

SCDNR SMALL GAME PROGRAM SUMMER BOBWHITE QUAIL BROOD SURVEY - 2015

A sighting survey for bobwhite quail (*Colinus virginianus*) broods was conducted for the 22nd consecutive year during the summer of 2015. The quail brood survey was again conducted in conjunction with the summer turkey brood survey.

Past survey cooperators and additional potential cooperators were provided with data forms and requested to record sightings of turkeys and quail during the period July 1, 2015 through August 29, 2015. Cooperators included but were not limited to SCDNR Conservation Officers and Wildlife Section staff, Natural Resources Conservation Service (NRCS) staff, foresters, and plantation managers.

Several assumptions had to be made in compiling the data due to variations in reporting. These assumptions are: (1) 1-4 birds not identified to sex and age were assumed to be adults, (2) groups of birds of 5 or greater were assumed to be a mated pair of adults with the remainder being juveniles, (3) when a numerical range for number of birds was given, the median was used (Ex: 8-12=10), and (4) if no adult quail were observed with a brood, one adult was assumed present.

Results were compiled from 189 observations of quail during the 2015 survey period (Table 1), up from 154 in 2014. The Midlands region reported the greatest number of quail observations and brood sightings were also highest in the Midlands region (Table 1) but the percentage of adults without chicks was lowest in the Midlands. Age ratio (juveniles per adult) increased in all four regions: the Midlands, the Northern Coastal Plain, the Southern Coastal Plain, and the Piedmont and Mountains (Table 2). The Northern Coastal Plain (Table 3) had the highest age ratio of the four regions. Statewide, the age ratio of 1.94 juveniles per adult was higher than the age ratio detected in 2014 (1.5). The average brood size (6.3) decreased slightly from 2014. Statewide, fifty-two percent (160/305) of adult quail were observed without chicks, down from sixty-seven percent in the 2014 survey.

The percentage of adults observed without chicks decreased statewide. The percentage of adults observed without chicks (52%) is down from the near record high of 67% in 2014. While the average brood size decreased from 2014, the age ratio did increase slightly (Table 4). Total numbers of adults observed increased by 25% and total number of chicks observed increased by 62% from the 2014 survey. Collectively, these indices suggest that total reproductive output during the survey period was greater in 2015 than in 2014. It should be noted that while the 2015 survey did indicate higher nesting success than the prior year, the statewide reproduction was still slightly lower than the five year average and certainly lower than the ten year average.

Figure 1. Physiographic regions used in the South Carolina Summer Bobwhite Quail Brood Survey, 2015. Number of broods sighted is in parentheses.

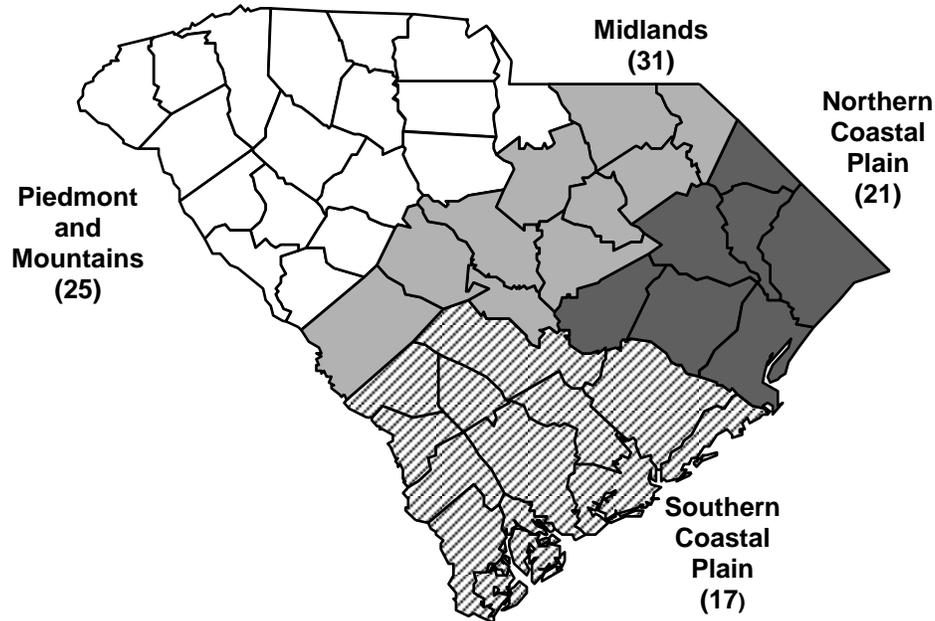


Table 1. Results of the South Carolina Summer Bobwhite Quail Brood Survey by Region, 2015.

Physiographic Region	Observations	Broods Sighted	Chicks	Adults	Total Quail
Piedmont & Mountains	55	25	182	84	266
Midlands	63	31	151	99	250
Northern Coastal Plain	38	21	157	58	215
Southern Coastal Plain	33	17	102	64	166
2015 Totals	189	94	592	305	897

Table 2. Bobwhite quail recruitment data from South Carolina Summer Bobwhite Quail Brood Survey, 2011 - 2015

<u>Region</u>	<u>Year</u>	<u>Average Brood Size</u>	<u>Age Ratio (Juveniles / Adults)</u>
Piedmont & Mountains	2011	8.5	2.2
	2012	7.8	2.5
	2013	8.4	1.6
	2014	8.0	2.1
	2015	7.3	2.2
Midlands	2011	9.1	3.0
	2012	7.2	2.6
	2013	6.1	1.5
	2014	5.9	1.1
	2015	4.9	1.5
Northern Coastal Plain	2011	8.9	3.1
	2012	10.3	4.3
	2013	8.1	3.7
	2014	6.5	1.5
	2015	7.5	2.7
Southern Coastal Plain	2011	7.4	1.7
	2012	8.0	1.7
	2013	8.2	2.5
	2014	7.5	1.3
	2015	6.0	1.6
Statewide	2011	8.0	2.1
	2012	9.2	3.2
	2013	7.9	2.5
	2014	7.2	1.5
	2015	6.3	1.9

Table 3. Summary of reproductive data for 2015 South Carolina Summer Bobwhite Quail Brood Survey by region.

Region	Adults w/Chicks	Adults w/o Chicks (%)	No. Chicks	Avg. Brood Size	Age Ratio
Piedmont and Mountains	34	50 (60)	182	7.3	2.2
Midlands	55	44 (44)	151	4.9	1.5
Northern Coastal	27	31 (53)	157	7.5	2.7
Southern Coastal	29	35 (55)	102	6.0	1.8
Statewide	145	160 (52)	592	6.3	1.94

Table 4. South Carolina Summer Bobwhite Quail Brood Survey reproductive data 2006 - 2015.

Year	Adults w/Chicks	Adults w/o Chicks (%)	No. Chicks	Avg. Brood Size	Age Ratio
2006	380	353 (48)	2,153	8.2	2.9
2007	309	296 (49)	1,769	9.2	2.9
2008	315	322 (51)	2,367	9.8	3.7
2009	274	399 (59)	1,575	8.6	2.3
2010	355	541 (60)	1,695	8.6	1.9
2011	200	428 (68)	1,348	8.0	2.2
2012	195	158 (45)	1,137	9.2	3.2
2013	139	148 (52)	715	7.9	2.5
2014	81	163 (67)	366	7.2	1.5
2015	145	160 (52)	592	6.3	1.9
10 -Year Average	239	297 (55)	1,372	8.3	2.5