2009 Wild Turkey Summer Brood Survey

WILD TURKEY REPRODUCTION DOWN AGAIN THIS SUMMER

After increasing slightly in 2008, reproduction by wild turkeys decreased once again in 2009 based on a S.C. Department of Natural Resources survey.

Annually since the early 1980's, the S.C. Department of Natural Resources (DNR) conducts a Summer Turkey Brood Survey to estimate reproduction and recruitment of 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.

Although wild turkeys nest primarily in April and May in South Carolina, the survey does not take place until late summer, according to Charles Ruth, DNR Deer and Turkey Project supervisor. Therefore, the survey statistics document poults (young turkeys) that actually survived and entered the population going into the fall. Although average brood size was good this year with hens averaging 3.7 poults, 54 percent of hens observed had no poults at all by late summer leading to a total recruitment ratio of 1.8. Recruitment ratio is a measure of young entering the population based on the number of hens in the population. Both of these statistics were lower than biologists would like to see and continue the recent trend in poor reproduction by turkeys in the state. Reproduction in turkeys has been poor to only fair across most of the state 6 out of the last 7 years and after a small increase in 2008, reproduction appears to have fallen again in 2009.

"At the regional level it appears that reproduction improved somewhat in the piedmont and mountains, however, the figures were not as encouraging in the coastal plain and midlands. "In the Southeast," Ruth said, "Mother Nature often plays a big role in turkey populations with heavy rainfall coupled with cool temperatures during the spring nesting and brood rearing season leading to poor reproductive success." There was much more widespread thunderstorm activity which produced significant rainfall across the lower half of the state which may have caused problems in that region. On the other hand, it was much drier in the upstate and reproduction tended to be a little better. In both cases it makes sense, Ruth said.

"Another thing to consider is the notion that we have reached a point in time where the relationship between the turkey population and habitat is simply not as good as it was when turkeys were expanding across the state", said Ruth. We have seen a decline in the deer population in most areas in the last 6-8 years and this is likely linked to the amount of habitat in pine plantations that are greater than 10 years old. This type of habitat simply does not have high productivity and it may be playing a role in turkey reproduction.

What does poor reproduction in 2009 mean for the spring turkey hunter? Ruth indicated, "Harvest trends have followed the trend in poor reproduction in recent years and we have seen about a 30 percent decline in harvest since 2002. This trend is expected to continue. The number of mature gobblers (2 years and older) available during the spring of 2010 should be about the same as in 2009 if not lower across most of the state. The number of jakes (immature gobblers) should also be somewhat lower than hunters like to see. This is significant because jakes can make up 25 percent of the spring harvest following years of good reproduction." On a

positive note, the gobbler to hen ratio remains relatively good with a statewide average of 0.66 gobblers to each hen. The exception was in the piedmont and midlands were the gobbler to hen ratio was less than 0.4. Many experts believe that when gobbler to hen ratios get below 0.5, the quality of hunting can be impacted because hens are extremely available which affects gobbling and responsiveness to calling by hunters.

"The bottom line," Ruth said, "is that it will likely take a couple of years of better reproduction to overcome less than desirable reproduction the last six years." That is the nice thing about turkeys though; given the right conditions they can naturally bounce back in a short period of time.

"Anyone interested in participating in the annual Summer Turkey Brood Survey is encouraged to sign-up", said Ruth. The survey period is July 1-August 29 annually and folks who participate typically spend some 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 gobbers. Cooperators are provided with survey forms prior to the survey and a reporting notice and postage paid envelop at the end of the survey period. If you would like to participate in the survey, send your name and address to Turkey Brood Survey, P.O. Box 167, Columbia, SC 29202. You will be added to the cooperator list and receive materials at the end of June annually.

Figure 1. Map of physiographic regions for 2009 Summer Turkey Survey.

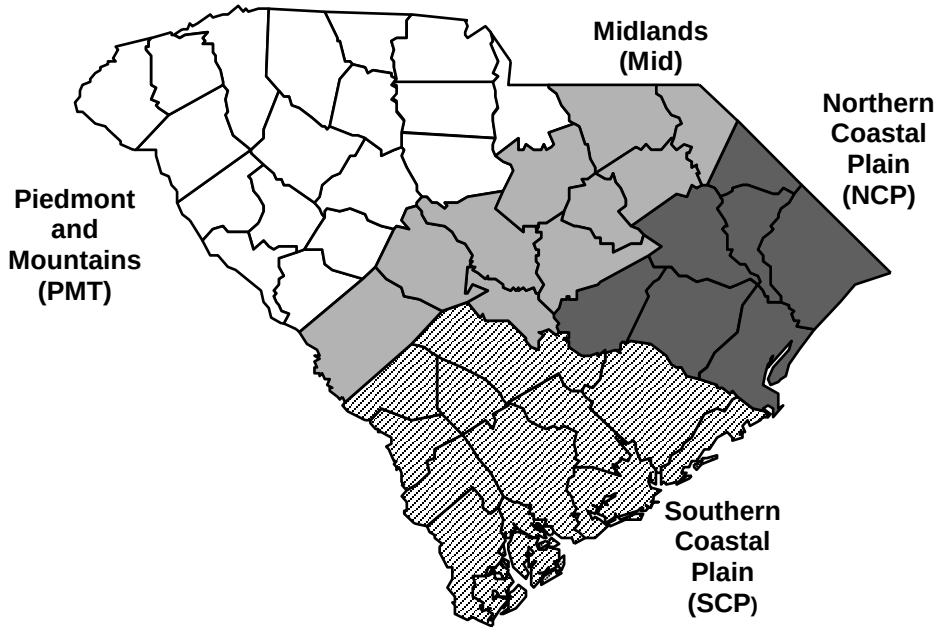

Table 1. Summary of reproductive data for 2009 Summer Turkey Survey by region.

Region	Gobbler Hen Ratio	No. Hens w/Poults	No. Hens w/o Poults (%)	No. Poults	Avg. Brood Size	Total Recruitment Ratio
Piedmont	0.39	362	277 (43)	1,516	4.2	2.4
Midlands	0.33	123	158 (56)	465	3.8	1.7
Northern Coastal	0.67	194	307 (61)	695	3.6	1.4
Southern Coastal	0.85	617	757 (55)	2,213	3.6	1.6
Statewide	0.66	1,296	1,499 (54)	4,889	3.7	1.8

Table 2. Statewide Summer Turkey Survey reproductive data 2004-2009.

Year	Gobbler Hen Ratio	No. Hens w/Poults	No. Hens w/o Poults (%)	No. Poults	Avg. Brood Size	Total Recruitment Ratio
2004	0.62	1,159	447 (28)	4,854	4.1	3.0
2005	0.77	936	989 (51)	3,066	3.3	1.6
2006	0.61	1,078	1,078 (50)	3,659	3.4	1.7
2007	0.77	904	1,269 (58)	3,240	3.6	1.5
2008	0.71	1,504	1,446 (49)	6,336	4.2	2.1
2009	0.66	1,296	1,499 (54)	4,889	3.7	1.8
Average	0.69	1,146	1,125 (50)	4,340	3.7	2.0

Table 3. 2009 Summer Turkey Survey Results.									
County	No. Observ.	No. Poults	No. Hens w/ Poults	No. Hens w/o Poults	No. Hens	% Hens w/o Poults	No. Gobblers	No. Unid.	Total Turkeys Observed
Abbeville	11	25	5	9	14	64	10	0	49
Aiken	74	76	24	82	106	77	30	17	229
Allendale	16	14	6	12	18	67	47	14	93
Anderson	13	44	13	4	17	24	22	2	85
Bamberg	63	475	109	76	185	41	116	29	805
Barnwell	139	135	61	127	188	68	173	22	518
Beaufort	47	241	74	166	240	69	176	0	657
Berkeley	244	732	202	163	365	45	413	58	1568
Calhoun	10	59	19	5	24	21	3	0	86
Charleston	37	52	16	38	54	70	35	8	149
Cherokee	0	0	0	0	0		0	0	0
Chester	22	172	37	17	54	31	16	4	246
Chesterfield	33	139	33	16	49	33	16	29	233
Clarendon	20	32	9	29	38	76	31	43	144
Colleton	45	137	41	43	84	51	68	17	306
Darlington	6	10	3	5	8	63	8	0	26
Dillon	9	21	10	6	16	38	8	10	55
Dorchester	7	41	8	4	12	33	6	4	63
Edgefield	15	49	9	7	16	44	6	5	76
Fairfield	27	67	16	26	42	62	27	19	155
Florence	30	67	16	12	28	43	42	41	178
Georgetown	74	198	64	114	178	64	115	0	491
Greenville	8	77	13	2	15	13	3	0	95
Greenwood	26	51	21	29	50	58	9	0	110
Hampton	47	233	71	78	149	52	106	17	505
Horry	10	17	2	7	9	78	3	31	60
Jasper	19	44	11	25	36	69	15	6	101
Kershaw	8	4	2	24	26	92	9	0	39
Lancaster	8	40	9	6	15	40	0	0	55
Laurens	14	46	15	4	19	21	9	2	76
Lee	8	10	6	18	24	75	7	6	47
Lexington	3	5	1	2	3	67	0	0	8
McCormick	57	143	34	38	72	53	38	20	273
Marion	23	112	31	21	52	40	44	0	208
Marlboro	9	23	8	2	10	20	4	2	39
Newberry	45	204	40	25	65	38	24	42	335
Oconee	19	91	21	16	37	43	7	3	138
Orangeburg	17	109	18	25	43	58	23	2	177
Pickens	46	171	59	22	81	27	39	8	299
Richland	30	144	32	19	51	37	20	10	225
Saluda	13	22	5	20	25	80	9	5	61
Spartanburg	15	81	14	7	21	33	10	15	127
Sumter	8	38	12	10	22	45	16	8	84
Union	29	132	27	30	57	53	7	6	202
Williamsburg	55	205	45	93	138	67	75	93	511
York	29	101	24	15	39	38	13	0	153
State Total	1,488	4,889	1296	1,499	2,795	54	1858	598	10,140