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The Oklahoma Quail Hunter

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THE OKLAHOMA QUAIL HUNTER

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Abstract:

A questionnaire study of 2,690 Oklahoma quail hunters revealed that the most common type of hunter is a married man, 21 to 40 years old, who hunts 5 to 6 hr per day and 10 days per season. He hunts mostly on private lands about 35 miles from home and often has difficulty obtaining access for hunting. He is successful on 0.75 of his hunting trips and harvests an average of 3.8 quail per trip. He spends about $9.60 per day while hunting. Saturday is his favored hunting day.

Semiskilled workers earning about $7,000 per year are the most common type of hunter. The hunters are in agreement with the existing season, but many want 1 more day per week for shooting.

Management implications of the findings are discussed.

Oklahomans hunt bobwhite quail more than they hunt any other species of wildlife. Continued high levels of sporting use of quail cannot be taken for granted. Quail habitat is being reduced annually as brush is cleared from pastures and fence rows are cleared. Brushy draws are being bulldozed clean, channeled, and planted to bermuda grass. The result is more income for the farmer and fewer quail. It is folly to think that wildlife habitat can be preserved by asking farmers to stop clearing brush. A more practical solution is either to develop alternate habitat components that are acceptable to quail and will produce income for farmers or to facilitate marketing of quail-based recreation by farmers.

Before either of the above suggestions can be seriously attempted, it becomes necessary to determine the size, distribution, and other characteristics of the public need for quail. The present study concerns one aspect of this need: the quail hunter. When all pertinent information about quail hunters has been examined we will know better where to put effort into habitat preservation and how far to go.

Support of this study by the Oklahoma Wildlife Conservation Commission is gratefully acknowledged. Rangers Ballew, Clepper, Hembree, Hughston, Kidd, Randall, Reedy, Sanders, Smeltzer, and Sparger are due thanks for conducting interviews. Mary Usry, Becky Roberts, and Gene O'Brian are thanked for helping to analyze the data and prepare the report.

Methods

This study is based on information derived from questionnaires returned by Oklahoma hunters (Fig. 1). Ten thousand questionnaires were

mailed to persons who purchased 1967 resident hunting licenses. Three weeks after the initial mailing a second mailing was made to non-respondents. The mailings were distributed geographically in the same proportions as the resident licensed hunters (2).

Of the 5,280 questionnaires returned, 5,122 contained useful information. Question 26 (Fig. 1) was answered by 4,410 hunters, 2,646 of whom hunted quail. This study, being concerned only with quail hunters, is based on returns from quail hunters only except where specified otherwise.

Resident hunters 16 and 65 yr of age were not sampled because they are not required to purchase licenses, consequently a random list of addresses for them was not available. However, there were 52 hunters of more than 65 yr who purchased licenses and returned questionnaires. These were included in the study.

People who did not return questionnaires may have different attributes than those who did. To help detect such bias, the names of 300 persons who did not return questionnaires were selected at random. Rangers were asked to visit these people and ask them for the information called for on the questionnaires. Information was obtained from 44 (15%) of these hunters. One hundred and thirty-two (44%) were out of state, deceased, in military service, moved, or at unknown locations. The remaining 124 either would not cooperate or could not be reached with reasonable effort.

Employment classifications were modeled after those used by the Oklahoma Employment Security Commission. Examples of the classifications are: Professional = teachers, bankers, doctors; White Collar = bookkeepers, store clerks, bank clerks; Skilled Workers = electricians, machinists, construction foremen; Semiskilled Workers = truck drivers, oil field pumpers, barbers; Unskilled Workers = janitors, yardmen, guards; Agricultural Workers = those working on farms, ranches, or feedlots; Nonworkers = students, retired persons, housewives, disabled, and unemployed persons.

All population data was derived from Oklahoma Data Book (4). State planning regions (Fig. 2) were used where geographic comparisons were made.

Results

Vital Statistics of Hunters

Three-fourths of all respondents, including nonquail hunters, hunted quail in at least 1 of the past 3 seasons (Fig. 3). More than 60% of this group hunted quail in 1967 (Fig. 4). No other species was hunted by as many people that year (Fig. 4). More than 68% of the interviewed hunters hunted quail in 1967 (Fig. 4), suggesting that the 60% figure is conservative.

Persons of all ages sampled (16-65 yr) hunted quail (Fig. 5).

However, a larger percentage of persons 21 to 40 yr of age hunted than did age groups younger or older. Persons 16 to 20 and 41 to 64 yr old made up about 2% less of the responding hunters than they did of the statewide population (Fig. 5). Conversely, those 21 to 40 yr old made up about 7% more of the responding hunters than they did of the statewide population.

Eighty-two % of the hunters were married. Eighty-four % indicated that they were the head of the household and 13% said they were a child of the head of the household. Women constituted 2.4% of the hunters. Most quail hunters (88%) came from households that contained only 1 or 2 quail hunters including the respondent (Fig. 6). The households averaged 4.9 persons.

The number of quail hunters in Oklahoma during the study period was approximately 167,000 (Table 1).

People of all income levels hunted quail (Fig. 7). Interviewed hunters earned considerably less than those returning questionnaires, suggesting that low income hunters were not as responsive as those earning more.

About 33% of the hunters were semiskilled workers (Fig. 8). Otherwise, the most abundant groups were agricultural workers (16.9%) and nonworkers (16.2%). The interview sample differed from the mail sample by having a smaller percentage of semiskilled workers and larger percentages of unskilled and agricultural workers (Fig. 8).

Possession of Dogs; Hunting of Game Other Than Quail; Party Size

Eighty-seven % of the quail hunters hunted in parties of 2 or 3 people (Table 2). Average party size was 2.5 and the median was 2.0.

More than 98% of the quail hunters indicated that they owned 1 or more bird dogs (Fig. 9). It seems unlikely that such a high percentage of hunters own a bird dog. What is more likely is that hunters not owning a bird dog omitted the question rather than put zeros in the blanks. Nevertheless, the data do indicate that of those who own dogs, most own 1 dog and very few own more than 2.

Most quail hunters also hunted other species (Fig. 10). Only 11.3% of those answering the questionnaires hunted quail only. Species other than quail hunted most by the quail hunters were doves, squirrels and rabbits in that order. Usually these species are not hunted at the same time as quail. Reasons for this condition are that either the seasons do not overlap (doves), or the animals inhabit different areas (squirrels), or such hunting is considered bad for bird dogs (rabbits).

More than 23% of interviewed hunters who hunted quail hunted nothing else (Fig. 10). Other species hunted were about the same as hunted by mail respondents.

Amount of Time Hunted

Questionnaire respondents averaged hunting 5.7 hr per day (Fig. 11) and 10 days per season (Table 3). Interviewed hunters averaged 5.5 hr per day and only 6.2 days per season. The most persistent hunters seemed to have a greater tendency to return questionnaires.

Nearly 0.5 (46%) of the hunters hunted quail during the 1967 season and in the 2 preceding seasons (Fig. 3). The 8% who hunted during the 1967 season but not in the 2 preceding ones possibly represent annual recruitment. Interviewed hunters hunted somewhat less than the mail respondents (Fig. 3).

Hunters' ages seemed to affect how much they hunted. Hunters 16 to 20 yr old hunted about 0.5 hr less per day than older hunters (Fig. 12). However, they hunted more days per season (Fig. 13). In terms of total hunting effort (hr per season), the 21 to 40 yr old group hunted 56.8 hr or nearly 2 hr more than the 16 to 20 yr olds. (Fig. 14). Hunters more than 40 yr old reported hunting less than 50 hr per season.

More than 0.5 of total hunting effort (hunters x aver hr hunted) was expended by hunters in the 21 to 40 yr old group (Fig. 15).

Control of land hunted on affected how much hunters hunted. Those hunting on leases and on lands of friends and relatives hunted more hours per season than those hunting on other kinds of land (Fig. 16). Persons hunting on their own land and on public land seemed to hunt less than those hunting on other land.

Quail hunters who hunted mostly on public land hunted the least number of days and the most hours per day of any group (Fig. 16). These hunters, it seems, do not go hunting often but when they go, they make the most of it.

The number of times a hunter hunts quail appears to be related to his occupation (Fig. 17). Unemployed persons hunted quail more days per hunter than the other respondents. Semiskilled workers and agricultural workers hunted the least number of days per hunter. Even though semiskilled workers hunted the least number of times per hunter they exerted more hunting effort, as a group, than any other employment group (Fig. 18). This condition was due to the large proportion of semiskilled workers in the hunter population (Fig. 18).

Quail hunters owning 5 or more bird dogs hunted more times than the others (Fig. 19). Hunters owning no bird dogs hunted the least number of days.

Hunters hunting quail close to home (0.20 miles) hunted fewer hr per day than those hunting farther (61-80 miles) (Fig. 20). This relation did not hold well for distances beyond 80 miles. No apparent relation was noted between the distance traveled and the number of days hunted by hunters (Fig. 21).

Preference for 3 to 4 days per week open for quail hunting was indicated (Fig. 22). This preference was for nearly 0.5 day per week or 3.6 days per season more than then allowed by law. Quail hunting was permitted only on Tuesdays, Thursdays, Saturdays, Christmas Day and New Year's Day--a total of 26 days.

Locations and Ownerships of Hunting Lands

Where hunters go appears to be governed mostly by their desire to hunt near home and to have a productive hunt. Nearly 53% of the respondents drove less than 21 miles one way to where they hunted quail (Fig. 23) and 73% drove less than 41 miles. The average distance for all hunters was 34 miles.

Hunters should be expected to go to areas offering the best hunting. This was true except when the good areas were 100 or more miles from where the hunters lived. For example, Planning Regions 10 and 11 (Fig. 2) were good hunting areas (Fig. 24,25) but received only moderate hunting pressure (Fig. 26), apparently because they were more than 100 miles from Oklahoma City in Region 8, the nearest major concentration of hunters (Table 4). However, the greater distance driven by those who did hunt Regions 10 and 11 (Fig. 27) suggest that some hunters from midstate are willing to drive 150 miles or more for good hunting.

Planning Region 5, which was not a particularly good quail hunting area, received one of the highest concentrations of hunters (Fig. 26). Apparently this occurred because the region is located midway between the 2 largest concentrations of hunters in the state (2): Oklahoma City and Tulsa. Regions 6 and 8--where Tulsa and Oklahoma City are located--contained more hunter residences but received less hunting pressure than any other 2 regions (Fig. 26). The best explanation for this condition is that opportunities for hunting are very limited in these regions and access to the supply is difficult to obtain (Fig. 28).

Regions 1, 2, 3, 4, 6 and 8 probably are hunted mostly by hunters staying in their region of residence (Fig. 26). The average distance driven by people hunting these regions is approximately the distance from the center of population to the center of the hunting opportunities (Fig. 27). For example, the major quail area in Region 8 is in Lincoln County, about 32 miles (Fig. 27) from Oklahoma City.

Hunters indicated that they would drive, on the average, 24.3 miles 1-way for 5 quail per day and 51.4 miles for 10 quail per day (Fig. 29). On the other hand, they reported driving an average of 34 miles to the hunt area (Fig. 23) and an average harvest of 3.8 quail per trip (Fig. 30). This suggests that most quail hunters would not drive further for the kind of hunting they experienced in 1967.

One's income appears to affect where he hunts. The more affluent hunters drove farther than the less affluent (Fig. 31).

Sixty-nine % of the hunters indicated that they hunted on private lands not leased or owned by them (Fig. 32). This finding held true

for hunters of all income levels (Fig. 33). Hunters earning < $7,000 per year hunted on their own lands and on hunting leases much more than expected. No reason for this finding was noted. Persons earning $7,000 to $15,000 annually hunted on public lands more than did persons earning more or less. Those earning less appear to be less able to travel to the public lands (Fig. 31) and less likely to be informed about these lands. Persons earning > $15,000 annually seem more likely to seek private hunting lands. Thus persons earning $15,000 to $25,000 hunted on leases more than any other group (Fig. 33). Also, hunters earning > $25,000 (sample=9) hunted their own lands much more than did other groups.

A large percentage of hunters in all income groups hunted on lands that they owned. It is suspected that some of this land was not owned by the hunter but by near relatives such as parents.

Leasing of lands for hunting appeared uncommon. Less than 3% of the hunters reported hunting on leases (Fig. 32). Some of those who hunted leases were guests and not lease holders.

Where quail hunters hunted was related to their employment. For example, hunters from all employment groups except agriculture hunted private lands, not owned or leased, more than any other type (Fig. 34). Agricultural workers hunted mostly on their own lands.

Agricultural workers hunted public lands more than any other group. Frequent use of these lands by nearby farmers may account for this condition. Persons from all employment groups were represented by people hunting on hunting leases (Fig. 34). Probably some of the unskilled and nonworking persons hunting on leases were visitors and not lease holders.

Where quail hunting occurred seemed to be related to ease of obtaining access. People hunting in Planning Regions 1, 6, 8, and 9 had the most difficulty (Fig. 28) gaining access. Two of these regions (6 and 8) are small and had large numbers of hunters (Fig. 26). Under such conditions landowners are subjected to more harassment from hunters than in areas with fewer hunters, and the landowners react by increasing posting. Why hunter access in Regions 1 and 9 was restricted is not clear.

Hunter access in Region 7 was the best of any region (Fig. 28). Also, quail hunting there was good for many hunters (Fig. 24,25, and 26). This situation is confusing because Region 7 does not have abundant quail range and has very limited public hunting lands.

The presence of large public hunting areas affording good quail hunting should ease the access problem. Such areas exist in Regions 1, 2, 3, 4, 6, 10 and 11. Public hunting areas in other regions are either small or not especially good for quail. The effect of these areas on access appeared to be small, probably because they accomodate such a small part of the hunters. About 42% of the hunters from all regions experienced difficulty obtaining access. This figure does not represent "would-be hunters" who did not go hunting due to a lack of suitable access.

Persons hunting quail out of state at least once during the 1967 season made up 7.5% of those sampled. More than 70% of those hunting quail out of state hunted in a state contiguous with Oklahoma (Fig. 35). Kansas and Texas were the most popular by far.

Hunters were not asked why they hunted out of state. However, the frequency of such hunting was not high, and apparently much out-of-state hunting was done by people who live close to the states where they hunted. For example, hunters hunting out of state averaged spending only 11¢ per day more for gasoline than hunters who did not hunt out of state (Table 5). If the hunters hunting out of state had done so frequently and traveled far, the difference in gasoline expenditures would have been greater.

Where quail hunting occurred probably was not related to crowding of hunters - at least not on private lands. Fifty-three % of the responding hunters indicated that they encountered other hunters on private land 1 or more times during the 1967 season (Fig. 36). Those who had such encounters did so an average of 3.4 times. This may indicate that the more productive or accessible private lands attract a majority of the quail hunters.

The highest rate of encounters occurred in Region 3 where 65% of the quail hunters had encounters. The most likely explanation for this is that large numbers of deer hunters were afield in this region during quail season. The rate of encounters in Region 5 was high also, probably for the same reason.

Time of Hunting

The quail season for 1967 permitted shooting on 26 days. Eight (31%) of the days for hunting were Saturdays (Fig. 37). All other hunting days were on Tuesdays and Thursdays except Christmas and New Year's Day which were on Mondays. Only on December 25 and 26 was it possible to hunt on consecutive days.

Thirty-seven % of the quail hunting occurred on Saturdays, making this the leading day of the week (Fig. 37). Saturday hunting was pronounced in the case of those hunting on public lands and somewhat favored by hunters on private lands not owned or leased (Fig. 37). Persons hunting on leases showed a slight preference for week-day hunting.

The hunters averaged hunting quail about 1 day per year while on vacation (Table 6). Those earning the most vacation time hunted more days, but a lesser proportion of their vacation time than did persons with shorter vacations.

White-collar workers, agricultural workers and nonworkers hunted on week days more than other groups did (Fig. 17). On the other hand, semiskilled workers hunted on weekends (i.e. Saturdays) more than did any other group. This situation is related to the nature of employment of the groups. The semiskilled workers are tied to a Monday-through-Friday work schedule more than the other groups. Thus they are less

able to hunt on week days. White-collared workers are also tied to a Monday-through-Friday work schedule, but by nature of being more at the executive level, are more free to be off the job on days they choose.

Skilled workers, nonworkers and professional people hunted more on vacation than did the other groups (Fig. 17). Agricultural workers did little vacation hunting. Most farmers are not accustomed to thinking of a day off for hunting as a day of vacation in the sense a factory worker would. Furthermore, farmers often work during mid day and hunt in the early morning or late evening. Vacation hunting by nonworkers probably relates to students hunting on Thanksgiving or Christmas holidays.

Older hunters hunted more on week days and less on weekends and vacations than young hunters did (Fig. 38). This finding suggests a desire to hunt week days and avoid the Saturday crowd. Older persons, by nature of tenure on the job, are more able than young people to get off from work on week days.

Persons hunting near home hunted more on week days than did persons hunting far from home (Fig. 39). Hunters possibly did not like to drive far for a 1-day hunt knowing that they would get home late and have to get up early for work the following day. Saturday hunters did not face this problem. The number of days of hunting quail on Saturdays and vacations apparently was not related to the distances driven to the hunting area.

Hunters apparently liked the season to which they were accustomed. Tuesday-Thursday-Saturday quail hunting had been the law in Oklahoma for many years and hunters have become accustomed to it. In response to the question on hunting days preferred, 7 of 10 hunters wanted quail hunting on Tuesdays and Thursdays whereas 9 of 10 wanted Saturday hunting (Fig. 40). Three of 10 wanted to hunt quail on the other week days and 4 of 10 wanted to hunt on Sundays.

Hunters were asked which starting and ending dates they preferred. The most popular starting date was 20 November which is the date set by statute many years ago (Fig. 41). There was considerable interest in opening the season during the first week of November.

The period of January 11 to 15 was the most popular ending date (Fig. 41). Considerable interest was also shown for ending the season in the first week of January. The closing date set by statute is January 15.

Hunting Success

Success of hunters in bagging quail varied greatly according to the region hunted. Persons hunting in Region 8 (Fig. 2) averaged 2.4 birds per day while Region 11 hunters averaged 4.6 birds (Fig. 24). The average for the entire state was 3.6 birds per day or 17.4 per season.

With the exception of Region 8, quail hunters throughout the state were successful on 72% or more of their hunting trips (Fig. 25). The low success experienced in Region 8 was expected because quail range there is limited and numbers of hunters were high (Fig. 28). Western Oklahoma, particularly Regions 7, 9, 10 and 11, afforded the best hunting in 1967 (Fig. 24). Region 6 in the northeast was also good.

Quail hunting in western Oklahoma is poor during drouth years and good during years of normal rainfall. Excellent hunting occurs during most years following drouth years, provided that moisture is adequate. By this measure, the 1967 season should have been good to excellent. Rainfall for west-central Oklahoma during 1966 was 17.4 inches or 6 inches below normal (5). During 1967 rainfall was 0.5 inch below normal.

Persons hunting on leases reported a higher degree of success than did those hunting on other kinds of lands (Fig. 42). Those hunting on public lands had the lowest success. This difference in success probably relates to differences in hunter proficiency, hunter densities, and harassment of game.

Hunter success generally increased with hours per day hunted (Fig. 43). Two exceptions to this relationship involved those hunting only 1 hr per day and those hunting more than 7 hr per day. The latter exception may represent either ineffective persistent hunters or hunters who counted travel time, meal time, etc. as hunting time. The 13 hunters who averaged hunting 1 hr per day and were successful in 67% of their trips may be people such as farmers, oil field pumpers, and mail carriers whose daily routes through the country enable them to learn of covey locations.

Dogs added to quail hunting success. Hunters who reported owning dogs were successful on 75.4% of their trips (Fig. 44). This is compared to 68.5% for those not owning dogs. No doubt many hunters not owning dogs hunted with someone who did. If so, the effect of dogs on hunter success probably is more pronounced than suggested by Fig. 44.

The degree of success expected is somewhat indicated by the season and bag limit desired. Most respondents (73%) indicated a preference for a daily bag of 10 quail (Fig. 45). The legal limit in effect during 1967 and before was 10 quail per day.

Expenditures for Quail Hunting

The average expenditure per day reported by quail hunters was $9.62 (Table 5). Gasoline was by far the largest item. Since the question asked for expenses only "while hunting", such items as clothing, guns, licenses and the costs of keeping a dog throughout the year are not included. The average of $96 spent during quail season may represent less than 0.5 of the annual cost of hunting quail.

Management Implications

Information in the foregoing pages can be helpful to administrators and managers when they plan wildlife programs and make regulations. Some applications are discussed below.

This study supports the common belief that the most pressing problem for quail hunters is a place to hunt. Quail numbers and hunter access are both decreasing. Public hunting areas are more important than ever but they can furnish only 15% to 18% of the need.

The only possibility for greatly increasing quail hunting opportunities exists on private lands. The lands are not crowded and a large portion of the quail produced there are seldom if ever hunted.

It is not likely that farmers will open their lands to the city hunter unless there is a profit motive. When farmers learn that they can market hunting opportunities and when other conditions, particularly longer hunting seasons, are conducive to their doing so, almost anyone with $5 to $10 can have a good day's quail hunt near his home. The average hunter spends this much driving to western Oklahoma seeking free hunting. The need to assist farmers in marketing hunting opportunities was pointed out 42 years ago by Aldo Leopold and others (3). He noted that while paid hunting repulses some, "no game" is even more repulsive. In Oklahoma we are headed toward "no game".

Quail seasons such as existed in 1967 do not induce farmers to manage quail and market the opportunity to hunt. Forty to 60 consecutive hunting days are needed.

In view of the great demand for quail hunting opportunities, every feasible effort should be made to accommodate more hunters on public lands. Efforts to obtain hunter access to public lands now closed should be continued. Publicity to direct hunters to unused hunting opportunities on public lands should also be continued.

This report provides information about hunters that is useful for preparing plans for public hunting areas. For example, hunters wanted to hunt near home, and where this was possible they hunted more days per season. This finding demonstrates the need for developing hunting opportunities near the people. Planning Regions 3, 1, 6 and 9 in that order (Fig. 23) need more hunter access. Region 8 and 5 need more intensive management to increase hunter success.

Literature Cited

1. Craighead, M. R. 1970 Oklahoma Outdoor Recreation Demand Study Forestry Dept., Okla. State Univ. and Okla. Indust. Dev. and Parks Dept. 60 p. Mimeo.

2. Ellis, R. J. 1969. Distribution of Licensed Resident Fishermen and Hunters in Oklahoma, 1968. Admin. Plan. Rep. 9, Okla. Dept. of Wildl. Conserv. 11 p.

Table 1. Estimated numbers of hunters in Oklahoma, 1961-1971.

Year	Resident Hunters	Quail Hunters
1961	252,387	151,143
1962	296,777	178,066
1963	274,674	164,804
1964	269,062	161,437
1965	281,606	168,964
1966	306,472	183,883
1967	278,619	167,171
1968	253,895	152,337
1969	285,056	171,034
1970	302,221	181,333
1971	352,347	211,408

* Includes licensed and non-licensed hunters; numbers of licensed hunters determined from license sales figures and numbers of non-licensed hunters estimated using figures from Craighead, (1).

Table 2. Percent of quail hunters in different sized hunting parties.

Hunters Per Party	Parties	% of Parties
1	93	4.2
2	1,151	51.9
3	778	35.1
4	167	7.5
5 or more	30	1.3
	2,219	100.0

Table 3. Days per season hunted by male and female quail hunters.

Sex	Sample	Av. Days Hunted
Male	2,041	10.1
Female	51	6.6
Both	2,092	10.0

Table 4. Distribution of Resident Licensed Hunters in Oklahoma, 1968 (2).

Planning Region	% of Oklahoma Population	% of Resident Licensed Hunters
1	6.2	6.9
2	7.5	13.5
3	5.8	7.0
4	6.9	9.0
5	9.0	8.8
6	15.6	12.2
7	7.9	10.6
8	22.8	14.3
9	10.8	8.5
10	5.1	4.9
11	2.4	4.3

Table 5. Average daily expenditures of quail hunters who did and did not hunt out of state.

Item	Average Daily Expenditure	
	Hunters Not Hunting Out of State	Hunters Hunting Both In and Out of State
Gasoline	$3.69	$3.80
Food	1.85	2.22
Ammunition	1.98	1.71
Lodging	1.06	.88
Other	1.04	1.90
Total	9.62	10.51
Sample	2023	164

Table 6. Vacation days earned and vacation days used for quail hunting.

Vacation Length (Days)	Percent of Vacation Days Hunted	Average Number Vacation Days Hunted	Sample
1 - 5	12.8	.36	80
6 - 10	10.0	.72	361
11 - 15	10.0	1.06	326
16 - 20	10.1	1.51	129
21 - 25	6.3	1.14	46
More than 26	6.0	1.29	106
Total	9.0	.97	1048

OKLAHOMA QUAIL HUNTER QUESTIONNAIRE (1967-68 Season) Planning Form # 8, Okla. Dept, of Wildlife Conservation

NOTE: If you did not hunt quail in Oklahoma last year, please complete only questions 1, 2, 17, 18, 19, 22, 23, 24, 25, and 26. These answers are needed to show how quail hunters differ from other hunters.

1. Please check the seasons when you hunted quail in Okla:( )1967-68 ( )1966-67 ( )1965-66 ( ) none
2. Please indicate your age ( ), and sex ( )
3. How many days did you hunt quail during the past season?
   a. On weekdays (excluding vacation)?_____
   b. On weekends (excluding vacation)? _____
   c. On vacation? _____
4. Did you hunt quail out of state last year?_____ If so, where? _____
5. On which lands did you hunt quail last season?
   a. Own land _____ b. Public lands _____
   c. Lands of friends or relatives _____ d. Hunting lease _____ e. Other private lands __
6. Did you experience difficulty in finding places to hunt? Yes ( ) No ( )
7. What was the usual number of hunters in your hunting party? _____
8. Please indicate the type of quail season you would like to have seen during the past fall: Season dates from _____to _____. Hunting to be legal on: (circle choices) Mon. Tues. Wed. Thurs. Fri. Sat. Sun. Bag limit of _____quail per day.
9. How many bird dogs do you own (include all ages): Pointers ____ Setters ____ Brittanys ____ others ___
10. How many miles would you drive for a one day hunt yielding 10 quail per day? _____; 5 quail per day _____
11. How many times last season did you encounter other hunters while hunting on private land? _____
12. About how much money per day did you spend last season for the following items while quail hunting? Gasoline _____ food _____ ammunition _____ lodging _____ other (specify) _____
13. On a normal quail hunting trip, how many hours per day do you hunt? _____
14. In what counties did you hunt 2 or more times last season? _____
15. On what % of the days when you hunted quail last season did you bag: no quail ___% 1-5 quail ___% 5-10 quail ___%
16. How many miles did you travel on an average quail hunting trip last season from your home to where you hunted? _____
17. Are you married? _____
18. Indicate your position in your household: head of household ____, spouse of head of household _____, child of head of household____, other_____.
19. How many persons (including yourself) are members of your household: Persons over 16 years; males ____, females _____: Persons under 16 years; males _____, females _____.
20. How many members of your family hunt quail (include yourself)? _____
21. How many years have you lived in Oklahoma?_____
22. What is your primary occupation (if unemployed, indicate "none")? _____
23. Circle the days that you normally have off each week. Sun. Mon. Tues. Wed. Thurs. Fri. Sat. None
24. How many days (working days) annual vacation do you have? _____
25. Please check the box that fits your annual income before taxes (we need this information to tailor programs you can afford) ( )less than $3,000, ( )$3,001 to $7,000, ( )$7,001 to $15,000, ( )$15,001 to $25,000, ( )over $25.000.
26. Circle animals you hunted last season: waterfowl, dove, pheasant, turkey, crow, rabbit, pr. chicken, squirrel, deer, raccoon, coyote, bobcat.

Fig. 1. Oklahoma quail hunter questionnaire.

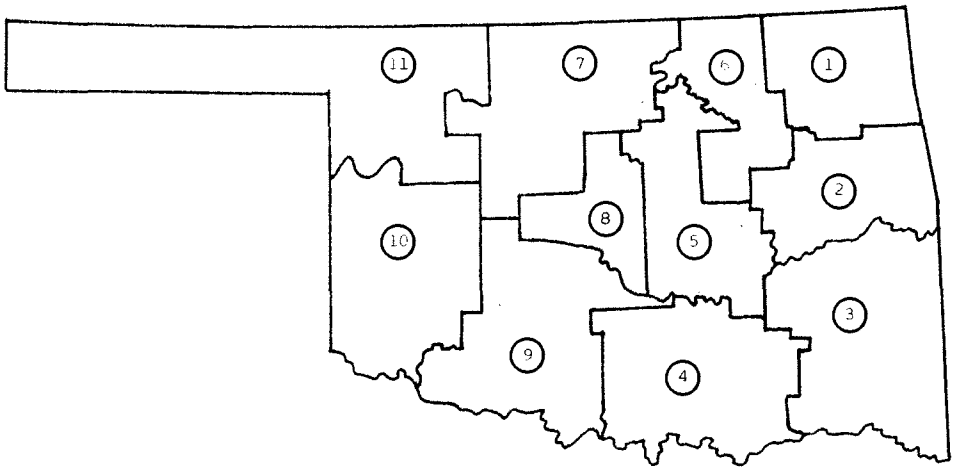

Fig. 2. Planning regions of Oklahoma.

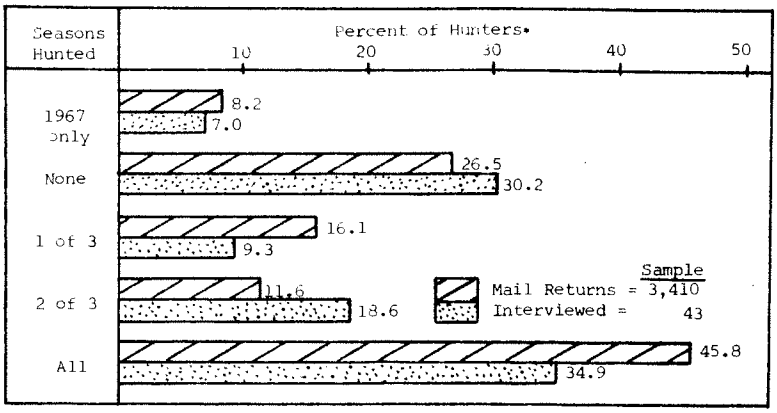

Fig. 3. Persons hunting quail in Oklahoma, 1965-1967.

* Includes non-quail hunters

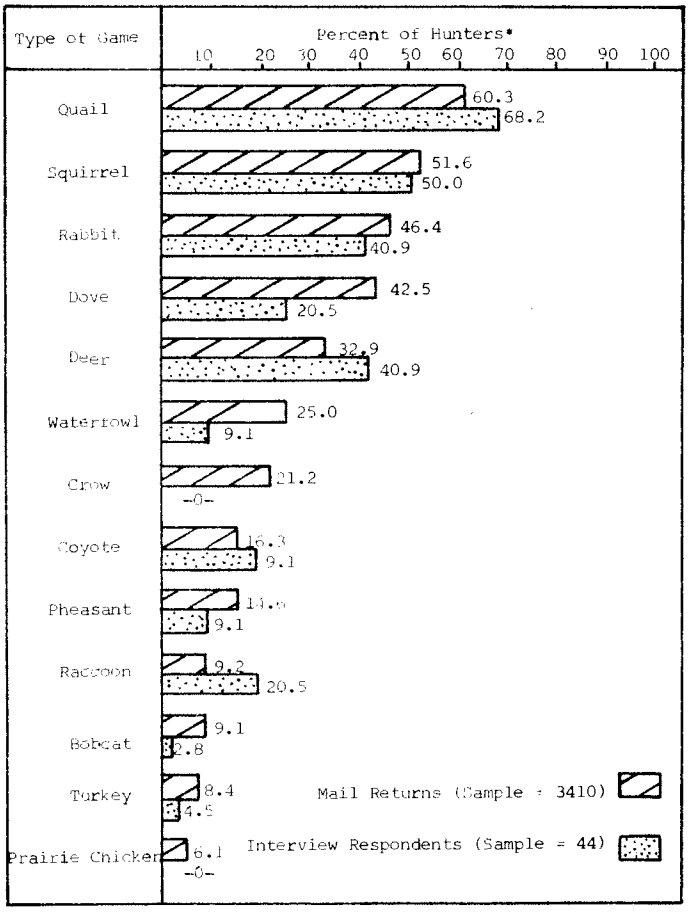

Fig. 4. Percent of all hunters hunting 13 kinds of game.

* Includes non-quail hunters

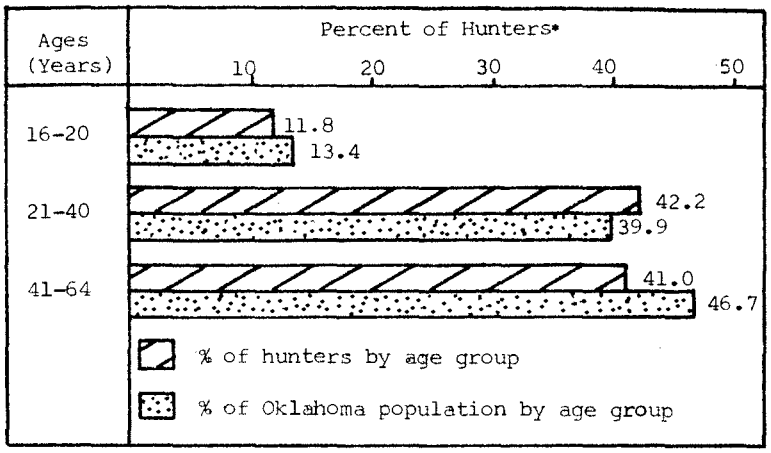

Fig. 5. Percent of Oklahoma residents and hunters by age groups.
* Includes non-quail hunters

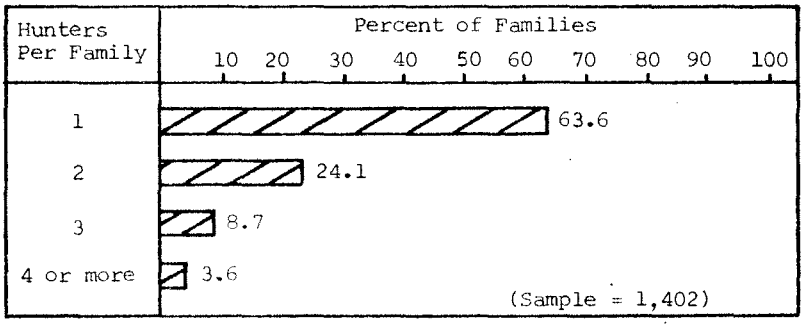

Fig. 6. Percent of hunter's families containing different numbers of hunters.

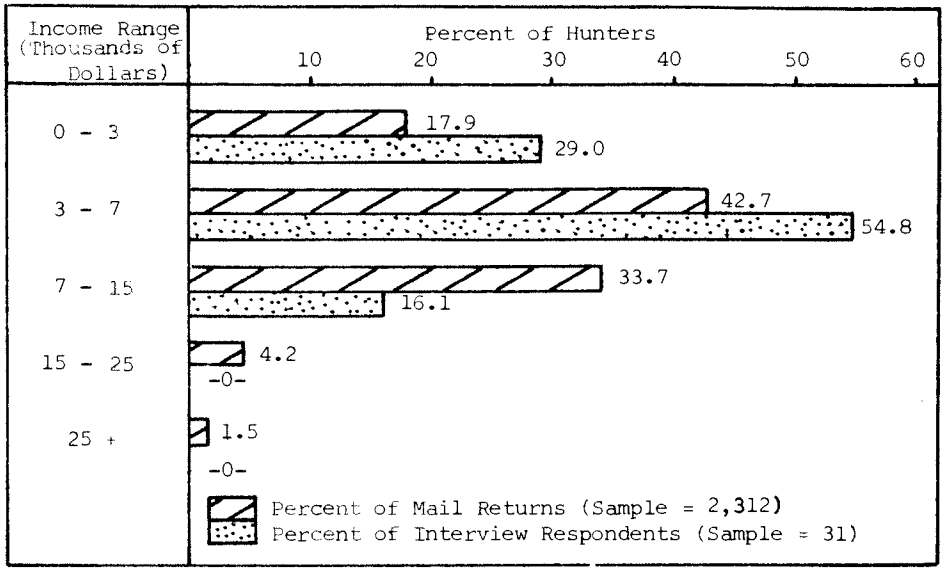

Fig. 7. Percent of quail hunters with different incomes.

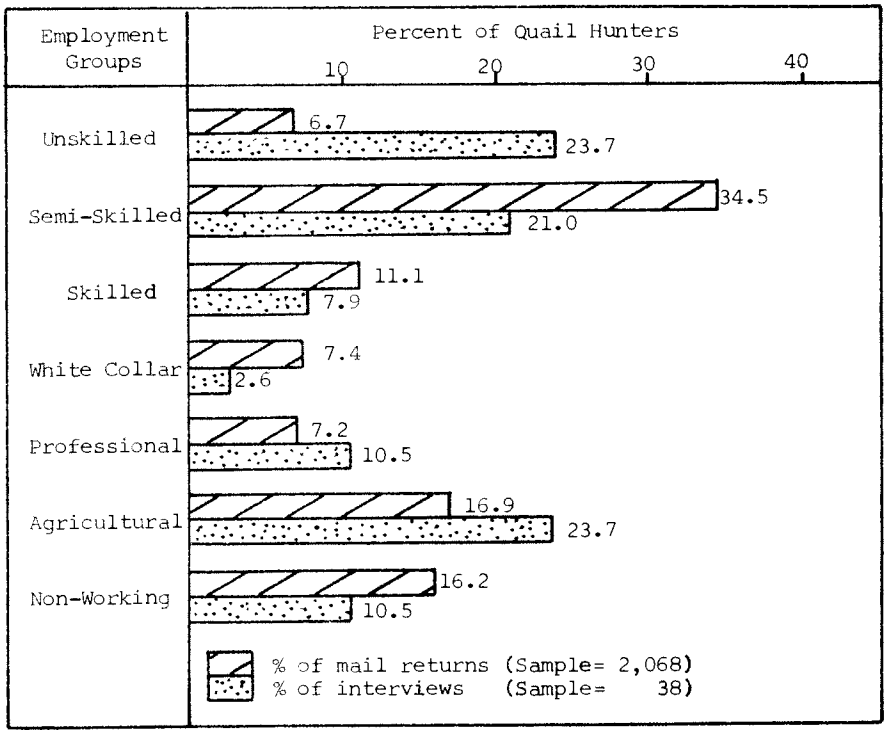

Fig. 8. Percent of quail hunters by employment group.

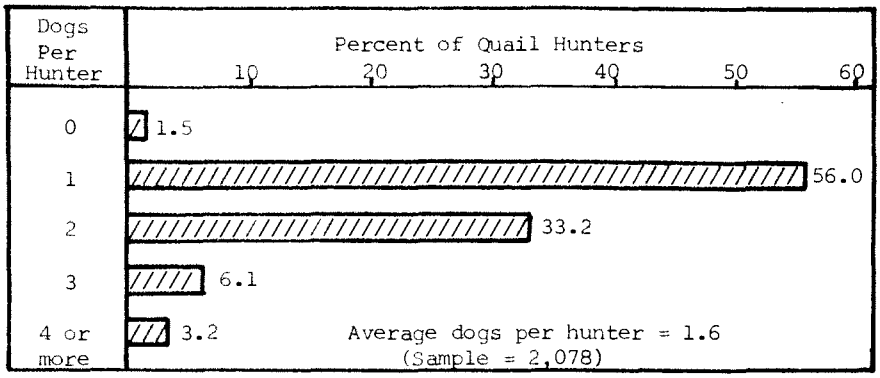

Fig. 9. Percent of quail hunters owning bird dogs.

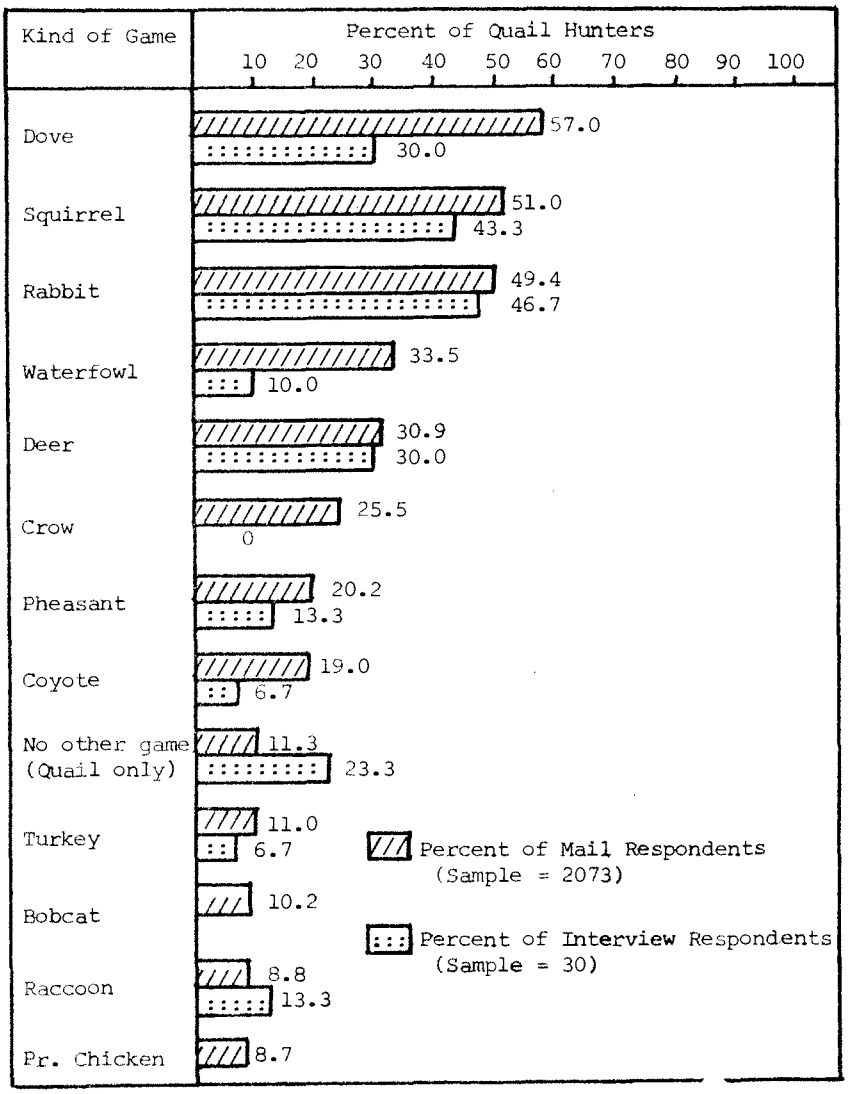

Fig. 10. Percent of quail hunters hunting different kinds of game.

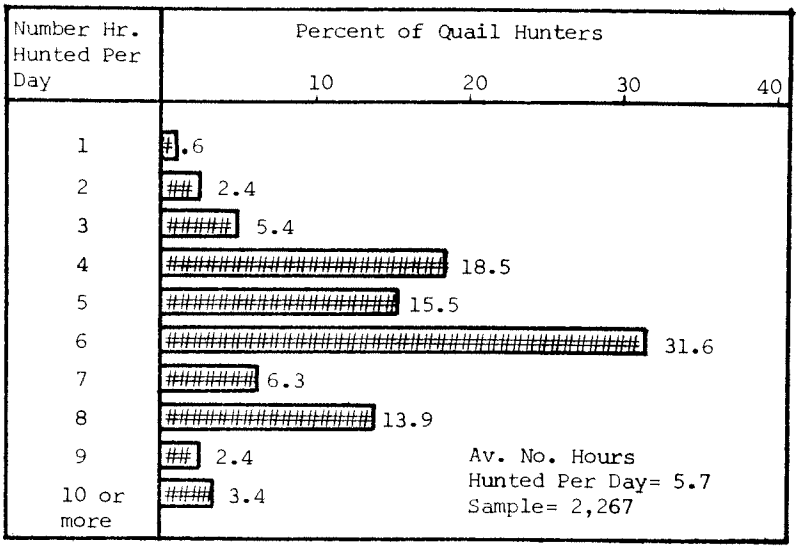

Fig. 11. Percent of quail hunters hunting different numbers of hours per day.

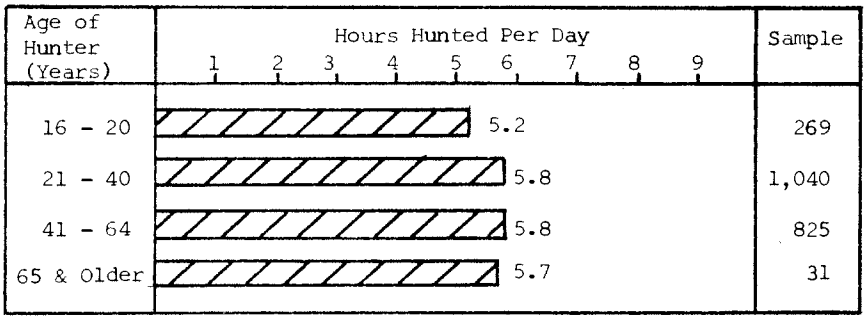

Fig. 12. Hours per day hunted by different age groups.

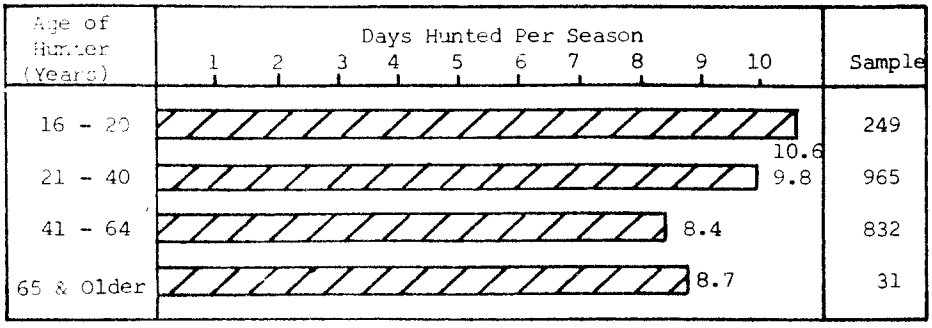

Fig. 13. Days per season hunted by different age groups.

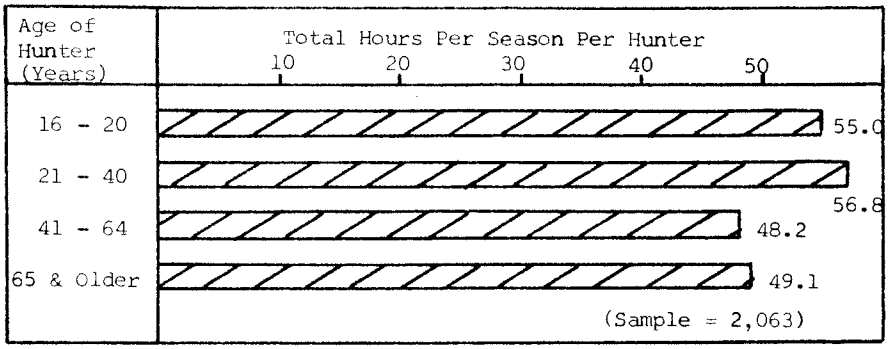

Fig. 14. Total hours per season hunted by different age groups.

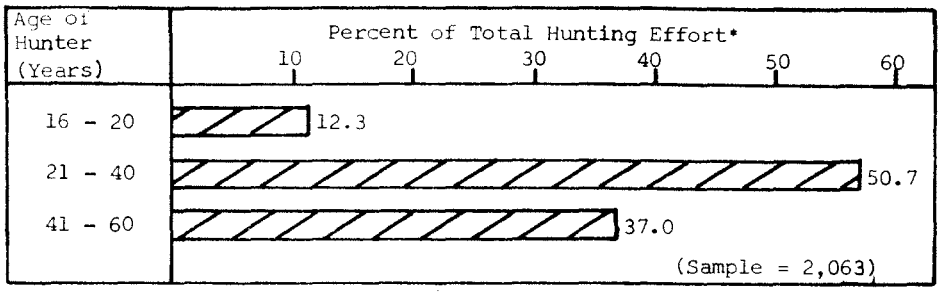

Fig. 15. Percent of total hunting effort exerted by different age groups.

*No. hunters x hr. per hunter (excludes non-licensed hunters)

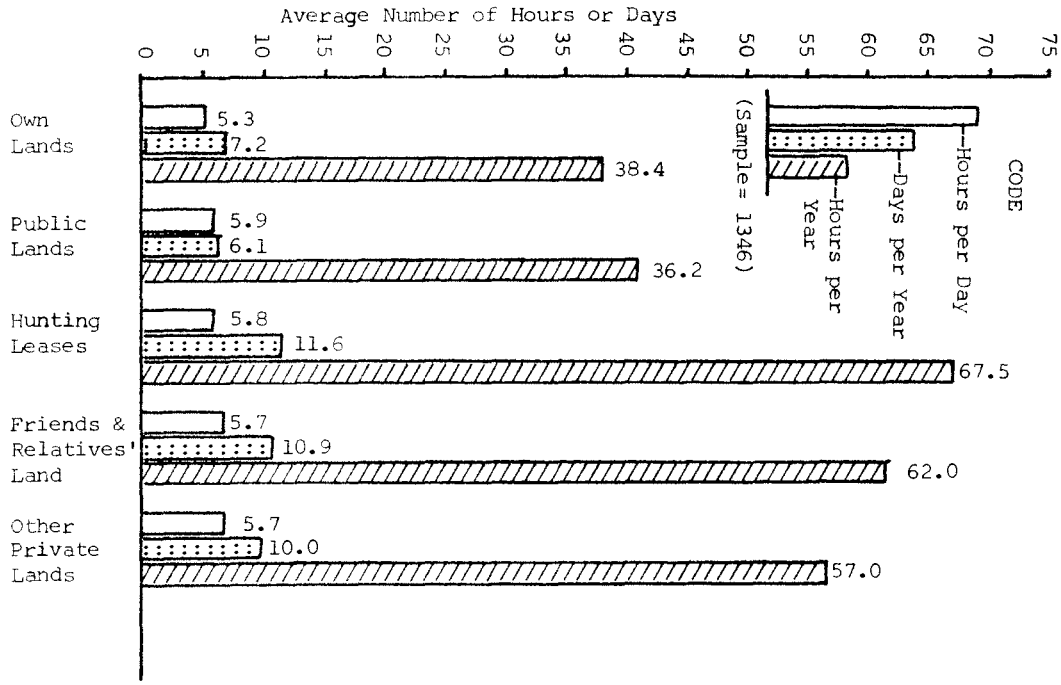

Fig. 16. Hours and days hunted by quail hunters on different kinds of hunting lands.

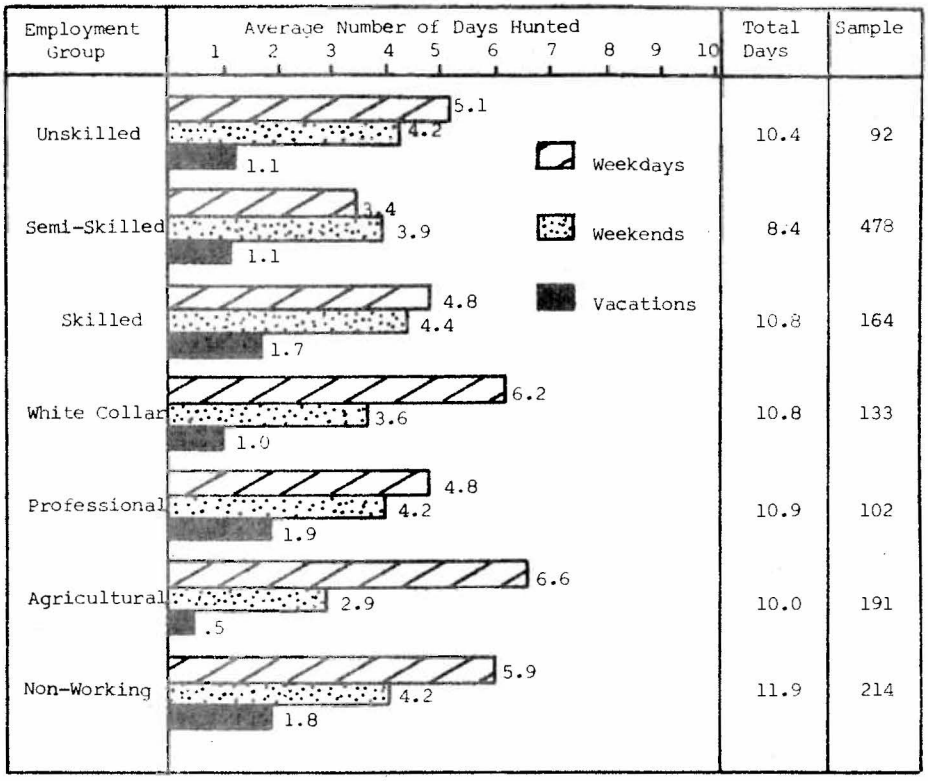

Fig. 17. Days hunted per season on weekdays, weekends and vacations by different employment groups.

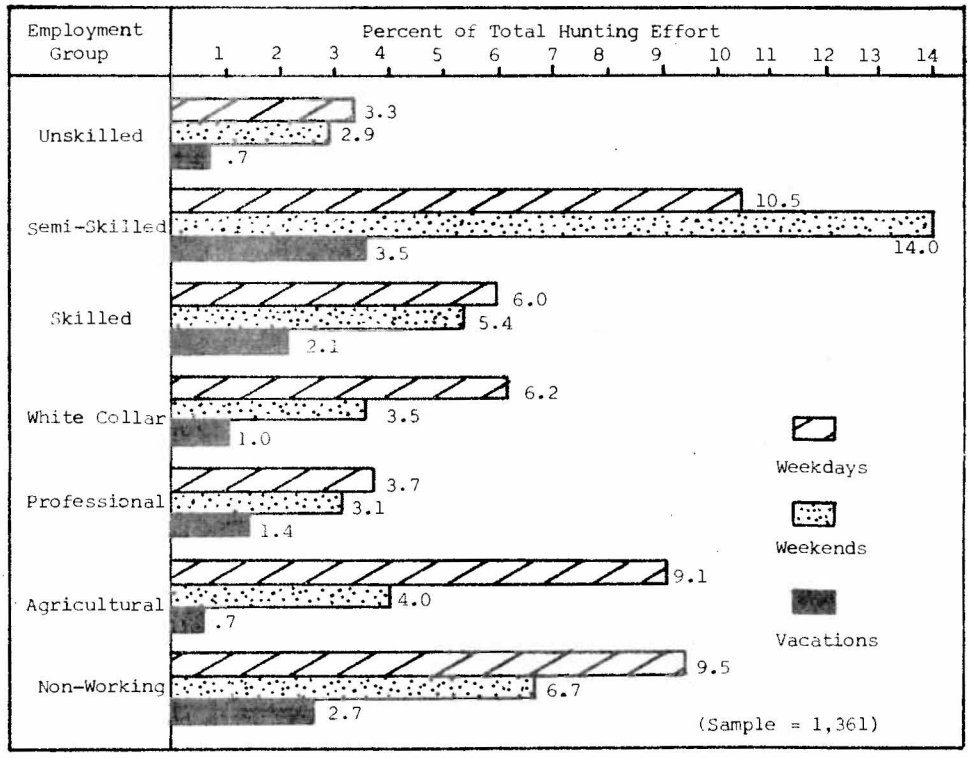

Fig. 18. Percent of total hunting effort done by different employment groups.

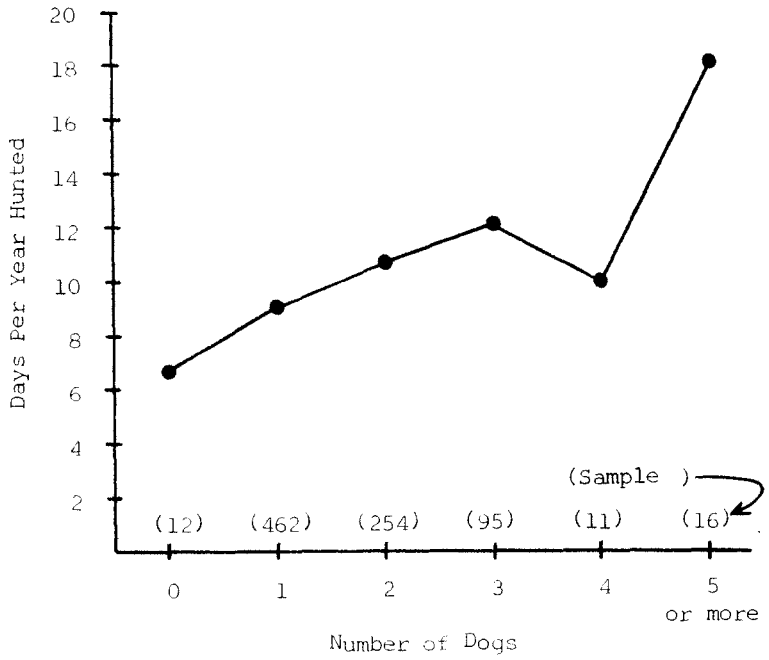

Fig. 19. Days hunted by persons owning different numbers of bird dogs.

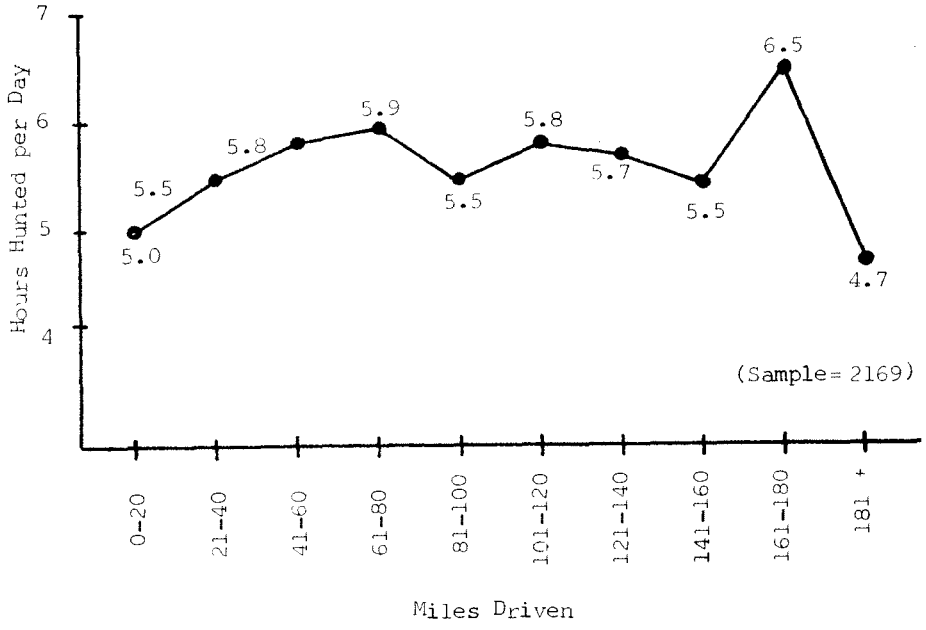

Fig. 20. Hours per day hunted by hunters driving different distances to hunting areas.

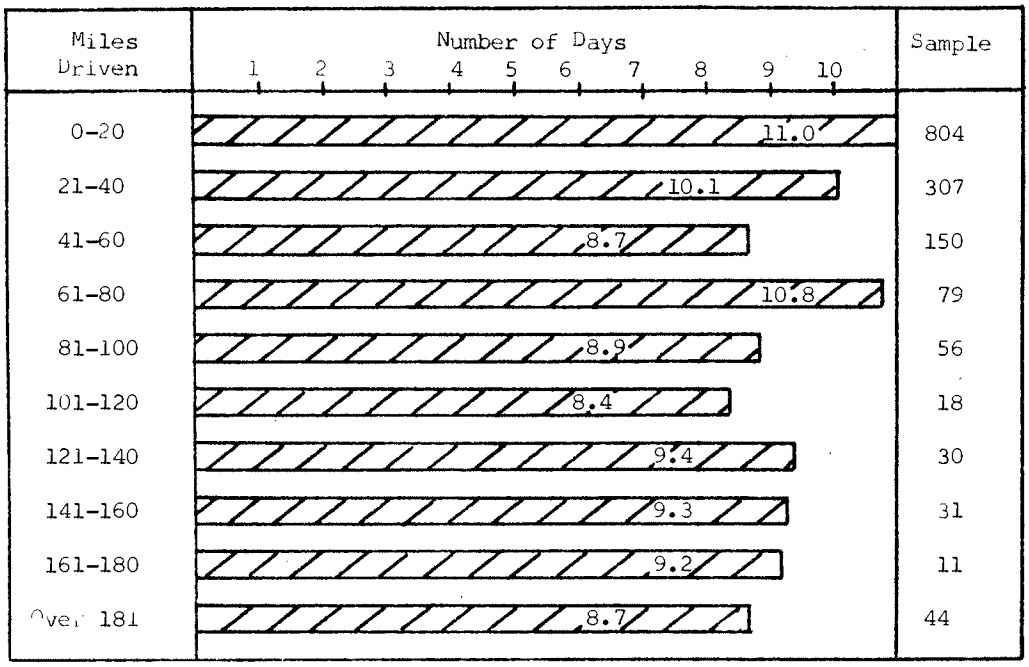

Fig. 21. Days hunted by hunters driving different distances to hunting areas.

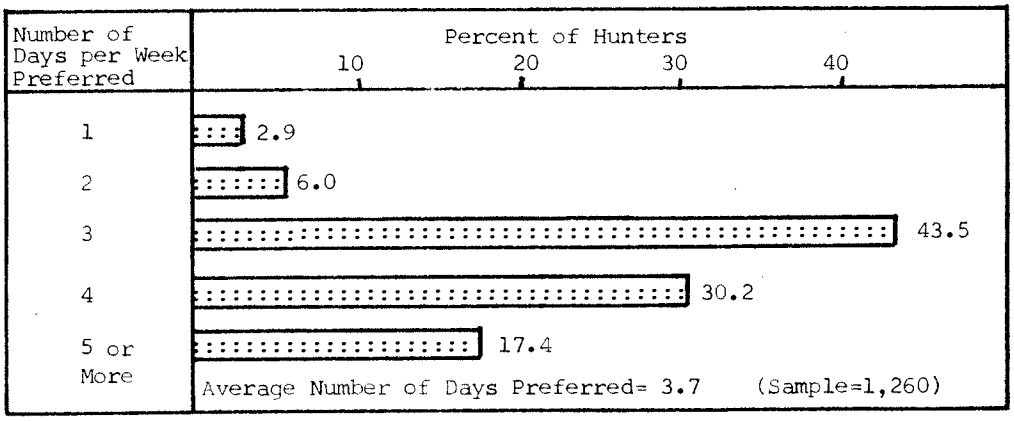

Fig. 22. Percent of hunters indicating preferences for specific numbers of days per week to be open for quail hunting.

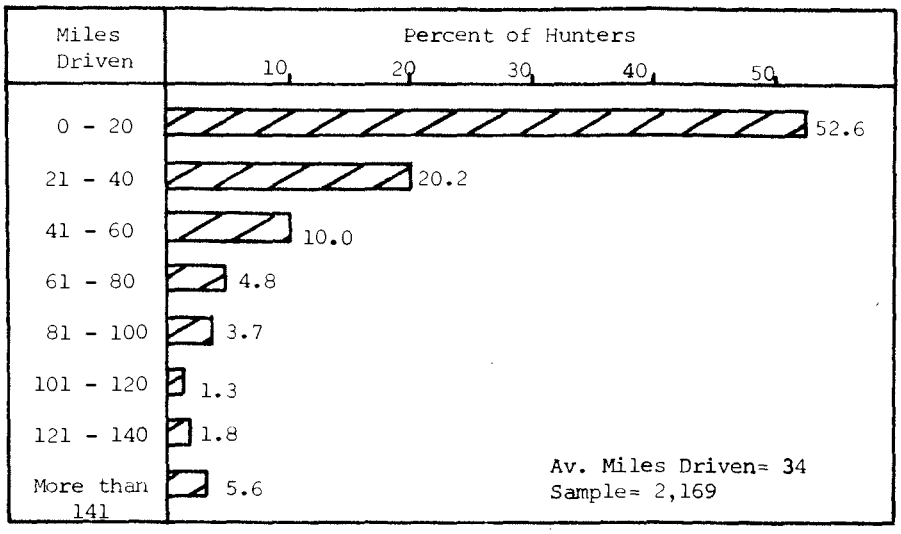

Fig. 23. Percent of hunters driving different distances (one day) to hunt quail.

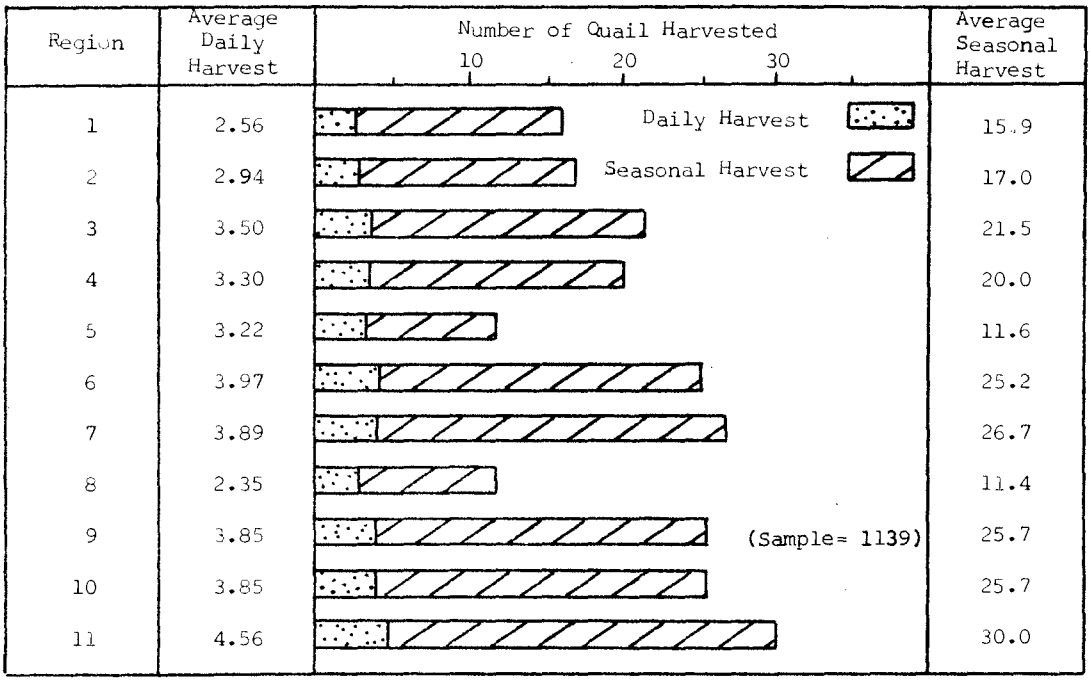

Fig. 24. Quail harvested per hunter in different planning regions.

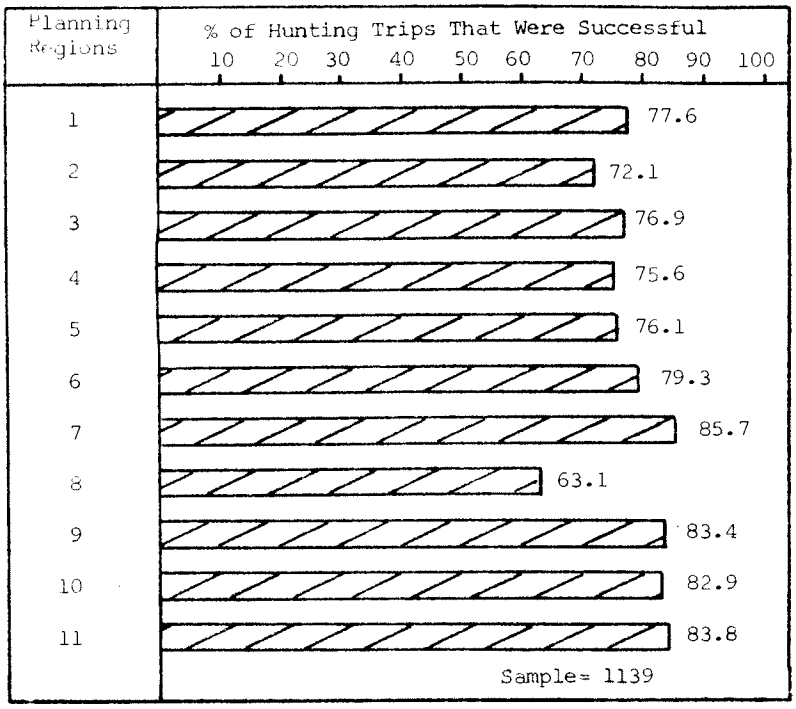

Fig. 25. Percent of quail hunting trips that were successful in different planning regions.

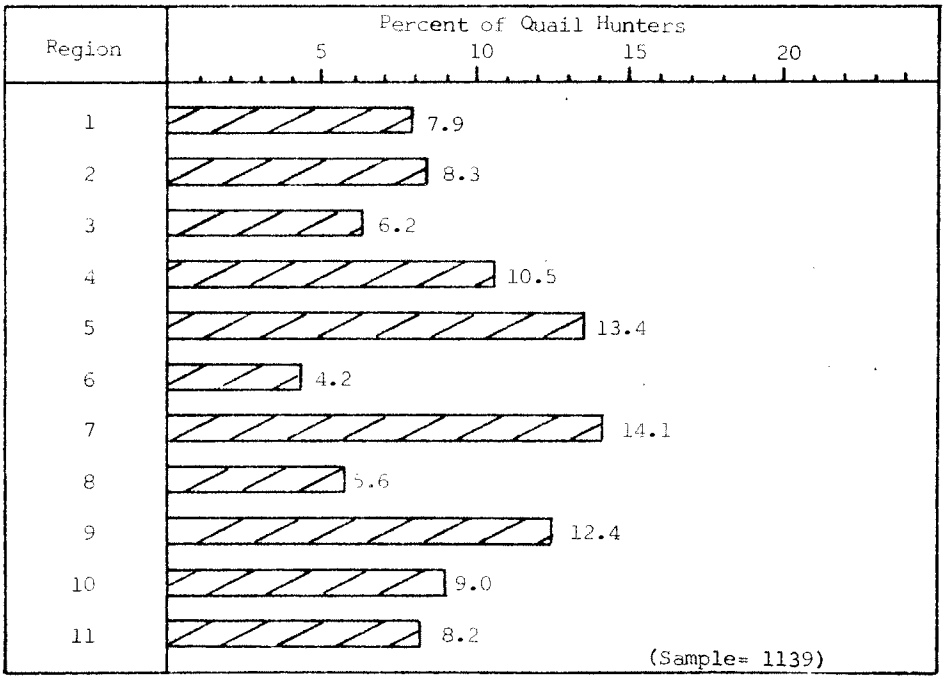

Fig. 26. Percent of quail hunters hunting in different planning regions.

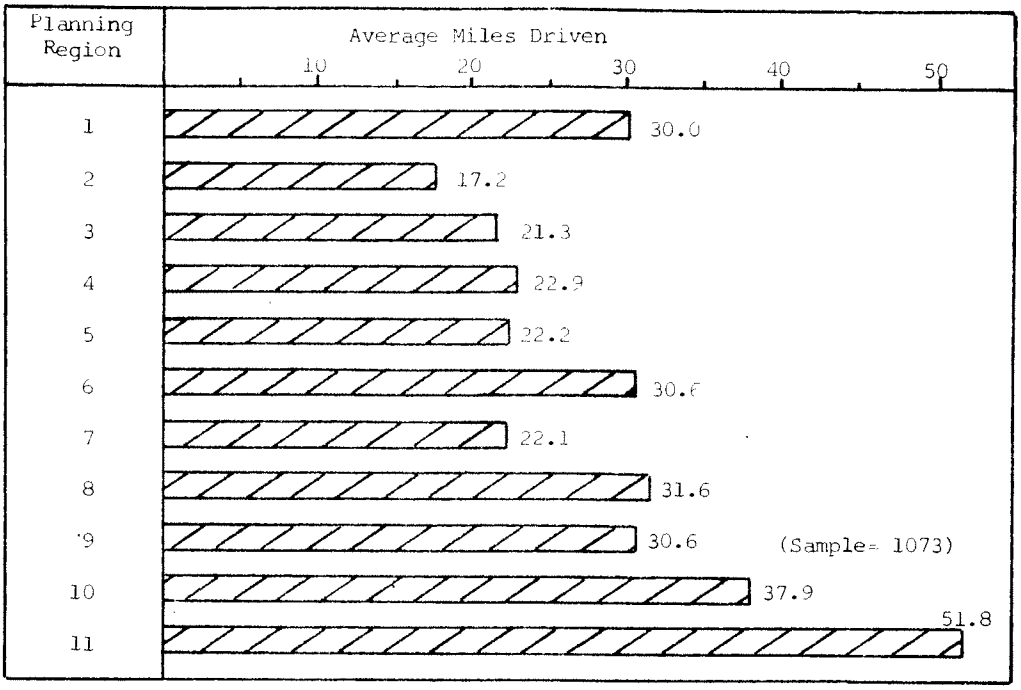

Fig. 27. Average miles driven to hunting area by persons hunting quail in different planning regions.

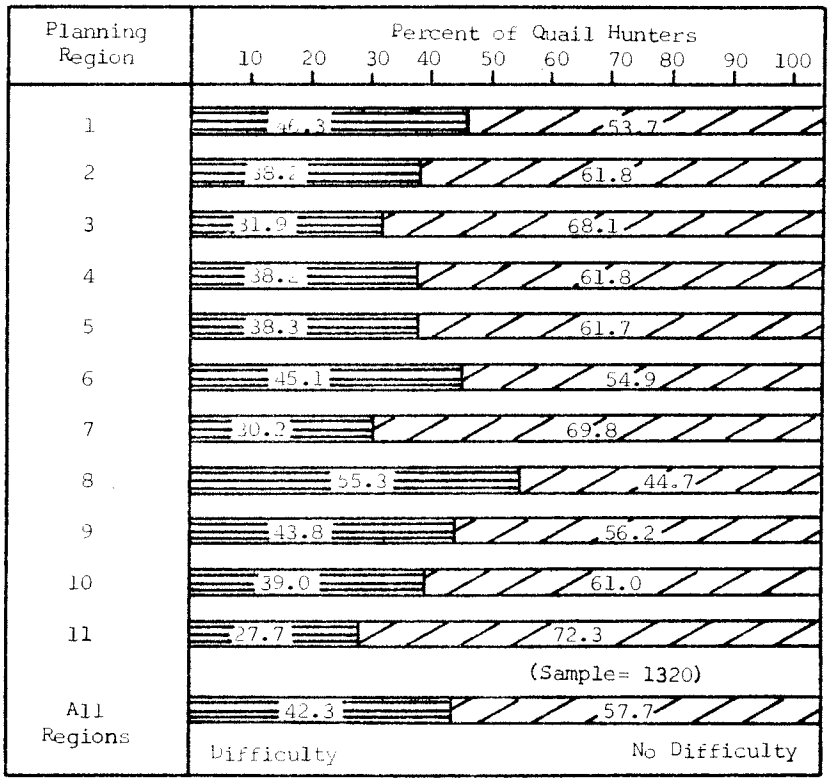

Fig. 28. Percent of hunters having difficulty and not having difficulty obtaining access for quail hunting in different planning regions.

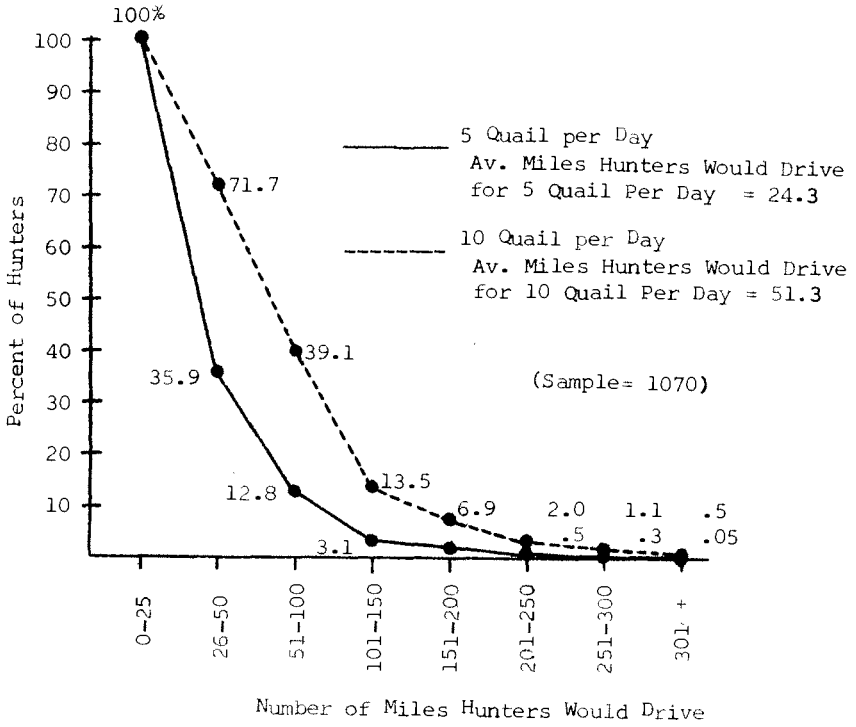

Fig. 29. Percent of hunters who would drive different distances for 5 and 10 quail per day.

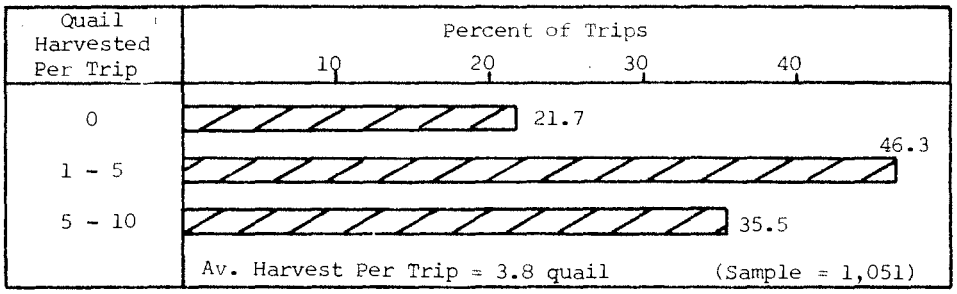

Fig. 30. Percent of hunting trips when average quail hunter took 1-5, 5-10 and no quail.

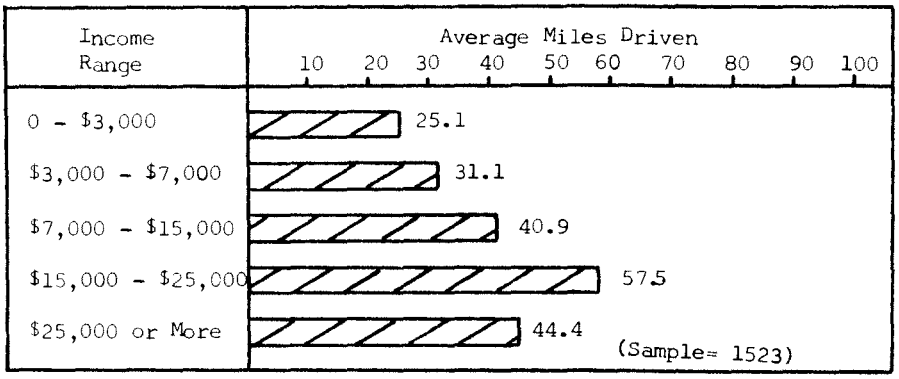

Fig. 31. Average distances driven (one way) to hunt quail by hunters with different annual incomes.

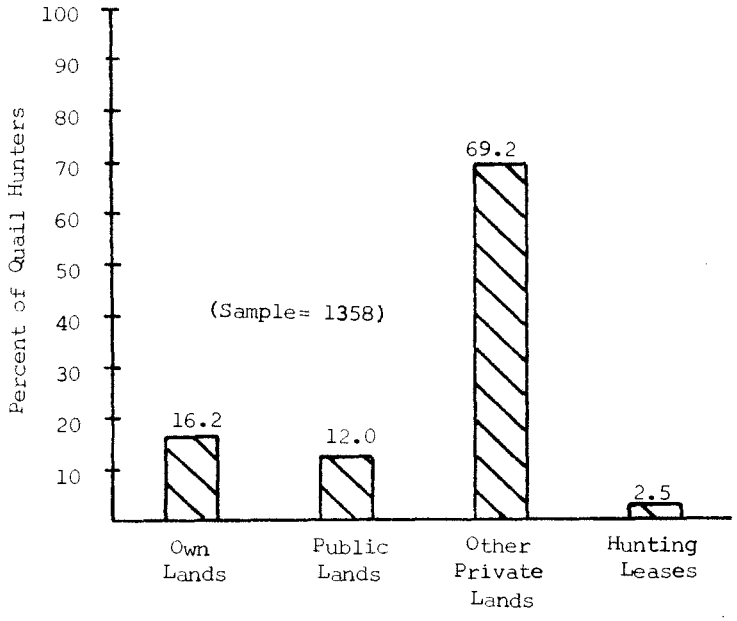

Fig. 32. Percent of hunters who hunted quail most on each of 4 kinds of hunting lands.

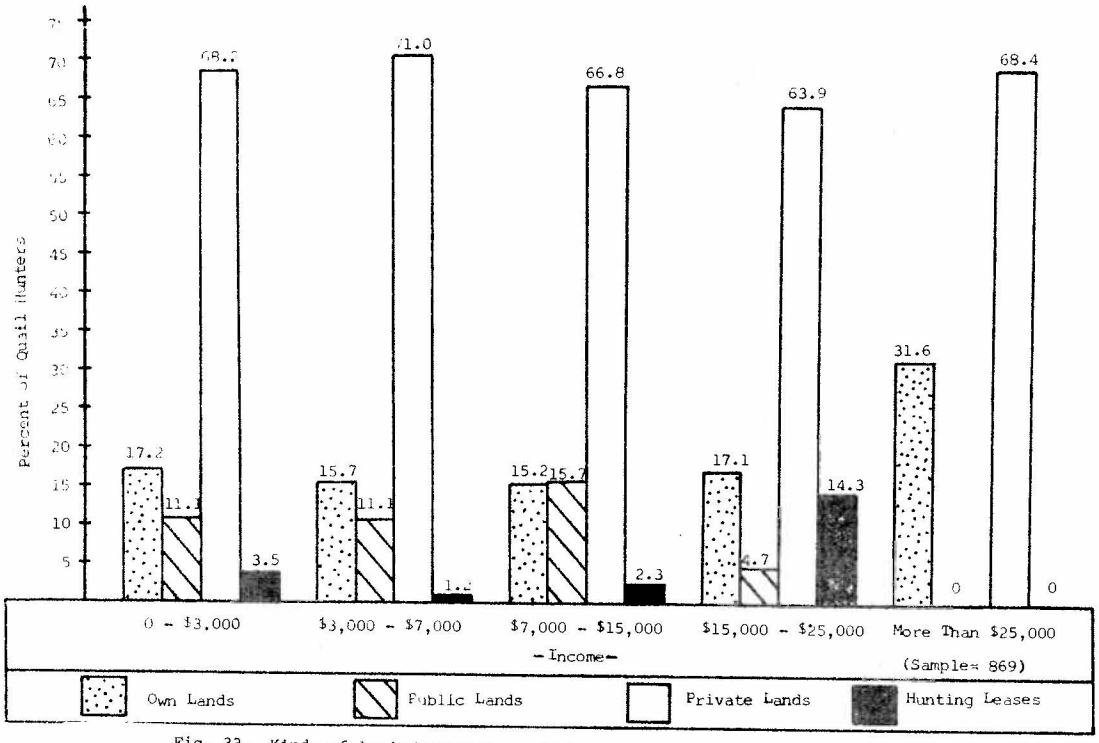

Fig. 33. Kinds of lands hunted by quail hunters with different incomes, expressed as % of each income group who hunted each type of land most.

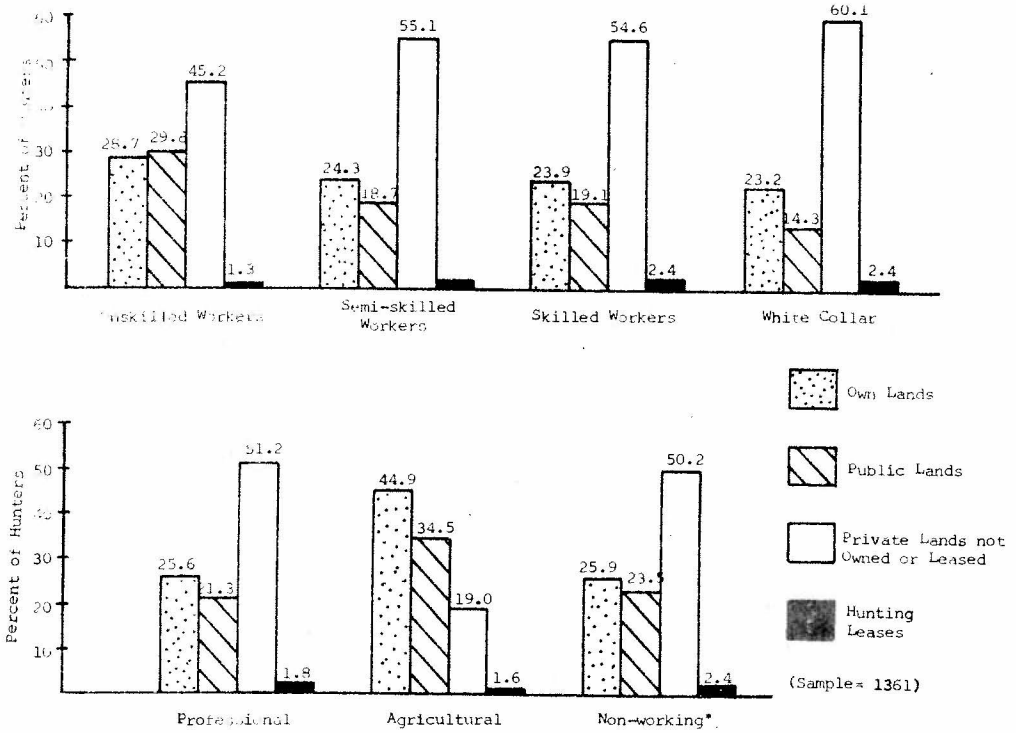

Fig. 34. Percent of quail hunters in each of 7 employment groups who hunted most on 4 kinds of hunting lands.

* Unemployed, students, retired, disabled

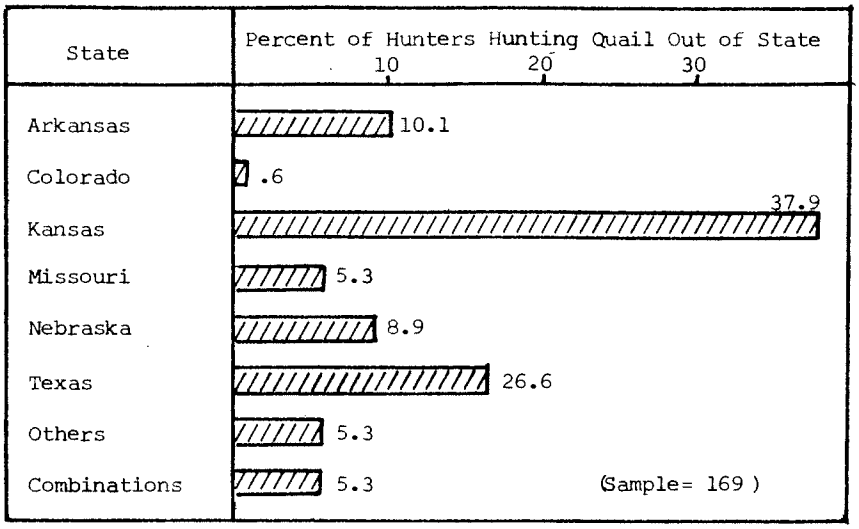

Fig. 35. States where Oklahoma hunters hunted quail.

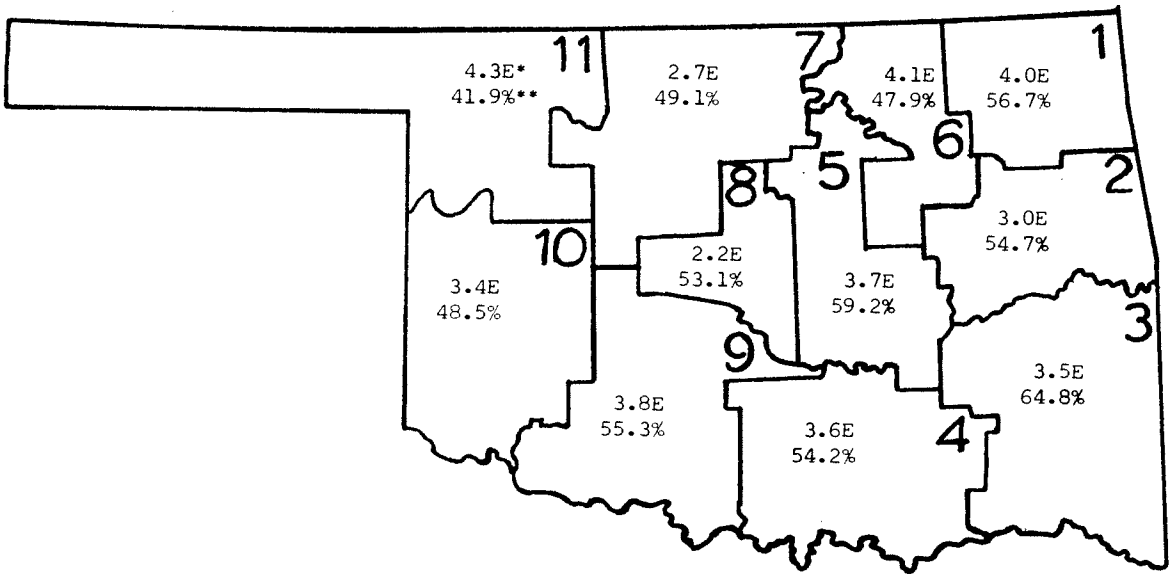

Fig. 36. Percent of quail hunters in each planning region who encountered other hunters while hunting.

* Aver. number of encounters by those encountering others
**% of quail hunters in district who encountered others

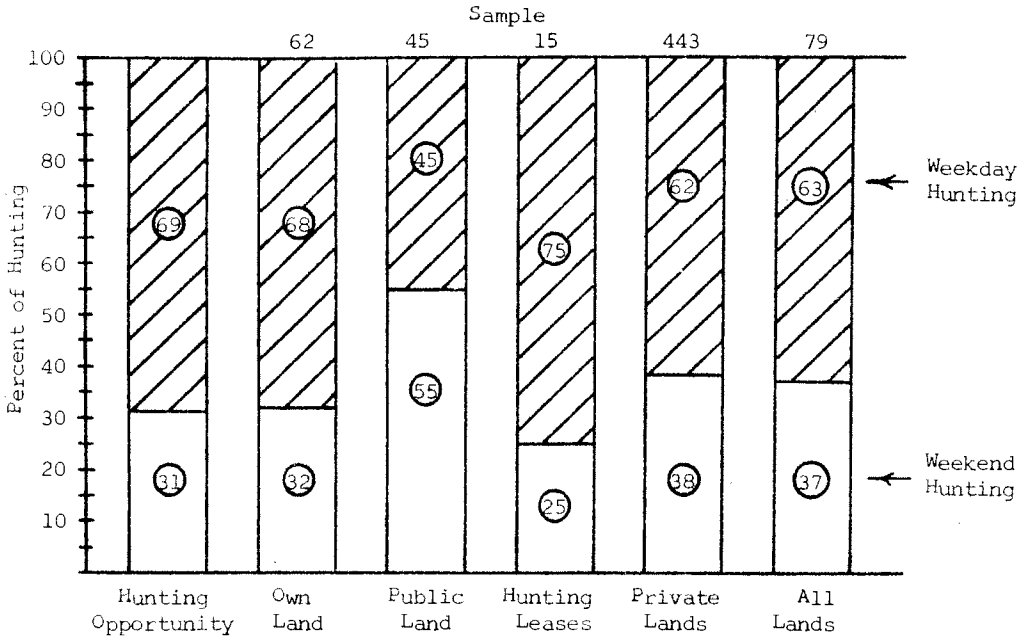

Fig. 37. Time of week when quail hunting occurred on 4 kinds of hunting lands.

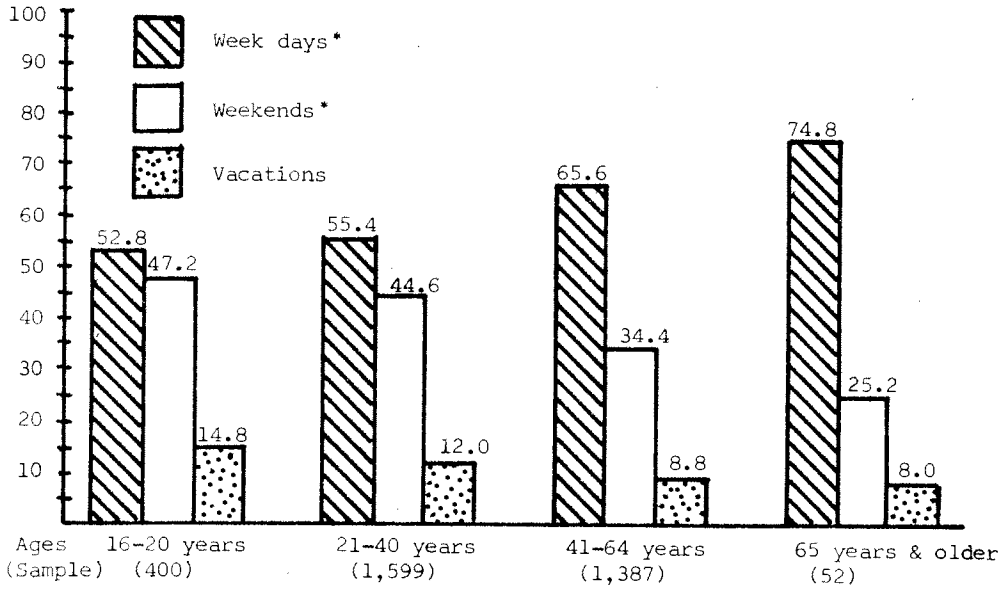

Fig. 38. Percent of hunters hunting on weekdays, weekends and vacations by age group.

* Includes vacation days

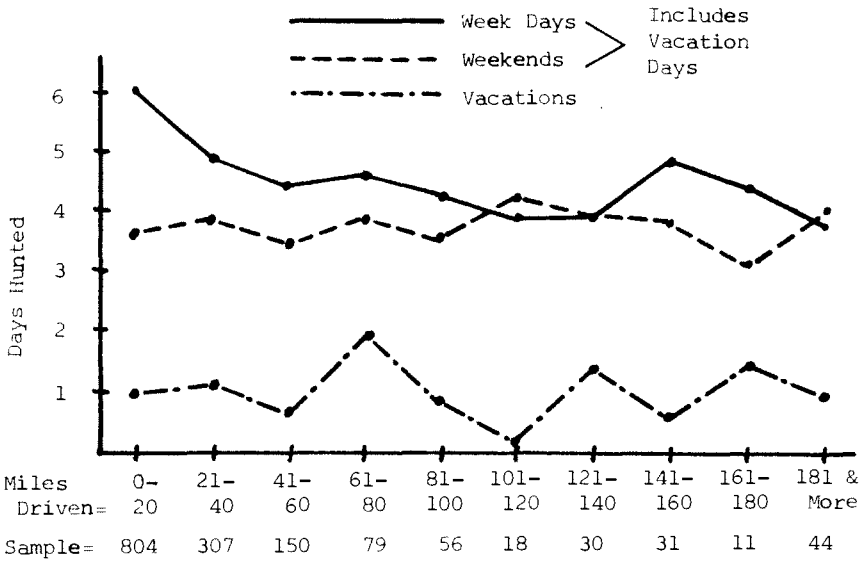

Fig. 39. Days hunted per season by quail hunters driving different distances to hunting areas.

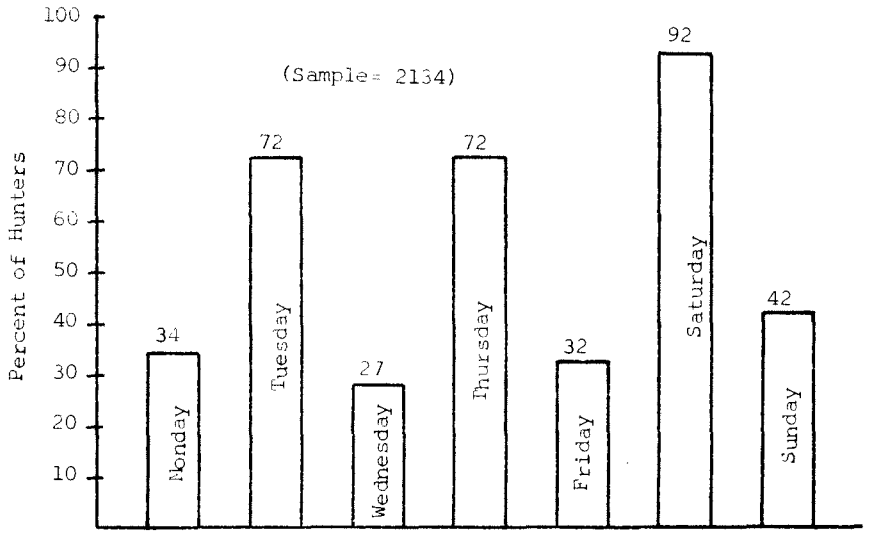

Fig. 40. Percent of hunters preferring legal hunting of quail on individual days of the week.

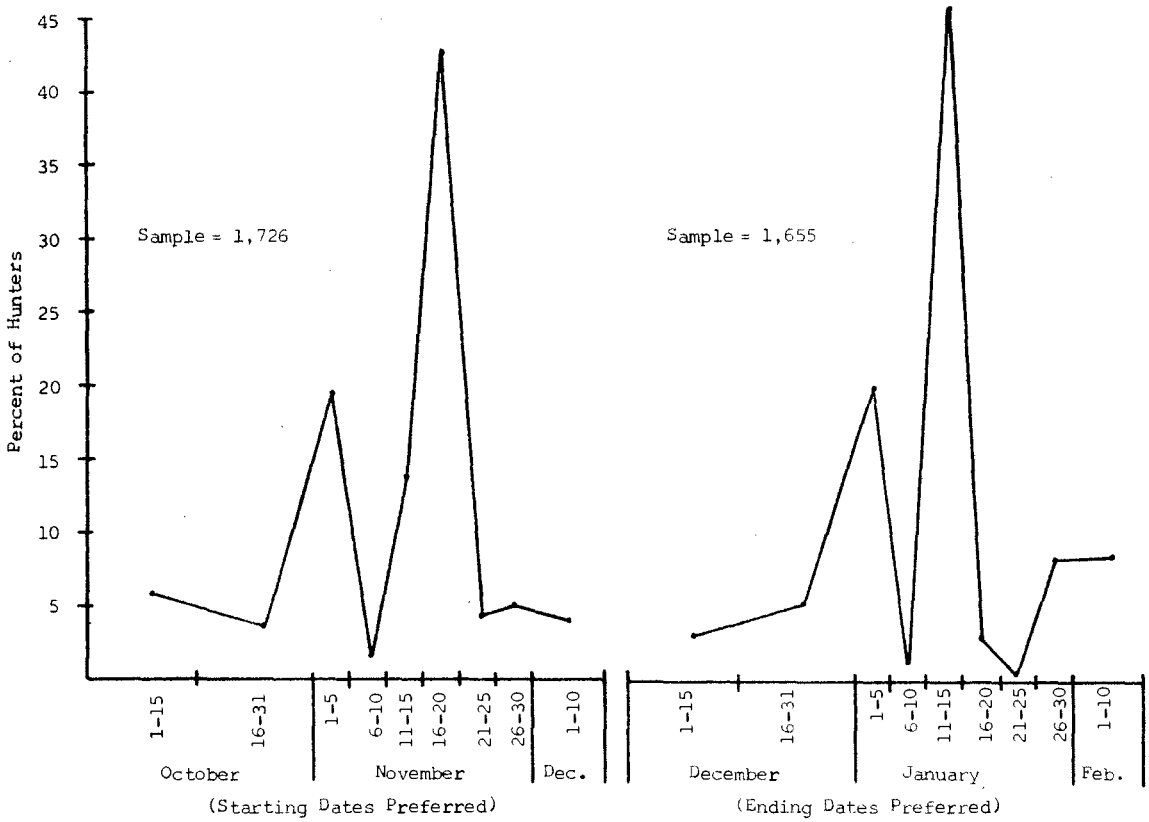

Fig. 41. Starting and ending dates for quail season preferred by quail hunters.

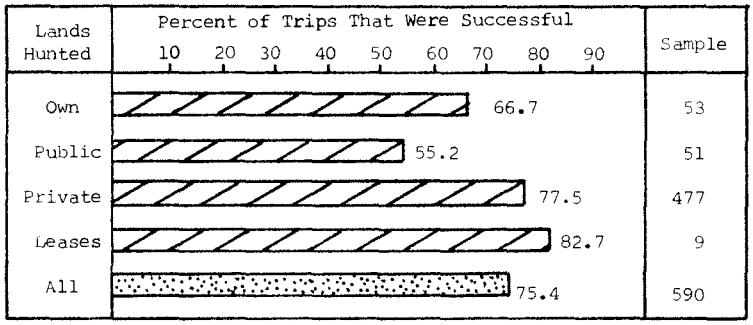

Fig. 42. Percent of hunting trips when quail were harvested on 4 kinds of lands.

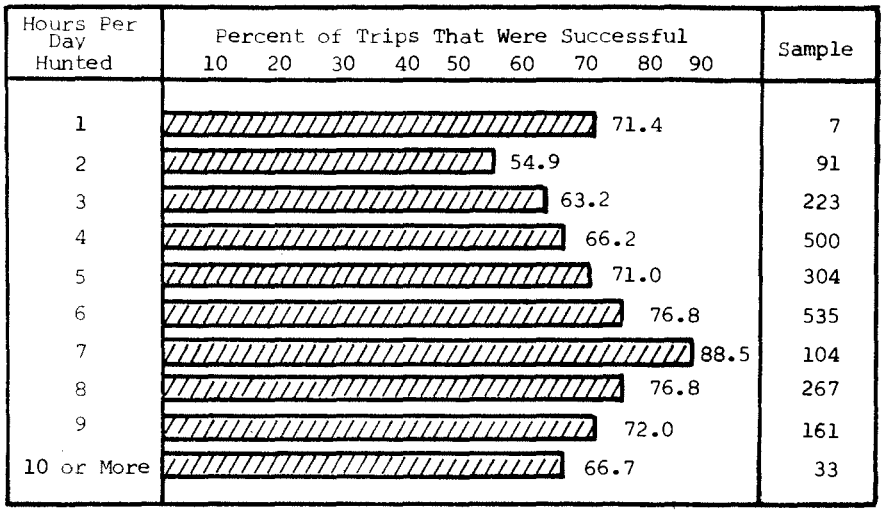

Fig. 43. Percent of trips when quail hunters hunting different numbers of hours per day were successful.

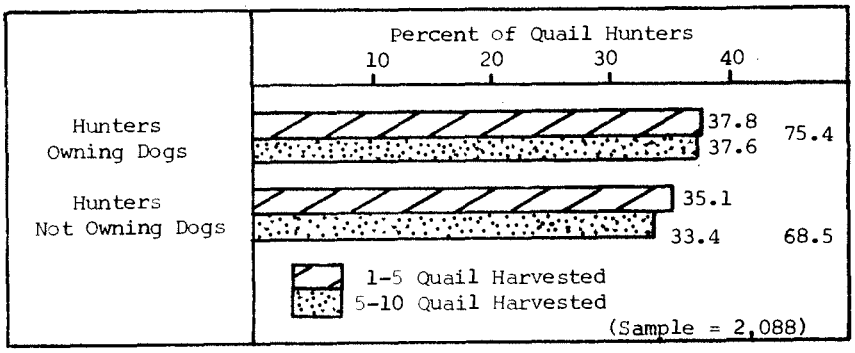

Fig. 44. Percent of trips when quail were harvested by hunters owning and not owning dogs.

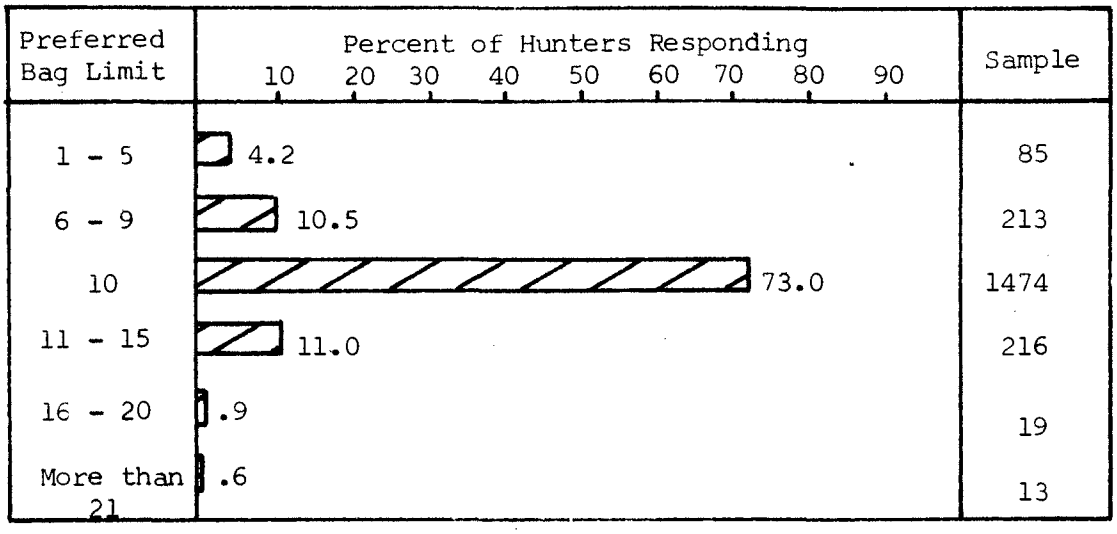

Fig. 45. Preferred number of quail in the daily bag limit

3. Leopold, A. 1928, 1929, 1930. American Game Policy and Its Development, 1928-1930 (Reprinted in facsimile from Proc. of Am. Game Conf., Vol. 15, 16 and 17, by the Wildl. Manage. Inst. 1971).

4. Robinson, J. L., and T. D. Curtis. 1969. Oklahoma Data Book, 1968. Bur. Business Res., Univ. of Okla., Norman.

5. U. S. Weather Bureau, Okla. City. (Personal Communications).

SIMULATION STUDIES OF QUAIL HUNTING SUCCESS ASSOCIATED WITH ECOLOGICAL SUCCESSION OF PLANTED PINE STANDS

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Abstract:

A concept paper of a methodology is presented for explaining past populations and predicting future populations of bobwhite quail (Colinus virginianus), as a function of forest changes. The methodology is applicable to large landholdings, regions, and states. It relates, using computer technology, the number of potential covey flushes per 100 acres per day to the age of forest stands or ecological succession curves. By summing quail flush curves over a large area, area-wide yields may be obtained. Flushes are modified by a shooting-quality factor and birds per covey. The computer-generated output tables provide an inventory, a historical overview, and projected populations. The results are useful for making forestry-wildlife tradeoffs, for explaining quail declines or increases as a result of forestry operations, and for improvements in allocating money to wildlife or forestry. The method is based on a similar system for big-game forage in the Pacific Northwest (2) and is now being developed.

The primary wildlife management action is decision making (1). Highly effective rational decision making relies upon increasingly sophisticated tools of explanations and prediction. The quality of management of large land areas for wildlife is largely a function of the managers' predictive ability. The probability of being right when a manager of bobwhite quail populations says "If I expend these dollars, I will get these birds" is a measure of managerial skill and knowledge. Similarly, it is a measure of such skill for a manager to say with justified confidence: "Within the next 10 yr, the quail population will have declined 35%?" Such inputs are essential for improved decision making about changing practices or allocating management funds.

One aspect of this general problem is the need to predict bobwhite quail populations over broad areas such as regions, counties, or private landholdings of greater than 10,000 acres. One obvious need for