

2017 Wild Turkey Summer Survey



Wild Turkey Reproduction Holding Steady Across the State

Jay Cantrell, SCDNR Assistant Big Game Program Coordinator

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 conservation officers, as well as many volunteers from other natural resource agencies and the general public. This year over 300 observers recorded 1866 unique observations, seeing over 10,000 turkeys across the state in July and August. This was the best participation in the survey in ten years. More observations lead to higher quality data and better confidence in the information collected.

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 actually survived and entered the fall population.

Reproduction in turkeys has generally been low for the last twelve years. This year, average brood size of 3.4 poults remained good, but the Total Recruitment Ratio (TRR) was 1.5, a less than desirable figure. This low figure was driven by a high percentage of hens (55%) that had no poults at all by late summer. TRR has averaged 1.5 over the last 5 years, keep in mind that 2.0 is somewhat of a break even mark. In fact, when turkey populations were expanding during the 1980's recruitment ratio averaged 3.5. Total Recruitment Ratio is a measure of young entering the population based on the number of hens in the population. Although this observed measure of reproduction was poor in most of the state and definitely lower than we would like to see, the good news is the recruitment index has been stable over the past 5 years. Although we are not seeing an increase in these numbers and we are not where we need to be to see widespread increases in the turkey population in South Carolina, it is encouraging that things seem to have leveled off and the downward trajectory of the population has stalled the last several years.

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, bobcats, and numerous avian predators. Coyotes which are not native but are now well established in the state can be added to the list of turkey predators. Additionally, feral hogs are expanding on the landscape and can be a significant nest predator. Turkeys naturally have high reproductive potential and are therefore able to maintain populations in spite of predation and other mortality factors.

What does reproduction last summer mean for the spring turkey hunter? Spring harvest trends have followed trends in reproduction for many years. For example, the harvest in 2015 was down significantly which was not a surprise because reproduction in 2013 was the lowest on record. The 2016 spring harvest showed a 10 percent increase in harvest over 2015. Just as the reduced harvest in 2015 was explained by the all-time low reproduction in 2013, the increase in harvest seen in 2016 was likely a result of slightly better reproduction in both 2014 and 2015 which led to an increase in turkey numbers in many parts of the state. The 2017 spring harvest (19,171) was up 14 percent over 2016. The association between changes in reproduction and its effects on harvest are rather remarkable in South Carolina's turkey harvest and reproductive data sets. Based on this information and the 2016 summer recruitment numbers (TRR=1.8) being the highest since 2012, we can expect to see another increase in the harvest in the spring of 2018.

Finally, the gobbler to hen ratio during last summer's survey was 0.58 which is average for the past 5 years. Low gobbler to hen ratios can affect the quality of hunting because hens are extremely available which affects gobbling and responsiveness to calling by hunters.

The bottom line is this year's turkey harvest was 25 percent below the record level that we saw 15 years ago. However, that 2002 record was a one-time peak and the 2017 harvest estimate is dead on with the average gobbler harvest over the last 22 years. That fact combined with 5 years of stability in the summer survey data offers encouragement that the long term population trend is leveling off and moving toward static. It is possible that following restocking and restoration efforts and the tremendous population growth we experienced following those endeavors that we are now settling into a "new normal" of population levels, reproductive rates and harvest numbers. 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 time 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 2017 Summer Turkey Survey.

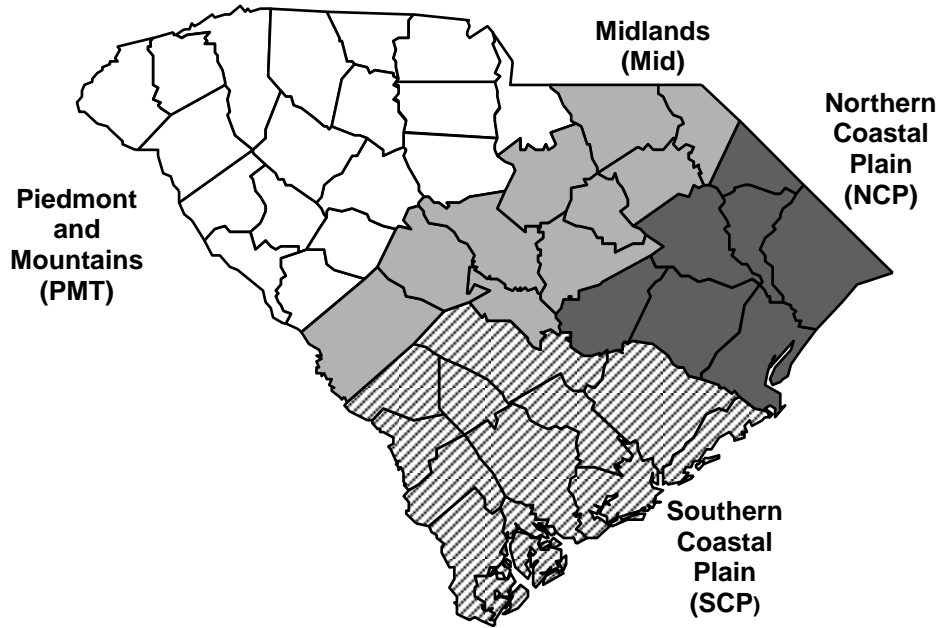


Table 1. Summary of reproductive data for 2017 Summer Turkey Survey by region.

Region	Gobbler Hen Ratio	No. Hens w/Poults	No. Hens w/o Poults (%)	No. Poults	Avg. Brood Size	Total Recruitment Ratio
Piedmont	0.55	691	807 (54)	2,278	3.3	1.5
Midlands	0.52	185	293 (61)	700	3.8	1.5
Northern Coastal	0.55	151	142 (48)	501	3.3	1.7
Southern Coastal	0.67	382	495 (56)	1,353	3.5	1.5
Statewide	0.58	1,409	1,737 (55)	4,832	3.4	1.5

Table 2. Statewide Summer Turkey Survey reproductive data 2013-2017.

Year	Gobbler Hen Ratio	No. Hens w/Poults	No. Hens w/o Poults (%)	No. Poults	Avg. Brood Size	Total Recruitment Ratio
2013	0.70	810	1,588 (66)	3,169	3.9	1.3
2014	0.60	983	1,403 (59)	3,834	3.9	1.6
2015	0.50	1,077	1,543 (59)	3,829	3.6	1.5
2016	0.48	893	1,003 (53)	3,370	3.8	1.8
2017	0.58	1,409	1,737(55)	4,832	3.4	1.5
Average	0.57	1,034	1,455 (58)	3,807	3.7	1.5

Table 3. 2017 Summer Turkey Survey Results by County.

County	Region	No. Observ.	No. Poults	Hens w/ Poults	No. Hens w/o Poults	Total Hens	% Hens w/o Poults	No. Gobblers	No. Unid.	Total Turkeys
Abbeville	PMT	22	54	13	11	24	46	12	3	93
Aiken	MID	92	79	26	87	113	77	75	11	278
Allendale	SCP	41	100	34	47	81	58	29	19	229
Anderson	PMT	20	56	25	8	33	24	20	2	111
Bamberg	SCP	31	71	16	54	70	77	13	1	155
Barnwell	SCP	51	98	22	19	41	46	30	17	186
Beaufort	SCP	1	0	0	6	6	100	0	0	6
Berkeley	SCP	139	263	86	106	192	55	191	65	711
Calhoun	MID	27	79	26	53	79	67	30	11	199
Charleston	SCP	89	183	66	90	156	58	82	32	453
Cherokee	PMT	0	0	0	0	0	0	0	0	0
Chester	PMT	65	201	42	80	122	66	93	39	455
Chesterfield	MID	14	42	9	23	32	72	24	0	98
Clarendon	NCP	37	139	37	30	67	45	49	0	255
Colleton	SCP	43	85	26	51	77	66	39	25	226
Darlington	MID	30	155	28	8	36	22	13	1	205
Dillon	NCP	15	44	11	0	11	0	4	9	68
Dorchester	SCP	16	51	13	9	22	41	31	12	116
Edgefield	PMT	93	217	76	88	164	54	110	12	503
Fairfield	PMT	96	298	77	54	131	41	122	14	565
Florence	NCP	9	37	11	2	13	15	8	3	61
Georgetown	NCP	27	113	36	38	74	51	37	3	227
Greenville	PMT	6	12	6	15	21	71	17	0	50
Greenwood	PMT	51	161	55	26	81	32	30	2	274
Hampton	SCP	53	307	62	50	112	45	83	14	516
Horry	NCP	19	42	18	9	27	33	6	22	97
Jasper	SCP	0	0	0	0	0	0	0	0	0
Kershaw	MID	24	71	22	29	51	57	14	0	136
Lancaster	PMT	10	49	20	1	21	5	5	0	75
Laurens	PMT	39	49	27	32	59	54	28	7	143
Lee	MID	19	42	16	22	38	58	20	0	100
Lexington	MID	12	7	4	31	35	89	4	0	46
Marion	NCP	13	21	7	5	12	42	22	3	58
Marlboro	MID	2	6	2	3	5	60	0	0	11
McCormick	PMT	74	125	60	68	128	53	40	20	313
Newberry	PMT	51	105	28	37	65	57	59	10	239

County	Region	No. Observ.	No. Poults	Hens w/ Poults	No. Hens w/o Poults	Total Hens	% Hens w/o Poults	No. Gobblers	No. Unid.	Total Turkeys
Oconee	PMT	52	134	36	32	68	47	33	12	247
Orangeburg	SCP	55	195	57	63	120	53	92	15	422
Pickens	PMT	99	233	79	126	205	61	63	8	509
Richland	MID	38	179	42	15	57	26	45	0	281
Saluda	PMT	44	89	33	44	77	57	47	1	214
Spartanburg	PMT	59	182	37	55	92	60	66	15	355
Sumter	MID	14	40	10	22	32	69	25	3	100
Union	PMT	111	279	72	100	172	58	68	10	529
Williamsburg	NCP	48	105	31	58	89	65	36	2	232
York	PMT	15	34	5	30	35	86	11	4	84
STATE TOTAL		1866	4832	1409	1737	3146	55	1826	427	10231