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UTAH UPLAND GAME BIRD HARVEST 1964 PUBLICATION

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**UTAH
UPLAND GAME BIRD HARVEST
1964**



**PUBLICATION NUMBER 65-7
FEDERAL AID COMPLETION REPORT
Federal Aid Project W-65-R-13
UTAH STATE DEPARTMENT OF FISH AND GAME
Harold S. Crane, Director**

UTAH
UPLAND GAME BIRD HARVEST
1964

Work Assigned to:

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James Bates	Assistant Project Leader

PUBLICATION NO. 65-7

Completion Report for Federal Aid Project W-65-R-13

July 1, 1965

UTAH STATE DEPARTMENT OF FISH AND GAME

Harold S. Crane, Director

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JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT
(Inventory)

State of U T A H

Project No. W-65-R-13

Name: State-wide Wildlife
Management Inventory

Job No. B-2

Title: Harvest of Upland Game
Birds

Period Covered: July 1, 1964 to June 30, 1965

Abstract: Following is a summary of the 1964 Upland Game Bird Harvest in Utah:

Species	Hunters Afield	Hunter Days	Harvest	Birds per Hunter	Birds per Hunter day
Pheasant	88,242	196,314	225,775	2.56	1.15
Chukars	16,090	39,971	42,973	2.67	1.08
Mourning Dove	19,829	51,671	193,538	9.78	3.73
Sage Grouse	4,362	5,807	6,827	1.56	1.18
Forest Grouse	6,487	10,566	12,691	1.96	1.20
Quail	8,951	20,510	31,189	3.48	1.52
Hungarian Partridge	4,249	9,688	11,812	2.78	1.22
Wild Turkey	211	--	81	0.38	--

Total hunters afield for all species (except turkeys) -- 90,820

Recommendations: This study should be continued for the purpose of evaluating the trends of upland game bird harvests in Utah.

Objectives: To determine the harvest of upland game birds, hunting success, distribution of harvest, and distribution of hunting pressure in 1964.

Techniques Used: Following the close of the 1964 upland game bird seasons, a questionnaire was sent by first-class mail to a 10-percent sample of 1963 license holders. Each license holder contacted was requested to provide information on number of each species killed, county in which they were taken and number of days hunted.

Reports of respondents were tabulated and processed by the Computer Center of the University of Utah. Hunting success was taken directly from reports and expressed in terms of birds per hunter day and birds per hunter.

Total harvest and number of hunters hunting each species were calculated by the following technique.

Total license sales, 1964
(eligible hunters of upland game) 118,412
Total returns from eligible hunters
in 1964 (including non-hunters) 4,180

Projection factor = $\frac{118,412}{4,180} = 28.3282$

28.3282 x respondents who reported hunting a given species = total estimated hunters.

28.3282 x pieces of game reported killed = total estimated harvest.

Data on the wild-turkey harvest were obtained by check stations. Each hunter was required to check in and check out of his hunting area at the beginning and close of his hunt.

Findings:

Response

A total of 10,718 questionnaires were mailed to 1963 license holders. Response was 4,840 returns of which 652, or 13.5 percent, indicated they did not purchase a license in 1964. Usable reports totaled 4,180 of which 974, or 23.3 percent, stated they did not hunt upland game birds in 1964.

Pheasants

Basic data supplied by respondents and a summary of harvest, number of hunters and hunting success compared to 1963 and long-term averages are shown below. Trends in harvest and number of pheasant hunters are shown in Figure 1. Of the eligible upland game bird hunters, 97.2 percent hunted pheasants.

Data and calculations:

1. Hunters who reported hunting pheasants . . . 3,115
2. Days reported hunting 6,930
3. Pheasants reported bagged 7,970
4. Calculated number of pheasant hunters
(3,115 x 28.3282) 88,242
5. Calculated pheasant harvest
(7,970 x 28.3282) 225,775

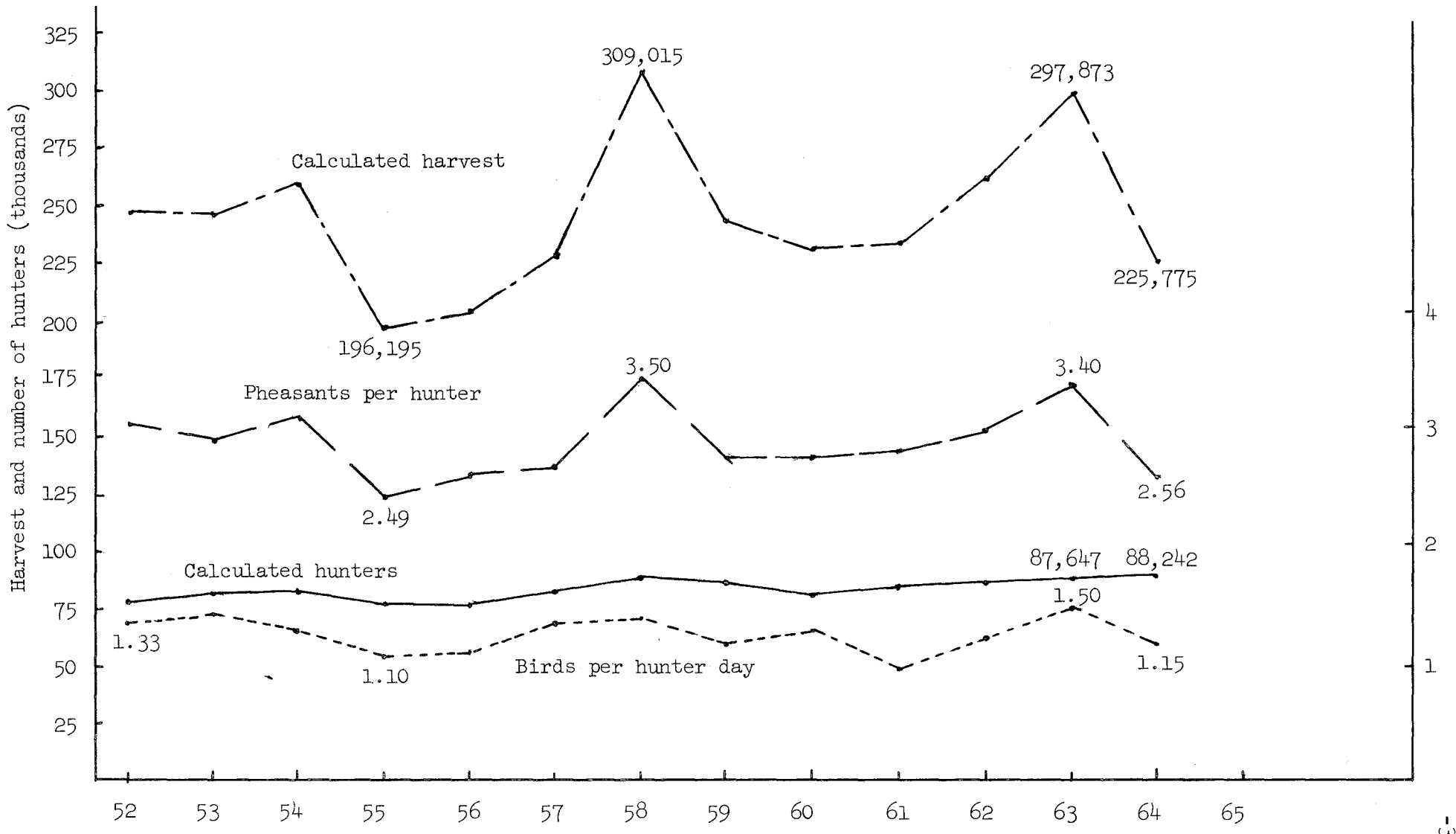


Figure 1. Trends in pheasant harvest, number of pheasant hunters and hunting success, 1952-64.

Table 1. Comparison of 1964 pheasant harvest data with 1963 and long-term averages

	<u>1964</u>	<u>1963</u>	<u>Long-term average</u>
Pheasant hunters	88,242	87,647	84,475 (1948-63)
Pheasant harvest	225,775	297,873	250,439 (1948-63)
Birds per hunter	2.56	3.40	2.96 (1948-63)
Birds per hunter day	1.15	1.50	1.27 (1952-63)
<u>1964 data compared to</u>			
	<u>1963</u>	<u>Long-term average</u>	
Pheasant hunters	+ 0.7%	+ 4.4%	
Pheasant harvest	-24.2%	- 9.8%	
Birds per hunter	-24.7%	-13.5%	
Birds per hunter day	-23.3%	- 9.4%	

A summary of hunting success by counties is shown in Table 1A, Appendix.

The five counties which provided the greatest harvest included: (1) Box Elder 21.94 percent; (2) Utah, 19.40 percent; (3) Cache, 11.34 percent; (4) Salt Lake, 8.81 percent; and (5) Weber, 6.83 percent (Table 2A, Appendix). Counties which supported the greatest number of hunters included; (1) Utah, 23.25 percent; (2) Box Elder, 13.78 percent; (3) Salt Lake, 11.36 percent; (4) Cache, 8.78 percent; and (5) Weber, 6.59 percent (Table 3A, Appendix).

Hen Harvest

No legal hen harvest of pheasants was allowed in 1964 in Utah. However, some speculation may be noted as to the effects of the recent hen seasons on the reduced harvest of pheasants in 1964. An attempt is made in Table 2 to compare results of 1963 and 1964 seasons. The percentage difference in cocks harvested throughout the state reflects the lowered harvest in 1964 from all causes (i.e. lower productivity, weather, etc.). Effects of the hen season should show up as a higher percent of difference in the counties where hens were legal as compared to the remainder of the state in relationship to the lowered harvest in 1964 compared to 1963.

Table 2. Comparison of 1963 harvest having a hen season in some counties with the 1964 harvest having no hen season.

	<u>1963</u>	<u>1964</u>	<u>1963-1964</u>	<u>Percent Difference</u>
Total harvest entire state	297,873	225,775	72,098	
Cocks	280,381	225,775	54,606	-19.4
Hens	17,492	--	17,492	
Total harvest - Box Elder	61,118	49,546	11,572	
Cocks	56,837	49,546	7,291	-12.8
Hens	4,281	--	4,281	
Total harvest - Davis	14,162	11,076	3,087	
Cocks	12,393	11,076	1,317	-10.6
Hens	1,770	--	1,770	
Total harvest - Emery	8,588	6,147	2,441	
Cocks	7,346	6,147	1,199	-16.3
Hens	1,242	--	1,242	
Total harvest - Utah	59,030	43,795	15,235	
Cocks	50,231	43,795	6,436	-12.8
Hens	8,799	--	8,799	
Total harvest - Sevier	11,864	6,374	5,490	
Cocks	10,464	6,374	4,090	-39.1
Hens	1,400	--	1,400	
Total for above 5 counties	154,763	116,938	37,825	
Cocks	137,271	116,938	20,333	-14.8
Hens	17,492	--	17,492	
Total for remainder of the state	143,110	108,837	34,273	-23.9

As shown in the table the area of the legal hen shoot was -14.8% for cocks in 1964 as compared to -23.9% for the remainder of the state in 1964. In only one county (Sevier) did the harvest of cocks show a greater percent decline than the area not open for hens. The two counties open to hens in 1963, which produce about one-third of the total harvest are well below the state percentage decrease.

These were also the two counties which showed the greatest hen harvest in 1963. Thus it would appear that the hen harvest did not adversely affect the cock population in 1964. The comparison also indicates that annual productivity is least affected by all factors involved in areas of high pheasant densities.

Mourning Doves

Basic data supplied by respondents and a summary of harvest, number of hunters and hunting success compared to 1963 and long-term averages are shown below.

Data and calculations:

1. Hunters who reported hunting doves . . . 700
2. Days hunted 1,824
3. Mourning doves reported bagged 6,832
4. Calculated number of dove hunters
(28.3282 x 700) 19,829
5. Calculated dove harvest
(28.3282 x 6,832) 193,538

Table 3. Comparison of 1964 harvest data for mourning doves with 1963 and long-term averages.

	<u>1964</u>	<u>1963</u>	<u>Long-term average</u>
Mourning-dove hunters	19,829	18,258	14,091 (1958-63)
Mourning-dove harvest	193,538	162,769	123,477 (1958-63)
Birds per hunter	9.76	8.91	8.72 (1958-63)
Birds per hunter-day	3.75	4.02	4.13 (1958-63)
		<u>1964 data compared to</u>	
		<u>1963</u>	<u>Long-term average</u>
Hunters		+8.6%	+40.7%
Harvest		+18.9%	+56.7%
Birds per hunter		+9.5%	+11.9%
Birds per hunter-day		-6.7%	- 9.2%

Again, the calculated harvest and number of hunters in 1964 was the highest on record. Approximately 22 percent of the eligible bird-hunters hunted mourning doves in 1964 as compared to 16 percent in 1963.

An attempt was made to determine distribution of the mourning-dove harvest by time periods during the season. Respondents were requested to indicate the number of doves killed during each of the following periods: September 1; September 2-15; and September 16-30. All

counties were open to hunting from September 1 through September 15 but only fourteen counties in Utah were open from September 1 through September 30.

Of the doves reported harvested by periods, 14.9 percent were reported taken on September 1; 84.3 percent, September 2-15; and 0.8 percent, September 16-30 (Table 4).

Table 4. Distribution of mourning-dove harvest by periods as reported by respondents in the hunter-harvest survey, 1964

Period	Respondents who reported hunting during period	Reported Harvest	
		Number	Percent of Total
September 1	269	997	14.9
September 2-15	410	5,608	84.3
September 16-30	2	56	0.8

Hunting success and distribution of the harvest by counties are shown in Table 5A Appendix. Counties supplying the greatest proportion of the reported harvest included: (1) Utah, 13.86 percent; (2) Salt Lake, 12.91 percent; (3) Tooele, 8.29 percent; (4) Box Elder, 7.67 percent; and (5) Cache, 5.87 percent. Hunters taking doves in more than one county or in unknown counties accounted for 18.16 percent of the reported harvest.

Chukar partridge

The calculated number of chukar hunters increased slightly from 1963 and the long-term average. Calculated harvest was the highest since chukar hunting commenced in Utah, though only slightly above 1963.

Basic data supplied by respondents and a summary of harvest, number of hunters and hunting success compared to 1963 and long-term averages are shown below. Of the total respondents who were eligible to hunt upland game birds in 1964, 17.7 percent indicated they hunted chukars as compared to 12.7 percent in 1963.

Data and calculations:

1. Hunters who reported hunting chukars, 568
2. Days hunted 1,411
3. Chukars reported bagged 1,517
4. Calculated number of chukar hunters
(28.3282 x 568) 16,090
5. Calculated chukar harvest
(28.3282 x 1,517) 42,974

Table 5. Comparison of 1964 chukar harvest data with 1963 and long-term averages

	<u>1964</u>	<u>1963</u>	<u>Long-term average</u>
Chukar hunters	16,090	14,532	12,625 (1958-1963)
Chukar harvest	42,974	42,806	24,523 (1958-1963)
Birds per hunter	2.67	2.95	1.94 (1958-1963)
Birds per hunter day	1.08	1.05	

	<u>1964 data compared to</u>	
	<u>1963</u>	<u>Long-term average</u>
Chukar hunters	+10.7	+27.4%
Chukar harvest	+ 0.4%	+75.2%
Birds per hunter	+ 9.5%	+37.6%
Birds per hunter day	+ 2.8%	

Data on distribution of harvest and hunting success by counties are presented in Table 7A, Appendix. Counties supplying the greatest proportions of the reported harvest included: (1) Box Elder, 26.6 percent; (2) Utah, 12.5 percent; (3) Uintah 7.3 percent; and (4) Tooele, 6.3 percent; and (5) Cache, 4.9 percent. Hunters taking birds in more than one county accounted for 11.6 percent of the reported harvest.

Sage grouse

In 1964, all or part of 19 counties were open for sage-grouse hunting and hunters were permitted to take grouse on their regular hunting license.

Basic data supplied by respondents and a summary of harvest, number of hunters and hunting success compared to 1963 are shown below. Of the total respondents who were eligible to hunt upland game birds, 4.8 percent indicated they hunted sage grouse in 1964.

Data and calculations:

1. Hunters who reported hunting sage grouse 154
2. Days hunted 205
3. Sage grouse reported bagged 241
4. Calculated number of hunters
(28.3282 x 154) 4,362
5. Calculated harvest
(28.3282 x 205) 5,807

Table 6. Comparison of 1964 harvest data for sage grouse with that of 1963

	<u>1964</u>	<u>1963</u>	<u>Percentage change from 1963</u>
Sage-grouse hunters	4,362	12,366	-64.7%
Sage-grouse harvest	5,807	13,793	-57.9%
Birds per hunter	1.56	1.12	+39.3%
Birds per hunter day	1.18	0.89	+32.5%

By closing counties near population centers interest in sage grouse hunting declined greatly. However, hunter success was much higher possibly because of less competition and apparently only confirmed sage grouse hunters participated.

Further data on hunting success and distribution of harvest and pressure is given in Table 9A. Counties which provided the greatest percentage of the reported harvest were: (1) Garfield, 25.73 percent; (2) Wayne 9.96 percent; (3) Uintah, 7.47 percent; (4) Piute, 5.39 percent; and (5) Juab, 5.39 percent.

Forest grouse

In 1964, hunters were permitted to take ruffed and blue grouse statewide for 21 days. This represents the first season where no areas were closed.

Even with the entire state open and a fairly long season, hunter participation for forest grouse declined.

Basic data supplied by respondents and a summary of harvest, number of hunters and hunting success are shown below. Of the respondents who were eligible to hunt upland game birds in 1964, 7.1 percent reported hunting forest grouse.

Data and calculations:

1. Hunters who reported hunting forest grouse 229
2. Days hunted 373
3. Forest grouse reported harvested 448
4. Calculated number of hunters
(28.3282 x 229) 6,487
5. Calculated harvest (28.3282 x 448) 12,691
6. Birds per hunter 1.96
7. Birds per hunter day 1.20

Reported species composition of the harvest was 54.1 percent blue grouse, 40.1 percent ruffed grouse and 5.6 percent unidentified species. In 1963, the reported species composition was 40.1 percent ruffed grouse and 54.1 percent blue grouse, and 5.6 percent unidentified species.

Distribution of harvest, distribution of hunting pressure and hunting success are shown by counties in Table 10A, Appendix. Counties which supplied the greatest percentage of the harvest included: (1) Cache, 22.3 percent; (2) Utah, 17.2 percent; (3) Salt Lake, 9.6 percent; (4) Weber, 6.0 percent; and (5) Summit, 5.4 percent. Hunters taking forest grouse in more than one county or in unknown counties accounted for 11.7 percent of the reported harvest.

Quail

Basic data supplied by respondents and a summary of estimated harvest, number of hunters and hunting success compared to 1963 are shown below. Of the respondents who were eligible to hunt upland game birds in 1964, 9.8 percent reported hunting quail.

Data and calculations:

1. Hunters who reported hunting quail . . . 316
2. Days hunted 724
3. Quail reported bagged 1,101
4. Calculated number of quail hunters
(28.3282 x 316) 8,951
5. Calculated quail harvest
(28.3282 x 1,101) 31,189

Table 7. Comparison of 1964 harvest data for quail with that of 1963

	<u>1964</u>	<u>1963</u>	<u>Percent change from 1963</u>
Quail hunters	8,951	8,059	+11.1%
Quail harvest	31,189	28,088	+11.0%
Quail per hunter	3.48	3.49	- 0.3%
Quail per hunter day	1.52	1.71	-11.1%

Counties supplying the greatest percentage of the reported harvest included: (1) Utah 53.2 percent; (2) Washington, 8.8 percent; (3) Weber, 5.3 percent; (4) Salt Lake, 4.7 percent; and (5) Davis, 4.5 percent. Additional data on hunting success, distribution of harvest and distribution of hunting pressure is presented by counties in Table 11A, Appendix.

Hungarian partridge

Only 4.7 percent of the respondents who were eligible to hunt upland game birds in 1964 reported hunting Hungarian partridge. Of the total reported harvested, 42.0 percent were taken in Box Elder County, 20.0 percent in Wasatch County, and 11.5 percent in Cache County. Additional data are presented in Table 12A, Appendix.

Basic data supplied by respondents and a summary of number of hunters, harvest and hunting success compared to 1963 are presented below.

Data and calculations:

1. Hunters who reported hunting Hungarian partridge 150
2. Days hunted 342
3. Hungarian partridge reported bagged 417
4. Calculated number of hunters
(28.3282 x 150) 4,249
5. Calculated harvest (28.3282 x 417) 11,812

Table 8. Comparison of 1964 harvest data for Hungarian partridge with that of 1963.

	<u>1964</u>	<u>1963</u>	<u>Percent change from 1963</u>
Hungarian partridge hunters	4,249	4,676	- 9.1%
Hungarian partridge harvest	11,812	13,343	-11.5%
Birds per hunter	2.78	2.85	- 2.5%
Birds per hunter day	1.22	1.00	+22.0%

Wild Turkeys

The 1964 season was Utah's second wild turkey season. Season dates were October 10-14 and most of the state where turkeys are found was open to hunting. Hunters were required to purchase a special turkey permit but no limit was placed on numbers of permits available.

Despite the more liberal permit numbers only 229 permits were sold. Of these, 211 persons hunted turkeys and 38.4 percent were successful. Harvest amounted to 81 turkeys.

Residence of hunters purchasing a special wild turkey permit in 1964 is shown in Table 13A, Appendix. Also, a summary of statistics pertaining to the 1964 season is shown in Table 9.

Table 9. Summary of 1964 wild-turkey season

		Management Unit			Totals
		East Zion	Boulder	LaSal	
Harvest					
Males	adults	2		12	14
	young	<u>3</u>	<u>2</u>	<u>14</u>	<u>19</u>
	Total	5	2	26	33
Females	adults	1	2	7	10
	young	<u>4</u>	<u>—</u>	<u>13</u>	<u>17</u>
	Total	5	2	20	27
Unk.Sex.	adults				
	young				
	unknown age	<u>16</u>	<u>4</u>	<u>1</u>	<u>21</u>
Total	16	4	1	21	
TOTAL HARVEST		26	8	47	81
Special permits sold					229
Number of hunters afield		71	20	120	211
Hunting success		39.2	40.0	36.6	38.4
Sex ratio of harvest (males: females)		100:100	100:100	130:100	122:100
Sex ratio of young in harvest (males: females)		75:100	--	108:100	112:100
Young per adult hen		7.0	1.0	3.8	3.6
Number of active hunters who observed turkeys		44	14	69	127
Percent of active hunters observed turkeys		62%	70%	58%	60%
Number of turkeys reported crippled and not retrieved		4	3	5	12
Ratio of reported cripples to birds killed and retrieved		15:100	37:100	11:100	15:100

Approved by William V. Hancock
Chief, Game Management

Date: July 15, 1965

E. Stewart Clark
Federal Aid Coordinator

APPENDIX

TABLE 1A. Summary of average number of pheasants bagged per day

County	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Beaver	1.37	0.94	0.82	1.25	1.66	1.19	1.70	0.58	1.09	1.07	0.90
Box Elder	1.56	1.21	1.54	1.64	1.70	1.50	1.73	1.33	1.69	1.98	1.78
Cache	1.62	1.52	1.70	1.70	1.79	1.67	1.72	1.40	1.42	1.71	1.46
Carbon	1.76	1.12	1.08	1.21	1.54	1.20	1.21	0.48	1.01	1.15	0.92
Daggett	-----	-----	1.00	3.00	1.25	-----	-----	0.33	-----	-----	-----
Davis	0.89	1.00	1.07	1.09	0.96	0.91	1.10	0.75	1.15	0.93	0.84
Duchesne	1.52	1.28	1.22	1.58	1.65	1.25	1.31	0.99	1.15	1.62	1.16
Emery	2.00	1.08	1.21	1.51	1.80	1.53	1.73	1.17	1.12	2.03	1.17
Garfield	2.00	1.20	0.44	1.56	1.20	0.75	2.20	0.70	0.72	0.40	0.56
Grand	1.44	0.25	0.43	1.00	1.25	0.86	-----	0.60	0.00	-----	-----
Iron	1.73	1.25	1.90	1.17	1.76	1.58	1.25	1.39	1.63	1.52	1.18
Juab	1.03	1.22	1.05	1.19	1.61	0.91	1.37	0.86	1.12	1.54	1.37
Kane	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Millard	1.46	1.20	0.99	1.56	1.97	1.12	1.26	1.04	1.27	1.82	0.91
Morgan	1.29	0.71	0.71	0.70	0.30	0.52	1.00	0.35	0.75	0.73	0.43
Piute	1.52	0.60	1.21	1.50	1.65	0.64	1.75	0.72	1.83	2.00	1.64
Rich	2.50	1.00	-----	-----	-----	-----	-----	3.00	-----	1.00	2.00
Salt Lake	0.75	0.88	0.75	0.96	0.88	0.85	0.88	0.54	0.76	1.00	0.85
San Juan	-----	-----	-----	1.00	0.75	-----	-----	-----	1.00	1.00	-----
Sanpete	1.83	1.37	1.26	1.54	1.65	1.59	1.30	1.09	1.12	1.50	1.15
Sevier	1.75	1.26	1.17	1.53	1.83	1.37	1.27	1.11	1.38	1.65	0.86
Summit	1.00	-----	-----	1.00	1.50	2.25	-----	1.62	-----	-----	-----
Tooele	0.64	0.74	0.71	1.14	0.89	0.48	0.73	0.45	0.75	1.29	1.09
Uintah	1.46	1.20	1.28	1.56	1.64	1.22	1.58	1.21	1.25	1.55	1.16
Utah	1.26	1.02	1.16	1.36	1.30	1.08	1.22	0.96	1.51	1.64	1.00
Wasatch	0.60	2.00	-----	0.67	0.17	1.67	-----	-----	-----	-----	1.00
Washington	1.12	0.64	0.71	1.24	1.67	1.04	0.75	0.84	1.13	0.51	1.00
Wayne	-----	0.50	-----	0.67	0.57	1.00	-----	-----	-----	-----	2.00
Weber	0.86	0.90	0.86	0.96	1.06	1.04	1.02	0.79	1.08	1.15	1.15
Mixed										0.91	1.26
Unknown										1.47	0.80
STATE AVERAGE	1.29	1.10	1.13	1.34	1.40	1.20	1.31	0.98	1.25	1.50	1.15

TABLE 2A. Proportion of pheasant harvest taken in each county

County	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Beaver	0.83	0.68	0.48	1.01	1.40	0.99	1.48	0.44	0.88	0.43	0.46
Box Elder	13.56	14.13	13.33	13.84	12.46	13.65	15.05	15.60	12.97	20.43	21.94
Cache	8.24	9.48	9.79	9.65	10.72	11.94	13.34	13.93	16.37	12.55	11.34
Carbon	2.85	1.51	2.63	3.08	4.01	3.15	3.77	0.87	1.24	0.86	1.00
Daggett	----	----	0.08	0.08	0.04	----	----	0.01	----	----	----
Davis	5.85	6.18	7.51	6.82	4.61	6.27	7.61	8.26	10.53	4.96	4.91
Duchesne	3.15	2.84	4.85	3.88	2.66	4.10	3.25	2.83	1.98	2.39	2.06
Emery	7.11	2.98	4.26	3.68	4.86	5.21	6.44	3.80	3.65	2.86	2.72
Garfield	0.20	0.12	0.05	0.18	0.05	0.10	0.12	0.15	0.13	0.02	0.06
Grand	0.13	0.02	0.07	0.13	0.04	0.13	0.01	0.07	----	----	----
Iron	1.99	1.29	1.28	0.97	2.15	2.03	1.69	1.87	1.87	1.24	1.32
Juab	0.65	0.91	0.71	0.87	1.62	1.27	1.36	1.38	1.40	1.30	2.33
Kane	----	----	----	----	----	----	----	----	0.05	----	----
Millard	7.80	4.67	4.20	4.55	6.27	3.69	3.15	4.51	3.85	3.90	3.78
Morgan	0.22	0.10	0.28	0.18	0.06	0.17	0.17	0.15	0.14	0.19	0.11
Piute	0.32	0.06	0.20	0.04	0.29	0.08	0.08	0.14	0.17	0.26	0.29
Rich	0.05	0.02	----	----	----	----	----	0.10	----	0.01	0.03
Salt Lake	7.30	10.61	9.31	8.82	8.76	7.88	6.90	6.77	6.09	7.01	8.81
San Juan	----	----	----	0.01	0.05	----	----	----	0.01	0.02	----
Sanpete	4.25	5.94	4.71	5.00	4.46	5.10	3.63	5.10	3.35	3.76	3.41
Sevier	5.39	7.33	3.71	4.70	4.22	5.30	4.22	5.08	5.85	3.95	2.82
Summit	0.02	----	----	0.03	0.03	0.10	----	0.14	----	----	----
Tooele	1.14	1.19	1.22	2.01	0.82	0.64	0.95	0.68	0.64	1.78	1.91
Uintah	3.98	4.29	4.35	3.31	3.98	4.10	4.59	3.84	2.86	2.57	2.76
Utah	19.42	19.26	20.22	21.03	19.71	16.98	17.10	18.17	18.71	20.04	19.40
Wasatch	0.03	0.04	----	0.03	0.01	0.05	----	----	----	----	0.04
Washington	0.58	0.70	0.47	0.84	1.07	0.83	0.88	0.81	0.66	0.17	0.63
Wayne	----	0.02	----	0.03	0.04	0.01	0.01	----	----	----	0.03
Weber	4.93	5.64	6.27	5.27	5.60	6.21	4.10	5.29	6.58	8.16	6.83
Mixed										0.38	0.61
Unknown										0.77	0.40

TABLE 3A. Distribution of pheasant hunters by county hunted

County	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Beaver	0.79	0.80	0.66	1.08	1.18	0.99	0.99	0.65	0.75	0.53	0.54
Box Elder	11.26	12.87	9.81	11.30	10.27	10.88	10.66	11.28	10.91	14.91	13.78
Cache	6.58	6.86	6.52	7.60	8.38	8.56	8.95	9.69	12.36	9.74	8.78
Carbon	2.10	1.48	2.76	3.41	3.65	3.15	3.60	1.91	1.58	1.29	1.59
Daggett	-----	-----	0.09	0.03	0.05	0.05	-----	0.05	-----	0.03	-----
Davis	8.55	6.79	7.96	8.41	6.70	8.21	9.04	9.85	9.72	8.53	6.56
Duchesne	2.68	2.43	4.51	3.28	2.26	3.91	3.46	2.83	2.37	2.29	2.13
Emery	4.59	3.03	3.99	3.26	3.77	4.08	4.53	3.35	3.96	2.32	2.97
Garfield	0.13	0.11	0.12	0.15	0.06	0.15	0.12	0.29	0.31	0.10	0.15
Grand	0.12	0.09	0.18	0.17	0.05	0.18	0.26	0.21	0.17	0.08	-----
Iron	1.48	1.13	0.76	1.11	1.71	1.54	1.80	1.73	1.58	1.26	1.35
Juab	0.81	0.82	0.76	0.98	1.41	1.68	1.45	1.57	1.45	1.32	1.71
Kane	0.01	-----	-----	-----	0.01	-----	-----	-----	0.04	-----	-----
Millard	6.92	4.29	4.78	3.90	4.46	3.95	3.05	3.93	3.74	3.26	4.94
Morgan	0.22	0.15	0.45	0.34	0.28	0.40	0.29	0.52	0.31	0.45	0.27
Piute	0.28	0.11	0.18	0.03	0.25	0.14	0.09	0.26	0.17	0.16	0.24
Rich	0.03	0.02	-----	-----	-----	-----	0.03	0.03	-----	0.03	0.03
Salt Lake	12.56	13.23	14.12	12.27	13.99	11.10	11.56	13.28	9.76	11.11	11.36
San Juan	-----	-----	-----	0.02	0.10	0.01	-----	-----	0.04	0.03	-----
Sanpete	3.01	4.76	4.24	4.35	3.77	3.82	3.69	4.45	3.56	3.50	3.45
Sevier	3.98	6.39	3.59	4.12	3.23	4.62	4.01	3.75	4.83	3.50	3.51
Summit	0.03	-----	-----	0.03	0.02	0.05	-----	0.05	-----	-----	-----
Tooele	2.28	1.77	1.93	2.35	1.30	1.59	1.95	1.75	1.14	1.82	2.01
Uintah	3.53	3.92	3.86	2.84	3.40	4.01	3.49	2.59	2.15	2.03	2.70
Utah	19.96	20.79	19.72	20.61	21.24	18.80	20.60	18.02	21.74	21.23	23.25
Wasatch	0.07	0.02	0.04	0.05	0.07	0.04	-----	-----	-----	0.03	0.09
Washington	0.67	1.22	0.74	0.91	0.90	0.96	1.19	1.20	0.83	0.50	0.75
Wayne	-----	0.04	-----	0.05	0.09	0.01	0.03	-----	-----	-----	0.03
Weber	7.39	6.88	8.21	7.34	7.41	7.14	5.17	6.76	6.55	8.98	6.59
Mixed										0.26	0.42
Unknown										0.71	0.81

TABLE 4A. Summary of pheasant harvests in Utah, 1948-1964

Year	Licenses Sold	License Holders Who Hunted Pheasants	Average Pheasants Per Hunter	Pheasants per Hunter Day	Total Pheasants Killed
1948	122,911	96,534	2.91		280,914
1949	118,553	88,369	2.98		263,340
1950	118,000*	92,724*	2.69		249,428
1951	94,000*	76,576	3.22		246,575
1952	100,900*	78,773*	3.13	1.33	246,559
1953	97,400	82,595	2.97	1.39	245,307
1954	97,769	82,370	3.16	1.29	260,289
1955	97,637	78,793	2.49	1.10	196,195
1956	99,153	77,826	2.65	1.13	206,239
1957	100,236	83,025	2.75	1.34	228,319
1958	106,710	88,290	3.50	1.40	309,015
1959	107,534	86,268	2.82	1.20	243,276
1960	106,242	81,976	2.84	1.31	232,812
1961	106,345	83,493	2.86	0.98	238,439
1962	110,388	86,336	3.04	1.25	262,448
1963	114,282	87,647	3.40	1.50	297,873
1964	118,412	88,242	2.56	1.15	225,775

* Estimated but within 3%

Long-term average	84,475	2.96	1.27	250,439
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TABLE 5A. Summary of hunting success and distribution of harvest by counties for mourning doves, 1964

County Hunted	Hunters Reporting	Days Hunted	Doves Bagged	Doves Bagged per Hunter Day	Doves Bagged per Hunter	Percent of Harvest
Beaver	2	3	14	4.67	7.00	0.21
Box Elder	44	93	511	5.49	11.61	7.67
Cache	39	119	391	3.29	10.03	5.87
Carbon	8	49	96	1.96	12.00	1.44
Daggett	--	--	--	--	--	--
Davis	31	107	260	2.43	8.39	3.90
Duchesne	3	5	27	5.40	9.00	0.41
Emery	5	9	31	3.44	6.20	0.47
Garfield	3	8	46	5.75	15.33	0.69
Grand	3	9	37	4.11	12.33	0.56
Iron	5	12	58	4.83	11.60	0.87
Juab	28	60	390	6.50	13.93	5.85
Kane	2	3	22	7.33	11.00	0.33
Millard	16	40	237	5.92	14.81	3.56
Morgan	18	39	139	3.56	7.72	2.09
Piute	3	8	15	1.87	5.00	0.23
Rich	4	9	75	8.33	18.75	1.13
Salt Lake	96	289	860	2.98	8.96	12.91
San Juan	1	2	10	5.00	10.00	0.15
Sanpete	19	36	133	3.69	7.00	2.00
Sevier	11	29	85	2.93	7.73	1.28
Summit	4	8	36	4.50	9.00	0.54
Tooele	44	108	552	5.11	12.55	8.29
Uintah	8	14	58	4.14	7.25	0.87
Utah	103	276	923	3.34	8.96	13.86
Wasatch	4	10	26	2.60	6.50	0.39
Washington	8	27	110	4.07	13.75	1.65
Wayne	--	--	--	--	--	--
Weber	39	85	309	3.64	7.92	4.64
Mixed Counties	55	213	848	3.98	15.42	12.73
Unknown	94	154	533	3.46	5.67	5.43
STATE TOTALS	700	1,824	6,832	3.75	9.76	100.0

TABLE 6A. Summary of harvest, number of hunters and hunting success for mourning doves, 1951 - 1964

Year	Calculated Number of Hunters	Calculated Harvest	Birds per Hunter Day	Birds per Season
1951	3,007		4.59	6.80
1952	6,420		4.59	7.71
1953	9,887	75,636	4.25	7.65
1954	9,901	75,941	3.85	7.67
1955	9,653	79,444	4.12	8.23
1956	10,744	95,729	4.69	8.91
1957			4.66	7.68
1958	11,853	85,934	3.98	7.25
1959	12,142	110,856	4.45	9.13
1960	12,440	108,477	4.21	8.72
1961	15,192	128,001	3.89	8.42
1962	14,663	144,826	4.23	9.89
1963	18,258	162,769	4.02	8.91
1964	19,829	193,538	3.75	9.76
Long-term average	14,091	123,477	4.13	8.72

TABLE 7A. Summary of hunting success, distribution of harvest and distribution of hunting pressure for chukar partridge, 1964

County Hunted	Hunters Reporting	Days Hunted	Birds Bagged	Birds per Hunter Day	Birds per Hunter	% of Harvest	% of Total Hunters
Beaver	--	--	--	--	--	--	--
Box Elder	108	237	404	1.70	3.74	26.63	19.0
Cache	26	60	75	1.25	2.88	4.94	4.6
Carbon	9	28	30	1.07	3.33	1.98	1.6
Davis	7	21	35	1.67	5.00	2.31	1.2
Duchesne	7	24	30	1.25	4.29	1.98	1.2
Emery	9	27	45	1.67	5.00	2.97	1.6
Garfield	1	2	1	0.50	1.00	0.07	0.2
Grand	7	15	28	1.87	4.00	1.85	1.2
Iron	1	4	1	0.25	4.00	0.07	0.2
Juab	10	23	42	1.83	4.20	2.77	1.8
Millard	2	4	11	2.75	5.50	0.73	0.4
Morgan	14	31	34	1.10	2.43	2.24	2.5
Piute	2	8	6	0.75	3.00	0.40	0.4
Rich	6	8	14	1.75	2.33	0.92	1.1
Salt Lake	26	75	71	0.95	2.73	4.68	4.6
San Juan	2	4	8	2.00	4.00	0.53	0.4
Sanpete	6	13	8	0.62	1.33	0.53	1.1
Sevier	10	39	14	0.36	1.40	0.92	1.8
Tooele	37	93	96	1.03	2.59	6.33	6.5
Uintah	18	58	111	1.91	6.17	7.32	3.2
Utah	59	168	190	1.13	3.22	12.52	10.4
Wasatch	2	4	4	1.00	2.00	0.26	0.4
Washington	1	1	2	2.00	2.00	0.13	0.2
Wayne	4	11	20	1.82	5.00	1.32	0.7
Weber	14	32	27	0.84	1.93	1.78	2.5
Mixed Counties	31	151	176	1.17	5.68	11.60	5.5
Unknown	149	270	34	0.13	0.23	2.24	26.2
STATE TOTALS	568	1,411	1,517	1.08	2.67	100.0	100.0

TABLE 8A. Summary of chukar harvests in Utah, 1956 - 1964

Year	License Holders Who Hunted Chukars	Average Chukars per Hunter	Chukars per Hunter Day	Calculated Harvest
1956		0.91		
1957		0.92		
1958	11,124	1.76	0.78	19,578
1959	11,154	0.78	0.33	8,700
1960	13,252	1.64	0.71	21,733
1961	14,046	1.48	0.58	20,821
1962	11,640	2.88	0.95	33,500
1963	14,532	2.95	1.05	42,806
1964	16,090	2.67	1.08	42,974
Long-term average	12,625	1.66	.73	24,523

TABLE 9A. Summary of hunting success, distribution of harvest and distribution of hunting pressure for sage grouse, 1964

County	Hunters Reporting	Days Hunted	Sage Grouse Harvested	Birds per Hunter day	Birds per Hunter	% of Hunters Reporting	% of Reported Harvest
Beaver	4	5	10	2.00	2.5	2.6	4.15
Carbon	6	7	7	1.00	1.2	3.9	2.90
Daggett	3	4	10	2.50	3.3	1.9	4.15
Duchesne	4	5	6	1.20	1.5	2.6	2.49
Garfield	23	35	62	1.77	2.7	14.9	25.73
Juab	10	13	13	1.00	1.3	6.5	5.39
Piute	5	6	13	2.17	2.6	3.3	5.39
Sanpete	3	4	5	1.25	1.7	2.0	2.07
Sevier	7	10	12	1.20	1.7	4.6	4.98
Uintah	9	11	18	1.64	2.0	5.8	7.47
Utah	5	7	3	0.43	0.6	3.3	1.24
Washington	3	4	7	1.75	2.3	2.0	2.90
Wayne	12	15	24	1.60	2.0	7.8	9.96
Illegal Area	26	35	26	0.74	1.0	16.9	10.77
Mixed & Unk.	34	44	25	0.57	0.7	22.1	10.31
TOTALS	154	205	241	1.18	1.6	100.0	100.0

TABLE 10A. Summary of hunting success, distribution of harvest and distribution of hunting pressure for forest grouse, 1964

County	Hunters Reporting	Days Hunted	Birds Bagged				Total	Birds per Hunter Day	Birds per Season	% of Hunters Reporting	% of Reported Harvest
			Ruffed Grouse	Blue Grouse	Unidentified Species						
Box Elder	7	9	10	2	0	12	1.33	1.71	3.1	2.7	
Cache	36	76	54	42	4	100	1.32	2.78	15.7	22.3	
Carbon	4	8	7	7	0	14	1.75	3.50	1.8	3.1	
Davis	5	7	0	0	0	0	0.00	0.00	2.2	0.0	
Duchesne	2	3	0	2	1	3	1.00	1.50	0.9	0.7	
Garfield	1	1	0	1	0	1	1.00	1.00	0.4	0.2	
Iron	1	1	2	0	0	2	2.00	2.00	0.4	0.5	
Juab	2	2	0	1	0	1	0.50	0.50	0.9	0.2	
Millard	1	1	0	0	0	0	0.00	0.00	0.4	0.0	
Morgan	1	1	0	1	0	1	1.00	1.00	0.4	0.2	
Piute	1	1	0	0	2	2	2.00	2.00	0.4	0.5	
Rich	8	9	10	9	0	19	2.11	2.37	3.5	4.2	
Salt Lake	16	31	10	33	0	43	1.39	2.69	7.0	9.6	
Sanpete	7	8	4	5	0	9	1.12	1.29	3.1	2.0	
Sevier	7	10	2	10	0	12	1.20	1.71	3.1	2.7	
Summit	14	19	8	11	5	24	1.26	1.71	6.1	5.4	
Tooele	4	7	7	3	2	12	1.71	3.00	1.8	2.7	
Uintah	3	3	1	0	1	2	0.67	0.67	1.3	0.5	
Utah	28	44	32	41	4	77	1.75	2.75	12.2	17.2	
Wasatch	9	16	7	15	0	22	1.37	2.44	3.9	4.9	
Washington	1	8	0	9	3	12	1.50	12.00	0.4	2.7	
Weber	11	17	9	18	0	27	1.59	2.45	4.8	6.0	
Mixed	8	21	14	23	0	37	1.76	4.62	3.5	8.3	
Unknown	52	70	12	3	1	16	0.23	0.31	23.7	3.4	
STATE TOTALS	229	373	229	236	23	448	1.2	1.96	100.0	100.0	

TABLE 11A. Summary of hunting success, distribution of harvest and distribution of hunting pressure for quail, 1964

County	Hunters Reporting	Days Hunted	Birds Bagged	Birds per Hunter Day	Birds per Season	% of Hunters Reporting	% of Reported Harvest
Box Elder	5	6	7	1.17	1.40	1.6	0.6
Cache	4	7	13	1.86	3.25	1.3	1.2
Carbon	6	12	20	1.67	3.33	1.9	1.8
Davis	15	33	49	1.48	3.27	4.8	4.5
Duchesne	4	8	13	1.62	3.25	1.3	1.2
Emery	1	3	0	0.00	0.00	0.3	0.0
Iron	1	3	0	0.00	0.00	0.3	0.0
Juab	1	1	0	0.00	0.00	0.3	0.0
Kane	1	2	8	4.00	8.00	0.3	0.7
Millard	4	8	0	0.00	0.00	1.3	0.0
Morgan	9	11	34	3.09	3.78	2.9	3.1
Salt Lake	16	34	52	1.53	3.25	5.1	4.7
Sanpete	3	4	4	1.00	1.33	1.0	0.4
Sevier	3	8	3	0.37	1.00	1.0	0.3
Summit	4	8	37	4.62	9.25	1.3	3.4
Tooele	2	8	3	0.37	1.50	0.6	0.3
Uintah	13	41	23	0.56	1.77	4.1	2.1
Utah	120	310	586	1.89	4.88	38.0	53.2
Washington	14	25	97	3.88	6.93	4.4	8.8
Weber	25	55	58	1.05	2.32	7.9	5.3
Mixed	8	27	54	2.00	6.75	2.5	4.9
Unknown	57	110	40	0.36	0.70	17.8	3.6
STATE TOTALS	316	724	1,101	1.52	3.48	100.0	100.0

TABLE 12A. Summary of hunting success, distribution of harvest and distribution of hunting pressure for Hungarian partridge, 1964

County	Hunters Reporting	Days Hunted	Birds Bagged	Birds per Hunter Day	Birds per Hunter	Percent of Harvest
Box Elder	61	133	175	1.32	2.87	42.0
Cache	16	37	48	1.30	3.00	11.5
Carbon	2	2	3	1.50	1.50	0.7
Duchesne	1	1	2	2.00	2.00	0.5
Morgan	3	3	7	2.33	2.33	1.7
Rich	4	15	44	2.93	11.00	10.5
Salt Lake	1	2	4	2.00	4.00	1.0
Summit	1	1	1	1.00	1.00	0.2
Tooele	1	1	2	2.00	2.00	0.5
Utah	2	3	4	1.33	2.00	1.0
Wasatch	2	24	83	3.46	41.50	19.9
Weber	7	8	7	0.87	1.00	1.7
Mixed	6	16	9	0.56	1.50	2.2
Unknown	43	96	28	0.29	0.65	6.6
STATE TOTALS	150	342	417	1.22	2.78	100.0

TABLE 13A. Residence of hunters who purchased a special wild turkey license in 1964

Residence	East Zion		Boulder		LaSal		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Beaver	1	1.4					1	0.5
Cache					1	0.8	1	0.5
Carbon					5	4.2	5	2.3
Emery	2	2.8			6	5.0	8	3.7
Garfield	4	5.6	4	20.0			8	3.7
Grand	1	1.4			80	66.4	81	39.8
Iron	25	35.3			1	0.8	26	12.2
Kane	24	33.9					24	11.2
Millard			1	5.0			1	0.5
Piute	1	1.4						
Salt Lake	3	4.2	4	20.0	10	8.3	17	8.0
San Juan					12	10.3	12	5.6
Sevier			5	25.0			5	2.3
Utah	2	2.8	3	15.0	2	1.7	7	3.2
Washington	8	11.2					8	3.7
Wayne			1	5.0			1	0.5
Weber			2	10.0	3	2.5	5	2.3
STATE TOTALS	71	100.0	20	100.0	120	100.0	211	100.0