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HARVEST RATES AND EFFORTS OF AVID QUAIL HUNTERS IN EAST CENTRAL MISSISSIPPI

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Abstract: Six avid quail hunters had an average daily harvest rate of 6.39 (4.97-8.55) and average seasonal harvest of 298 (116-530); they averaged 47 (28-60) hunts or days afield per year for a period of 2-10 years. The avid hunters averaged three to four hunts per week, and the hunts lasted three to four hours. Two hunters often had hunting guests, and the total season harvest by guests averaged 117 (63-211) with one hunter and 121 (56-178) with the other hunter. A seventh avid quail hunter usually had guests, with an average hunting party of 2.45; they harvested an average of 449 (388-510) quail per year over a two year period. Quail harvested per hour of effort ranged from 0.95 to 2.2. Harvest rates and efforts of avid quail hunters were much greater than those of average quail hunters depicted in hunter mail questionnaire surveys.

Wildlife management includes gathering information on hunter harvest rates and effort, and this information has important biological, educational, and administrative values (Guynn et al. 1977). Several state wildlife agencies in the Southeast use a mail survey to obtain information on hunter harvest rates and effort, including data on bobwhite quail (*Colinus virginianus*) hunters (Steffen 1981). Published information on quail harvest rates and efforts represents "average" quail hunters. This study was undertaken to document the harvest rates and efforts of avid quail hunters (bird hunters) in east central Mississippi.

We acknowledge the information contributed by the avid quail hunters. We also extend our gratitude to Mississippi Department of Wildlife Conservation personnel who assisted.

METHODS

Hunting records were obtained from seven avid quail hunters, six who have hunted quail for over 10 years and one who has hunted quail for five years. All hunters trained their bird dogs and used from two to five dogs. Hunters recorded information regarding a hunt immediately after each hunt. A hunt (effort) was considered as any part of or all of a day afield. Several hunters recorded the time (hours) spent on each hunt.

Most quail hunting was conducted around edges of soybean fields and in surrounding old fields

and forests in Holmes, Attala, Webster, Clay, Oktibbeha, and Lowndes counties, Mississippi. The quail hunting season in Mississippi extends from Thanksgiving Day through the last day in February (about 94 days), and the daily bag limit is 12.

RESULTS

The average daily harvest for six of the hunters was 6.39 (4.97-8.55) for a period of 2-10 years (Table 1). Seasonal harvest averaged 298 (116-530), and these hunters averaged 47 (28-60) hunts or days afield. During the season when the highest seasonal total for an individual (530) was attained, this hunter averaged 10.7 quail per hunt. Avid quail hunters made three to four hunts per week, and the average hunt lasted three to four hours.

Hunters number 1, 2, 4, and 6 usually hunted alone, but hunters 3 and 5 usually had hunting guests. Total quail harvest by all guests combined averaged 117 (63-211) with hunter number 5 and 121 (56-178) with hunter number 3. A seventh avid quail hunter usually had guests, and during the 1979-1980 season, this hunter and guests (average 2.55 people) harvested 510 quail on 34 hunts (15 quail per hunt). Total effort was 86.7 hours with a harvest rate of 5.9 quail per man-day afield. In the 1980-1981 season, this same hunter and guests (average 2.35 people per hunt) made 26 hunts, spent 61.1 hours afield,

and harvested 388 quail, which was 14.9 quail per hunt or 6.35 quail per man-day afield.

One hunter harvested 0.95 quail per hour of effort, which was about the same harvest rate (1 quail/hour) estimated by another hunter. A third hunter averaged 2.2 quail per hour of effort in a season when 432 quail were harvested. This hunter obtained the daily limit (12) of quail on 14 hunts during the season.

DISCUSSION

Many factors affect harvest rates of quail, including hunter effort, experience, and shooting skills; dog training and experience; number and behavior of quail; and hunting conditions (vegetation and weather). In this study, sample size was small and the information came from only one region of Mississippi. However, we believe the information from seven avid quail hunters, who by our definition hunt quail 28+ days and harvest 100+ quail per season, represents avid quail hunters throughout Mississippi and probably other southern states where the bobwhite quail is common.

Harvest rates and efforts of avid quail hunters varied, but were greater than the "average" quail hunter depicted in mail surveys. Mail surveys in Mississippi in 1973, 1977, and 1981 revealed that the average quail hunter bagged 24.7 quail per season and 3.18 quail per hunt (day afield) and hunted an average of 7.72 days per year (Quisenberry 1974, Guynn et al. 1977, Steffen 1981). Data obtained from mail surveys in Alabama for the 1979-1980 and 1980-1981 seasons were similar: 22.7 quail harvested per season, 2.86 quail bagged per day, and 7.91 hunting days per season (Kelly 1980,

1981). Five years' (1967-1978) data from mail surveys in Louisiana found that quail hunters averaged 16.6 quail per season and 2.36 per hunt (effort) and hunted 6.96 days per season (Hunter 1981). In Louisiana from 1975-1979, Prickett (1981) selected and surveyed quail hunters associated with quail clubs or field trial groups. These hunters had an average seasonal harvest of 13.1 and a daily average of 3.1 and hunted an average of 4.4 days per season.

Avid quail hunters in Mississippi harvested about one to two quail per hour of effort. Exceptionally high harvest rates of 2.6 and 2.7 quail per hour were recorded by hunters in Mississippi and Alabama on young loblolly pine (*Pinus taeda*) plantations (Hurst 1978). Perkins (1952) found that the average quail hunt in cut-over longleaf pine (*P. palustris*) forests of southwest Louisiana lasted 4.42 hours, and an average of 4.74 quail was harvested per hunt (1.07/hour). A harvest rate of 3.6 quail per hunter per hour was recorded on one intensively managed quail plantation and 2.2 on another in central Georgia (letter dated 9 May 1978 from R. C. Simpson, Georgia Department Natural Resources, Albany, GA).

Information gathered from mail surveys represents harvest rates and efforts of "average" quail hunters. The results are misleading due to the great variation and effects of averaging data on effort and harvest. If the questionnaire data were plotted by effort, the differences in effort and harvest would become apparent given a large enough sample size. Mail surveys should attempt to classify quail hunters by effort and harvest. Combining avid quail hunters, who average 100-500 quail per season, with hunters who harvest quail while hunting other species distorts the results.

Table 1. Harvest rates and efforts of avid quail hunters in east central Mississippi.

Hunter Number	Yrs. Data Collected	Harvest			Effort ^a	
		Daily Avg.	Seasonal		Avg.	Range
1	2 (1979-81)	4.97	288	245-332	58	56-60
2	2 (1979-81)	7.76	427	424-430	55	55-57
3	3 (1978-81)	4.83	191	116-245	39	34-44
4	4 (1977-81)	8.55	424	304-530	52	49-56
5	10 (1971-81)	5.33	238	168-325	45	36-52
6 ^b	10 (1966-76)	6.88	220	196-324	32	28-36
7 ^c	2 (1979-81)	6.12 ^d	449	388-510	30	26-34

^aDays hunted (afield), recorded as any part of or all of a day.

^bThis hunter scheduled his efforts through mid-January, then did not hunt much thereafter.

^cData for a hunting party, average 2.45 hunters per hunt over 2 seasons.

^dHarvest per man-day afield

It was apparent that mail surveys do not represent avid quail hunters.

The number of avid quail hunters in Mississippi or any other southern state is not known, but we think the number is greater than most wildlife agencies suspect. Agencies could identify avid quail hunters from survey information and interviews with little effort. We believe that avid quail hunters represent a source of valuable information on quail populations (sex and age ratios, population trends), food habits, habitat changes, and other data.

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