

Spring Turkey Harvest Survey Report 2022



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Abstract

Following the 2022 spring turkey hunting season, a stratified random sample of statewide big game hunting license holders (both resident and non-resident) was contacted by a combination of email and mail surveys to estimate the turkey hunting participation, hunting effort, and harvest in Tennessee. Of 17,000 total license-holders contacted, 4,586 responses were received. During the spring 2022 turkey hunting season, an estimated 95,905 hunters (72,307 adults and 23,598 youth) statewide participated in turkey hunting and spent 724,726 days afield. Adult and youth hunters statewide harvested an estimated 48,359 turkeys (41,492 adult gobblers, 6,676 jakes, and 191 bearded hens). An estimated 2,939 birds were shot but not killed or recovered during the 2022 spring turkey hunting season. Overall, 52% of the statewide respondents were somewhat or very satisfied with their turkey hunting experience in the 2022 spring turkey hunting season. Sixty-four percent of the respondents perceived the turkey population in areas they hunt to have decreased over the years. The most frequently mentioned reasons behind a perceived decline in turkey populations included nesting success and poult survival, predation on adults, hunting pressure, and habitat condition.

Table of Contents

Abstract	1
List of Tables	3
List of Figures	4
Introduction	5
Methods	5
Results	8
Respondent characteristics	8
Statewide estimation of hunters, hunting days and harvest	8
Estimates of hunting effort and harvest by land type	10
Regional estimates of hunting effort and harvest	13
Turkeys shot but not killed or recovered by hunters	16
Satisfaction with turkey hunting experience	16
Perceived change in turkey populations	18
References	20
Appendix A: Survey questionnaire	21

List of Tables

Table 1: Estimated number of hunters, average hunting hours, and total days spent hunting during the 2022 spring turkey hunting season in Tennessee	9
Table 2: Estimated number of turkeys harvested by adult and youth hunters during the 2022 spring turkey hunting season in Tennessee	10
Table 3: Estimated number of hunters, days afield and turkeys harvested by land type during the 2022 spring turkey hunting season in Tennessee	12
Table 4: Estimated average number of days afield and hunting hours per day for adult and youth hunters during the 2022 spring turkey hunting season in Tennessee.....	12
Table 5: Estimated harvest rates for adult and youth hunters by land types during the 2022 spring turkey hunting season in Tennessee.....	13
Table 6: Estimated number of adult hunters, average days afield by land types, and birds harvested by TWRA administrative region during the 2022 spring turkey hunting season in Tennessee	14
Table 7: Estimated number of youth hunters, average days afield by land types, and birds harvested by TWRA administrative region during the 2022 spring turkey hunting season in Tennessee	15
Table 8: Estimated average number of hunting hours per day by TWRA administrative region for adult and youth hunters during the 2022 spring turkey hunting season in Tennessee.....	15
Table 9: Estimated harvest rates for adult and youth hunters by TWRA administrative region during the 2022 spring turkey hunting season in Tennessee	16

List of Figures

Figure 1: Map of TWRA administrative regions (Source: Tennessee Wildlife Resources Agency)	5
Figure 2: Survey respondents' reported satisfaction with the 2022 spring turkey hunting experience by type of land hunted (From top: n1 = 292, n2 = 273, n3 = 1,641, n4 = 2,227)	17
Figure 3: Survey respondents' reported satisfaction with the 2022 spring turkey hunting experience by TWRA region (From top: n1 = 422, n2 = 441, n3 = 860, n4 = 571, n5 = 2,227)	17
Figure 4: Survey respondents' perception of how turkey populations in the areas they hunt have changed over the years (From top: n1 = 395, n2 = 374, n3 = 752, n4 = 507, n5 = 1,920).....	18
Figure 5: Percentage of survey respondents who perceived a decline in turkey populations indicating the reasons behind perceived declines in turkey populations in the areas they hunt (n = 1,221)	19
Figure 6: Percentage of survey respondents who perceived an increase in turkey populations indicating the reasons behind perceived increases in turkey populations in the areas they hunt (n = 269).....	19

Introduction

The Tennessee Wildlife Resources Agency (TWRA) is a state agency in Tennessee responsible for the management of game species including turkey, deer, etc. For better monitoring of the turkey population and harvest trends over time, the agency benefits from understanding annual hunting participation, hunting effort, and harvest estimates for all game species including wild turkey. Estimating participation, effort, and harvest by types of land (e.g., private and public) and by TWRA administrative regions (R1, R2, R3, R4) as shown in Figure 1 allows for comparing effort and success and devising programs to enhance the hunting experience. In addition to participation and harvest, it is also important to continue monitoring hunters' satisfaction and perception of population trends. Estimating harvest often involves designing a systematic survey of randomly selected hunters to collect data on seasonal hunting participation and harvests.

In order to meet the above-mentioned needs, the primary objective of this turkey hunters survey was to estimate hunter numbers, hunting effort, and harvest at the statewide level as well as by TWRA administrative region. The other objective was to assess satisfaction and perception of the population in the areas hunted and perceived reasons for changes in population.

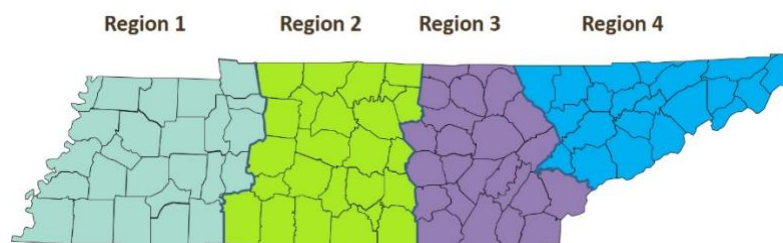


Figure 1: Map of TWRA administrative regions (Source: Tennessee Wildlife Resources Agency)

Methods

This study utilized a mixed-mode survey of resident and non-resident hunters in Tennessee for the 2022 spring turkey hunting season. The sampling frame used for this survey was the population of individuals aged 18 years and older who had a valid license to hunt turkeys, or who reported harvesting a turkey, in Tennessee during the 2022 spring turkey

hunting season. Because of the wide variety of license types that include turkey hunting privileges in Tennessee, a stratified random sampling approach was adopted to ensure representation of all license categories in the survey sample. Based on expected differences in response rate and a general similarity in license types, license holders and hunters who reported to have harvested a turkey during the 2022 spring season were assigned to one of six sampling strata (Annual, Disability, Lifetime, Non-resident, Permanent Senior, and Harvest). Youth hunting license types were not considered in the sampling because only hunters who were at least 18 years of age were surveyed. The first stratum (Annual) included licenses that are annually renewable (types: 04, 09, 10, 11, 164, 167). The second stratum (Disability) included licenses that are available to individuals with physical or intellectual disabilities (types: 169, 189, 198). The third stratum (Lifetime) included all lifetime licenses that did not require annual renewal (types: 401, 402, 403, 404, 405, 406). Those under 18 years of age in lifetime license categories were excluded from the study.

A separate question was asked of adult respondents in the sample to collect data on turkeys harvested by youth guided or mentored during the turkey hunting season. The fourth stratum (Non-resident) included non-junior, non-resident licenses (types: 73, 74). The fifth stratum (Permanent Senior) included the permanent senior citizen hunting license only available to those 65 years and older (type: 166). The final stratum (Harvest) included the individuals who reported to have harvested a turkey in Tennessee during the 2022 spring season.

A total of 17,000 contacts were selected for the mixed-mode survey that was administered in May-June of 2022. Following a modified Tailored Design Method for mail and internet surveys (Dillman et al. 2009), individuals who had an email address on file were first invited to complete the online survey at Qualtrics.com, a secure online survey program housed at the University of Tennessee's website. A two-page survey questionnaire (Appendix A) was developed in collaboration with TWRA staff and then approved by the University of Tennessee's Institutional Review Board for human subject research (Approval #: UTK IRB-20-05821-XM). Those who did not respond to the initial email survey invitation were sent three follow-up reminder emails during a period of two weeks. After the email survey concluded, non-

respondents, or those who did not have an email address on file, were contacted by mail. The initial mail survey packet included a personalized cover letter, survey questionnaire, and a business reply envelope. A week later, a final reminder packet including a copy of the survey questionnaire and a business reply envelope was mailed to encourage participation.

Thirty-seven out of 17,000 license holders contacted for the survey were undeliverable and another 15 were deceased. At the end of survey administration, 4,586 responses (2,187 from email and 2,399 from mail) were received. After adjusting for the undeliverable mails and deceased respondents, the adjusted response rate for the survey was 27%. Although less than ideal, this response rate is attributable to the nature of the sampling frame used. In Tennessee, many sportsmen license types include turkey hunting rights and, consequently, possessors of these licenses are considered potential hunters in the sampling design. However, many in the sample do not use the turkey hunting privilege included in their license, and therefore, may not respond to a turkey harvest survey request. Nevertheless, this response rate is higher than the range reported in several recent hunter surveys in the southeastern U.S. (Watkins et al. 2018; Mingie et al. 2019; Poudyal et al. 2020).

A statewide number of hunters, days afield, and harvest were calculated separately for adults and youths. In addition, estimates for these metrics were also calculated for the types of land hunted (private, public, both) and the TWRA administrative region (e.g., R1, R2, R3, R4). Any harvest reported without the location of the hunt was recorded in the “Unknown” category. Estimates of harvest were also calculated separately by type of turkey harvested (adult gobblers, jakes, bearded hens). Estimates for relevant variables of hunting effort and harvest metrics were calculated following a stratified random sampling design (Chochran 1977).

As in any survey research, the estimates are subject to sampling error. Where applicable, 95% confidence limits (CL) around the estimates were also reported. Theoretically, the 95% confidence interval can be estimated by adding and subtracting the CL from the estimate. It should be noted that many sources of errors that are beyond researchers’ control can influence results in survey studies. Those could include participants failing to provide complete or accurate answers, measurement error due to misinterpretation of questions by

respondents, etc. However, we do not expect those issues to have substantial effects on the results.

Results

Respondent characteristics

Of 4,586 survey recipients who responded, 91% were male and 95% were white. The average age of the respondents was 53 years. It should be noted that only adults (18 or older) were surveyed. These statistics are very similar to the key demographics of the original sampling frame sample of 17,000 (male: 90%, white: 94%, average age: 49 years). About 44% of the overall respondents indicated they hunted turkeys in Spring 2022 and 6% indicated they hunted as well as guided a youth. Another 2% indicated they did not hunt but guided a youth, whereas the remaining 48% indicated they did not hunt or guide a youth for turkey hunting in 2022. Those who said they did not hunt turkeys in 2022 were asked about the reason. About 29% indicated they are not a hunter, 17% indicated they do not hunt turkeys during the spring, 17% indicated they typically hunt turkeys but 2022 was an exception, 1% indicated they hunted in another state in 2022, and 10% indicated they stopped hunting to allow the populations to rebuild/restore. The remaining 26% indicated other reasons including health, time, work, and personal/family circumstances as the most frequently mentioned reasons.

Statewide estimation of hunters, hunting days and harvest

An estimated 72,307 ($\pm 3,685$) adult hunters participated in turkey hunting in Tennessee during the 2022 spring turkey hunting season (Table 1). Based on the number of adult respondents who indicated they guided or mentored youth during the spring season, 23,598 ($\pm 2,740$) mentored youth hunters (hereafter referred to as simply youth hunters) also participated in turkey hunting. Of note, it is possible there are likely additional youth hunters not accounted for because some under 18 years may hunt without adult supervision. Taken together, the total number of adult and youth turkey hunters in Tennessee in the 2022 spring turkey hunting season was estimated to be 95,905 ($\pm 6,425$). When the license-exempt stratum is excluded, estimated proportions that reported hunting turkeys in the 2022 spring season

were 54% in Annual, 13% in Disability, 40% in Lifetime, 94% in Non-resident, and 6% in Permanent Senior stratum.

In terms of hunting effort, the average days afield per hunter was 9.30 (± 0.47) for adult hunters and 3.97 (± 0.45) for youth hunters. During the entire 2022 spring turkey hunting season, adult and youth turkey hunters respectively spent 655,762 ($\pm 33,618$) and 68,964 ($\pm 10,070$) in total days afield. On average, adult and youth hunters spent 4.55 hours and 4.16 hours hunting, respectively, on the days they hunted.

Table 1: Estimated number of hunters, average hunting hours, and total days spent hunting during the 2022 spring turkey hunting season in Tennessee

	Adult		Youth		Adult and Youth Combined
	Estimate	95% CL	Estimate	95% CL	Estimates
Hunters	72,307	3,685	23,598	2,740	95,905
Total days	655,762	33,618	68,964	10,070	724,726
Average days/hunter	9.30	0.47	3.97	0.45	7.56
Average hours/day	4.55	0.12	4.16	0.16	4.36

With regard to harvest, adult hunters statewide harvested an estimated 36,658 ($\pm 3,408$) adult gobblers, 4,880 (± 878) jakes, and 143 (± 151) bearded hens in the 2022 spring turkey hunting season (Table 2). Similarly, harvest by youth hunters was estimated at 4,834 ($\pm 1,054$) adult gobblers, 1,796 (± 574) jakes, and 48 (± 92) bearded hens. Taken together, adult and youth hunters in Tennessee took 41,492 adult gobblers, 6,676 jakes, and 191 bearded hens during the 2022 spring turkey hunting season. Overall, based only on the sample of license holders, 53% of adult hunters and 35% of youth hunters harvested at least one turkey during the 2022 spring turkey hunting season. Among all successful adult hunters, 64% reported harvesting only one bird, 24% reported exactly two birds, and the remaining 13% reported three birds. The average number of days per bird was 8.36 (± 0.56) for successful adult hunters. Among the successful youth hunters, 72% reported harvesting only one bird, 19% reported exactly two birds, and the remaining 9% reported three or four. The average number of days per bird was 3.88 (± 0.54) for successful youth hunters.

To calculate a harvest rate, the number of birds harvested was divided by the total number of days spent hunting. This metric was computed at the individual respondent level and the mean value was estimated for the statewide sample. For the 2022 spring turkey hunting season, 0.10 birds were harvested per day by adult hunters statewide and 0.14 birds per day by youth hunters.

Table 2: Estimated number of turkeys harvested by adult and youth hunters during the 2022 spring turkey hunting season in Tennessee

	Adult		Youth		Adult and Youth Combined
	Estimate	95% CL	Estimate	95% CL	Estimates
Adult Gobblers	36,658	3,408	4,834	1,054	41,492
Jakes	4,880	878	1,796	574	6,676
Bearded Hens	143	151	48	92	191
Total	41,681		6,678		48,359
Harvest rate	0.10	0.01	0.14	0.02	0.12

Estimates of hunting effort and harvest by land type

Statewide estimates of hunters, days afield, and harvest by land type are presented in table 3. About 72% of adult and 73% of youth hunters exclusively hunted on private land. Only 9% of adults and 8% of the youth hunted exclusively on public land. Consequently, in terms of the land types where hunting took place, respondents reported hunting more days on private lands. A comparison of total hunting days by adult hunters between land types showed about two-thirds (68%) of total hunting days were by those hunting on private lands only, 7% for those hunting on public land only, and the remaining 25% of total days for those who hunted on both land types. In terms of harvest, those hunting on only private land accounted for an estimated 72% of total birds harvested, 6% of the total harvest was by those hunting on public land only, and 18% of the total harvest was by those who hunted on both land types. The remaining 2% of total birds harvested was represented by harvest on an unreported (i.e., unknown) land type. Jakes accounted for 12% of the total gobblers harvested by adult hunters who hunted private land only. This metric was 19% among adult hunters who hunted public land only and 9% for those who hunted both lands.

A comparison of total hunting days and total bird harvest by youth hunters between land types showed about 73% of total hunting days were estimated for those hunting on private lands only, 7% for those hunting on public land only, and the remaining 20% of total days for those who hunted on both land types. In terms of harvest, 87% of the total birds harvested were estimated to have been taken by those hunting on private land only, 3% by those hunting on public land only, and 9% by those who hunted on both land types. The remaining of total bird harvest was estimated for unreported (i.e., unknown) land types. Jakes accounted for 27% of the total gobblers harvested by youth hunters who hunted private land only. This metric (i.e., percent jakes) was 74% for those youth hunters who hunted public land only and 14% for those who hunted both lands.

The percentage of adult hunters that harvested at least one bird was 70% for those hunting on private lands only, 40% for those hunting on public land only, and 64% for those hunting on both land types. Among successful adult hunters that hunted on private land only, 65% reported harvesting only one bird, 23% reported exactly two birds, and the remaining 12% reported three birds. Similarly, among the successful adult hunters that hunted on public land only, 74% reported bagging only one bird, 16% reported two birds, and the remaining 10% reported three birds. For those who hunted both types of land and successfully harvested, 50% reported bagging only one bird, 31% reported two birds, and the remaining 19% reported three birds.

Among youth hunters, the percentage harvesting at least one bird was 36% for those hunting on private land only, 17% for those hunting on public land only, and 24% for those hunting both types of land. Among the successful youth hunters that hunted on private land only, 68% reported harvesting only one bird, 22% reported exactly two birds, and the remaining 10% reported three or four birds. Of the successful youth hunters who hunted on public land only, all reported bagging only one bird. Finally, for those youth hunters who hunted both types of land and killed at least one bird, 76% reported harvesting only one bird, and the remaining 24% reported two birds.

Table 3: Estimated number of hunters, days afield and turkeys harvested by land type during the 2022 spring turkey hunting season in Tennessee

		Hunters	Days Afield	Adult Gobblers	Jakes	Bearded Hens
Adult Hunters						
Private only	Estimate	52,219	446,058	26,570	3,719	88
	95% CL	3,322	41,591	2,828	794	120
Public only	Estimate	6,789	48,989	2,044	466	8
	95% CL	1,233	10,713	1,282	298	15
Both	Estimate	10,908	160,715	7,164	687	46
	95% CL	1,578	25,631	1,490	327	90
Youth Hunters						
Private only	Estimate	18,849	50,704	4,243	1,538	48
	95% CL	2,454	7,458	1,007	539	92
Public only	Estimate	1,923	4,893	46	133	-
	95% CL	858	2,436	74	151	-
Both	Estimate	2,711	13,365	507	86	-
	95% CL	960	6,507	298	106	-

Notes: Number of hunters does not add up to the state total because some respondents did not disclose the type of land their harvest was from

Compared to those who hunted turkeys on public land only, the average days of hunting were higher for those who hunted on private land only (Table 4), but average days of hunting were highest among those who hunted both land types. In terms of hunting hours by land type, the average hours spent per day by adult hunters was slightly lower for those who hunted on private lands, compared to those who hunted public land only, or both. A similar pattern was observed in the average days and hours spent by youth hunters.

Table 4: Estimated average number of days afield and hunting hours per day for adult and youth hunters during the 2022 spring turkey hunting season in Tennessee

	Adult Hunters				Youth Hunters			
	Days		Hours		Days		Hours	
	Estimate	95% CL	Estimate	95% CL	Estimate	95% CL	Estimate	95% CL
Private only	8.54	0.50	4.55	0.12	3.59	0.35	4.01	0.16
Public only	7.21	1.17	5.39	0.27	3.14	2.03	4.89	0.63
Both	14.73	1.52	5.16	0.24	8.05	2.92	4.78	0.67

Compared to those adults who hunted on both types of lands, the harvest rate was higher among adult hunters who hunted exclusively on private lands or public lands (Table 5). For example, adult hunters who hunted on only private lands harvested 0.10 birds per day of hunting, whereas adult hunters who hunted on both land types harvested 0.06 birds per day. For youth, the harvest rate was much higher for those hunting private lands only. Youth hunters hunting only on private lands bagged 0.15 birds compared to 0.09 and 0.07 birds per day for youth hunters hunting public land only or both public and private, respectively. It should be noted that this difference may be trivial considering the confidence intervals.

Table 5: Estimated harvest rates for adult and youth hunters by land types during the 2022 spring turkey hunting season in Tennessee

	Adult Hunters		Youth Hunters	
	Estimate	95% CL	Estimate	95% CL
Private only	0.10	0.01	0.15	0.07
Public only	0.10	0.01	0.09	0.10
Both	0.06	0.01	0.07	0.04

Regional estimates of hunting effort and harvest

The estimated number of adult hunters, hunting effort, and harvest at the TWRA administrative region level was determined based on survey respondents' indication that they participated in at least one day of hunting in a given region during the 2022 spring turkey hunting season (Table 6). The estimated number of adult hunters was largest in Region 2 (24,285) and smallest in Region 3 (15,160). Except in Region 2, the average days afield per hunter were higher on private land compared to public land in all regions.

In terms of harvest, the highest number of birds harvested by adult hunters was in Region 2. Compared to Region 1, other regions had a comparatively higher percentage of jakes in the harvest (Table 6). Jakes accounted for 9% of the total gobblers harvested by adult hunters who hunted in Region 1. This metric was highest (16%) among those who hunted in Region 4.

Table 6: Estimated number of adult hunters, average days afield by land types, and birds harvested by TWRA administrative region during the 2022 spring turkey hunting season in Tennessee

Region		Total Adult Hunters	Average Days (Private)	Average Days (Public)	Average Days (Both)	Total Birds Harvested	Percent Jakes
Region 1	Estimate	18,212	9.39	8.57	16.70	10,067	8.73%
	95% CL	1,985	1.00	3.49	3.37	1,384	
Region 2	Estimate	24,285	7.86	8.08	14.60	12,579	12.15%
	95% CL	2,134	0.59	2.06	2.29	1,394	
Region 3	Estimate	15,160	8.96	8.28	14.40	5,327	11.61%
	95% CL	1,970	0.98	2.10	3.14	1,154	
Region 4	Estimate	15,306	8.90	7.43	16.42	7,811	15.74%
	95% CL	1,984	1.53	2.51	2.74	2,150	

Note: Number of hunters does not add up to the state total because some respondents report hunting in multiple regions or did not disclose their hunting location.

The estimated number of hunters, average days, and birds harvested were also calculated for youth hunters (Table 7). It should be noted that since the survey did not collect data on location of youth hunting, the regional breakdown of these metrics relied on the assumption that the youth hunted in the same region where their supervising adult hunted. However, interpretation of these estimates is cautioned since not all adult hunters guide their youth hunters in the same region in which they hunt. Moreover, many adult respondents who provided data for their youth in the survey did not hunt themselves, and therefore no location information was available to place them in a region. Nevertheless, the regional breakdown of youth hunting participation and harvest metrics shown in Table 7 is similar to that of adult hunters (Table 6). Region 2 had the highest number of youth hunters and birds harvested. Regions 1 and 3 had higher average days per hunter on private land than on public land whereas the opposite was true in Regions 2 and 4. Jakes accounted for 21% of the total gobblers harvested by youth hunters who hunted in Region 1, which was the lowest of the four regions. This metric was highest (36%) in Region 4.

Table 7: Estimated number of youth hunters, average days afield by land types, and birds harvested by TWRA administrative region during the 2022 spring turkey hunting season in Tennessee

Region		Youth Hunters	Average Days (Private)	Average Days (Public)	Average Days (Both)	Total Birds Harvested	Percent Jakes
Region 1	Estimate	4,826	3.65	2.94	13.05	1,488	21.16%
	95% CL	1,203	0.71	2.90	11.05	635	
Region 2	Estimate	7,480	3.56	4.26	8.40	2,036	32.40%
	95% CL	1,441	0.61	2.59	7.80	815	
Region 3	Estimate	3,914	3.30	2.06	4.57	990	27.20%
	95% CL	1,094	1.00	1.18	1.71	468	
Region 4	Estimate	4,110	3.31	5.21	7.99	1,192	35.50%
	95% CL	1,109	0.67	4.19	3.57	549	

Note: Number of hunters does not add up to the state total because some respondents report hunting in multiple regions or did not disclose their hunting location.

In terms of hours spent hunting per day afield, adult hunters consistently reported having spent a slightly higher number of hours hunting than their youth counterparts, regardless of region (Table 8). The average number of hours was numerically highest in Region 4 for adult hunters and Region 3 for youth hunters, although statistically there were no regional differences.

Table 8: Estimated average number of hunting hours per day by TWRA administrative region for adult and youth hunters during the 2022 spring turkey hunting season in Tennessee

Region	Adult Hunters		Youth Hunters	
	Estimate	95% CL	Estimate	95% CL
Region 1	4.72	0.25	3.92	0.39
Region 2	4.69	0.16	4.13	0.24
Region 3	4.81	0.18	4.55	0.45
Region 4	4.85	0.22	4.46	0.39

The harvest rate was tabulated for hunters across the different administrative regions (Table 9). Across the regions, this metric was consistently higher (although not statistically) among youth hunters than adult hunters, and the highest rate was estimated for Region 2 for adult hunters and Region 4 for youth hunters.

Table 9: Estimated harvest rates for adult and youth hunters by TWRA administrative region during the 2022 spring turkey hunting season in Tennessee

Region	Adult Hunters		Youth Hunters	
	Estimate	95% CL	Estimate	95% CL
Region 1	0.09	0.02	0.12	0.04
Region 2	0.11	0.02	0.15	0.06
Region 3	0.07	0.02	0.10	0.04
Region 4	0.09	0.02	0.18	0.09

Turkeys shot but not killed or recovered by hunters

Respondents were also asked to report the number of turkeys that were shot but not killed or recovered. The question was modified slightly from previous years to clarify hunters should not include clear misses in their reporting. Based on the data provided, an estimated 2,939 (\pm 919) turkeys were shot but not killed or recovered by hunters during the 2022 spring turkey hunting season. About 4.15% of those who answered this question reported to have shot at least one bird they did not recover.

Satisfaction with turkey hunting experience

When asked how they would rate their turkey hunting experience in the 2022 spring turkey hunting season, 52% of respondents from the statewide sample indicated they were somewhat or very satisfied, and another 16% indicated being neither dissatisfied nor satisfied (Figure 2). When compared across land types, the highest percentage (55%) of respondents who indicated being somewhat or very satisfied were those who hunted on private lands only, and the lowest percentage (39%) were those hunting on both types of land. Compared to other lands, the highest percentage of respondents (18%) who indicated neutrality on this satisfaction question hunted only on public land.

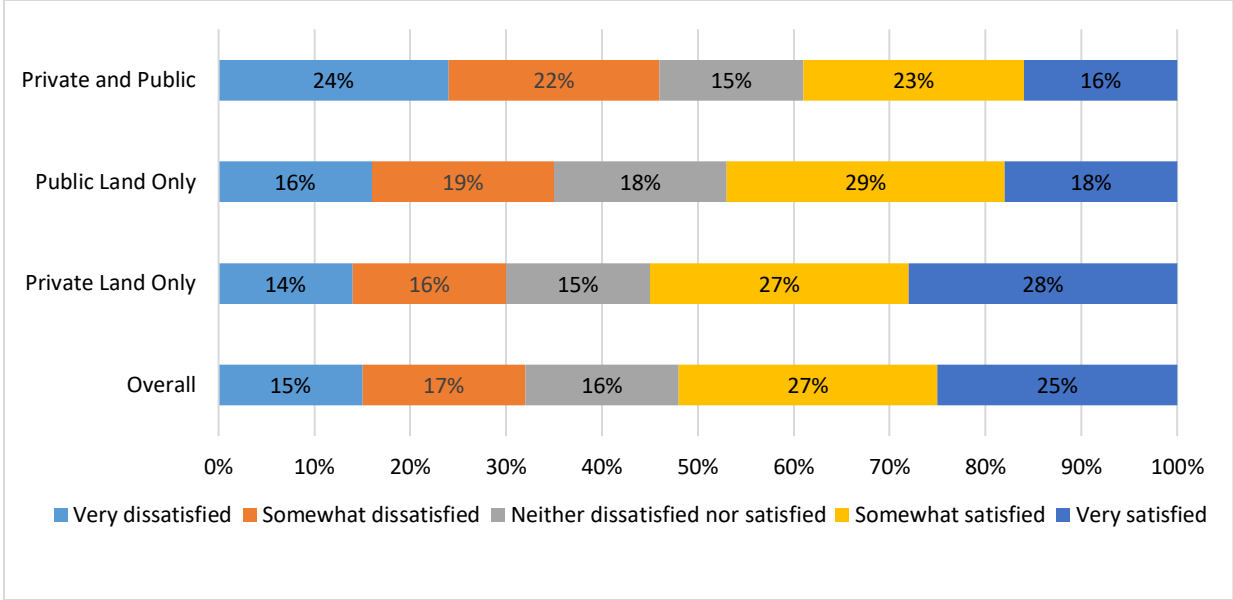


Figure 2: Survey respondents' reported satisfaction with the 2022 spring turkey hunting experience by type of land hunted (From top: n1 = 292, n2 = 273, n3 = 1,641, n4 = 2,227)

A comparison of satisfaction with the 2022 spring turkey hunting experience among the respondents across the different administrative regions showed notable similarity (Figure 3). Compared to other Regions, a slightly higher proportion in Region 2 indicated being somewhat or very satisfied.

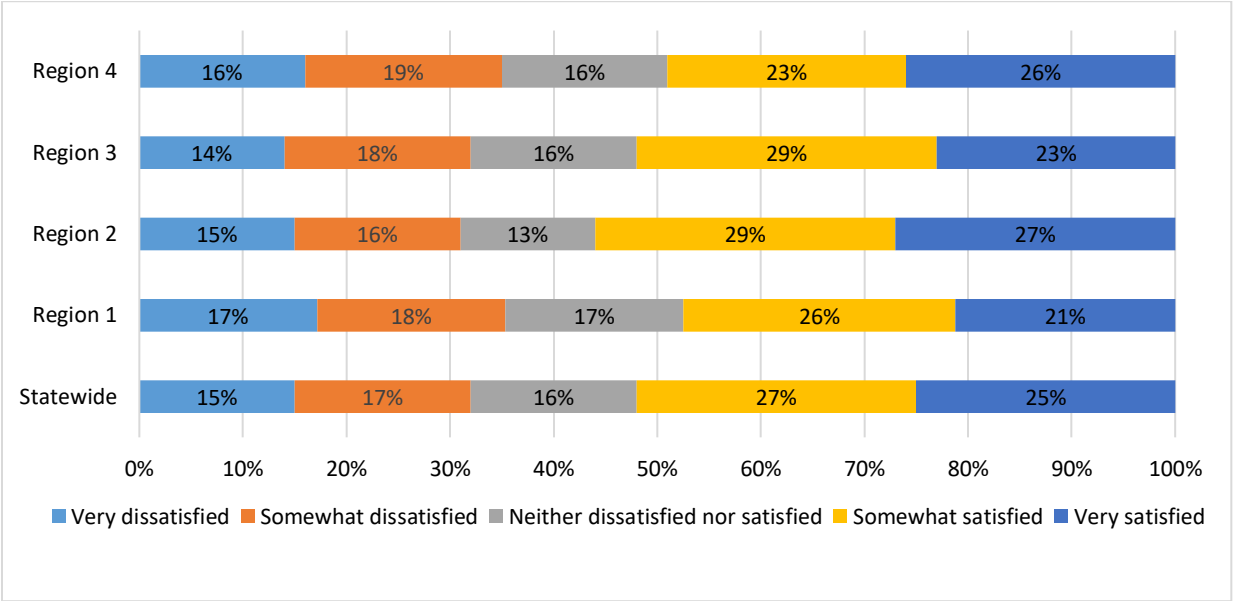


Figure 3: Survey respondents' reported satisfaction with the 2022 spring turkey hunting experience by TWRA region (From top: n1 = 422, n2 = 441, n3 = 860, n4 = 571, n5 = 2,227)

Perceived change in turkey populations

Respondents were asked to indicate (based on their experience over the years) how they perceive the change in turkey populations in areas they hunted. Nearly two-thirds (64) of the respondents statewide indicated to have perceived a decline in turkey populations, whereas another 14% indicated seeing an increase (Figure 4). A relatively higher proportion (69%) of those hunting in Regions 1 indicated witnessing declining populations of turkey in the areas they hunt.

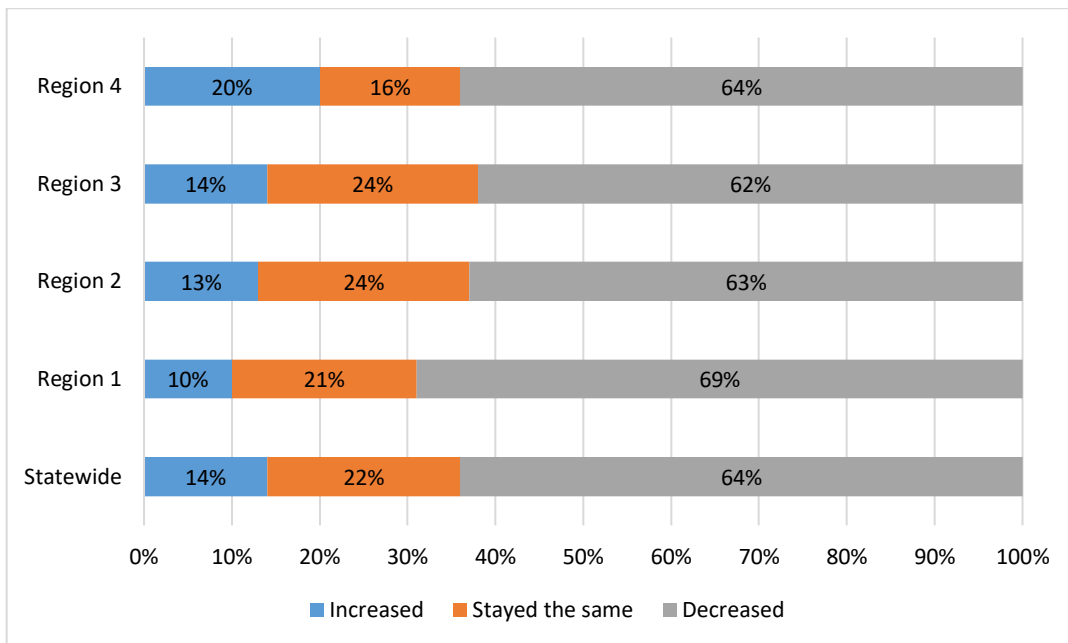


Figure 4: Survey respondents' perception of how turkey populations in the areas they hunt have changed over the years (From top: n1 = 395, n2 = 374, n3 = 752, n4 = 507, n5 = 1,920)

When asked about the perceived reasons behind the decline in the areas they hunt,, 62% of those who perceived a declining trend in turkey population noted nesting success and poult survival as the reason behind it (Figure 5). Predation on adults, hunting pressure, and habitat conditions were considered responsible for the decline by 45%, 33% and 31% respectively.

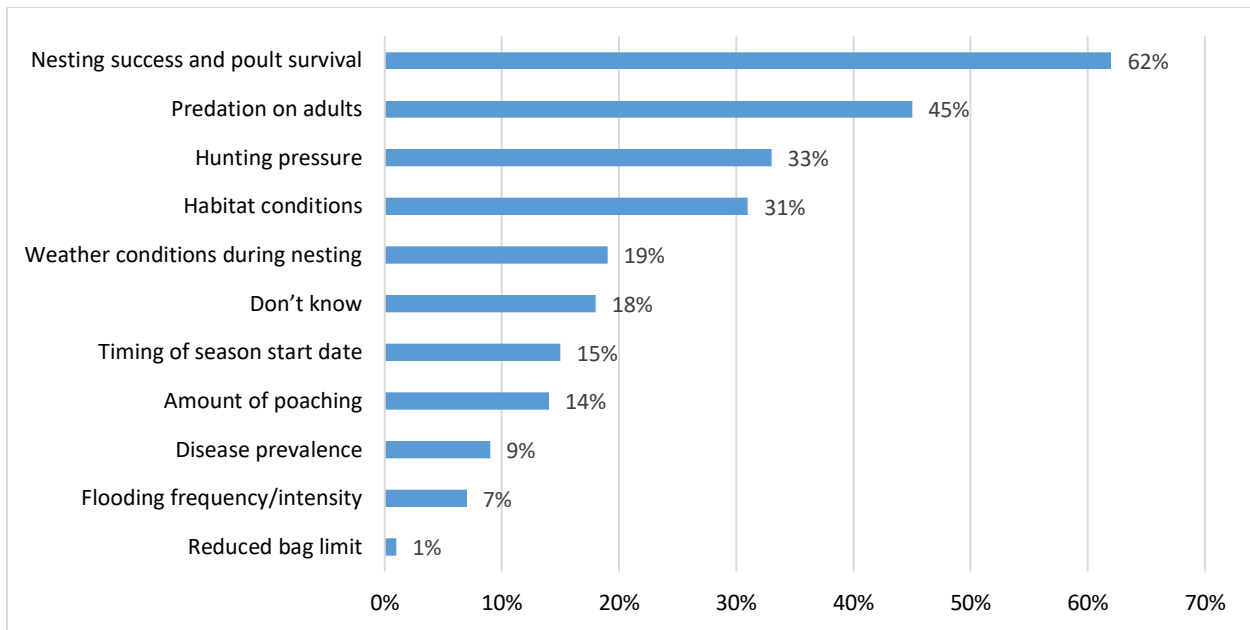


Figure 5: Percentage of survey respondents who perceived a decline in turkey populations indicating the reasons behind perceived declines in turkey populations in the areas they hunt (n = 1,221)

On the other hand, among those who reported perceiving an increasing trend of wild turkey populations, nearly half indicated habitat conditions and nesting success and poult survival as the reason behind the increase (Figure 6). Hunting pressure was pointed out by 28% as the reason contributing to the perceived increase in turkey populations.

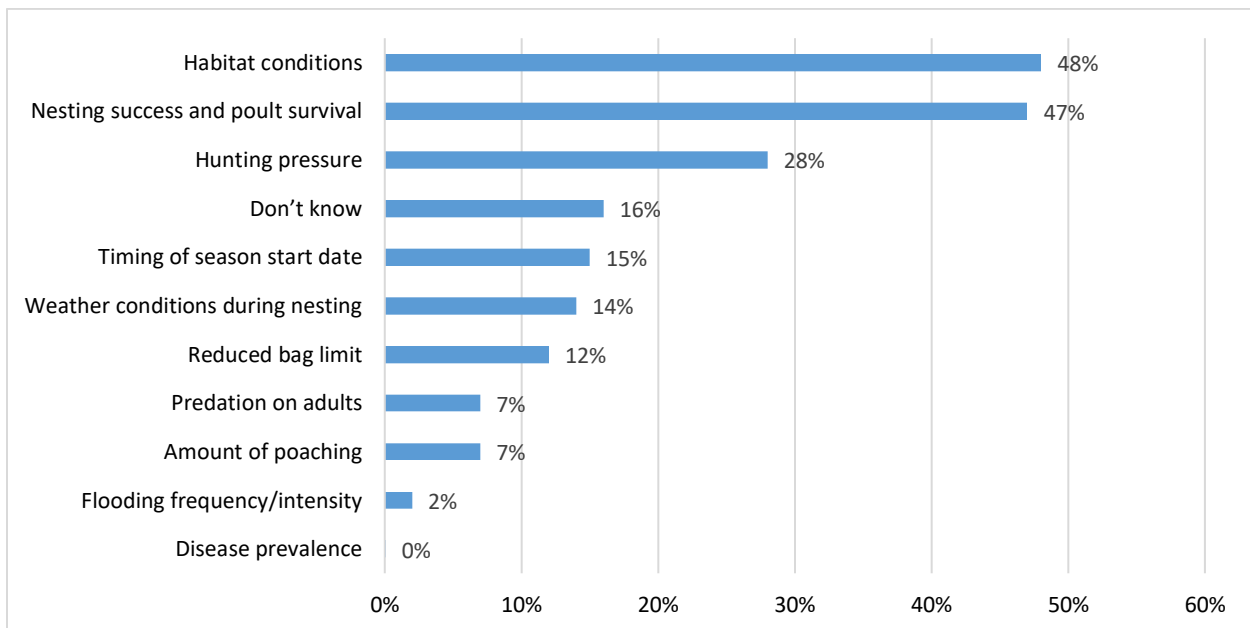


Figure 6: Percentage of survey respondents who perceived an increase in turkey populations indicating the reasons behind perceived increases in turkey populations in the areas they hunt (n = 269)

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Appendix A: Survey questionnaire

2022 Tennessee Spring Turkey Harvest Survey



You are one of a few randomly selected sportsmen and sportswomen in Tennessee to be invited to participate in this survey. Your response will help the Tennessee Wildlife Resources Agency (TWRA) and other stakeholders understand hunters' effort and success in turkey hunting, and your opinion and attitude regarding various aspects of turkey hunting will help them make informed decisions. *Even if you did not hunt in the 2022 spring turkey season, please complete the first few questions and return the survey.*

This is a University of Tennessee study with the support of the Tennessee Wildlife Resources Agency

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1. Did you yourself hunt or did you take a youth (under 18 years of age) hunting in Tennessee during the 2022 spring turkey season (which includes the 2-day Young Sportsman hunt)?
 - No, please answer **Q2** and return this survey
 - Yes, I hunted, go to **Q3**
 - I did not personally hunt but I took a youth hunting, go to **Q10**
2. If you did not turkey hunt in Tennessee during any of the 2022 spring season, which best describes your reason for not hunting?

- I typically hunt turkeys during the spring season but 2022 was an exception
- I typically do not hunt turkeys during the spring
- I am not a hunter
- I hunted in another state in 2022
- I stopped hunting to allow the population to rebuild/restore
- Other (please specify): _____

3. In the table below, please report only **your own** (*do not include information for others in your party or those you may have guided*) turkey hunting activities for the 2022 spring turkey season. Report harvest and days hunted in different counties on separate rows, even if you did not harvest any turkeys in that county. For each turkey harvested, indicate the type of turkey (bearded hen, jake, or adult gobbler).

County Hunted	Number of days hunted on private land	Number of days hunted on public land	Number of turkeys harvested		
			Bearded Hens	Jakes	Adult Gobblers
<i>Example: Knox</i>	<i>16</i>	<i>5</i>	<i>0</i>	<i>1</i>	<i>2</i>

4. How many turkeys did you shoot but not kill or recover (do not include clean misses) during the 2022 spring turkey season? _____
5. On days you hunted, how many hours did you typically hunt? _____
6. Overall, how would you rate your 2022 spring turkey hunting experience?
- Very dissatisfied
 - Somewhat dissatisfied
 - Neither dissatisfied nor satisfied
 - Somewhat satisfied
 - Very satisfied
7. Based on your experience over the years, how have turkey populations changed in areas you hunt?
- Decreased
 - Stayed the same, go to Q9.
 - Increased
 - Don't know, go to Q9.
8. I believe the population in the area I hunt has decreased/increased because of changes in..... (Mark all that apply)
- Hunting pressure
 - Amount of poaching
 - Nesting success and poult survival
 - Predation on adults
 - Reduced bag limit
 - Timing of season start date
 - Habitat conditions
 - Disease prevalence
 - Flooding frequency/intensity
 - Weather conditions during nesting
 - Don't know
 - Others: _____
9. Did you take a youth (under 18 years of age) hunting during the 2022 spring turkey hunting season?
- Yes, go to Q10
 - No, stop here and return the survey

10. Please report only turkey hunting activities for **youth you mentored** during the 2022 spring turkey season. *Report days and hours hunted, even if they did not harvest any turkeys.*

Number of youth mentored	Number of days hunted on <i>private land</i>	Number of days hunted on <i>public land</i>	Average number of hours hunted in a day with youth

11. How many turkeys were harvested by youth hunters that you mentored in the 2022 season?

Bearded Hens: _____ Jakes: _____ Adult Gobblers: _____

Thank you for taking the time to complete this important survey.