

**ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES ON
ACT 51 123rd SESSION OF THE SOUTH CAROLINA
GENERAL ASSEMBLY (2019)**



Wild Turkey Resources in South Carolina 2023



February 2024

EXECUTIVE SUMMARY

Act 51 of the 123rd Session of the South Carolina General Assembly largely rewrote wild turkey hunting laws in South Carolina. It established new turkey season frameworks, imposed a limit of one gobbler during the first 10 days of the season, a daily limit of one gobbler, and it imposed a first-time fee on turkey tags. Act 51 also requires that “The department shall provide an annual report on the wild turkey resources in South Carolina to the Chairman of the Senate Fish, Game and Forestry Committee and the Chairman of the House Agriculture and Natural Resources Committee.” The following is offered by the department to fulfill that requirement.

The popularity and status of the Eastern wild turkey in South Carolina drives the South Carolina Department of Natural Resources (SCDNR) Wildlife Section's ongoing commitment to conduct pertinent research, surveys and monitoring related to the state's wild turkey population. Due to the importance of turkeys as a state resource, SCDNR believes that accurately assessing the productivity, harvest, as well as hunter participation in turkey hunting, is key to the management of this species.

Agencies and legislators are faced with the daunting task of designing and recommending regulatory frameworks that maximize hunter satisfaction while ensuring that populations are sustainable. Proposed changes in turkey-related laws and regulations should have foundations in biology, therefore, the population dynamics associated with annual reproduction and hunting mortality must be monitored and reported. Similarly, when issues arise that do not involve biological parameters, it is important to have information related to turkey hunter activities afield because they also form an important basis for managing wild turkeys.

The objectives of annual survey and monitoring are to obtain valid estimates of; (1) the statewide spring gobbler harvest, (2) the harvest of gobblers in the constituent counties, (3) hunting effort related to turkeys, (4) information on hunters’ opinions of the turkey resource and other aspects of turkey hunting, and (5) annual reproduction and recruitment of wild turkeys in South Carolina.

Wildlife biologists and managers in South Carolina and throughout the range of the Eastern wild turkey have observed and reported declines in productivity, likely attributable to large-scale declines in nest success and brood survival. Likewise, declines in turkey abundance, and corresponding declines in spring harvest of males have been noted. Collectively, these findings are of considerable concern to state wildlife agencies, like SCDNR, charged with ensuring sustainable populations of wild turkeys. During July and August of 2023 SCDNR hosted a series of five public meetings around the state to discuss the concerns and options for future management to address these declines. As part of each meeting SCDNR presented available data, and received comments and questions from hunters who were provided a survey with various management options. For individuals unable to attend one of the meetings, a video presentation and survey were advertised via email and social media and made available on the SCDNR website following the in-person meetings. Below is a link to the report on these public meetings. The report was provided to the legislature in December 2023.

<https://www.dnr.sc.gov/wildlife/turkey/pdf/2023TurkeyPublicMeetingsSurveyReport.pdf>

To quantify, South Carolina has experienced declines in turkey productivity since 1988. Average recruitment prior to 1988 was 3.5 poult per hen. Average recruitment since then has been 2.1,

representing a 40 percent decrease in average recruitment. Coincidentally, the turkey harvest has decreased over 40 percent since it peaked in 2002.

The declines, here and in other states, have precipitated numerous research projects over the last decade. This research has been conducted by several universities across the Southeast, with assistance and primary funding from state wildlife agencies. SCDNR has and continues to support and participate in these studies. Over time, the agency hopes to gain a better understanding of the factors influencing turkey declines, and methods, techniques, and management strategies to slow or reverse this trend. This research entails a comprehensive assessment of reproductive ecology and chronology of male and female wild turkeys. This includes studies of timing, location and success of nesting and brood rearing activity. Projects also investigate survival, behavioral and movement data, demographic parameters, gobbling activity, and descriptions of mate selection and parentage for populations of wild turkeys.

Summaries of current research can be found within this report.

Turkey harvest, hunter participation and hunter effort are estimated by means of an annual mail survey that involves a single mail-out. Hunters are surveyed randomly by selecting 35,000 individuals who received a set of 2023 Turkey Transportation Tags which are required to hunt turkeys in South Carolina. During the 2023 spring season it is estimated that a total of 11,583 adult gobblers and 1,491 jakes were harvested for a statewide total of 13,074 turkeys (Table 1). This figure represents a 3.1 percent decrease from the estimated harvest in 2022 (13,488). Recent turkey harvest figures remain well below levels from the past reflecting decreased numbers of turkeys likely due to ongoing poor recruitment of poults into the population. This trend appears to be a regional situation and has been called the “southeast turkey decline” by biologists and managers.

Wild turkey productivity is assessed by observations of reproduction and associated survival of offspring being recruited into the population. This measure of young entering the population based on the number of hens in the population is the Total Recruitment Ratio (TRR). This annual index is the most practical measure of productivity because it considers successful hens, unsuccessful hens, and poult survival. Recruitment of four or more poults per hen is considered excellent, three is good, two is fair and considered a break-even point, and less than two poults per hen is poor. During 2023 statewide Total Recruitment Ratio was 1.2, an all-time low level since the survey began in 1982. For hens that successfully raised a brood, average brood size was 3.5 poults, a number that has remained consistent over time. However, the driving factor in the low productivity is the high percentage of hens with no poults at all by late summer. Sixty-six percent of hens observed during the 2023 survey had no poults and that figure has averaged 60% the last five years.

The current estimated population of wild turkeys in South Carolina is approximately 81,000. This is based on a hen to gobbler ratio of 1.46:1 derived from the 2023 Summer Turkey Survey, the estimated harvest of 13,074 gobblers during spring 2023 and a 40 percent male harvest rate. Male harvest rate is based on long-term average disparity in hen to gobbler ratio which can only be explained by differential mortality between the sexes, in this case attributed to hunter harvest.

Additional details and discussion on the annual harvest and productivity surveys are found within this report.

2023 SC WILD TURKEY HARVEST REPORT

Introduction

Ranking only behind white-tailed deer in popularity among hunters, the Eastern wild turkey is an important natural resource in South Carolina. The 2023 Turkey Hunter Survey represents the South Carolina Department of Natural Resources (SCDNR), Wildlife Section's ongoing commitment to conduct pertinent research related to the state's wild turkey population. The primary objectives of this survey research were to obtain valid estimates of; (1) the statewide spring gobbler harvest in 2023, (2) the harvest of gobblers in the constituent counties of the state, and (3) hunting effort related to turkeys. Information on hunter's opinions of the turkey resource and other aspects of turkey hunting are also presented.

Due to the importance of turkeys as a state resource, SCDNR believes that accurately assessing the harvest of turkeys, as well as hunter participation in turkey hunting, is key to the management of this species. Proposed changes in turkey-related laws and regulations should have foundations in biology, therefore, the population dynamics associated with annual hunting mortality cannot be ignored. Similarly, when issues arise that do not involve biological parameters, it is important to have information related to turkey hunter activities afield because they too form an important basis for managing wild turkeys.

Since the inception of the Statewide Turkey Restoration and Research Project (Turkey Project) the methods used to document the turkey harvest have changed. Historically, turkey harvest figures were developed using a system of mandatory turkey check stations across the state. This system yielded an actual count of harvested turkeys and was, therefore, an absolute minimum harvest figure. Shortcomings in this system included deterioration in compliance, complaints from hunters regarding the inconvenience of check stations, etc. The requirement to physically check harvested turkeys in South Carolina was eliminated following the 2005 season at which time post season hunter surveys were implemented. The 2021 spring season marked the inaugural year of SC Game Check and electronic harvest reporting for turkeys. With this, SCDNR has two sources of harvest data for comparison. It should be noted that although reporting is mandatory, noncompliance by some hunters should be expected. Rates of noncompliance will be estimated using the post season survey and due to noncompliance, figures obtained from the survey will likely be higher than those from electronic harvest reporting.

Survey Methodology

The 2023 Turkey Hunter Survey represented a random mail survey that involved a single mail-out. The questionnaire for the 2023 Turkey Hunter Survey was developed by Wildlife Section personnel (Figure 1). The mailing list database was constructed by randomly selecting 35,000 individuals who received a set of 2023 Turkey Transportation Tags which are required to hunt turkeys in South Carolina. Data entry was completed by Success Staffing, LLC, Seabrook, South Carolina. Results from the mail survey were corrected for nonresponse bias using data collected by Southwick Associates, Fernandina Beach, Florida using a Computer Assisted Telephone Interview program (CATI). Statistical analysis was conducted using Statistix 10 (Analytical Software, Tallahassee, FL).

Results and Discussion

Turkey Harvest

During the 2023 spring season it is estimated that a total of 11,583 adult gobblers and 1,491 jakes were harvested for a statewide total of 13,074 turkeys (Table 1). This figure represents a 3.1 percent decrease from the estimated harvest in 2022 (13,488). Recent turkey harvest figures remain well below levels from the past reflecting decreased numbers of turkeys likely due to ongoing poor recruitment of poults into the population. This trend appears to be a regional situation and has been called the “southeast turkey decline” by biologists and managers.

The percentage of jakes in the 2023 harvest was approximately 11 percent based on the post season survey and 6 percent based on reports through SC Game Check. Both are relatively low percentage of jakes in the harvest and similar to 2022.

The 2023 spring season was the third year of SC Game Check and electronic harvest reporting for wild turkeys. Therefore, SCDNR now has two sources of harvest data for comparison. There were 10,234 turkeys reported through SC Game Check. Although reporting is mandatory there will always be lack of compliance by some proportion of hunters. To estimate noncompliance a question was included on the hunter survey asking hunters who indicated they killed a turkey(s) “Did you report your harvest to SC Game Check?”. Results indicate that 23 percent of hunters admit to not reporting their harvest. Using this as a correction factor increases the figure that should have been reported through SC Game Check to approximately 12,600 turkeys. Therefore, there is about a 3.6 percent discrepancy between the corrected reported harvest and the harvest estimated by the 2023 Turkey Hunter Survey.

Harvest Per Unit Area County Rankings

Comparisons can be made between turkey harvests from the various counties in South Carolina if a harvest per unit area is established. Harvest per unit area standardizes the harvest among counties regardless of the size of individual counties. One measure of harvest rate is the number of turkeys taken per square mile (640ac. = 1 mile²). When considering the estimated turkey habitat that is available in South Carolina, the turkey harvest rate in 2023 was 0.6 gobblers per square mile statewide (Table 2). Although this harvest rate is not as high as it once was, it should be considered good and is like other Southeastern states. The top 5 counties for harvest per unit area were Greenville (1.2 turkeys/mile²), Spartanburg (1.1 turkeys/mile²), Bamberg (1.0 turkeys/mile²), Laurens (0.9 turkeys/mile²), and Fairfield (0.9 turkeys/mile²) (Table 2).

Turkey Harvest Rankings by County

Total turkey harvest is not comparable among counties because there is no standard unit of comparison, i.e., counties vary in size and are, therefore, not directly comparable. However, some readers may be interested in this type of ranking. The top 5 counties during 2023 were, Williamsburg, Berkeley, Greenville, Orangeburg, and Fairfield (Table 3).

Number of Turkey Hunters

Even though all individuals receiving a set of Turkey Transportation Tags were eligible to hunt turkeys, only 50 percent indicated that they actually hunted turkeys. Based on this figure, approximately 46,522 hunters participated in the 2023 spring turkey season, a 3 percent decrease from 2022 (47,824). Counties

with the highest estimates for individual hunters include Fairfield, Newberry, Laurens, Berkeley, Newberry, and Orangeburg (Table 4).

Hunter Effort

For the purposes of this survey hunter effort was measured in days with one day being defined as any portion of the day spent afield. Turkey hunters averaged approximately 7 days afield during the 2023 season (Table 4). Successful hunters averaged significantly more days afield (9.3 days) than unsuccessful hunters (5.6 days). Extrapolating to the entire population of turkey hunters yields a figure of 255,140 total days of spring gobbler hunting, an 11 percent decrease from 2022 (287,263 days). The top 5 South Carolina counties for overall days of turkey hunting during 2023 were Fairfield, Laurens, Berkeley, Union, and Newberry (Table 4) with all of these being in the top 5 counties in 2022.

Turkey Harvest by Period of Season

Gobbling by male wild turkeys occurs primarily in the spring and is for the purpose of attracting hens for mating. Therefore, spring turkey hunting is characterized by hunters attempting to locate and call gobbling male turkeys using simulated hen calls. With respect to both biology and quality hunting, the timing of the spring gobbler season should consider three primary factors: peak breeding, peak gobbling, and peak nest initiation. Considering these factors, seasons can be set to afford hunters the best opportunity to hunt during the best time (i.e., peak gobbling) without inhibiting reproductive success of hens.

A recent multi-year nesting study conducted in the lower coastal plain indicates that on average, hens do not initiate nesting until April 9. Gobbling studies conducted simultaneously to the nesting studies indicate peak gobbling occurs the first 10 days of April. The peak in gobbling is believed to coincide with nest initiation by hens because gobbling increases in response to decreased hen availability due to commencement of nesting activities.

The 2023 season marked the fourth year of a return to two spring turkey season frameworks in South Carolina. In Game Zones 1 and 2, which encompass the piedmont and mountains the season is April 1 to May 10, whereas, in Game Zones 3 and 4 located in the coastal plain the season is March 22 to April 30. Based on the research, the April 1 season start date coincides more closely with the onset of nesting and peak gobbling. This should provide for improved reproductive success by hens because gobblers are not harvested too early, and it should also lead to improved hunting success because gobblers are not accompanied by as many hens due to onset of nesting. On the other hand, the March 22 season start date is nearly 3 weeks prior to peak nest initiation and prior to peak gobbling as well. That being the case, considerations should be given to potential effects on reproduction due to excessive early removal of males and decreased hunter success due to decreased gobbling and hunters competing with hens.

If seasons are set appropriately, the greatest proportion of turkeys should be harvested during the first week or 10 days of the season because increasing numbers of hens should be egg-laying or incubating resulting in gobblers that are naïve and more responsive to hunters' calls. Harvest by period of season demonstrates that the timing of the April 1 opening date affords higher turkey harvests as most turkeys are harvested during the 10 days following the April 1 opening date (Figure 4).

When broken-out by specific season frameworks the results are similar. In areas where the season begins March 22, only 38 percent of the total harvest was accounted for during the first 10 days of the season (Figure 5). This is likely because late March is the time of peak breeding and males respond to hunters' calls less because hens are available. Hunters refer to this as gobblers being "henned-up." On the other hand, 44 percent of the harvest occurred during the first 10 days of the season in areas where the season begins April 1 (Figure 6). This is because by April 10 a significant number of hens are involved in nesting activities leaving gobblers "lonely" and more receptive to hunters' calls. These same trends were apparent prior to 2016 when there was split season in South Carolina with one framework beginning March 15 and the other April 1.

Hunting Success

For determination of hunting success only those individuals who hunted turkeys were included in the analysis and similarly, success was defined as harvesting at least one turkey. Overall hunting success in 2023 was 32 percent (Figure 7). Unlike deer hunting which typically has high success, turkey hunting can be an inherently unsuccessful endeavor, relatively speaking.

The statewide bag limit in South Carolina is 3 gobblers. Obviously, most successful hunters harvest only one or two birds. However, it is interesting to note the relative contribution to the total harvest of turkeys by the few hunters who harvest 3 birds. Ironically, the percentage of hunters taking 3 birds was only 2 percent, however, this small percentage of hunters harvested an estimated 21 percent of the total birds taken in the state (Figure 8). Finally, based on reports to SC Game Check, hunters from 34 states outside of South Carolina reported a turkey harvest. However, nonresidents comprised only 9 percent of the overall harvest in 2023.

Hunter Opinion Regarding Turkey Numbers

As has become customary, the 2023 Turkey Hunter Survey asked participants to compare the number of turkeys in the area they hunt most often with the number of turkeys in past years. Participants were given 3 choices: increasing, about the same, or decreasing. Approximately 45 percent of hunters indicated that the number of turkeys in the area they hunted most often was about the same as in past years. A higher percentage of hunters (39 percent) believed that the turkey population was decreasing than increasing (15 percent). On a scale of 1 to 3 with 1 being increasing, 2 being the same, and 3 being decreasing, the overall mean rating of 2.2 suggests that hunters viewed the turkey population as decreasing. The opinion among hunters that the turkey population is decreasing has been consistent the last few years.

Turkeys Shot but not Recovered

Harvesting game signals the end of a successful hunt and although most hunters do a good job of preparing their equipment and mental state, it goes without saying that a certain percentage of game is shot or shot at and not killed or recovered. This point is no different when turkey hunting.

To estimate the prevalence of errant shots at turkeys, the 2023 Turkey Hunter Survey asked hunters to indicate the number of turkeys that they "shot but did not kill or recover during the 2023 season in South Carolina." Approximately 11 percent of hunters indicated that they shot but did not kill or recover at least one turkey in 2023 (10 percent in 2022). There were approximately 46,522 turkey hunters in 2023

meaning that approximately 4,900 turkeys were shot or shot at and not killed or recovered. Therefore, approximately 27 percent of the total turkeys shot at were not killed or recovered. These results have been consistent since this type of data have been available with the long-term average of birds “shot at but not killed or recovered” about 22 percent for the last decade.

This data is certainly not indicative of “dead and unrecovered turkeys,” however, some percentage of the 4,900 turkeys that were shot at did eventually die. Although shot shells for turkeys have become increasingly sophisticated, accurate, and lethal it is a fact that the pattern of a shotgun is relatively broad and contains hundreds of pellets. Therefore, a “clean miss” is not as clear-cut for turkeys compared to other big game like deer where there is typically a single projectile. Additional research is needed on this topic.

Turkey Harvest in the Morning vs. Afternoon

The typical spring turkey hunt is characterized by attempting to locate a gobbling bird prior to or just after sunrise. Once a gobbler is located most hunters position themselves as close as they can to the gobbler without scaring it away. Various types of callers that mimic the sounds of wild turkeys are then used to attempt to call the gobbler into gun range. This technique of locating a gobbling bird, setting up, and calling is repeated as necessary.

Traditionally, spring turkey hunting was primarily carried out during the first few hours of the day. As the popularity of turkey hunting has increased, many hunters now hunt in the afternoon as well. Gobblers are generally not as vocal in the afternoon, but can be stimulated to gobble using the various turkey calls, particularly late in the afternoon near areas where turkeys frequently roost. Additionally, it is now common for hunters to set up on food plots, often in blinds, using decoys in areas that turkeys frequent for feeding and loafing in the afternoon.

To gain a better understanding of the distribution of harvest with respect to time of day, the 2023 Turkey Hunter Survey asked hunters to identify the number of birds harvested in the morning compared to the afternoon. Results indicate that approximately 78 percent of gobblers were harvested in the morning compared to 22 percent in the afternoon. This coincides with data reported through SC Game Check. This data may be useful if discussions arise concerning the relative importance of morning compared to afternoon harvest of gobblers in the spring. These results have been consistent since this type of data has been available with the long-term average of birds shot in the afternoon about 24 percent for the last decade.

Turkey Harvest on Private vs. Public (WMA) Land

To gain an understanding of the relative importance of the turkey harvest on private versus public (WMA) land, the 2023 Turkey Hunter Survey asked hunters how many birds they took on the respective types of land. Data from both the survey and reports through SC Game Check indicate that approximately 91 percent of birds are taken on private land and 9 percent on public (WMA) land. Interestingly, public land comprises only about 7 percent of the turkey habitat in the state. Therefore, although a relatively small proportion of the total harvest occurred on public land, it slightly outperformed what would be expected based on available habitat.

With electronic reporting of harvested wild turkeys through SC Game Check now required, harvest figures for individual WMA's are now available (Table 5). Based on these reports, 80 jakes and 788 adult gobblers were harvested for a total of 868 turkeys taken on the various WMAs in 2023. As previously discussed, although reporting is mandatory, 23 percent of hunters admit to not reporting their harvest. With this in mind, an estimate of turkeys harvested on WMAs would increase to approximately 1,067.

Use of Heavier Than Lead Shot

With the decline in turkeys in recent years there is considerable discussion related to the factors contributing to this decline. Although ongoing low recruitment is thought to be the primary factor, many believe that changes in turkey hunting techniques and technology has made hunters more efficient. With the increased sophistication and popularity of heavier than lead shotshells some believe that the use of this shot may be a contributing factor. The belief is that this shot increases the distance of kill shots taken at turkeys which makes harvesting mature gobblers easier and by removing more adult males reproductive success may be affected.

To assess this issue the following question was included on the 2023 Turkey Hunter Survey: "When turkey hunting, do you use shotgun shells with "heavier than lead" pellets (ex. TSS, Tungsten, Bismuth, Hevi-Shot)?" Responses indicate that approximately 40 percent of hunters use heavier than lead shotshells. Cross-referencing other statistics indicates that hunters who use heavier than lead shot (1) have a higher success rate and (2) harvest more turkeys than hunters who do not use heavier than lead shotshells. However, hunters who use heavier than lead shot also average hunting more which could explain their increased success and may simply be indicative of them being more avid turkey hunters.

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Table 1. Estimated statewide turkey harvest in South Carolina in 2023.

County	Acres*	Square Miles	Gobbler Harvest	Jake Harvest	Total Harvest	Percent Jakes	Harvest Rates	
							Ac/Turkey	Turkey/Mi. ²
Abbeville	223,113	349	142	50	192	26.0	1,162	0.6
Aiken	500,546	782	157	12	169	7.1	2,962	0.2
Allendale	216,455	338	164	37	201	18.4	1,077	0.6
Anderson	219,068	342	228	50	278	18.0	788	0.8
Bamberg	196,573	307	271	25	296	8.4	664	1.0
Barnwell	281,764	440	142	12	154	7.8	1,830	0.3
Beaufort	147,441	230	50	12	62	19.4	2,378	0.3
Berkeley	567,530	887	586	37	623	5.9	911	0.7
Calhoun	190,584	298	214	19	233	8.2	818	0.8
Charleston	288,732	451	343	34	377	9.0	766	0.8
Cherokee	156,664	245	92	12	104	11.5	1,506	0.4
Chester	300,589	470	242	37	279	13.3	1,077	0.6
Chesterfield	372,478	582	142	50	192	26.0	1,940	0.3
Clarendon	298,087	466	250	12	262	4.6	1,138	0.6
Colleton	502,666	785	493	12	505	2.4	995	0.6
Darlington	286,228	447	157	25	182	13.7	1,573	0.4
Dillon	214,069	334	150	10	160	6.3	1,338	0.5
Dorchester	302,717	473	228	12	240	5.0	1,261	0.5
Edgefield	246,543	385	178	25	203	12.3	1,214	0.5
Fairfield	384,607	601	464	50	514	9.7	748	0.9
Florence	397,888	622	364	12	376	3.2	1,058	0.6
Georgetown	399,638	624	385	37	422	8.8	947	0.7
Greenville	294,257	460	407	125	532	23.5	553	1.2
Greenwood	204,400	319	164	37	201	18.4	1,017	0.6
Hampton	324,840	508	321	12	333	3.6	975	0.7
Horry	533,336	833	378	37	415	8.9	1,285	0.5
Jasper	309,889	484	193	20	213	9.4	1,455	0.4
Kershaw	360,485	563	264	12	276	4.3	1,306	0.5
Lancaster	266,382	416	264	62	326	19.0	817	0.8
Laurens	317,916	497	328	100	428	23.4	743	0.9
Lee	220,106	344	142	12	154	7.8	1,429	0.4
Lexington	280,742	439	21	12	33	36.4	8,507	0.1
McCormick	212,021	331	171	37	208	17.8	1,019	0.6
Marion	216,907	339	214	12	226	5.3	960	0.7
Marlboro	281,271	439	178	50	228	21.9	1,234	0.5
Newberry	317,761	497	250	25	275	9.1	1,155	0.6
Oconee	284,348	444	128	37	165	22.4	1,723	0.4
Orangeburg	504,516	788	457	75	532	14.1	948	0.7
Pickens	219,926	344	200	37	237	15.6	928	0.7
Richland	340,121	531	228	25	253	9.9	1,344	0.5
Saluda	192,173	300	114	37	151	24.5	1,273	0.5
Spartanburg	265,939	416	385	62	447	13.9	595	1.1
Sumter	338,968	530	257	12	269	4.5	1,260	0.5
Union	258,111	403	285	37	322	11.5	802	0.8
Williamsburg	513,851	803	650	12	662	1.8	776	0.8
York	276,650	432	142	22	164	13.4	1,687	0.4
Total	14,028,896	21,920	11,583	1,491	13,074	11.4	1,073	0.6

95% Conf. Interval for harvest (+-) 1,112 (+-) 330 (+-) 1,172

* Acreage shown represents the acreage of forested land and acreage of row crops considered to be significant turkey habitat within each county.

Table 2. County rankings based on turkey harvest per unit area in South Carolina in 2023.

County	Acres*	Square Miles	Gobbler Harvest	Jake Harvest	Total Harvest	Percent Jakes	Harvest Rates	
							Ac/Turkey	Turkey/Mi. ²
Greenville	294,257	460	407	125	532	23.5	553	1.2
Spartanburg	265,939	416	385	62	447	13.9	595	1.1
Bamberg	196,573	307	271	25	296	8.4	664	1.0
Laurens	317,916	497	328	100	428	23.4	743	0.9
Fairfield	384,607	601	464	50	514	9.7	748	0.9
Charleston	288,732	451	343	34	377	9.0	766	0.8
Williamsburg	513,851	803	650	12	662	1.8	776	0.8
Anderson	219,068	342	228	50	278	18.0	788	0.8
Union	258,111	403	285	37	322	11.5	802	0.8
Lancaster	266,382	416	264	62	326	19.0	817	0.8
Calhoun	190,584	298	214	19	233	8.2	818	0.8
Berkeley	567,530	887	586	37	623	5.9	911	0.7
Pickens	219,926	344	200	37	237	15.6	928	0.7
Georgetown	399,638	624	385	37	422	8.8	947	0.7
Orangeburg	504,516	788	457	75	532	14.1	948	0.7
Marion	216,907	339	214	12	226	5.3	960	0.7
Hampton	324,840	508	321	12	333	3.6	975	0.7
Colleton	502,666	785	493	12	505	2.4	995	0.6
Greenwood	204,400	319	164	37	201	18.4	1,017	0.6
McCormick	212,021	331	171	37	208	17.8	1,019	0.6
Florence	397,888	622	364	12	376	3.2	1,058	0.6
Allendale	216,455	338	164	37	201	18.4	1,077	0.6
Chester	300,589	470	242	37	279	13.3	1,077	0.6
Clarendon	298,087	466	250	12	262	4.6	1,138	0.6
Newberry	317,761	497	250	25	275	9.1	1,155	0.6
Abbeville	223,113	349	142	50	192	26.0	1,162	0.6
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Marlboro	281,271	439	178	50	228	21.9	1,234	0.5
Sumter	338,968	530	257	12	269	4.5	1,260	0.5
Dorchester	302,717	473	228	12	240	5.0	1,261	0.5
Saluda	192,173	300	114	37	151	24.5	1,273	0.5
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Kershaw	360,485	563	264	12	276	4.3	1,306	0.5
Dillon	214,069	334	150	10	160	6.3	1,338	0.5
Richland	340,121	531	228	25	253	9.9	1,344	0.5
Lee	220,106	344	142	12	154	7.8	1,429	0.4
Jasper	309,889	484	193	20	213	9.4	1,455	0.4
Cherokee	156,664	245	92	12	104	11.5	1,506	0.4
Darlington	286,228	447	157	25	182	13.7	1,573	0.4
York	276,650	432	142	22	164	13.4	1,687	0.4
Oconee	284,348	444	128	37	165	22.4	1,723	0.4
Barnwell	281,764	440	142	12	154	7.8	1,830	0.3
Chesterfield	372,478	582	142	50	192	26.0	1,940	0.3
Beaufort	147,441	230	50	12	62	19.4	2,378	0.3
Aiken	500,546	782	157	12	169	7.1	2,962	0.2
Lexington	280,742	439	21	12	33	36.4	8,507	0.1
Total	14,028,896	21,920	11,583	1,491	13,074	11.4	1,073	0.6
95% Conf. Interval for harvest			(+) 1,112	(+) 330	(+) 1,172			

Table 3. County rankings based on total turkeys harvested in South Carolina in 2023.

County	Acres*	Square Miles	Gobbler Harvest	Jake Harvest	Total Harvest	Percent Jakes	Harvest Rates	
							Ac/Turkey	Turkey/Mi. ²
Williamsburg	513,851	803	650	12	662	1.8	776	0.8
Berkeley	567,530	887	586	37	623	5.9	911	0.7
Greenville	294,257	460	407	125	532	23.5	553	1.2
Orangeburg	504,516	788	457	75	532	14.1	948	0.7
Fairfield	384,607	601	464	50	514	9.7	748	0.9
Colleton	502,666	785	493	12	505	2.4	995	0.6
Spartanburg	265,939	416	385	62	447	13.9	595	1.1
Laurens	317,916	497	328	100	428	23.4	743	0.9
Georgetown	399,638	624	385	37	422	8.8	947	0.7
Horry	533,336	833	378	37	415	8.9	1,285	0.5
Charleston	288,732	451	343	34	377	9.0	766	0.8
Florence	397,888	622	364	12	376	3.2	1,058	0.6
Hampton	324,840	508	321	12	333	3.6	975	0.7
Lancaster	266,382	416	264	62	326	19.0	817	0.8
Union	258,111	403	285	37	322	11.5	802	0.8
Bamberg	196,573	307	271	25	296	8.4	664	1.0
Chester	300,589	470	242	37	279	13.3	1,077	0.6
Anderson	219,068	342	228	50	278	18.0	788	0.8
Kershaw	360,485	563	264	12	276	4.3	1,306	0.5
Newberry	317,761	497	250	25	275	9.1	1,155	0.6
Sumter	338,968	530	257	12	269	4.5	1,260	0.5
Clarendon	298,087	466	250	12	262	4.6	1,138	0.6
Richland	340,121	531	228	25	253	9.9	1,344	0.5
Dorchester	302,717	473	228	12	240	5.0	1,261	0.5
Pickens	219,926	344	200	37	237	15.6	928	0.7
Calhoun	190,584	298	214	19	233	8.2	818	0.8
Marlboro	281,271	439	178	50	228	21.9	1,234	0.5
Marion	216,907	339	214	12	226	5.3	960	0.7
Jasper	309,889	484	193	20	213	9.4	1,455	0.4
McCormick	212,021	331	171	37	208	17.8	1,019	0.6
Edgefield	246,543	385	178	25	203	12.3	1,214	0.5
Greenwood	204,400	319	164	37	201	18.4	1,017	0.6
Allendale	216,455	338	164	37	201	18.4	1,077	0.6
Abbeville	223,113	349	142	50	192	26.0	1,162	0.6
Chesterfield	372,478	582	142	50	192	26.0	1,940	0.3
Darlington	286,228	447	157	25	182	13.7	1,573	0.4
Aiken	500,546	782	157	12	169	7.1	2,962	0.2
Oconee	284,348	444	128	37	165	22.4	1,723	0.4
York	276,650	432	142	22	164	13.4	1,687	0.4
Dillon	214,069	334	150	10	160	6.3	1,338	0.5
Lee	220,106	344	142	12	154	7.8	1,429	0.4
Barnwell	281,764	440	142	12	154	7.8	1,830	0.3
Saluda	192,173	300	114	37	151	24.5	1,273	0.5
Cherokee	156,664	245	92	12	104	11.5	1,506	0.4
Beaufort	147,441	230	50	12	62	19.4	2,378	0.3
Lexington	280,742	439	21	12	33	36.4	8,507	0.1
Total	14,028,896	21,920	11,583	1,491	13,074	11.4	1,073	0.6

95% Conf. Interval for harvest (+-) 1,112 (+-) 330 (+-) 1,172

Table 4. Estimated number of turkey hunters, average days hunted, and total hunting effort in SC in 2023.

County	Total Harvest	Number Hunters	Avg. Days Hunted	Total Man/Days
Abbeville	192	1,299	6.4	7,626
Aiken	169	1,081	5.9	5,830
Allendale	201	636	5.7	3,305
Anderson	278	1,190	5.9	6,399
Bamberg	296	881	6.3	5,104
Barnwell	154	609	6.5	3,603
Beaufort	62	236	4.0	869
Berkeley	623	1,781	6.1	9,946
Calhoun	233	654	4.9	2,905
Charleston	377	1,145	5.1	5,382
Cherokee	104	609	7.3	4,075
Chester	279	1,444	5.6	7,389
Chesterfield	192	745	5.8	3,952
Clarendon	262	772	5.4	3,839
Colleton	505	1,335	5.9	7,224
Darlington	182	590	6.4	3,448
Dillon	160	336	5.4	1,660
Dorchester	240	700	6.3	4,057
Edgefield	203	990	5.8	5,260
Fairfield	514	1,935	6.8	11,991
Florence	376	1,017	6.5	6,007
Georgetown	422	999	5.3	4,884
Greenville	532	1,444	4.9	6,441
Greenwood	201	836	6.1	4,642
Hampton	333	1,154	5.6	5,854
Horry	415	1,208	6.7	7,447
Jasper	213	690	5.8	3,682
Kershaw	276	1,245	5.8	6,562
Lancaster	326	881	5.8	4,635
Laurens	428	1,899	6.0	10,432
Lee	154	618	6.9	3,895
Lexington	33	427	4.9	1,908
McCormick	208	890	6.6	5,393
Marion	226	718	6.2	4,063
Marlboro	228	400	5.3	1,947
Newberry	275	1,717	5.6	8,808
Oconee	165	890	6.8	5,540
Orangeburg	532	1,617	5.6	8,237
Pickens	237	990	6.2	5,611
Richland	253	990	4.7	4,294
Saluda	151	890	7.3	5,932
Spartanburg	447	1,526	5.8	8,061
Sumter	269	863	7.1	5,582
Union	322	1,517	7.0	9,654
Williamsburg	662	1,390	5.7	7,248
York	164	736	6.7	4,515
Total	13,074	46,522	5.1*	255,140

*Note - Since individuals hunt multiple counties the average number of days hunted per county varies from the average number of days individuals hunt (6.8 days).

Figure 1. South Carolina Department of Natural Resources 2023 Turkey Hunter Survey.

- 2023 South Carolina Turkey Hunter Survey**
1. Did you turkey hunt in SC this past season (2023)? 1. Yes 2. No
If you answered **No** to this question please go to question # 11.
 2. Did you harvest any turkeys in SC this past season? 1. Yes 2. No
 3. Even if you did not harvest a turkey, please record the SC counties you turkey hunted and the number of days hunted in each county this past season (2023). If you harvested turkeys please record the number of adult gobblers and jakes taken in each county. A day of hunting is defined as any portion of the day spent afield. Please do not give ranges (i.e. 5-10), rather provide absolute numbers (i.e. 5). Provide information only for yourself - not friends, relatives, or other people you may have called or guided for or hunted with. (*Jakes typically have beards less than 6", spurs less than 1/2" and longer feathers in the center of their tail fan.*)

SC Counties You Turkey Hunted	# Days Hunted	Number Turkeys Harvested	
1		Adult gobblers _____	Jakes _____
2		Adult gobblers _____	Jakes _____
3		Adult gobblers _____	Jakes _____
4		Adult gobblers _____	Jakes _____

- If you did not harvest any turkeys in SC this past season please go to question 8.
4. If you harvested turkeys in SC this past season, please indicate as best you can the number of turkeys killed by County and 10-day period of the season.

County of Harvest	Number of Turkeys Harvested by Time Period				
	March 22-31	April 1-10	April 11-20	April 21-30	May 1-10
1.					
2.					
3.					

5. How many turkeys did you kill in the morning _____ after 12:00 noon _____?
6. How many turkeys did you kill on Private Land _____ and Public (WMA) Land _____?
7. Did you report your harvest to SC Game Check? 1. Yes 2. No
8. How many turkeys did you shoot but not kill or recover in SC this past season? _____
9. Compared to past years, how would you describe the number of turkeys in the area that you hunted most often this spring?
Circle one 1. Increasing 2. About the same 3. Decreasing
10. When turkey hunting, do you use shotgun shells with "heavier than lead" pellets (ex. TSS, Tungsten, Bismuth, Hunt-Shot)? 1. Yes 2. No
11. Are you a resident of SC? 1. Yes 2. No
12. If yes, which county _____

Separate and return this portion of the survey. Postage is prepaid. Please do not staple this form.



HELP MANAGE TURKEYS IN S.C. COMPLETE YOUR HUNTER SURVEY



TURKEY HUNTER SURVEY
SC DNR
PO BOX 167
COLUMBIA SC 29202-0167
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Figure 1. Continued.

May, 2023

Dear SC Turkey Hunter:

Eastern wild turkeys are one of the most important game species in South Carolina. Therefore, it is important that this species be monitored for population status and harvesting activities. Wildlife resource managers require current and accurate information about wild turkey harvests to aid in successfully managing this important natural resource and to optimize future hunting potential. To obtain this needed data, the South Carolina Department of Natural Resources (SCDNR) is conducting a survey of hunters who received a set of turkey tags during spring 2023.

Although electronic reporting of harvested turkeys is now required, SCDNR will continue to survey hunters to maintain consistency, determine hunter effort, and measure other aspects of turkey hunting. You are one of a group of randomly selected hunters asked to participate in this survey. To draw accurate conclusions it is very important that you complete the survey and return it. Please take time to read each question. Even if you did not hunt or harvest wild turkeys this spring please indicate this by answering the appropriate questions and moving on to the next set of questions.

Please note that complete confidentiality will be given to you. Keep in mind that the purpose of the survey is to determine the wild turkey harvest in South Carolina and not to determine whether game laws are observed. By accurately answering the survey questions you will enable SCDNR biologists to better manage the Eastern wild turkey resource for you and other citizens of the state. Therefore, it is very important that you take a few minutes to complete this survey and mail it. Return postage is prepaid.

Results of this survey will be posted on the SCDNR web site once completed. The results from the 2022 survey can be found at:
www.dnr.sc.gov/wildlife/turkey/2022TurkeyHarvest.html

Charles Ruth
Certified Wildlife Biologist
Big Game Program Coordinator

PLEASE MAIL YOUR SURVEY AFTER SEPARATING THIS HALF FROM THE SIDE ON WHICH YOUR ANSWERS HAVE BEEN ENTERED. NO POSTAGE IS NECESSARY.

If you have questions regarding this survey, please call 803-734-3886

The South Carolina Department of Natural Resources prohibits discrimination on the basis of race, color, sex, national origin, disability, religion or age. Direct all inquiries to the Office of Human Resources, P.O. Box 167, Columbia, SC 29202

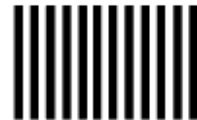
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TURKEY HUNTER SURVEY
SC DEPARTMENT OF NATURAL RESOURCES
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Figure 2. Spring wild turkey harvest in South Carolina 1982-2023. Since 2002 harvest has declined (45%) likely due to less than desirable annual recruitment (see Figure 2 below).

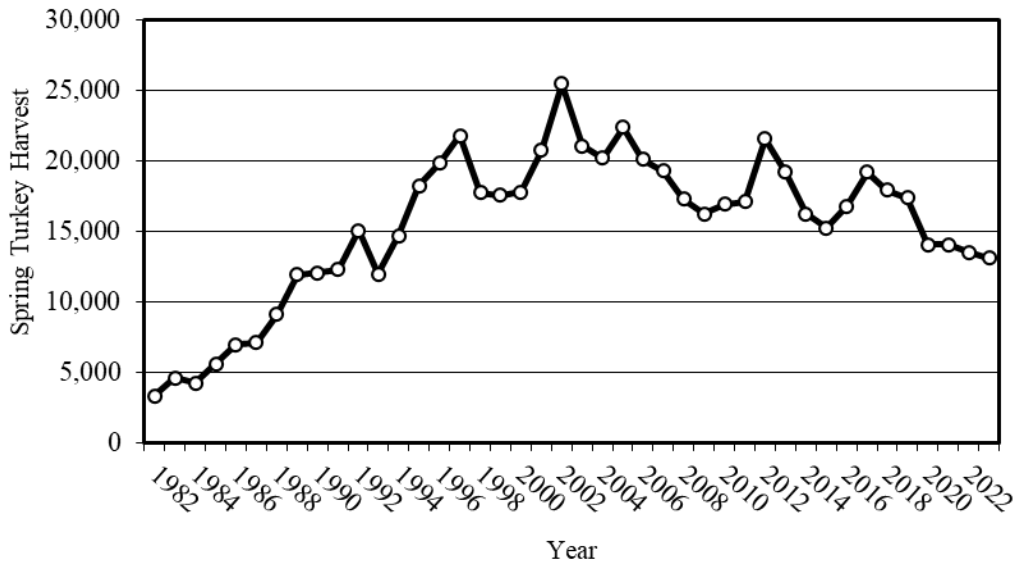


Figure 3. Summer wild turkey recruitment ratio in South Carolina 1982-2022. Note declining trend since 1988. Average recruitment prior to 1988 = 3.5. Average recruitment since 1988 = 2.1. This represents a 40 percent decrease in average recruitment.

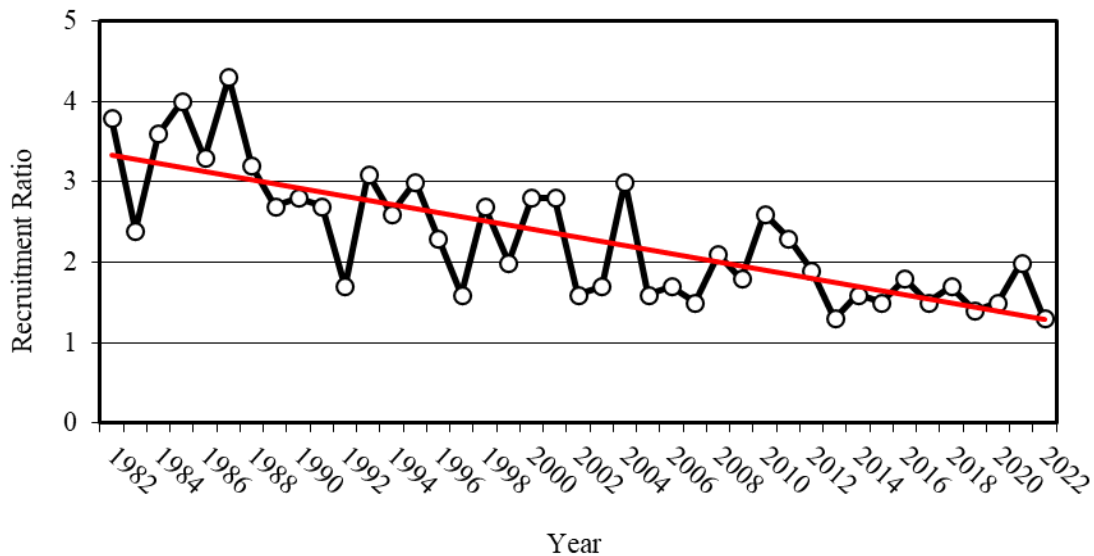


Figure 4. Percentage of gobblers harvested by period of season in South Carolina in 2023.

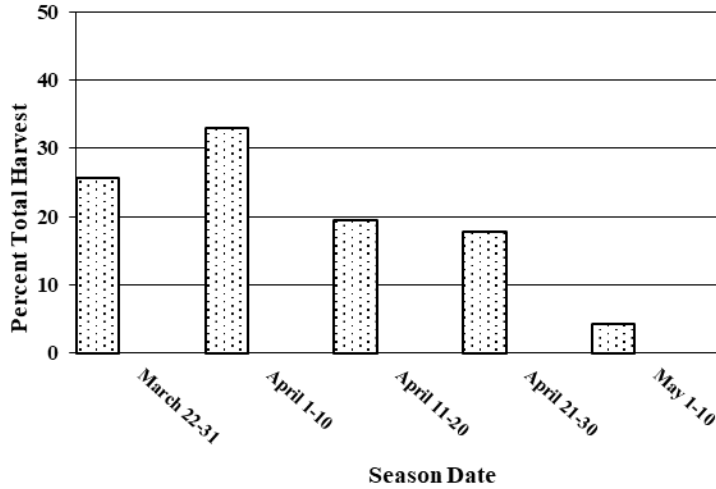


Figure 5. Percentage of gobblers harvested by period of season with March 22-April 30 framework in Game Zones 3 & 4 (coastal plain) in South Carolina in 2023.

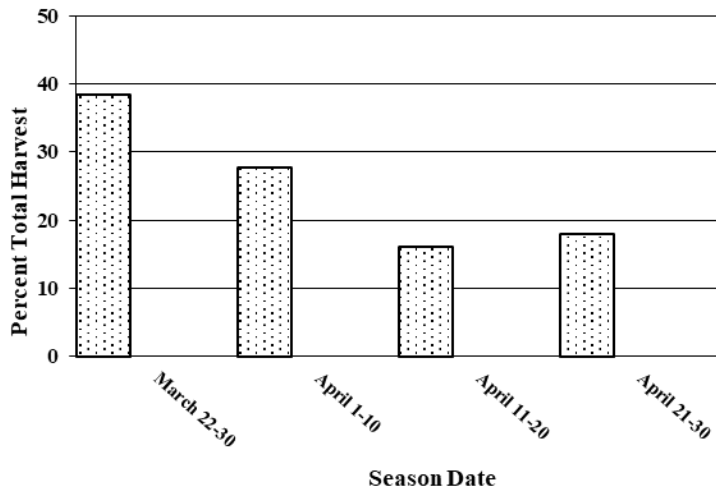


Figure 6. Percentage of gobblers harvested by period of season with April 1-May 10 framework in Game Zones 1 & 2 (piedmont and mountains) in South Carolina in 2023.

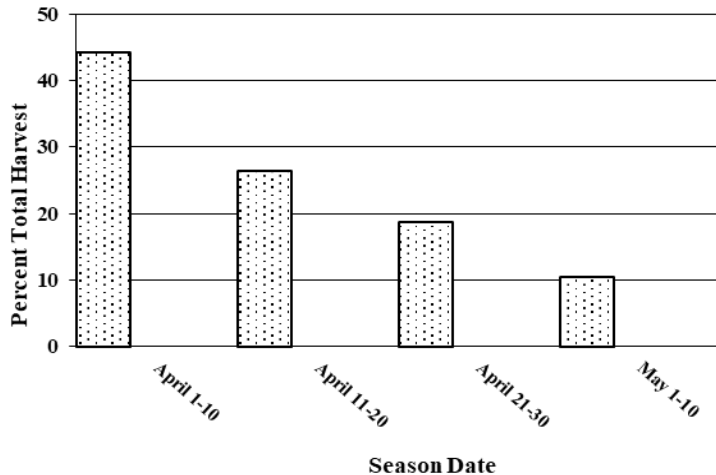


Figure 7. Hunter success during the spring turkey season in South Carolina in 2023. Overall success was 29 percent at harvesting at least one gobbler.

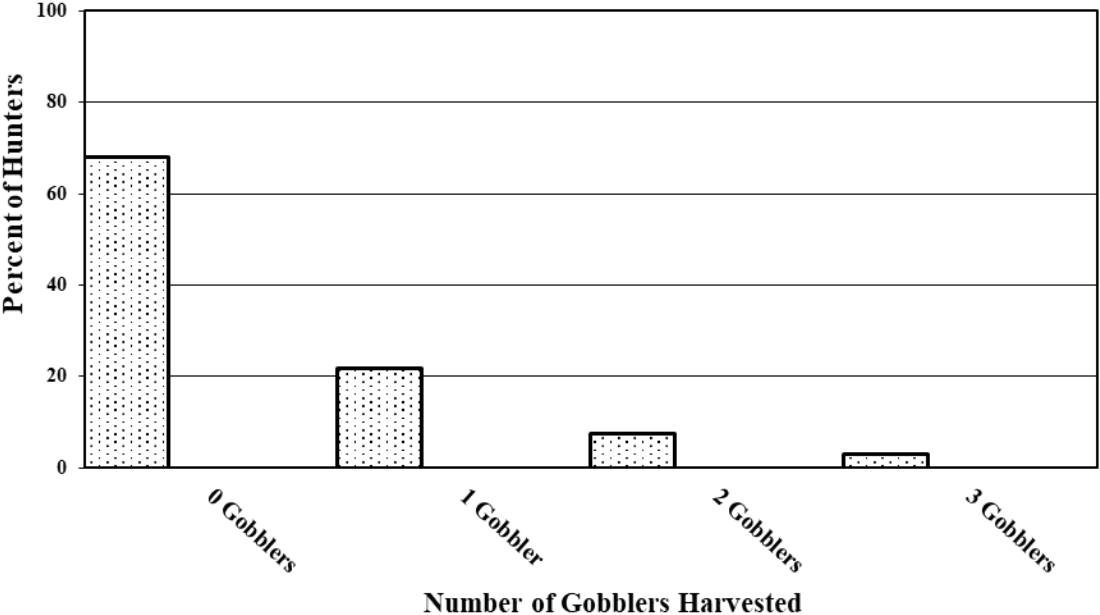


Figure 8. Relative contribution to the total turkey harvest by hunters taking between 1 and 3 gobblers in South Carolina in 2023.

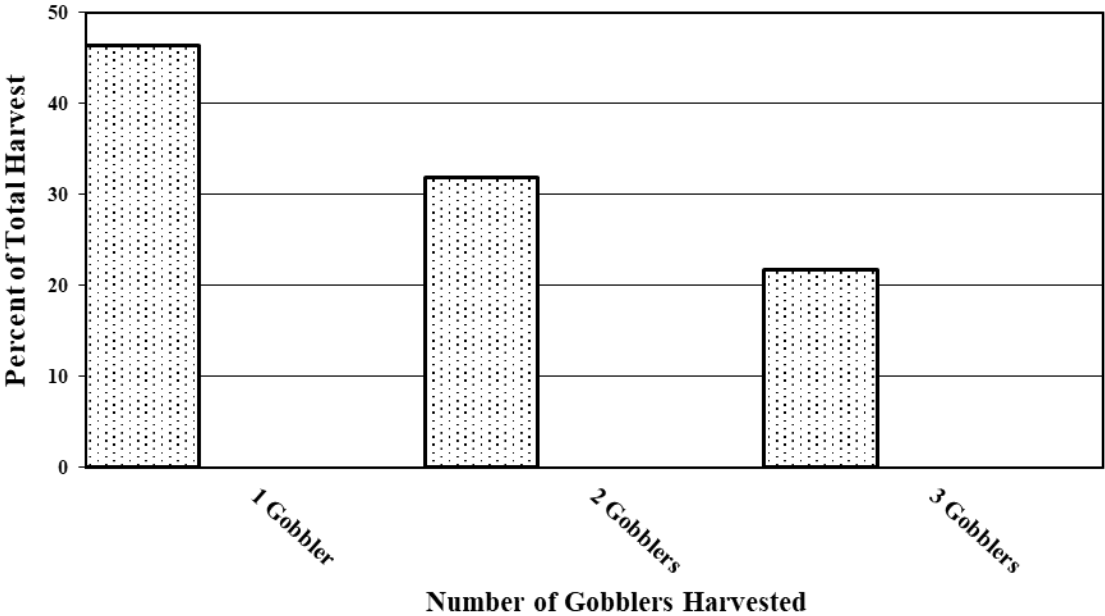


Table 5. Wildlife Management Area (WMA) turkey harvest reported through SC Game Check in 2023

WMA	County	Acreage	Juvenile	Adult	Total	Ac/Turkey
Aiken Gopher Tortoise HP WMA	Aiken	1,782	0	1	1	1782
Ashmore / Chandler HP WMA	Greenville	1,126	0	1	1	1126
Brasstown Creek HP WMA	Oconee	3,170	0	1	1	3170
Broad River Waterfowl Area	Fairfield	640	0	1	1	640
Cliff Pitts WMA	Laurens	1,098	1	0	1	1098
Crackerneck WMA~	Aiken	10,600	1	9	10	1060
Draper WMA*	York	806	0	2	2	403
Edisto River WMA*	Dorchester	1,394	1	4	5	279
Fants Grove WMA	Anderson, Oconee, Pickens	7,444	3	14	17	438
Forty-Acre Rock HP WMA	Lancaster	2,965	0	1	1	2965
Great Pee Dee River HP WMA	Darlington	2,725	0	4	4	681
Hamilton Ridge WMA	Hampton	13,281	0	11	11	1207
Hickory Top WMA	Clarendon	1,105	1	0	1	1105
James L. Mason WMA	McCormick	1,999	0	1	1	1999
Jocassee Gorges (JTNR)	Oconee, Pickens	33,000	1	16	17	1941
Keowee WMA	Oconee, Pickens	4,930	1	5	6	822
Landsford Canal FLA WMA	Chester	1,049	0	2	2	525
Lewis Ocean Bay HP WMA*	Horry	10,097	1	1	2	5049
Liberty Hill WMA	Kershaw, Lancaster	7,876	1	5	6	1313
Little Pee Dee River HP WMA*	Horry, Marion	10,444	1	6	7	1492
Long Creek Tract WMA	Oconee	20	0	2	2	10
Manchester State Forest WMA	Sumter	23,135	4	15	19	1218
Marsh WMA*	Marion	8,660	0	13	13	666
McBee WMA*	Chesterfield	1,221	0	1	1	1221
McCalla WMA	Abbeville	5,667	1	2	3	1889
Moultrie Hunt Unit WMA*	Berkeley	9,773	1	8	9	1086
Oak Lea WMA	Clarendon	2,000	1	7	8	250
Palachucola WMA	Hampton, Jasper	6,757	0	11	11	614
Pee Dee Station WMA*	Florence	2,701	1	14	15	180
Sand Hills State Forest WMA	Chesterfield, Darlington	46,838	1	24	25	1874
Santee Coastal Reserve WMA^	Charleston, Georgetown	4,000	0	2	2	2000
Santee Cooper Tract WMA	Spartanburg	90	2	0	2	45
Santee Dam WMA	Clarendon	575	0	2	2	288
Steven's Creek HP WMA	Edgefield, McCormick	434	0	3	3	145
Tall Pines WMA	Greenville	1,757	0	2	2	879
Kirsh/Ross/McConnells Tracts	York	1,192	0	1	1	1192
Waccamaw River HP*	Horry	6,691	0	6	6	1115
Webb WMA	Hampton	5,866	0	10	10	587
Wee Tee State Forest WMA	Georgetown, Williamsburg	12,439	0	2	2	6220
Woodbury WMA*	Marion	25,668	0	34	34	755
Worth Mountain WMA*	York	1,643	2	3	5	329
Other / Unnamed WMA	<i>various</i>	126,000	15	98	113	1115
Belfast WMA (Lottery)	Laurens, Newberry	4,664	0	1	1	4664
Bonneau Ferry WMA (Lottery)	Berkeley	10,712	0	6	6	1785
Donnelley WMA (Lottery)	Colleton	8,066	0	5	5	1613
Wateree River HP WMA (Lottery)	Richland	3,674	0	5	5	735
USFS Francis Marion NF	Berkeley, Charleston	259,000	16	178	194	1335
USFS Sumter NF	Numerous	375,000	24	250	274	1369
TOTAL		1,060,808	80	788	868	1222

* Open for hunting Thurs. - Sat. only

~ Open for hunting Fri. & Sat. only

^ Open for hunting Saturdays only. Acreage figure is huntable upland acres, not total WMA acreage.

2023 SC WILD TURKEY SUMMER SURVEY

Annually since the early 1980's, the S.C. Department of Natural Resources (SCDNR) has conducted a Summer Turkey Survey to estimate reproduction and recruitment of wild turkeys in South Carolina. The survey involves agency wildlife biologists, technicians, and game wardens, as well as many volunteers from other natural resource agencies and the general public. This year approximately 150 participants recorded 772 unique observations, seeing approximately 3,840 turkeys across the state in July and August. Although wild turkeys nest primarily in April and May in South Carolina, the survey does not take place until late summer. Therefore, the survey statistics document poults (young turkeys) that survived and entered the fall population (Table 1).

Wild turkey productivity is assessed by observations of reproduction and associated survival of offspring being recruited into the population. This measure of young entering the population based on the number of hens in the population is the Total Recruitment Ratio (TRR). This annual index is the most practical measure of productivity because it considers successful hens, unsuccessful hens, and poult survival. Recruitment of four or more poults per hen is considered excellent, three is good, two is fair and considered a break-even point, and less than two poults per hen is poor. If hens are successful at some level, a turkey population can be maintained. However, the goal is to optimize conditions through management applications to promote optimal reproductive success and turkey populations that provide sustainable, quality turkey hunting opportunities into the future. Unlike deer, wild turkeys are much more susceptible to significant fluctuations in reproduction and recruitment. Lack of reproductive success is often associated with bad weather (cold and wet) during nesting and brood rearing season. However, there are a host of predators that take advantage of turkey nests and broods including: raccoons, opossums, skunks, armadillos, snakes, foxes, coyotes, bobcats, feral hogs, and numerous avian predators including hawks, owls, and crows.

South Carolina has experienced declines in turkey productivity since 1988. Average recruitment prior to 1988 was 3.5 poults per hen. Average recruitment since 1988 has been 2.1, representing a 40 percent decrease in average recruitment. Coincidentally, the turkey harvest has decreased approximately 50 percent since it peaked in 2002. This has been a slow and steady decline with TRR numbers in the 1990's averaging 2.5, but since 2005 numbers below 2.0 have been the norm with an average TRR the last 15 years of 1.7 (Figure 2). Long term average TRR figures consistently below 2.0 are indicative of a shrinking population. This year's statewide TRR was 1.2, an all-time low level since the survey began in 1982. The Southern Coastal Plain was the only bright spot this year with a regional TRR of 2.1, which is not a stellar figure but was double the TRR for all other regions of the state. For hens that successfully raise a brood, average brood sizes of 3.5 to 4 poults have remained consistent over time. However, the driving factor in the low productivity is the high percentage of hens that have no poults at all by late summer. Sixty-six (66) percent of hens observed this summer had no poults and that figure has averaged 60% the last five years (Table 2). Hens without poults are considered unsuccessful and either did not attempt to nest, abandoned their nest, lost their nest to predation or disturbance, or had no poults survive due to predation, exposure, starvation, disease, or flooding.

It is also worth noting that turkeys have high reproductive potential and are normally able to maintain populations despite predation and weather-related factors. Predators and periodic poor weather conditions existed prior to the year 2000 so this more recent and prolonged poor success may be tied to a high number of hens that did not breed successfully or poor fitness, vigor and survival of poults due to genetics, disease, other environmental factors or large-scale changes in habitat. Continued research, surveys and attention to season timing, bag limits and other potential contributing factors is warranted.

Both short- and long-term fluctuations up and down are not unexpected given the reproductive strategy of turkeys and the multiple factors that influence their success and survival. This inherent instability is the reason that annual monitoring is critical for this species. Anyone interested in participating in the annual Summer Turkey Survey is encouraged to sign-up. The survey period is July 1-August 29 annually and those who participate typically spend a reasonable amount of time outdoors during that period. Cooperators obviously must be able to identify wild turkeys and must be comfortable in telling the difference between hens, poults, and gobblers. If you would like to participate in the survey, contact Jay Cantrell at cantrellj@dnr.sc.gov. You will be added to the cooperator list and receive materials at the end of June annually. Those interested in the survey can also download instructions and survey forms at the following website: <http://www.dnr.sc.gov/wildlife/turkey/volunbroodsurvey.html>

Figure 1. Map of physiographic regions for 2023 Summer Turkey Survey.

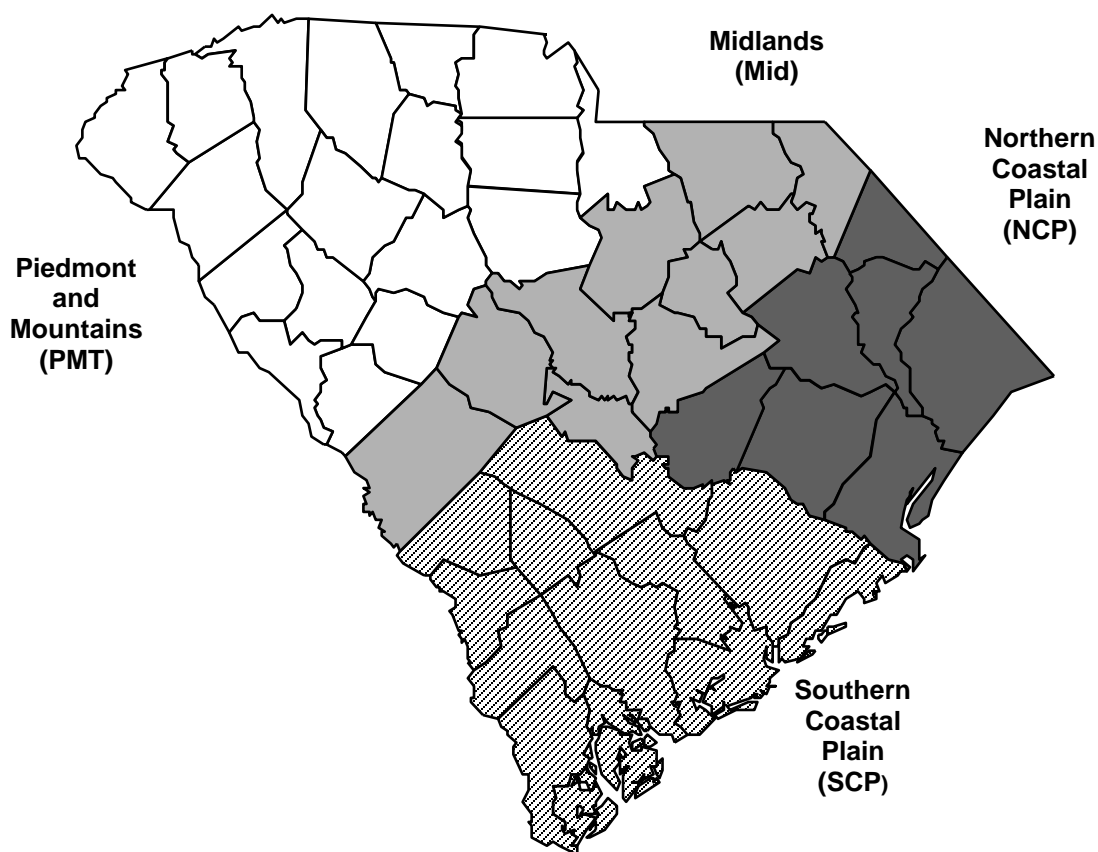


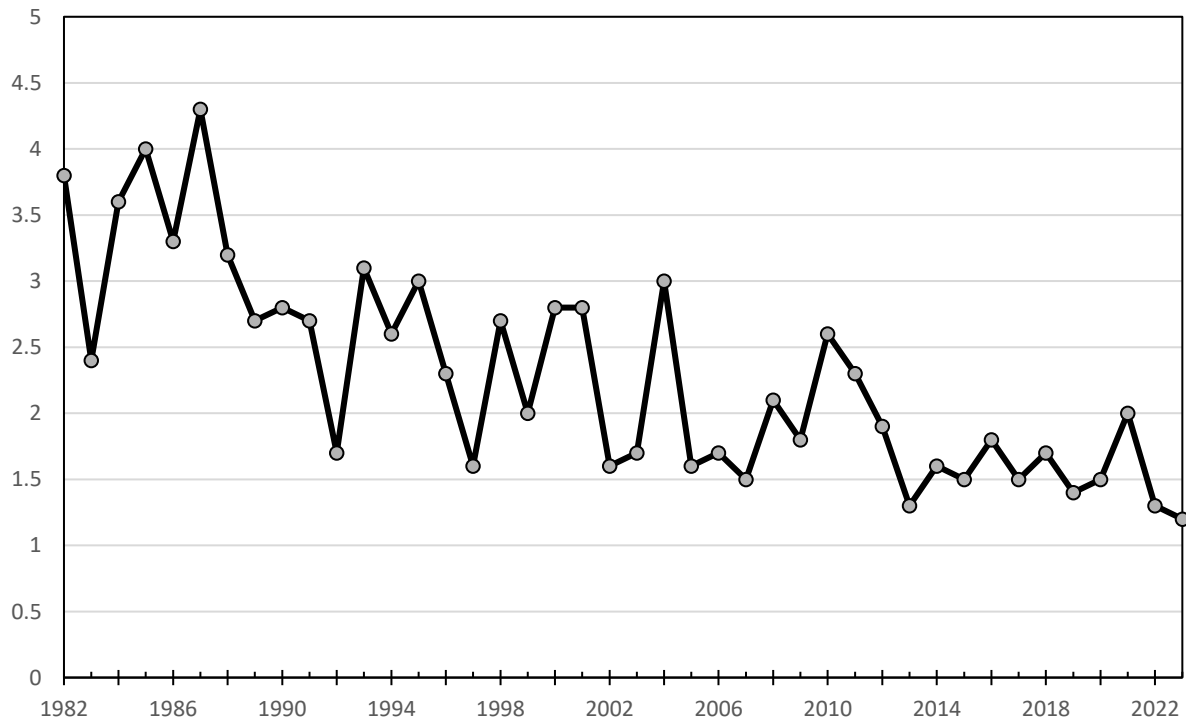
Table 1. Summary of reproductive data for 2023 Summer Turkey Survey by region.

Region	Gobbler/ Hen Ratio	No. Hens w/Poults	No. Hens w/o Poults (%)	No. Poults	Avg. Brood Size	Total Recruitment Ratio
Piedmont & Mtns	0.63	126	311 (71)	434	3.4	1.0
Midlands	0.69	53	160 (75)	181	3.4	0.9
Northern Coastal	0.74	96	210 (69)	306	3.2	1.0
Southern Coastal	0.70	148	123 (45)	572	3.9	2.1
Statewide	0.68	423	804 (66)	1493	3.5	1.2

Table 2. Statewide Summer Turkey Survey reproductive data 2018-2023.

Year	Gobbler/ Hen Ratio	No. Hens w/Poults	No. Hens w/o Poults (%)	No. Poults	Avg. Brood Size	Total Recruitment Ratio
2019	0.62	728	1,173 (62)	2,670	3.7	1.4
2020	0.54	807	1,225 (60)	2,971	3.7	1.5
2021	0.54	976	978 (50)	3,966	4.1	2.0
2022	0.62	656	1162 (64)	2,290	3.5	1.3
2023	0.68	423	804 (66)	1,493	3.5	1.2
Average	0.60	718	1,068 (60)	2,678	3.7	1.5

Figure 2. Summer wild turkey recruitment ratio in South Carolina 1982-2023.



SUMMARY OF CURRENT WILD TURKEY RESEARCH IN SOUTH CAROLINA

SCDNR is contributing funding and cooperating on a study entitled “Reproductive Ecology of Wild Turkeys in an Unhunted Population.” This is a joint project between SCDNR, USDA Forest Service-Southern Research Station, University of Georgia, Louisiana State University, and University of Missouri. This research is occurring on the Savannah River Site (SRS) and is focused on evaluating reproductive ecology of a population of wild turkeys not exposed to hunting. Specific objectives include:

1. Determining space use, habitat selection, and survival of male and female wild turkeys
2. Assessing nesting and brooding ecology of female wild turkeys, with a focus on thoroughly describing nesting chronology and behavior of females during laying, incubating, and brooding.
3. Describing vegetative and habitat characteristics associated with nest sites and areas used by brooding females.
4. Spatially and temporally describing gobbling activity and relating gobbling activity to nesting chronology of females and movement ecology of males.
5. Evaluating the genetic mating system of wild turkeys and describe patterns of parentage in clutches of females.

These research objectives have been studied on several other study sites across the Southeast in recent years on populations subjected to hunting (i.e. the recent SCDNR funded project at the Webb Wildlife Center). By conducting parallel research on an unhunted population, we will be able to better assess the impacts of hunting on wild turkeys.

Note – Due to the timing of this report and the timing of field work associated with this study, the following update on activities is the same as the 2022 Wild Turkey Legislative Report (May 2023). Field work on the project resumed in December 2023 and this report was completed in January 2024.

To date, over 200 birds have been captured and banded. Approximately 190 of these birds were marked with GPS transmitters. Overall nest initiation rates are averaging about 90 percent with 35 percent initial nest success and 60 percent brood survival. All of these measures are greater than the 2014-2018 Webb Center study in South Carolina and a number of other hunted study sites in the southeast. This project will continue until 2025 and findings will be provided as they become available.

WILD TURKEY PUBLIC LANDS HABITAT ENHANCEMENT PROGRAM

Legislation passed by the SC General Assembly in 2019 created a fee on turkey tags beginning in 2020. The statute calls for a portion of the turkey tag revenue to be used for the improvement of wild turkey habitat and hunting opportunities on public lands. The *South Carolina Wild Turkey Public Lands Habitat Enhancement Program* is a new partnership between SCDNR and the South Carolina Chapter of the National Wild Turkey Federation (NWTf SC). SCDNR turkey

tag revenue is combined with funds received from the NWTF SC through their Hunting Heritage Super Fund, dollars generated by local chapter banquets, and other fund-raising events across the state. By joining funds and efforts of SCDNR and NWTF SC, this cooperative cost-share program provides resources to State and Federal land managers to accomplish management projects on public lands open to turkey hunting to benefit wild turkeys and other wildlife on public lands open to hunting in South Carolina.

Annually, a request for proposals (RFP) for the program are made available to public land managers. Project proposals are rated by a committee consisting of SCDNR staff, the NWTF District Biologist, and designees from the NWTF SC Board of Directors. Wild turkey management projects that are considered include habitat/ecosystem restoration, pre-commercial thinning, firebreak installation, prescribed burning, native and exotic vegetation control, creation or expansion of wildlife openings, road daylighting, hunter access improvements, early successional habitat maintenance, planting of annuals, perennials, shrubs, and trees, or other beneficial management practices. Well designed, multi-year habitat projects generally receive higher evaluation scores; however annual project proposals, requested equipment purchases, or other similar projects are not precluded from consideration.

During the 2023 cycle, approximately \$80,000 of turkey tag revenue was combined with NWTF dollars to fund 17 projects. These projects positively impacted over 6,000 acres of habitat on SCDNR, US Fish and Wildlife Service, US Forest Service, US Department of Energy, US Army Corps of Engineers, and Clemson University properties across the state.