

SCDNR SMALL GAME PROGRAM SUMMER BOBWHITE QUAIL BROOD SURVEY - 2012

A sighting survey for bobwhite quail (*Colinus virginianus*) broods was conducted for the 19th consecutive year during the summer of 2012. 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, 2012 through August 29, 2012. Cooperators included SCDNR Conservation Officers and Wildlife Section staff, Natural Resources Conservation Service (NRCS) staff, foresters, plantation managers and others.

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 206 observations of quail during the 2012 survey period (Table 1), down from 319 in 2011. The Northern Coastal Plain reported the greatest number of quail observations. Brood sightings were also highest in the Northern Coastal Plain region (Table 1). Age ratio (juveniles per adult) decreased slightly in the Southern Coastal Plain and Midlands and increased in the other two regions (Table 2). Statewide, the age ratio of 3.2 juveniles per adult was higher than the age ratio detected in 2011 (2.2); the average brood size (9.2) increased from 2011. The percentage of adults without chicks was lowest in the Midlands and Northern Coastal Plain region and age ratio was highest in the Northern Coastal Plain (Table 3). Statewide, forty five percent (158/353) of adult quail were observed without chicks, down from 68 percent of adult quail observed without chicks in the 2011 survey.

Statewide, the percentage of adults observed without chicks decreased. The average brood size and the age ratio increased from 2011. (Table 4). The percentage of adults observed without chick (45%) is the lowest in the last five years. Total numbers of adults observed decreased by 44% and total number of chicks observed decreased by 16% from the 2011 survey. However, a decrease in the number of adults observed without chicks and increased average brood size indicate that the 2012 nesting season may have been slightly better than the 2011 nesting season. Abundant groundcover which resulted from timely rainfall during the growing season may have resulted in decreased visibility of adult quail and broods and increased survival of chicks.

Based on information from the 2012 survey, the Northern Coastal Plain exhibited better nesting success than the other three regions.

Figure 1. Physiographic regions used in the South Carolina Summer Bobwhite Quail Brood Survey, 2012. Number of broods sighted is in parentheses.

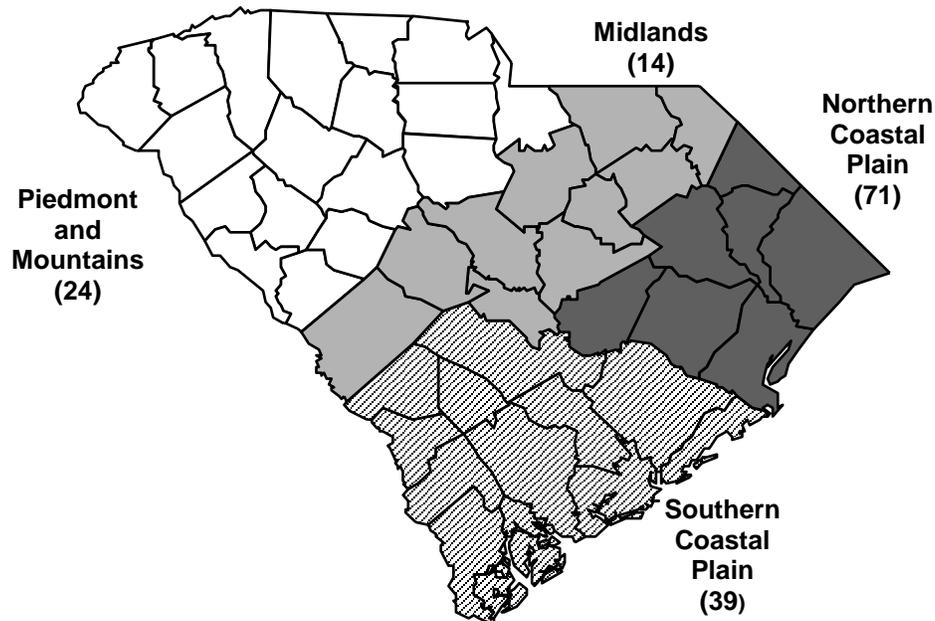


Table 1. Results of the South Carolina Summer Bobwhite Quail Brood Survey by Region, 2012.

Physiographic Region	Observations	Broods Sighted	Chicks	Adults	Total Quail
Piedmont & Mountains	45	24	186	75	261
Midlands	23	14	101	39	140
Northern Coastal Plain	99	71	730	169	899
Southern Coastal Plain	39	15	120	70	190
2012 Totals	206	124	1,137	353	1,490

Table 2. Bobwhite quail recruitment data from South Carolina Summer Bobwhite Quail Brood Survey, 2008 - 2012

<u>Region</u>	<u>Year</u>	<u>Average Brood Size</u>	<u>Age Ratio (Juveniles / Adults)</u>
Piedmont & Mountains	2008	6.6	1.4
	2009	7.4	1.6
	2010	8.0	2.7
	2011	8.5	2.2
	2012	7.8	2.5
Midlands	2008	6.3	1.0
	2009	8.4	1.6
	2010	9.1	1.7
	2011	9.1	3.0
	2012	7.2	2.6
Northern Coastal Plain	2008	9.9	4.3
	2009	8.9	2.2
	2010	9.7	2.4
	2011	8.9	3.1
	2012	10.3	4.3
Southern Coastal Plain	2008	10.7	5.4
	2009	8.7	2.7
	2010	8.5	1.7
	2011	7.4	1.8
	2012	8.0	1.7
Statewide	2008	9.8	3.7
	2009	8.6	2.3
	2010	8.6	1.9
	2011	8.0	2.2
	2012	9.2	3.2

Table 3. Summary of reproductive data for 2012 South Carolina Summer Bobwhite Quail Brood Survey by region.

Region	Adults w/Chicks	Adults w/o Chicks (%)	No. Chicks	Avg. Brood Ratio	Age Size
Piedmont and Mountains	37	38 (51)	186	7.8	2.5
Midlands	24	15 (38)	101	7.2	2.6
Northern Coastal	105	64 (38)	730	10.3	4.3
Southern Coastal	29	41 (59)	120	8.0	1.7
Statewide	195	158 (45)	1,137	9.2	3.2

Table 4. South Carolina Summer Bobwhite Quail Brood Survey reproductive data 2003 - 2012.

Year	Adults w/Chicks	Adults w/o Chicks (%)	No. Chicks	Avg. Brood Ratio	Age Size
2003	199	255 (56)	1,065	8.5	2.3
2004	275	221 (45)	1,190	7.3	2.4
2005	320	418 (57)	1,354	7.7	1.8
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
10 -Year Average	282	339 (54)	1,565	8.5	2.6