	7	3.14	1.6	2.2
Mansfield State-Leased Field Trail	1	1	0.47	2.1	2.1
Area					
Maromas Coop WMA	3	4	2.19	1.4	1.8
Mattuck SF	4	2	7.30	0.5	0.3
Meadow Brook WMA	1	1	0.42	2.4	2.4
Meshomasic SF	12	15	14.22	0.8	1.1
Messerschmidt WMA	0	1	0.72	0.0	1.4
Millers Pond	1	0	0.41	2.4	0.0
Mohawk SF Ziegler/Johnson Tract	0	1	0.51	0.0	2.0

Appendix B. Spring turkey harvest from state-owned and managed lands, 2015 and 2016.

	No. Birds Harvested		Sq. Miles	Harv./mi ²	
State Land	2015	2016		2015	2016
Mount Riga SP	1	0	0.49	2.0	0.0
Natchaug SF	15	23	7.93	1.9	2.9
Nathan Hale SF	1	2	2.27	0.4	0.9
Nassahegon SF	1	0	1.92	0.5	0.0
Naugatuck SF	13	12	21.15	0.6	0.6
Naugatuck SF (Great Hill Blk)	1	2	0.37	2.7	5.4
Nehantic SF	8	2	7.91	1.0	0.3
Newgate WMA	1	0	0.70	1.4	0.0
Nepaug SF	0	2	2.10	0.0	1.0
Nipmuck SF	6	3	14.40	0.4	0.2
Nott Island	0	1	0.13	0.0	7.7
Nye Holman SF	1	0	1.22	0.8	0.0
Pachaug SF	25	29	40.84	0.6	0.7
Paugussett SF	4	3	3.04	1.3	1.0
Peoples SF	4	5	4.60	0.9	1.1
Pootatuck SF	4	4	1.72	0.6	2.3
Quaddick SF	1	1	0.90	1.1	1.1
Quinnipac River SP	4	2	0.53	7.5	3.8
Robbins Swamp WMA	0	4	2.45	0.0	1.6
Roraback WMA	6	9	3.10	1.9	1.9
Rose Hill WMA	5	1	1.08	4.6	0.9
Salmon River Cove and Haddam Neck	0	1	0.19	0.0	5.2
Salmon River SF	6	6	10.90	0.6	0.6
Scantic River SP	0	1	0.92	0.0	1.1
Shenipsit SF	4	10	11.85	0.3	0.8
Silvio O. Conte NWR	1	2	0.45	2.2	4.4
Simsbury WMA	1	1	0.57	1.8	1.8
Spignesi WMA	6	0	0.82	7.3	0.0
Sugar Brook Field Trail Area	0	2	0.31	0.0	6.5
Talbot WMA	1	1	0.79	1.3	1.3
Tankerhoosen WMA	2	4	0.78	26.0	5.1
Trout Brook Valley SP	0	1	0.47	0.0	2.1
Tunxis SF	9	9	15.88	0.6	0.6
Wangunk Meadows	0	1	1.00	0.0	1.0
West Thompson Dam	2	4	1.71	1.2	2.3
Wyantenock SF	2	2	6.38	0.3	0.3
Yale Forest	2	8	12.03	0.2	0.7
Zemko Pond WMA	1	1	0.71	1.4	1.4

Town	2008	2009	2010	2011	2012	2013	2014	2015	2016
Andover	0	0	0	0	0	0	1	0	0
Ansonia	0	0	0	0	0	0	0	1	0
Ashford	1	6	2	1	0	2	2	0	3
Barkhamsted	7	5	1	2	1	1	0	1	1
Beacon Falls	0	1	0	0	0	0	0	0	0
Berlin	0	0	0	0	1	0	0	0	0
Bethlehem	0	0	0	0	1	0	0	0	0
Bloomfield	0	0	0	0	0	1	1	0	0
Bristol	0	0	0	0	0	0	1	0	0
Burlington	0	1	0	0	0	0	0	1	0
Canaan	7	7	0	0	4	4	2	3	3
Canterbury	0	0	0	0	0	0	0	0	1
Canton	0	0	0	1	0	0	0	1	0
Chaplin	4	2	0	1	0	1	0	0	0
Cheshire	0	1	0	0	0	0	0	0	1
Chester	1	1	0	0	0	0	0	0	0
Clinton	0	0	0	0	0	0	0	0	1
Colchester	1	0	0	0	1	0	0	2	0
Colebrook	3	1	3	1	2	3	2	3	1
Columbia	0	1	0	0	1	1	0	0	0
Cornwall	7	1	3	1	3	4	3	4	2
Coventry	0	0	0	0	0	0	1	0	1
Danbury	0	0	0	0	0	0	0	0	1
Durham	0	2	0	0	0	0	0	1	0
East Granby	2	2	2	2	1	2	0	0	1
East Haddam	0	0	1	0	0	0	1	1	0
East Hampton	0	0	0	0	0	0	1	0	0
East Haven	0	0	0	0	0	0	0	0	1
East Lyme	0	1	1	0	0	0	0	0	0
Eastford	4	0	1	0	2	1	0	1	0
Easton	1	0	0	0	0	0	0	0	0
Ellington	2	0	2	0	0	0	0	0	0
Enfield	1	1	0	0	0	0	1	0	0
Glastonbury	0	1	0	0	2	1	0	0	1
Goshen	6	9	4	2	3	3	6	5	5
Granby	1	2	1	0	1	0	0	0	2
Greenwich	0	1	1	0	1	0	0	0	0
Guilford	2	0	0	0	0	0	1	0	0
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Appendix C. Ruffed grouse observations (seen or heard) from turkey hunter surveys, 2008 – 2016.

Town	2008	2009	2010	2011	2012	2013	2014	2015	2016
Haddam	5	2	0	1	0	0	0	0	1
Hamden	0	0	0	0	0	0	1	0	0
Hampton	1	0	0	0	0	0	0	0	1
Hartland	5	7	4	4	1	4	2	6	1
Harwinton	4	1	0	0	3	0	3	0	2
Hebron	2	2	0	0	0	0	1	0	0
Kent	1	4	3	0	1	2	0	2	0
Killingly	1	0	0	0	0	0	0	1	0
Killingworth	0	1	0	0	0	0	0	1	0
Lebanon	1	0	1	0	3	2	0	1	0
Ledyard	0	1	0	1	0	1	0	1	0
Litchfield	5	2	1	0	2	1	1	2	2
Lyme	1	1	1	0	1	1	0	2	0
Madison	0	0	0	0	0	0	0	1	0
Mansfield	0	0	0	0	0	0	1	1	3
Meriden	1	0	0	0	0	0	0	0	0
Middlefield	0	3	0	0	0	0	0	1	0
Middletown	4	0	0	0	0	0	0	0	0
Monroe	0	1	0	0	0	0	0	1	0
Morris	1	2	0	0	0	3	1	0	0
Naugatuck	1	1	2	0	1	1	1	0	0
New Fairfield	7	1	0	0	1	0	1	1	0
New Hartford	0	6	0	1	1	1	0	1	0
New Milford	1	1	0	0	0	0	0	2	0
Newtown	2	1	0	0	0	1	0	0	0
Norfolk	2	6	1	3	3	3	1	2	2
North Branford	0	0	0	0	0	0	0	0	1
North Canaan	1	0	0	0	0	0	1	0	0
North Haven	0	0	0	0	0	1	0	1	1
N Stonington	1	0	0	1	2	1	0	0	0
Old Lyme	0	0	0	0	1	0	0	0	0
Oxford	1	0	0	0	1	0	0	0	0
Plainfield	0	0	0	1	0	0	0	0	0
Plymouth	1	0	2	0	0	2	1	0	0
Pomfret	0	2	0	0	2	0	0	1	0
Portland	3	0	1	0	0	2	0	0	0
Preston	0	0	0	0	0	0	0	0	1
Putnam	0	1	0	0	0	0	0	0	0

Town	2008	2009	2010	2011	2012	2013	2014	2015	2016
Redding	0	0	0	0	0	1	0	0	0
Ridgefield	1	0	0	0	0	0	0	0	0
Rocky Hill	1	0	0	0	0	0	0	0	0
Salisbury	6	3	3	1	1	3	0	1	1
Salem	0	1	0	0	0	1	0	1	0
Scotland	1	0	0	0	0	0	0	0	1
Seymour	0	0	0	0	1	0	0	0	0
Sharon	10	6	6	2	4	6	4	5	3
Sherman	0	1	0	0	0	1	0	0	0
Simsbury	0	1	0	0	0	0	0	0	0
Somers	3	1	0	0	0	1	0	0	0
Southbury	1	1	1	0	1	0	1	0	0
Stafford	2	1	3	2	1	3	3	1	1
Stamford	0	0	0	0	0	0	0	0	1
Sterling	1	0	0	0	0	1	0	0	0
Suffield	1	0	0	0	1	1	0	0	1
Thompson	3	1	1	0	0	0	0	0	0
Tolland	0	2	3	0	0	1	1	1	0
Torrington	3	7	3	2	0	1	0	2	1
Union	3	1	0	0	2	0	0	1	1
Voluntown	1	2	1	0	0	1	0	1	0
Warren	2	2	1	1	1	5	4	4	3
Washington	0	2	1	1	0	1	0	0	0
Waterford	0	0	1	0	0	0	0	0	0
Watertown	0	1	0	0	0	0	0	0	6
Westbrook	0	0	0	0	0	0	1	0	1
West Hartford	1	0	0	0	0	0	0	0	0
Weston	0	0	0	0	0	0	1	0	0
Westport	0	0	0	0	0	0	0	1	0
Willington	1	1	2	0	1	0	1	0	0
Wilton	0	0	0	0	0	2	2	0	0
Winchester	4	3	2	0	0	1	1	1	1
Windham	0	0	0	0	0	1	0	0	0
Windsor	0	1	0	0	0	0	0	0	0
Woodbridge	0	0	0	0	1	0	0	0	0
Woodbury	0	1	1	0	0	0	1	1	0
Woodstock	6	6	1	1	0	0	0	2	0
Total	147	138	68	31	66	<u> </u>	57	<u>74</u>	56