2008 SUMMER TURKEY BROOD SURVEY

WILD TURKEY REPRODUCTION INCREASES SLIGHTLY THIS SUMMER

Based on a S.C. Department of Natural Resources survey, reproduction by wild turkeys increased only slightly over 2007 which was the poorest year on record, according to a state wildlife biologist.

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.

After poor reproduction the last three years, it appears that wild turkey reproduction increased in 2008, but this increase was only slight, according to Charles Ruth, DNR Deer and Turkey Project supervisor. 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 population going into the fall. Although average brood size was good with hens averaging 4.2 poults, 49 percent of hens observed had no poults at all by late summer leading to a total recruitment ratio of 2.1. 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 represent what could be considered a "break even" situation.

"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." However, that does not appear to be the case in 2008 because those types of events were not widespread across the state. Clearly there may have been broods lost due to strong thunderstorms at the local level, however, this does not explain what can be considered only fair reproduction at the statewide level.

"At the regional level it appears that reproduction was poorest in the piedmont and mountains and increased slightly moving towards the lower coastal plain. Perhaps this is related to the pattern of drought that the state is currently experiencing. Although dry conditions are typically good for turkey reproduction, there is likely a limit to what constitutes dry in terms of being beneficial to turkeys. Under the conditions that much of the state experienced this summer, the production of food in the form of seeds and insects could have been limited, as could the vegetative growth that is important brood rearing cover,"

Finally, "Perhaps 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 fair reproduction in 2008 mean for the spring turkey hunter? Ruth indicated, "Although reproduction was a little better this year, following the previous three years of poor

reproduction the number of mature gobblers (2 years and older) available during the spring of 2009 will be about the same 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 good with a statewide average of 0.71 gobblers to each hen. The only exception was in the piedmont were the gobbler to hen ratio was only 0.37. 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 four years." That is the nice thing about turkeys though; given the right conditions they can naturally bounce back in a short period of time.

Hunters often wonder why DNR does not promote or schedule a fall turkey season, and although there are a number of considerations, poor reproduction like that experienced the past four springs is a very important factor.

"Bear in mind that hunting turkeys in the fall differs drastically from spring gobbler hunting, which is familiar to most hunters," Ruth said. "Not only do hunting and calling techniques differ, fall seasons typically allow hunters to take hens or gobblers. Although DNR monitors turkey reproduction annually, the information is not available until about the same time a fall turkey season would be underway, so it is too late to schedule a fall season based on reproductive success or sound biology. DNR could simply schedule a fall season without regard to reproductive data, but harvesting hens following a summer with poor reproduction would further depress the number of hens potentially leading to a rapid decline in turkeys."

"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 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. Cooperators are provided with survey forms prior to the survey and a reporting notice and postage paid envelope 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 2008 Summer Turkey Survey.

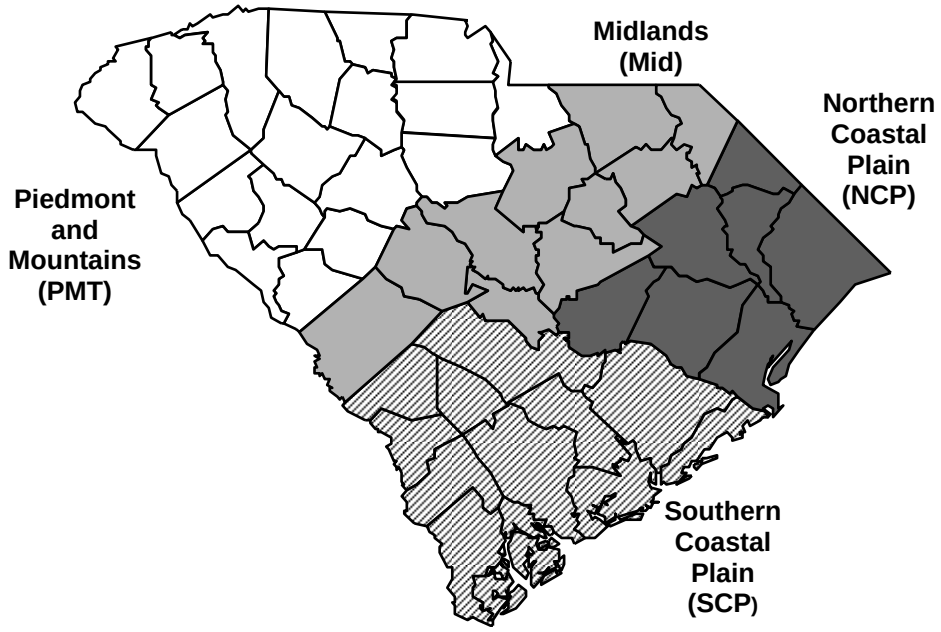

Table 1. Summary of reproductive data for 2008 Summer Turkey Survey by region.

Region	Gobbler Hen Ratio	No. Hens w/Poults	No. Hens w/o Poults (%)	No. Poults	Avg. Brood Size	Total Recruitment Ratio
Piedmont	0.37	528	506 (49)	2,164	4.1	1.1
Midlands	0.63	94	250 (73)	381	4.1	2.1
Northern Coastal	0.89	328	288 (47)	1,306	4.0	2.1
Southern Coastal	0.99	554	402 (42)	2,485	4.5	2.6
Statewide	0.71	1,504	1,446 (49)	6,336	4.2	2.1

Table 2. Statewide Summer Turkey Survey reproductive data 2003-2008.

Year	Gobbler Hen Ratio	No. Hens w/Poults	No. Hens w/o Poults (%)	No. Poults	Avg. Brood Size	Total Recruitment Ratio
2003	0.63	933	994 (52)	3,253	3.3	1.7
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
Average	0.68	1,085	1,037 (49)	4,068	3.7	1.9

Table 3. 2008 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	38	126	33	19	52	37	21	21	220
Aiken	119	110	32	92	124	74	100	73	407
Allendale	18	123	22	4	26	15	27	29	205
Anderson	19	67	17	16	33	48	21	14	135
Bamberg	25	135	24	9	33	27	73	5	246
Barnwell	156	178	61	139	200	70	211	10	599
Beaufort	15	113	22	5	27	19	34	12	186
Berkeley	225	1197	261	105	366	29	417	36	2016
Calhoun	2	0	0	2	2	100	0	0	2
Charleston	66	259	60	40	100	40	56	10	425
Cherokee	44	62	11	14	25	56	2	3	92
Chester	33	207	52	41	93	44	16	0	316
Chesterfield	47	54	10	34	44	77	23	38	159
Clarendon	13	82	13	4	17	24	14	0	113
Colleton	51	250	64	43	107	40	72	5	434
Darlington	13	29	7	8	15	53	21	4	69
Dillon	15	26	7	7	14	50	18	11	69
Dorchester	3	12	1	6	7	86	7	10	36
Edgefield	23	69	21	17	38	45	7	4	118
Fairfield	41	167	41	52	93	56	18	24	302
Florence	34	108	25	18	43	42	38	45	234
Georgetown	187	605	158	147	305	48	314	125	1349
Greenville	9	29	5	20	25	80	17	4	75
Greenwood	38	83	26	28	54	52	23	2	162
Hampton	10	22	4	3	7	43	4	20	53
Horry	24	61	27	44	71	62	40	4	176
Jasper	6	83	11	3	14	21	11	0	108
Kershaw	15	11	5	48	53	91	23	16	103
Lancaster	11	48	7	4	11	36	6	2	67
Laurens	21	67	11	11	22	50	12	30	131
Lee	11	13	9	28	37	76	15	0	65
Lexington	2	3	1	1	2	50	0	0	5
McCormick	93	187	56	61	117	52	66	63	433
Marion	46	240	58	29	87	33	60	0	387
Marlboro	9	19	4	18	22	82	4	0	45
Newberry	51	190	36	37	73	51	37	9	309
Oconee	18	53	13	34	47	72	17	7	124
Orangeburg	35	113	24	45	69	65	31	20	233
Pickens	14	51	16	17	33	52	6	6	96
Richland	19	91	16	8	24	33	14	2	131
Saluda	20	45	15	5	20	25	9	0	74
Spartanburg	20	59	14	11	25	44	10	9	103
Sumter	15	51	10	11	21	52	15	47	134
Union	144	579	137	106	243	44	86	50	958
Williamsburg	49	184	40	39	79	49	65	46	374
York	15	75	17	13	30	43	8	6	119
State Total	1,882	6,336	1504	1,446	2,950	49	2089	822	12,197